Section A — Medical & Acute Admissions

Source document: Curative Health Plan — Master Clinical Decision Criteria / Unified Reviewer Tool, Version 2.0 (Effective March 4, 2026)

Section: A of G (part of a 7-document set, A–G)

Conditions / procedures in this section: 74

Scope: 74 condition-specific criteria across 9 clinical specialties (Cardiovascular, Pulmonary, Neurological, Infectious Disease/Sepsis, Gastrointestinal, Endocrine/Metabolic, Renal, Hematologic/Oncologic Emergencies, Surgical/Trauma). Includes embedded obstetric criteria.

Use: Internal utilization-management criteria. Automated systems may approve but must not issue adverse determinations; all denials require licensed clinician review.

CARDIOVASCULAR

ACUTE MYOCARDIAL INFARCTION — STEMI

ICD-10-CM: I21.01 (STEMI involving left main coronary artery), I21.02 (STEMI involving left anterior descending coronary artery), I21.09 (STEMI involving other coronary artery of anterior wall), I21.11 (STEMI involving right coronary artery), I21.19 (STEMI involving other coronary artery of inferior wall), I21.21 (STEMI involving left circumflex coronary artery), I21.29 (STEMI involving other sites), I21.3 (STEMI of unspecified site)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- ST elevation ≥1mm in ≥2 contiguous leads on 12-lead ECG
- New or presumably new LBBB with clinical presentation consistent with ACS
- Positive troponin (rising pattern) with ischemic symptoms
- Acute chest pain/pressure with diaphoresis, dyspnea, nausea, radiation to arm/jaw
- Hemodynamic instability: SBP <90 mmHg, HR >100 or <50, cardiogenic shock
- Killip Class II-IV (pulmonary rales, S3, JVD, pulmonary edema, cardiogenic shock)

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- Emergent cardiac catheterization/PCI (door-to-balloon target <90 min)
- Continuous cardiac monitoring (telemetry/ICU)
- IV heparin/bivalirudin anticoagulation
- IV nitroglycerin for ongoing ischemia/HTN
- IV vasopressors/inotropes for cardiogenic shock
- Dual antiplatelet therapy initiation (aspirin + P2Y12 inhibitor loading)
- Fibrinolytic therapy if PCI not available within 120 minutes
- IABP or mechanical circulatory support (Impella) for cardiogenic shock

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT — No observation for confirmed STEMI

- All STEMI patients require emergent inpatient admission
- Direct to cath lab or CCU/ICU
- Minimum stay: 48-72 hours post-uncomplicated PCI; longer if complications

IF STEMI RULED OUT during workup:

- Troponin negative x2 (6 hrs apart) + resolved symptoms + non-ischemic ECG → Observation or discharge with stress testing within 72 hrs

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours

DAY 1 (Post-PCI/Presentation):

- Cath/PCI completed or patient stabilized for next-day cath
- Access site hemostasis achieved (radial preferred)
- Troponin trending (peak and decline expected by 12-24 hrs)
- Echo ordered/completed to assess LV function
- DAPT, statin, beta-blocker, ACEi/ARB initiated (unless contraindicated)
- Continuous telemetry monitoring

DAY 2:

- Troponin trending downward
- Echo completed: LVEF documented
- Hemodynamically stable off vasopressors/IABP (if applicable)
- Ambulatory without symptoms
- Assess for ICD indication if LVEF ≤35% (ICD not placed acutely; reassess at 40 days)
- Cardiac rehab referral placed

DAY 3+: CONTINUED STAY JUSTIFIED IF:

- Recurrent chest pain or ischemia
- Hemodynamic instability (requiring vasopressors, IABP, mechanical support)
- Arrhythmia requiring treatment (sustained VT, new high-grade AV block, AF with RVR)
- Heart failure (Killip II+) not stabilized
- Mechanical complication (free wall rupture, VSD, papillary muscle rupture, tamponade)
- Staged PCI for multivessel disease planned during same admission
- CABG required (transfer to surgical service)
- Cardiogenic shock ongoing

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Troponin trending downward for ≥12 hours
- No recurrent chest pain ≥12 hours
- Hemodynamically stable: SBP >90, HR 50-100, no vasopressors ≥24 hrs
- No significant arrhythmia ≥24 hours
- LVEF documented by echo
- Ambulating without symptoms (no dyspnea, chest pain, dizziness)
- GDMT initiated and tolerated: aspirin, P2Y12, statin, beta-blocker, ACEi/ARB (document reason if any withheld)
- Access site: no hematoma, distal pulses intact
- Patient/family educated: medication adherence, activity restrictions, signs to return to ED, follow-up scheduled 1-2 weeks
- Cardiac rehab referral documented

TRANSITION TO:

- Home (majority of uncomplicated STEMI post-PCI): day 2-3
- SNF if: significant deconditioning, unable to manage ADLs independently, complex medication management
- IRF if: stroke/cardiac arrest complication with rehabilitation needs

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACC/AHA Guideline for Management of STEMI. O'Gara PT, et al. Circulation. 2013;127:e362-e425. 2023 focused update. 2. ACC/AHA Guideline for PCI. Lawton JS, et al. JACC. 2022;79:e21-e129. 3. Killip Classification. Killip T, Kimball JT. Am J Cardiol. 1967;20:457-464. 4. CMS 2-Midnight Rule. 42 CFR §412.3. Federal Register 2013. 5. Fourth Universal Definition of Myocardial Infarction. Thygesen K, et al. Circulation. 2018;138:e231-e264.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK (FY2024, v41):

- DRG 280: Acute Myocardial Infarction, Discharged Alive w MCC (RW ~2.09)
- DRG 281: Acute Myocardial Infarction, Discharged Alive w CC (RW ~1.36)
- DRG 282: Acute Myocardial Infarction, Discharged Alive w/o CC/MCC (RW ~0.97)
- DRG 246-251: PCI w/wo MCC/CC (if PCI performed as principal procedure)
- DRG 233-236: Coronary Bypass (if CABG during same admission)

REVENUE CODES (UB-04):

- 0120-0129: Room & Board — Semi-private

- 0200-0219: ICU (Intensive Care Unit)
- 0210: Coronary Care Unit (CCU)
- 0250-0259: Pharmacy
- 0270-0279: Medical/Surgical Supplies
- 0300-0319: Laboratory
- 0320-0329: Radiology — Diagnostic
- 0350-0359: CT Scan
- 0360-0369: Operating Room
- 0481: Cardiology — Cardiac Catheterization Lab
- 0730-0739: EKG/ECG
- 0636: Drugs Requiring Detailed Coding (heparin, antiplatelets)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-3 days Source: Curative Appendix A; CMS MS-DRG 280-282 GMLOS 3.0-4.0d

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

ACUTE MYOCARDIAL INFARCTION — NSTEMI / UNSTABLE ANGINA

ICD-10-CM: I21.4, I21.9, I21.A1, I21.A9 (NSTEMI); I20.0, I20.1, I20.8, I20.9 (UA)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- Troponin elevated above 99th percentile URL with rise and/or fall pattern (NSTEMI)
- Troponin negative with ischemic symptoms at rest (UA)
- Dynamic ST depression ≥0.5mm or T-wave inversion ≥1mm in ≥2 contiguous leads
- New or worsening chest pain/pressure at rest or with minimal exertion
- TIMI Risk Score ≥3 (age ≥65, ≥3 CAD risk factors, known CAD, ASA use, ≥2 anginal events in 24 hrs, ST deviation, elevated troponin)
- GRACE Risk Score >140 (high risk)
- Hemodynamic instability: SBP <90 or HR >110 or new HF signs

- Recurrent angina despite anti-ischemic therapy

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- Continuous cardiac monitoring
- Serial troponin measurements (0, 3, 6 hrs or high-sensitivity protocol)
- IV anticoagulation (heparin/enoxaparin)
- IV nitroglycerin for recurrent ischemia
- Cardiac catheterization planned (within 24 hrs if high-risk, within 72 hrs if intermediate-risk)
- GP IIb/IIIa inhibitor if high-risk features

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1:

- NSTEMI (positive troponin with ischemic presentation) → always inpatient
- UA with TIMI ≥3 or GRACE >140 → inpatient
- Dynamic ECG changes → inpatient
- Hemodynamic instability → inpatient/ICU
- Recurrent symptoms despite initial treatment → inpatient

OBSERVATION if ALL:

- TIMI 0-2 AND GRACE <109
- Troponin negative x2 (0 and 3-6 hrs with high-sensitivity assay)
- ECG non-ischemic (no dynamic changes)
- Symptoms resolved with initial treatment
- HEART score ≤3 → consider discharge with 72-hr stress test

DISCHARGE FROM ED if ALL:

- HEART score 0-3, troponin negative x2, ECG normal, symptoms resolved, no prior CAD with concerning features
- Stress test or cardiology follow-up within 72 hours arranged

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours

DAY 1:

- Serial troponin complete (peak identified)
- Risk stratification documented (TIMI/GRACE)
- Cath/PCI timing determined (early invasive vs. ischemia-guided strategy)
- Anticoagulation and antiplatelet therapy optimized
- If early invasive: cath lab scheduling confirmed

DAY 2:

- Catheterization completed (if early invasive strategy)
- Post-PCI care if intervention performed (same as STEMI Day 1-2)
- If no intervention needed (normal cath or medical management): transition to oral medications, mobilize
- Echo if LVEF not recently documented

DAY 3+: CONTINUED STAY JUSTIFIED IF:

- Awaiting cath (weekend delay acceptable if hemodynamically stable)
- Multivessel disease requiring surgical consultation (CABG vs. PCI decision)
- Recurrent symptoms post-PCI
- HF management ongoing
- Arrhythmia management
- Access site complication (retroperitoneal bleed, pseudoaneurysm)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Troponin downtrending or at baseline ≥12 hours
- No recurrent chest pain ≥24 hours
- Hemodynamically stable: SBP >90, HR 50-100
- No high-grade arrhythmia ≥24 hours
- Catheterization completed (or ischemia-guided strategy with negative stress test)
- GDMT initiated and tolerated (aspirin, P2Y12 if stented, statin, beta-blocker, ACEi/ARB)

- Ambulatory without symptoms
- Discharge education, cardiac rehab referral, follow-up 1-2 weeks

TRANSITION TO:

- Home: day 1-3 post-cath (uncomplicated)
- Home with outpatient stress test: if ischemia-guided strategy selected

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

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- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration

- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

ACUTE HEART FAILURE / HEART FAILURE EXACERBATION

ICD-10-CM: I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.810, I50.811, I50.812, I50.813, I50.814, I50.9

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥2:

- Dyspnea at rest or with minimal exertion (NYHA Class III-IV)
- SpO2 <90% on room air or requiring supplemental O2 >4L NC
- Respiratory rate >24 breaths/min
- Bilateral pulmonary rales/crackles on exam
- Jugular venous distension >10 cm H2O
- Peripheral edema (new or worsening ≥2+)
- Weight gain >2 kg in 24-48 hours (fluid retention)
- BNP >400 pg/mL or NT-proBNP >900 pg/mL (age-adjusted: >1800 if ≥75)
- Chest X-ray: pulmonary edema, pleural effusions, cardiomegaly
- SBP <90 mmHg or MAP <65 mmHg (cardiogenic shock)
- New or worsening renal function (Cr rise >0.3 mg/dL or 50% from baseline)
- Lactate >2 mmol/L (hypoperfusion)
- New-onset HF (first presentation requiring workup)

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- IV diuretics (furosemide ≥40mg IV or continuous drip)
- Supplemental O2 or NIV (BiPAP/CPAP)
- IV vasodilators (nitroglycerin, nitroprusside) for afterload reduction
- IV inotropes (dobutamine, milrinone) for low-output state
- IV vasopressors for cardiogenic shock
- Continuous hemodynamic monitoring (Swan-Ganz, arterial line)
- Echocardiography for new-onset HF or suspected decompensation trigger
- Telemetry monitoring for arrhythmia
- Mechanical circulatory support (IABP, Impella, ECMO) for refractory shock
- Ultrafiltration or dialysis for diuretic-resistant volume overload

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1:

- SpO2 <90% on RA or O2 requirement >4L NC
- SBP <90 or requiring vasopressors/inotropes
- Respiratory distress requiring NIV or intubation
- BNP >400 or NT-proBNP >900 with clinical congestion
- New-onset HF requiring workup (echo, cath, labs)
- AKI (Cr rise >0.3 from baseline) attributed to HF/cardiorenal syndrome
- Requires continuous IV diuretic infusion
- Troponin elevated (rule out ACS as trigger)
- New arrhythmia (AF with RVR, VT) as decompensation trigger

OBSERVATION if ALL:

- Mild exacerbation (NYHA III from baseline NYHA II)
- SpO2 >92% on ≤2L NC or room air
- SBP >100 mmHg
- BNP 100-400 range or only mildly elevated above patient's known baseline

- Responding to single IV diuretic dose (urine output >1L in 4 hours)
- Expected discharge within 48 hours (oral diuretic optimization)
- No AKI, no new arrhythmia, no troponin elevation

NOT INPATIENT (Outpatient Management):

- Weight gain <2 kg, mild peripheral edema only, SpO2 normal
- Oral diuretic dose increase with clinic follow-up in 48-72 hours sufficient

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours (ICU: every 12 hours)

DAY 1:

- Net negative fluid balance target: ≥1-2L/24 hrs (1-2 kg weight loss)
- Daily weight obtained (same scale, same time)
- Strict I&O documented
- BMP checked (monitor K+, Cr, Na+) — repeat q12-24h with IV diuretics
- Echo ordered if not recently done or if new-onset
- Trigger identification: medication non-compliance, dietary indiscretion, ACS, arrhythmia, infection, anemia, thyroid
- GDMT optimization begun: ACEi/ARB/ARNI, beta-blocker, MRA, SGLT2i

DAY 2:

- Continued negative fluid balance (≥1L net negative/day)
- Weight trending down (cumulative ≥2-3 kg from admission)
- SpO2 improving, O2 requirement decreasing or off O2
- Cr stable or improving (if AKI present: creatinine plateau or decline)
- Transition from IV to oral diuretics if: symptoms improving, UOP adequate on equivalent oral dose
- GDMT uptitration in progress

DAY 3-5:

- Target dry weight approaching (euvolemic: JVP normal, no rales, edema improving to trace/none)
- Stable on oral diuretic regimen ≥24 hours without significant weight rebound
- Ambulatory without hypotension or dyspnea
- Na+ stable, K+ 3.5-5.0, Cr at new baseline

CONTINUED STAY >5 DAYS JUSTIFIED IF:

- Diuretic resistance (not achieving ≥1L/day net negative despite IV furosemide ≥200mg/day + thiazide)
- Cardiorenal syndrome (worsening Cr with diuresis)
- Mechanical circulatory support evaluation (LVAD, transplant workup)
- Arrhythmia management not yet controlled
- Unable to tolerate oral medications (absorption issues, persistent nausea)
- Persistent hypotension on GDMT requiring inotrope taper

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Approaching dry weight: <1 kg weight gain from known dry weight OR edema resolved to trace or baseline
- SpO2 >92% on room air (or at baseline O2 requirement)
- Hemodynamically stable: SBP >90, HR <100, no orthostatic symptoms
- Stable on oral diuretic regimen ≥24 hours (no significant weight rebound)
- Cr stable (no rising trend for ≥24 hrs)
- K+ 3.5-5.0 mEq/L
- Ambulatory without exertional dyspnea at baseline activity level
- Able to tolerate oral medications
- Exacerbation trigger identified and addressed
- GDMT optimized or uptitration plan documented for outpatient
- Daily weight and fluid restriction instructions provided
- HF clinic or cardiology follow-up within 7 days
- Signs and symptoms of worsening HF reviewed with patient/caregiver
- Medication reconciliation completed

TRANSITION TO:

- Home with cardiology follow-up 7 days: majority of patients

- Home Health: if daily weight monitoring support needed, medication management assistance, or transitional care nursing
- SNF: if significant deconditioning, unable to manage diuretics/daily weights independently, complex comorbidities
- Palliative care/hospice referral: if Stage D refractory HF, not LVAD/transplant candidate, recurrent admissions despite optimal therapy

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACC/AHA/HFSA Guideline for Management of Heart Failure. Heidenreich PA, et al. Circulation. 2022;145:e895-e1032. 2. ESC Guidelines for Acute and Chronic Heart Failure. McDonagh TA, et al. Eur Heart J. 2021;42:3599-3726. 3. DOSE Trial (Diuretic Strategies). Felker GM, et al. NEJM. 2011;364:797-805. 4. BNP/NT-proBNP Thresholds. Januzzi JL, et al. JACC. 2018;71:1112-1126.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK (FY2024, v41):

- DRG 291: Heart Failure & Shock w MCC (RW ~1.63)
- DRG 292: Heart Failure & Shock w CC (RW ~1.07)
- DRG 293: Heart Failure & Shock w/o CC/MCC (RW ~0.74)

REVENUE CODES:

- 0120-0129: Room & Board | 0200-0219: ICU | 0210: CCU
- 0250: Pharmacy (IV diuretics, GDMT) | 0300: Laboratory (BNP, BMP, CBC)
- 0320: Radiology (CXR) | 0402-0409: Ultrasound (echocardiogram)
- 0730: EKG | 0636: Drugs Requiring Detailed Coding

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: Curative Appendix A; CMS MS-DRG 291-293 GMLOS 4.4d

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

ACUTE PULMONARY EMBOLISM

ICD-10-CM: I26.01, I26.02, I26.09, I26.90, I26.92, I26.93, I26.94, I26.99

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- CTA chest positive for pulmonary embolism (intraluminal filling defect)
- V/Q scan: high probability (if CTA contraindicated)
- Hypoxemia: SpO2 <95% on room air or PaO2 <80 mmHg
- Tachycardia: HR >100 bpm
- Hypotension: SBP <90 mmHg sustained >15 min (massive PE)
- RV dysfunction on echo: RV dilation (RV:LV ratio >1.0), RV hypokinesis, McConnell sign, tricuspid regurgitation velocity >2.8 m/s
- Elevated troponin (myocardial injury from RV strain)
- BNP/NT-proBNP elevated (RV pressure overload)
- PESI Score Class III-V or sPESI ≥1
- CT showing RV enlargement (RV/LV diameter ratio >0.9)
- Bilateral or saddle PE on imaging

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- Continuous cardiac monitoring
- Supplemental O2 or mechanical ventilation
- IV anticoagulation (heparin drip) if massive/submassive
- Systemic thrombolysis (alteplase) for massive PE with hemodynamic instability
- Catheter-directed therapy (EKOS, suction thrombectomy) for submassive with clinical deterioration
- Surgical embolectomy (massive PE, thrombolysis contraindicated/failed)
- IVC filter placement (contraindication to anticoagulation with proximal DVT/PE)
- Vasopressors for hemodynamic support
- ECMO for refractory cardiogenic shock

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT — MASSIVE PE (always):

- SBP <90 mmHg or requiring vasopressors → ICU, thrombolysis/intervention

INPATIENT — SUBMASSIVE PE (RV strain without hypotension):

- RV dysfunction on echo or CT AND elevated troponin/BNP
- sPESI ≥1
- Significant hypoxemia (SpO2 <92% on RA or requiring >2L O2)
- Active bleeding concern requiring monitoring on anticoagulation
- Bilateral or extensive clot burden

OBSERVATION if ALL:

- Low-risk PE (sPESI = 0 and Hestia criteria negative)
- SpO2 ≥95% on room air
- Hemodynamically stable (SBP >100, HR <110)
- No RV strain (echo and troponin normal)
- No active bleeding or high bleeding risk
- DOAC initiated and tolerated
- Adequate outpatient follow-up confirmed
- NOTE: Many low-risk PE patients can be managed as observation ≤24 hrs or direct discharge with DOAC per ACEP/ATS guidelines

OUTPATIENT (Direct Discharge from ED) if ALL Hestia criteria negative:

- SBP ≥100, HR <100, SpO2 ≥95%, no active bleeding, not on anticoagulant, no thrombolysis needed, no severe pain, no social barrier, no prior PE on anticoagulation

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours (ICU every 12 hours for massive/submassive)

DAY 1 (Massive/Submassive):

- Hemodynamic status: off vasopressors? BP stable?
- Post-thrombolysis: monitor for bleeding complications q1h x 6h, then q4h
- RV function: repeat echo at 24-48 hrs if initial RV strain
- Oxygenation: SpO2 trend, O2 requirement decreasing?
- Anticoagulation therapeutic: aPTT 60-80s (heparin), or transition to DOAC if stable
- Troponin trending: peak and decline

DAY 2-3:

- Transition from IV heparin to oral anticoagulation (DOAC preferred: rivaroxaban or apixaban) if: hemodynamically stable, no ongoing need for IV heparin, tolerating oral
- Ambulation begun (early mobilization for stable PE — bedrest NOT required per ACEP 2024)
- O2 weaning
- DVT assessment: bilateral lower extremity duplex if not yet done

CONTINUED STAY >3 DAYS JUSTIFIED IF:

- Persistent hemodynamic instability or vasopressor requirement
- Post-thrombolysis bleeding complication
- Persistent significant hypoxemia (O2 requirement not decreasing)
- Worsening RV function on repeat echo
- Cannot tolerate oral anticoagulation (GI issues, absorption concerns)
- New PE or extension of clot while on anticoagulation
- Catheter-directed therapy being administered (24-48 hr treatment course)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Hemodynamically stable: SBP >100, HR <100, no vasopressors ≥24 hrs
- SpO2 >92% on room air (or baseline O2 requirement)
- RV function stable or improving (if initially impaired)
- Troponin downtrending or normal
- Tolerating oral anticoagulation (DOAC or warfarin with bridge plan)
- If warfarin: INR 2.0-3.0 OR adequate bridging plan with LMWH documented
- Ambulating without significant dyspnea or hypoxia
- No bleeding complications
- Follow-up scheduled: hematology/pulmonology 2-4 weeks, repeat CTA at 3 months if clot burden large
- Anticoagulation duration plan documented (minimum 3 months; indefinite if unprovoked per CHEST guidelines)
- Patient educated: signs of PE recurrence, bleeding precautions, medication compliance

TRANSITION TO:

- Home: majority of patients once stable on oral anticoagulation
- SNF: if significant deconditioning from prolonged ICU stay or massive PE with slow recovery

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ESC Guidelines for Acute PE. Konstantinides SV, et al. Eur Heart J. 2020;41:543-603. 2. CHEST Guideline: Antithrombotic Therapy for VTE. Stevens SM, et al. Chest. 2021;160:e545-e608. 3. PESI/sPESI Score. Aujesky D, et al. Lancet. 2005;365:1764. 4. Hestia Criteria. Zondag W, et al. J Thromb Haemost. 2011;9:1500-1507.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK (FY2024, v41):

- DRG 175: Pulmonary Embolism w MCC (RW ~1.64)
- DRG 176: Pulmonary Embolism w CC (RW ~1.10)
- DRG 177: Pulmonary Embolism w/o CC/MCC (RW ~0.82)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if massive/submassive) | 0250: Pharmacy (anticoagulation)
- 0300: Laboratory | 0350: CT Scan (CTA chest) | 0402: Ultrasound (echo, duplex LE)
- 0730: EKG | 0636: Drugs (heparin, tPA if thrombolysis, DOAC)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: Curative Appendix A; CHEST 2021 Antithrombotic Therapy Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral

GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

ATRIAL FIBRILLATION / FLUTTER — ACUTE

ICD-10-CM: I48.0, I48.1, I48.2, I48.3, I48.4, I48.91, I48.92

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- New-onset AF with ventricular rate >130 bpm
- AF with rapid ventricular response (RVR) not controlled after initial ED treatment (≥2 IV doses rate control agent)
- Hemodynamic instability: SBP <90, altered mental status, acute HF, chest pain
- Concurrent ACS, PE, sepsis, or other condition requiring inpatient management
- Pre-excited AF (WPW) with wide complex tachycardia
- AF with high-grade AV block or pauses >3 seconds requiring monitoring
- Stroke/TIA associated with AF
- Bleeding on anticoagulation requiring management

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- Continuous cardiac monitoring
- IV rate control agents (diltiazem drip, metoprolol IV, amiodarone drip)
- Electrical cardioversion (requires sedation, monitoring)
- IV anticoagulation (heparin) for stroke prevention (AF >48 hrs or unknown duration without prior anticoagulation, pre-cardioversion)
- TEE prior to cardioversion (if >48 hrs duration without anticoagulation)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1:

- RVR not controlled after ≥2 IV doses in ED (requires IV drip)
- Hemodynamic instability or syncope
- Concurrent ACS, PE, acute HF, or sepsis
- New-onset AF with stroke (admit for stroke protocol)
- Pre-excited AF (WPW) — procainamide or cardioversion, no AV-blocking agents
- Significant bradycardia/pauses between AF episodes (tachy-brady syndrome)

OBSERVATION if ALL:

- New-onset AF with RVR that controlled with 1-2 IV doses in ED, now rate controlled (HR <110)
- Hemodynamically stable

- No concurrent ACS/PE/HF/sepsis
- Cardioversion planned within 24-48 hrs (TEE + cardioversion)
- Transition to oral rate control or rhythm control in progress

OUTPATIENT (Discharge from ED) if ALL:

- Rate controlled (HR <110 at rest) on oral medications
- Hemodynamically stable, symptoms resolved
- CHA2DS2-VASc assessed, anticoagulation initiated or plan documented
- Cardiology or EP follow-up within 1-2 weeks confirmed
- Not requiring cardioversion urgently

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours

DAY 1:

- Rate control achieved? Target resting HR <110 (lenient) or <80 (strict if symptomatic)
- IV rate control weaning to oral? (PO metoprolol, diltiazem, or digoxin initiated)
- If cardioversion planned: TEE scheduled if AF >48 hrs without anticoagulation
- CHA2DS2-VASc score calculated and documented
- Anticoagulation initiated if CHA2DS2-VASc ≥2 (men) or ≥3 (women)
- Trigger identified: thyroid (TSH checked), PE ruled out if appropriate, infection, alcohol, post-surgical
- Echo if: new HF symptoms, new AF in young patient, or valvular disease suspected

DAY 2:

- Stable on oral rate control ≥12-24 hrs?
- If cardioversion done: maintaining sinus rhythm?
- Anticoagulation plan finalized (DOAC preferred per ACC/AHA 2023)
- If rhythm control strategy: antiarrhythmic initiated (flecainide, sotalol, or amiodarone per substrate)

CONTINUED STAY >2 DAYS JUSTIFIED IF:

- Rate not controlled on oral agents (still requiring IV drip)
- Post-cardioversion monitoring needed (antiarrhythmic loading, QT monitoring for sotalol/dofetilide)
- Dofetilide initiation (requires mandatory 3-day inpatient monitoring per FDA)
- Concurrent condition requiring inpatient management
- Recurrent AF after cardioversion requiring additional intervention

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Rate controlled: HR <110 at rest on oral medications (or maintaining sinus rhythm post-cardioversion)
- Hemodynamically stable: SBP >100, no symptoms (dyspnea, lightheadedness, palpitations at rest)
- Off IV rate control agents ≥12 hours
- Anticoagulation plan documented and initiated
- If antiarrhythmic started: QTc <500ms (sotalol, dofetilide), no proarrhythmia, drug interactions reviewed
- Trigger addressed (thyroid treatment, infection treated, alcohol counseling)
- Cardiology or EP follow-up within 2 weeks
- Patient educated: pulse check, symptoms to return for, medication adherence, bleeding precautions if anticoagulated

TRANSITION TO:

- Home: majority of patients
- Cardiology/EP follow-up for: ablation evaluation, rhythm control strategy optimization

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACC/AHA/ACCP/HRS Guideline for AF. Joglar JA, et al. Circulation. 2024;149:e1-e156. 2. CHA2DS2-VASc Score. Lip GY, et al. Chest. 2010;137:263-272. 3. Dofetilide FDA Label: Mandatory 3-day inpatient initiation. FDA. 1999.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK (FY2024, v41):

- DRG 308: Cardiac Arrhythmia & Conduction Disorders w MCC (RW ~1.32)
- DRG 309: Cardiac Arrhythmia & Conduction Disorders w CC (RW ~0.89)
- DRG 310: Cardiac Arrhythmia & Conduction Disorders w/o CC/MCC (RW ~0.59)

REVENUE CODES:

- 0120: Room & Board | 0210: CCU/Telemetry | 0250: Pharmacy (rate/rhythm control, anticoagulation)
- 0300: Laboratory | 0730: EKG | 0481: Cardioversion (if performed)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 1-2 days Source: Curative Appendix A; AHA/ACC/HRS 2023 AF Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

AORTIC DISSECTION

ICD-10-CM: I71.00, I71.01, I71.010, I71.011, I71.012, I71.019, I71.02, I71.03

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — All of following expected:

- Acute onset severe chest/back pain (tearing quality, migratory)
- Blood pressure differential >20 mmHg between arms
- CTA aorta confirming intimal flap/false lumen
- Type A (ascending): surgical emergency — mortality 1-2% per hour without surgery
- Type B (descending): complicated if malperfusion, rupture, refractory HTN/pain
- Wide mediastinum on chest X-ray
- D-dimer >500 ng/mL (screening; sensitivity >96%)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- ICU admission — ALL dissections
- IV esmolol/labetalol: target HR <60, SBP 100-120 mmHg
- Arterial line for continuous BP monitoring
- Type A: emergent cardiac surgery (ascending aorta graft replacement)
- Type B complicated: TEVAR (endovascular stent graft) or open repair
- Type B uncomplicated: medical management in ICU with serial imaging
- Blood products available (type and cross ≥6 units PRBC)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT/ICU — No observation status for aortic dissection

- Type A: emergent surgery, no delay
- Type B complicated: ICU, urgent TEVAR/surgery
- Type B uncomplicated: ICU for ≥48 hrs, then step down if BP/HR controlled and no expansion on imaging

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (ICU); Every 24 hours (step-down)

ICU DAY 1-3 (All Types):

- BP at target: SBP 100-120, HR <60 on IV beta-blocker
- Pain controlled (morphine/fentanyl — avoid NSAIDs)
- Urine output ≥0.5 mL/kg/hr (monitor for renal malperfusion)
- Distal pulses checked q4h (limb malperfusion monitoring)
- Serial labs: Cr, lactate, CBC q12h
- Type A: post-operative care (ventilator weaning, mediastinal tube output, anticoagulation)
- Type B: repeat CTA at 48-72 hrs to assess for expansion or complications

DAY 4-7 (Step-down if criteria met):

- Transition from IV to oral antihypertensives (labetalol, amlodipine, ACEi) maintaining SBP <120
- Ambulation begun with BP/HR monitoring
- Dietary education: low sodium
- Type A post-surgical: sternal precautions, cardiac rehab planning

CONTINUED STAY >7 DAYS JUSTIFIED IF:

- Unable to achieve BP control on oral agents
- Malperfusion syndrome (renal, mesenteric, limb) requiring intervention
- Post-surgical complication (bleeding, stroke, renal failure, paraplegia)
- Aortic expansion on follow-up imaging requiring additional intervention
- New dissection extension

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- SBP <120 and HR <70 on oral medications for ≥24 hours
- Pain controlled on oral analgesics
- No malperfusion signs: all pulses present, Cr stable, no abdominal symptoms, no limb ischemia
- Stable or improved dissection on last imaging
- Ambulatory without hemodynamic lability
- Cr at baseline, urine output adequate
- Type A post-op: wound clean, mediastinal tubes removed, ambulatory
- Lifelong antihypertensive regimen documented (target SBP <120)
- Activity restrictions reviewed (no heavy lifting >10 lbs for 6-8 weeks, no Valsalva)
- Follow-up CTA at 1, 3, 6, 12 months then annually documented
- Vascular surgery/cardiothoracic follow-up 2 weeks
- Genetic testing discussed if young (<50), Marfan/Ehlers-Danlos features, or family history

TRANSITION TO:

- Home: if BP controlled, ambulatory, no complications
- SNF: if significant deconditioning, unable to manage BP independently
- Cardiac/vascular rehab referral for Type A post-surgical

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACC/AHA Guideline for Diagnosis and Management of Aortic Disease. Isselbacher EM, et al. Circulation. 2022;146:e334-e482. 2. ESC Guidelines for Acute Aortic Diseases. Erbel R, et al. Eur Heart J. 2014;35:2873-2926. 3. Stanford Classification. Daily PO, et al. Am J Cardiol. 1970;25:72. 4. IRAD Registry Data. Hagan PG, et al. JAMA. 2000;283:897-903. 5. STS Expert Consensus: Type B Dissection. MacGillivray TE, et al. Ann Thorac Surg. 2022;113:1073-1098.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK (FY2024, v41):

- DRG 237: Major Cardiovascular Procedures w MCC (RW ~7.70) — if surgical repair
- DRG 238: Major Cardiovascular Procedures w/o MCC (RW ~4.50)
- DRG 299: Peripheral Vascular Disorders w MCC (RW ~1.51) — if medical management
- DRG 300: Peripheral Vascular Disorders w CC (RW ~1.04)

REVENUE CODES:

- 0200: ICU | 0360: Operating Room (if surgical) | 0350: CT Scan (CTA)
- 0250: Pharmacy (esmolol, nicardipine drips) | 0300: Lab | 0710: Recovery Room

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 5-14 days Source: Curative Appendix A (Type A post-surgical); 2022 ACC/AHA Aortic Disease Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

HYPERTENSIVE EMERGENCY

ICD-10-CM: I16.0, I16.1, I16.9

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- SBP >180 mmHg AND/OR DBP >120 mmHg
- WITH end-organ damage (must have ≥1):
- Neurologic: hypertensive encephalopathy (headache, confusion, visual changes, papilledema, seizure), ischemic/hemorrhagic stroke
- Cardiac: acute MI, acute HF/pulmonary edema, aortic dissection
- Renal: AKI (Cr rise >0.5 from baseline, hematuria, proteinuria)
- Ophthalmologic: retinal hemorrhages, exudates, papilledema (Grade III-IV retinopathy)
- Vascular: aortic dissection (see separate criteria)
- Eclampsia/preeclampsia with severe features (see OB criteria)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- ICU admission with continuous arterial line BP monitoring

- IV antihypertensive: nicardipine drip (preferred), clevidipine, labetalol IV, nitroprusside (for HF/aortic dissection)
- Target: reduce MAP by 20-25% in first hour, then to 160/100 over next 2-6 hours (avoid rapid normalization → watershed infarction)
- Aortic dissection: target HR <60, SBP 100-120 within 20 min (IV esmolol first)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT/ICU: All hypertensive emergencies (end-organ damage present)

OBSERVATION: Hypertensive urgency (SBP >180/DBP >120 WITHOUT end-organ damage):

- Reinstate/adjust oral medications in ED
- Observe 4-6 hours for BP response
- Discharge with PCP follow-up in 24-72 hours if BP trending down and no symptoms

NOT INPATIENT: Asymptomatic BP elevation without end-organ damage → outpatient medication adjustment

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 6 hours (ICU); Every 12 hours (step-down)

DAY 1: IV antihypertensive titration to target, end-organ workup complete (CT head, echo, Cr, UA, fundoscopy), identify secondary HTN causes (pheochromocytoma, renal artery stenosis, medication non-compliance) DAY 2-3: Transition IV to oral (overlap 6-12 hrs), BP stable on oral regimen ≥24 hrs before discharge

CONTINUED STAY >3 DAYS IF: BP not controlled on oral regimen, end-organ damage ongoing, secondary cause requiring workup/treatment

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL met: BP <160/100 on oral regimen ≥24 hrs, off IV antihypertensive ≥24 hrs, end-organ damage stabilized, Cr stable, no symptoms

- 3-drug oral regimen prescribed (typically ACEi/ARB + CCB + thiazide)
- PCP/cardiology follow-up within 1 week, home BP monitoring provided

TRANSITION TO: Home (majority); SNF if unable to manage medications independently

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACC/AHA Hypertension Guideline. Whelton PK, et al. JACC. 2018;71:e127-e248. 2. ESC/ESH Guidelines for Arterial Hypertension. Williams B, et al. Eur Heart J. 2018;39:3021-3104. 3. AHA Statement: Treatment of Hypertensive Emergencies. Varon J, Marik PE. Chest. 2000;118:214-227.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 304: Hypertension w MCC (RW ~1.16)
- DRG 305: Hypertension w CC (RW ~0.78)
- DRG 306: Hypertension w/o CC/MCC (RW ~0.55)

NOTE: DRG may shift based on end-organ damage (stroke, AKI, MI codes as principal Dx).

REVENUE CODES:

- 0200: ICU | 0250: Pharmacy (IV nicardipine, labetalol) | 0300: Lab | 0350: CT (if stroke evaluation)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: Curative Appendix A; 2017 ACC/AHA Hypertension Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-

up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

INFECTIVE ENDOCARDITIS

ICD-10-CM: I33.0, I33.9, I38, I39

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Modified Duke Criteria (2 major, or 1 major + 3 minor, or 5 minor): MAJOR: • Blood cultures positive for typical organisms (Staph aureus, viridans strep, enterococcus, HACEK) from ≥2 separate cultures

- Echo evidence: vegetation, abscess, new valvular regurgitation, prosthetic valve dehiscence

MINOR: • Predisposing condition (IVDU, prosthetic valve, structural heart disease) • Fever >38°C • Vascular phenomena (Janeway lesions, mycotic aneurysm, ICH, conjunctival hemorrhage) • Immunologic phenomena (Osler nodes, Roth spots, glomerulonephritis, + RF) • Positive cultures not meeting major criteria

- New or worsening murmur (regurgitant murmur)
- Persistent bacteremia (positive cultures >48 hrs on appropriate antibiotics)
- Embolic phenomena (stroke, splenic infarct, renal infarct, pulmonary septic emboli)
- Heart failure from valvular dysfunction

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- IV antibiotics for 4-6 weeks (pathogen-directed per ID consultation)
- Blood cultures q24-48h until clearance (negative x 2 days)
- TTE followed by TEE (TEE sensitivity 90-95% vs TTE 50-60%)
- Surgical consultation per AHA indications: HF from valve dysfunction, uncontrolled infection, vegetation >10mm with embolic event, abscess, prosthetic valve IE with dysfunction

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for confirmed or suspected endocarditis

- Initial 2-4 weeks IV antibiotics as inpatient (minimum until blood culture clearance, clinical stabilization, and OPAT feasibility assessed)
- ICU if: acute HF, septic shock, stroke, surgical intervention

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours

DAY 1-3: Blood cultures q24h until negative, ID consultation, TTE/TEE completed, surgical evaluation per AHA criteria DAY 4-14: Cultures negative? Antibiotic tolerability? Embolic surveillance (neuroimaging if symptoms, CT chest/abdomen if febrile). Surgical decision finalized. DAY 14-28: OPAT feasibility assessment (stable, cultures cleared, no surgery needed, reliable IV access, home nursing available)

CONTINUED STAY IF: Positive cultures, HF not stabilized, planned surgery, abscess requiring drainage, embolic complications requiring acute management

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Blood cultures negative ≥48 hours
- Afebrile ≥48 hours, hemodynamically stable

- No HF symptoms (or HF medically managed and stable)
- No new embolic events
- Tolerating IV antibiotics without adverse effects
- PICC line placed and functioning for OPAT
- OPAT plan: home infusion nursing arranged, antibiotic schedule, lab monitoring (CBC, CMP, vancomycin levels weekly)
- ID follow-up weekly during OPAT
- Remaining antibiotic duration documented (total 4-6 weeks from first negative culture)

TRANSITION TO: Home with OPAT (majority after 2-4 weeks inpatient); SNF if unable to manage OPAT at home

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AHA/ACC Guideline for Infective Endocarditis. Baddour LM, et al. Circulation. 2015;132:1435-1486. 2024 update. 2. Modified Duke Criteria. Li JS, et al. Clin Infect Dis. 2000;30:633-638. 3. ESC Guidelines for IE. Habib G, et al. Eur Heart J. 2015;36:3075-3128. 4. POET Trial (Partial Oral Treatment of IE). Iversen K, et al. NEJM. 2019;380:415-424. 5. AATS Guidelines: Surgical Treatment of IE. AATS. J Thorac Cardiovasc Surg. 2017;153:1241-1258.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 288: Acute & Subacute Endocarditis w MCC (RW ~3.98)
- DRG 289: Acute & Subacute Endocarditis w CC (RW ~2.55)
- DRG 290: Acute & Subacute Endocarditis w/o CC/MCC (RW ~1.69)
- DRG 237-238: If valve surgery performed during admission

REVENUE CODES:

- 0120: Room & Board (extended stay 2-4+ weeks) | 0200: ICU (if HF/shock)
- 0250: Pharmacy (IV antibiotics 4-6 weeks) | 0300: Lab (cultures, CBC, CRP weekly)
- 0402: Echo (TTE/TEE) | 0360: OR (if surgical) | 0636: Drugs Requiring Detailed Coding

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 14-28 days Source: Curative Appendix A (inpatient portion of antibiotic course); AHA 2015 IE Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

CARDIAC TAMPONADE / ACUTE PERICARDITIS

ICD-10-CM: I30.0, I30.1, I30.8, I30.9 (pericarditis), I31.0 (pericardial effusion), I31.4 (cardiac tamponade)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — TAMPONADE (≥1):

- Beck's triad: hypotension, JVD, muffled heart sounds
- Pulsus paradoxus >10 mmHg (SBP drops >10 with inspiration)
- Echo: pericardial effusion with RA/RV diastolic collapse, IVC plethora, respiratory variation in mitral/tricuspid inflow
- Hemodynamic instability: SBP <90, tachycardia >110, narrowed pulse pressure
- Electrical alternans on ECG

PERICARDITIS SI (≥1 high-risk feature):

- Temperature >38°C, immunosuppression, trauma, oral anticoagulation
- Troponin elevation (myopericarditis)
- Large effusion (>20mm diastolic) or tamponade physiology
- Failure to respond to ≥1 week of NSAID therapy
- Subacute onset (suggests non-viral: TB, malignancy, autoimmune)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Tamponade: emergent pericardiocentesis (echo or fluoro-guided) or surgical window
- Continuous cardiac monitoring, serial echo
- IV fluid bolus for tamponade (increases preload temporarily while preparing for drainage)
- Pericarditis: IV colchicine + NSAIDs if unable to tolerate oral

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: All tamponade (emergent), pericarditis with ≥1 high-risk feature listed above OBSERVATION: Acute pericarditis without high-risk features, low-risk (young, viral, no effusion, NSAID-responsive) → observe 24 hrs then discharge OUTPATIENT: Low-risk pericarditis without effusion, responding to NSAIDs within 24 hrs

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: q12h (tamponade/post-pericardiocentesis); q24h (pericarditis)

DAY 1: Tamponade → pericardiocentesis, drain left in 24-48 hrs, fluid sent for cytology/culture/protein/LDH/ADA/glucose. Pericarditis → echo, troponin, inflammatory markers (CRP, ESR), etiology workup (ANA, RF, TSH, HIV, TB, blood cultures if febrile). DAY 2-3: Drain output <25-50mL/24h → remove drain. CRP trending down? NSAID + colchicine regimen established. CONTINUED STAY IF: Recurrent tamponade, hemodynamic instability, myopericarditis with arrhythmia, etiology requiring inpatient workup (TB, malignancy)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- No tamponade physiology on echo, drain removed (if placed)
- Hemodynamically stable, no pulsus paradoxus
- Pain controlled on oral NSAIDs (ibuprofen 600mg TID or aspirin 650mg TID x 1-2 weeks) + colchicine 0.5mg BID x 3 months
- CRP trending down, troponin trending down (if elevated)
- Activity restriction counseled (no exercise/athletics until CRP normal and symptom-free per ESC/AHA)
- Cardiology follow-up 1-2 weeks with repeat echo

TRANSITION TO: Home (majority); SNF rare unless significant comorbidity

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ESC Guidelines for Pericardial Diseases. Adler Y, et al. Eur Heart J. 2015;36:2921-2964. 2. COPE Trial (Colchicine for Pericarditis). Imazio M, et al. Circulation. 2005;112:2012-2016. 3. CORP-2 Trial (Colchicine for Recurrent Pericarditis). Imazio M, et al. Ann Intern Med. 2011;155:409-414. 4. AHA Statement on Pericardial Disease. LeWinter MM. Circulation. 2014;130:510-517.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK (FY2024, v41):

- DRG 315: Other Circulatory System Diagnoses w MCC (RW ~1.68)
- DRG 316: Other Circulatory System Diagnoses w CC (RW ~0.99)
- DRG 317: Other Circulatory System Diagnoses w/o CC/MCC (RW ~0.69)
- DRG 166-168: Other Cardiothoracic Procedures (if pericardial window performed) (RW ~5.34 / 3.15 / 2.23)

REVENUE CODES:

- 0200: ICU | 0360: OR (if pericardial window/pericardiocentesis under fluoro)
- 0481: Cardiac Cath Lab (if echo-guided pericardiocentesis) | 0402: Ultrasound (echo)
- 0250: Pharmacy | 0300: Lab | 0730: EKG

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: ESC 2015 Pericardial Diseases Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

DEEP VEIN THROMBOSIS — REQUIRING INPATIENT MANAGEMENT

ICD-10-CM: I82.401-I82.4Z9 (acute DVT of lower extremity), I82.601-I82.629 (upper extremity DVT)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- Extensive iliofemoral DVT with limb-threatening ischemia (phlegmasia cerulea/alba dolens)
- Bilateral lower extremity DVT
- Concurrent PE (see PE criteria — treat as PE admission)
- Massive limb swelling with compartment syndrome concern
- Contraindication to anticoagulation requiring IVC filter placement
- High bleeding risk requiring monitored anticoagulation initiation (recent surgery, active GI bleed history, severe thrombocytopenia)
- Unable to tolerate oral medications (DOAC not feasible)
- Upper extremity DVT with catheter requiring removal and line replacement

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Catheter-directed thrombolysis (CDT) or pharmacomechanical thrombectomy for iliofemoral DVT with limb threat
- IVC filter placement (IR procedure)
- IV heparin infusion (when DOAC not appropriate)
- Limb elevation, vascular surgery consultation
- Fasciotomy for compartment syndrome

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1: iliofemoral DVT requiring CDT/thrombectomy, phlegmasia, concurrent PE, IVC filter needed, IV heparin required, bilateral DVT OBSERVATION if: proximal DVT in patient requiring initial IV heparin monitoring but expected transition to oral within 24-48 hrs OUTPATIENT (majority of DVT): uncomplicated proximal or distal DVT → DOAC initiated in ED, discharge with hematology/PCP follow-up within 1 week

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours DAY 1: Anticoagulation strategy determined (DOAC vs heparin bridge to warfarin vs heparin only), DVT extent mapped (duplex US), PE ruled out if symptoms, compression stocking education DAY 2-3: If CDT: catheter removal when lysis adequate (repeat venography), transition to oral anticoagulation. If IV heparin: therapeutic aPTT achieved, transition to oral. CONTINUED STAY IF: Ongoing CDT, compartment syndrome management, PE requiring separate management, unable to achieve therapeutic anticoagulation

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Anticoagulation therapeutic and transitioned to oral regimen
- Pain controlled, swelling stable or improving
- No limb-threatening ischemia
- If CDT: catheter removed, access site hemostasis
- Anticoagulation duration plan: minimum 3 months, indefinite if unprovoked or recurrent (per CHEST guidelines)
- Compression stockings provided
- Hematology follow-up if: unprovoked DVT (thrombophilia workup at 3 months), recurrent VTE, unusual site

TRANSITION TO: Home (majority); SNF if deconditioning from phlegmasia/prolonged bed rest

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. CHEST Guidelines: Antithrombotic Therapy for VTE. Stevens SM, et al. Chest. 2021;160:e545-e608. 2. ATTRACT Trial (CDT for Iliofemoral DVT). Vedantham S, et al. NEJM. 2017;377:2240-2252. 3. ACCP Guidelines: VTE Treatment. Kearon C, et al. Chest. 2016;149:315-352. 4. ACR Appropriateness: IVC Filter. Towns GC, et al. JACR. 2022;19:S36-S46.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 294: Deep Vein Thrombophlebitis w CC/MCC (RW ~1.00)
- DRG 295: Deep Vein Thrombophlebitis w/o CC/MCC (RW ~0.69)
- DRG 270-272: Other Major Cardiovascular Procedures (if IVC filter/CDT) (RW ~3.82 / 2.38)

REVENUE CODES:

- 0120: Room & Board | 0250: Pharmacy (heparin drip, DOAC) | 0300: Lab (aPTT, CBC)
- 0402: Ultrasound (duplex venous) | 0350: CT (if CTV) | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 1-3 days Source: CHEST 2021 Antithrombotic Therapy Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity

triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

CARDIAC ARREST / POST-CARDIAC ARREST SYNDROME

ICD-10-CM: I46.2, I46.8, I46.9 (cardiac arrest), I97.12x (post-procedural), T75.1 (drowning resuscitation)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Return of spontaneous circulation (ROSC) after cardiac arrest of any etiology (VF/VT, PEA, asystole), persistent neurological deficit post-ROSC, hemodynamic instability, ongoing myocardial dysfunction (post-arrest stunning), evidence of end-organ injury (elevated lactate, AKI, hepatic injury, coagulopathy)

INTENSITY OF SERVICE (IS) — Must require ≥1: ICU, targeted temperature management (TTM) 32-36°C x 24 hrs per AHA/ILCOR 2020 (select target and maintain; TTM2 trial showed no benefit of 33°C vs normothermia but avoiding fever is critical), continuous EEG monitoring (48-72 hrs for prognostication and seizure detection), coronary angiography within 2 hrs if STEMI on post-ROSC ECG or high suspicion for cardiac etiology (per AHA 2020; timing for non-STEMI etiology debated), hemodynamic support (vasopressors, inotropes, IABP/Impella for cardiogenic shock), mechanical ventilation with lung-protective strategy, serial neurological prognostication at ≥72 hrs post-rewarming (NSE, SSEP, EEG, MRI per AAN guideline)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS ICU — All post-cardiac arrest patients require ICU EXCEPTION: Patients who arrest, achieve ROSC, and immediately return to baseline neurological function (witnessed VF arrest with immediate defibrillation, GCS 15 within minutes) may be admitted to monitored bed for workup

C. CONTINUED STAY / CONCURRENT REVIEW

q6-12h ICU. HOURS 0-24: TTM protocol (cooling to 32-36°C), hemodynamic optimization (MAP >65, consider echo for LV function), identify and treat cause (coronary angiography, CT PE, CT head, tox screen, electrolytes), continuous EEG. HOURS 24-72: Controlled rewarming (0.25°C/hr), avoid fever (T <37.7°C x 72 hrs), sedation weaning after rewarming, neurological assessment. DAY 3-5: Multimodal neuroprognostication at ≥72 hrs post-rewarming: clinical exam (pupillary/corneal reflexes, motor response), bilateral absent N20 on SSEP, highly malignant EEG patterns, NSE >33 µg/L at 48-72h, MRI DWI showing extensive diffusion restriction. CONTINUED STAY IF: Persistent coma requiring neuroprognostication, hemodynamic instability, ICD evaluation, arrhythmia management, organ dysfunction recovery

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Neurologically: awake/following commands OR neuroprognostication complete with goals of care established
- Hemodynamically stable off vasopressors/inotropes ≥24 hrs
- Extubated (if applicable) or tracheostomy for prolonged vent
- Cause identified and treated (PCI, ICD placed, electrolytes corrected, etc.)
- ICD placed or scheduled if indicated (LVEF ≤35% at 40+ days post-arrest per ACC/AHA; wearable defibrillator vest as bridge)
- Neurology/cardiology follow-up 2-4 weeks

TRANSITION TO: IRF (awakening with deficits), SNF (persistent but recovering neurological injury), LTAC (ventilator-dependent), Home (good neurological recovery with ICD)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AHA/ILCOR Post-Cardiac Arrest Care Guidelines. Panchal AR, et al. Circulation. 2020;142:e366-e468. 2. TTM2 Trial. Dankiewicz J, et al. NEJM. 2021;384:2283-2294. 3. AAN Practice Guideline: Neuroprognostication After Cardiac Arrest. Geocadin RG, et al. Neurology. 2023;101:e1224-e1246. 4. COACT Trial (Angiography Timing). Lemkes JS, et al. NEJM. 2019;380:1397-1407.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 296: Cardiac Arrest, Unexplained w MCC (RW ~1.64)
- DRG 297: Cardiac Arrest, Unexplained w CC (RW ~0.86)

- DRG 298: Cardiac Arrest, Unexplained w/o CC/MCC (RW ~0.54)
- DRG 215-217: Cardiac Valve & Oth Maj Cardiothoracic Proc (if ICD implanted) (RW ~8.72 / 5.01)
- DRG 222-224: Cardiac Defib Implant (if ICD) (RW ~5.83 / 4.19 / 3.44)

REVENUE CODES:

- 0200: ICU (extended — TTM protocol) | 0250: Pharmacy (vasopressors, amiodarone, sedation)
- 0300: Lab (serial troponin, lactate, ABG) | 0610: MRI (brain, prognostication)
- 0350: CT Head | 0730: EKG | 0481: Cath Lab (if PCI for STEMI cause)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 5-10 days Source: AHA 2020 ACLS/Post-Cardiac Arrest Care

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

ACUTE MYOCARDITIS

ICD-10-CM: I40.0, I40.1, I40.8, I40.9 (myocarditis), I41 (myocarditis in diseases classified elsewhere)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Acute chest pain with troponin elevation and non-obstructive coronaries (MINOCA presentation), new-onset HF (dyspnea, pulmonary edema, cardiogenic shock), new arrhythmia (VT, high-grade AV block, AF), ECG: diffuse ST elevation or PR depression (mimics STEMI or pericarditis), cardiac MRI: late gadolinium enhancement in non-coronary distribution (Lake Louise Criteria: ≥2 of T2 edema, early gadolinium enhancement, late gadolinium enhancement), LVEF <50% on echo (new), recent viral illness (1-4 weeks prior: COVID-19, Coxsackie, adenovirus, parvovirus B19, influenza)

INTENSITY OF SERVICE (IS) — Must require ≥1: Continuous cardiac monitoring (arrhythmia risk), echo for LV function, cardiac MRI (when stable), endomyocardial biopsy (if fulminant: to diagnose giant cell myocarditis, eosinophilic myocarditis, cardiac sarcoidosis which have specific treatments), standard HF management (ACEi/ARB, beta-blocker if hemodynamically tolerated — cautious in acute phase), avoid NSAIDs (may worsen myocardial inflammation per animal models), activity restriction (no exercise x 3-6 months per AHA/ESC), ICU if: cardiogenic shock, sustained VT, high-grade AV block, LVEF <30%

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: All acute myocarditis with troponin elevation, new HF, arrhythmia, or hemodynamic compromise ICU: Fulminant

myocarditis (cardiogenic shock, VT, complete heart block), requiring vasopressors/inotropes/MCS OBSERVATION: Suspected myocarditis with mild symptoms, preserved LVEF, no arrhythmia — monitoring x 24-48 hrs

C. CONTINUED STAY / CONCURRENT REVIEW

q24h (ICU q12h). DAY 1-2: Echo (LVEF, wall motion), troponin trend (peak and decline), telemetry for arrhythmia, cardiac MRI when stable (Lake Louise criteria). DAY 3-5: Troponin declining? LVEF stable/improving? Any arrhythmia? If fulminant: endomyocardial biopsy → giant cell myocarditis (immunosuppression: cyclosporine + steroids), eosinophilic (steroids), cardiac sarcoid (steroids + methotrexate). Mechanical circulatory support for refractory cardiogenic shock (bridge to recovery in many fulminant cases). CONTINUED STAY IF: LVEF declining, new arrhythmia, cardiogenic shock, awaiting biopsy results, MCS in place, HF management optimization

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Troponin trending down for ≥24 hrs
- LVEF stable or improving
- No hemodynamically significant arrhythmia ≥48 hrs
- Hemodynamically stable off vasopressors/inotropes
- HF medications initiated if LVEF <50% (ACEi/ARB, beta-blocker if tolerated)
- Cardiac MRI completed or scheduled within 1-2 weeks
- Activity restriction counseled: NO competitive sports or vigorous exercise x 3-6 months (per AHA/ESC; return to play only after LVEF normalized, no arrhythmia on Holter, and resolution of

inflammation on cardiac MRI)

- Wearable defibrillator prescribed if LVEF ≤35% (bridge until reassessment at 3-6 months)
- Cardiology follow-up 1-2 weeks, repeat echo at 1-3 months

TRANSITION TO: Home (majority); Home with close cardiology follow-up

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AHA Scientific Statement: Myocarditis. Caforio AL, et al. Circulation. 2013;128:2518-2527. 2. ESC Position Statement: Myocarditis. Caforio AL, et al. Eur Heart J. 2013;34:2636-2648. 3. Lake Louise Criteria for Cardiac MRI. Friedrich MG, et al. JACC. 2009;53:1475-1487. Updated 2018. 4. AHA/ACC Sports Eligibility: Return to Play After Myocarditis. Maron BJ, et al. Circulation. 2015;132:e273-e280.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 314: Other Circulatory System Diagnoses w MCC (RW ~1.68) — primary myocarditis code
- DRG 291-293: Heart Failure & Shock (if cardiogenic shock/HF predominant) (RW ~1.63 / 1.07 / 0.74)

REVENUE CODES:

- 0200: ICU (if cardiogenic shock/arrhythmia) | 0120: Room & Board/Telemetry
- 0610: MRI (cardiac MRI — Lake Louise criteria) | 0402: Echo
- 0250: Pharmacy | 0300: Lab (troponin, BNP, inflammatory markers) | 0730: EKG

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: AHA Myocarditis Scientific Statement 2020

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

ACUTE LIMB ISCHEMIA

ICD-10-CM: I74.2 (embolism/thrombosis of arteries of upper extremities), I74.3 (embolism/thrombosis of arteries of lower extremities), I74.4 (embolism/thrombosis of arteries of extremities, unspecified), I74.5 (iliac artery), I74.8 (other), I74.9 (unspecified)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Rutherford Classification: Class I (Viable): No sensory loss, no muscle weakness, audible arterial/venous Doppler → non-emergent Class IIa (Marginally Threatened): Minimal sensory loss (toes), no weakness, inaudible arterial but audible venous Doppler → salvageable with prompt treatment Class IIb (Immediately Threatened): Sensory loss beyond toes, mild-moderate weakness, inaudible arterial but audible venous Doppler → salvageable with immediate revascularization Class III (Irreversible): Profound sensory loss (anesthetic), paralysis (rigor), inaudible arterial AND venous Doppler → primary amputation

- 6 P's of ischemia: Pain (acute onset, severe, out of proportion), Pallor, Pulselessness, Paresthesias, Paralysis, Poikilothermia (cool to touch)
- Acute onset (<14 days) distinguishes from chronic limb-threatening ischemia
- CTA showing arterial occlusion (embolic vs thrombotic)
- Embolic source suspected: AF, MI with LV thrombus, prosthetic valve, aortic aneurysm

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Immediate IV heparin bolus (80 units/kg then 18 units/kg/hr) unless contraindicated
- Vascular surgery consultation emergently
- CTA from aorta to feet (or conventional angiography)
- Revascularization: surgical thrombectomy/embolectomy (Class IIb — within 6 hrs), catheter-directed thrombolysis (Class IIa), bypass grafting, hybrid approaches
- Post-reperfusion monitoring for compartment syndrome (calf pressures if swelling, fasciotomy if compartment pressure >30 mmHg or within 30 of diastolic)
- Monitor for reperfusion injury: hyperkalemia, metabolic acidosis, myoglobinuria, AKI

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for acute limb ischemia (Rutherford Class I-III all require inpatient workup and intervention planning)

- ICU if: revascularization procedure, reperfusion injury, compartment syndrome, hemodynamic instability
- Amputation: if Class III irreversible ischemia (informed consent, goals of care discussion)

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: q6-12h post-procedure; q24h stable

DAY 1: Revascularization completed or initiated (thrombolysis may run 12-48 hrs with serial angiograms), limb viability checked q1-2h (pulses, Doppler, capillary refill, sensation, motor), post-reperfusion labs (K+, Cr, CK, lactate, ABG), heparin therapeutic (aPTT 60-80s) DAY 2-3: Pulse checks q4h, wound assessment (if surgical), embolic source workup (TTE/TEE, ECG for AF, aortic imaging), long-term anticoagulation plan (warfarin or DOAC if AF source) CONTINUED STAY IF: Thrombolysis still running, compartment syndrome management (fasciotomy wound care), reperfusion AKI, re-occlusion, planned staged procedure, amputation recovery

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Limb viable: palpable pulse or audible Doppler, warm, sensation intact, motor intact
- No compartment syndrome (or fasciotomy wounds stable/closed)
- Cr stable, CK trending down, K+ normal
- Anticoagulation therapeutic and plan documented (heparin bridge to warfarin/DOAC if embolic source, or antiplatelet if thrombotic)

- Embolic source identified and addressed (AF: rate control + anticoagulation; LV thrombus: anticoagulation x 3-6 months)
- Vascular surgery follow-up 1-2 weeks with duplex US
- If fasciotomy: wound care plan, staged closure or skin graft timing

TRANSITION TO: Home (majority post-embolectomy); SNF if amputation rehabilitation, deconditioning, wound care; IRF if bilateral or proximal amputation

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACC/AHA Guidelines for PAD. Gerhard-Herman MD, et al. Circulation. 2017;135:e686-e725. 2. ESVS Guidelines for Acute Limb Ischemia. Bjorck M, et al. Eur J Vasc Endovasc Surg. 2020;59:173-208. 3. Rutherford Classification. Rutherford RB, et al. J Vasc Surg. 1997;26:517-538. 4. TOPAS/STILE Trials (Thrombolysis for ALI). Ouriel K, et al. J Vasc Surg. 1998;28:482-492.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 252: Other Vascular Procedures w MCC (RW ~3.46)
- DRG 253: Other Vascular Procedures w CC (RW ~2.22)
- DRG 254: Other Vascular Procedures w/o CC/MCC (RW ~1.59)
- DRG 299: Peripheral Vascular Disorders w MCC (RW ~1.51) — if medical management only
- DRG 300: Peripheral Vascular Disorders w CC (RW ~1.04)

REVENUE CODES:

- 0200: ICU | 0360: OR (embolectomy/bypass) | 0481: Vascular Lab/Angio Suite (CDT/thrombolysis)
- 0350: CTA | 0250: Pharmacy (heparin, tPA) | 0300: Lab (CK, lactate, K+)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: Curative Appendix A; SVS 2021 ALI Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Hemodynamic instability (MAP <65 on vasopressors), cardiogenic shock, post-arrest, IABP/Impella/VA-ECMO, refractory arrhythmia requiring continuous IV antiarrhythmic, mechanical ventilation, active titration of vasoactives.
- Stepdown (Telemetry/PCU): Continuous telemetry required, IV diuretic/vasoactive titration not requiring ICU, post-PCI complication monitoring, BiPAP for ADHF, ongoing ischemia work-up, hemodynamics stable but not yet ambulatory.
- Med-Surg: Hemodynamics stable, off vasoactives ≥24h, telemetry needed only for arrhythmia surveillance, transitioning to oral GDMT, completing diuresis, awaiting procedure or disposition.
- Observation (<2 midnights): Low-risk chest pain rule-out, single negative troponin pending second, rate-controlled AF awaiting cardioversion, syncope work-up with normal initial telemetry per HEART/CHA_2DS_2-VASc/SF risk stratification.
- Post-Acute (SNF/IRF/LTAC): Deconditioned post-prolonged ICU, requires daily skilled nursing or PT/OT ≥3 hours/day (IRF) or 5 days/week (SNF), or chronic vent/trach weaning (LTAC).
- Home (with/without HHA): Hemodynamically stable on oral regimen, ambulatory at baseline or with adaptive equipment, follow-up cardiology in 7–14 days, HHA for IV diuretic bridge or wound care when indicated.

LOC Grid Sources: SCCM Admission/Discharge Criteria (Nates 2016); 2022 AHA/ACC/HFSA HF Guideline; 2023 AHA/ACC/HRS AF Guideline; CMS 2-Midnight Rule 42 CFR §412.3.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hemodynamic instability requiring vasoactive support beyond Goal LOS
- Refractory arrhythmia requiring continued IV antiarrhythmic titration
- Recurrent ischemia or new positive biomarkers during the index admission
- Post-PCI complications: vascular access bleeding requiring transfusion, retroperitoneal hematoma, contrast-induced AKI requiring monitoring
- Initiation or up-titration of GDMT not yet at therapeutic doses with significant orthostasis or worsening renal function
- New device implantation (pacemaker/ICD) requiring observation post-implant
- Active infection (endocarditis, line-related sepsis) requiring continued IV antibiotics without OPAT feasibility

Extended Stay Sources: Sources: ACC/AHA HF Guideline 2022; AHA/ACC/HRS AF Guideline 2023; CMS 2-Midnight Rule.

PULMONARY

COMMUNITY-ACQUIRED PNEUMONIA (CAP)

ICD-10-CM: J13, J14, J15.0 (pneumonia due to Klebsiella pneumoniae), J15.1 (pneumonia due to Pseudomonas), J15.20 (pneumonia due to staphylococcus unspecified), J15.211 (pneumonia due to MSSA), J15.212 (pneumonia due to MRSA), J15.29 (pneumonia due to other staphylococcus), J15.3 (pneumonia due to streptococcus group B), J15.4 (pneumonia due to other streptococci), J15.5 (pneumonia due to Escherichia coli), J15.6 (pneumonia due to other Gram-negative bacteria), J15.7 (pneumonia due to Mycoplasma pneumoniae), J15.8 (pneumonia due to other specified bacteria), J15.9 (unspecified bacterial pneumonia), J18.0, J18.1, J18.8, J18.9, J12.0-J12.9 (viral), J69.0 (aspiration)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- CURB-65 score ≥3 (Confusion, Urea >7 mmol/L [BUN >19], RR ≥30, BP <90/60, age ≥65)
- PSI/PORT Score Class IV (91-130) or Class V (>130)
- SpO2 <90% on room air or PaO2 <60 mmHg
- Respiratory rate ≥30 breaths/min
- SBP <90 mmHg or DBP <60 mmHg
- Heart rate >125 bpm
- Temperature <35°C or >40°C
- Altered mental status/confusion (new from baseline)
- Multilobar infiltrates on chest imaging
- WBC <4,000 or >30,000/mm³
- BUN >20 mg/dL or Cr >1.5 (renal involvement)
- Lactate >2 mmol/L
- Pleural effusion (complicated parapneumonic or empyema)
- Immunocompromised (HIV, transplant, active chemotherapy, chronic steroids >10mg/day)

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- IV antibiotics (cannot tolerate or failing oral antibiotics)
- Supplemental O2 ≥4L NC or HFNC or NIV or mechanical ventilation
- IV fluid resuscitation for hemodynamic instability
- ICU-level care for: septic shock, mechanical ventilation, vasopressors
- Thoracentesis or chest tube for complicated effusion/empyema

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1:

- CURB-65 ≥3 OR PSI Class IV-V
- SpO2 <90% on RA or requiring >4L O2
- Hemodynamic instability (SBP <90 or requiring IV fluids/vasopressors)
- Unable to tolerate oral medications/fluids
- Immunocompromised
- Multilobar disease or rapidly progressing infiltrates
- Complicated parapneumonic effusion or empyema

ICU if ≥1 MAJOR or ≥3 MINOR ATS/IDSA criteria: Major: mechanical ventilation, vasopressors for septic shock Minor: RR ≥30, PaO2/FiO2 ≤250, multilobar, confusion, BUN ≥20, WBC <4K, platelets <100K, temp <36°C, hypotension requiring fluids

OBSERVATION if ALL:

- CURB-65 = 2 OR PSI Class III
- SpO2 90-94% on ≤2L NC and improving
- SBP >90 without IV fluid requirement
- Tolerating oral antibiotics and fluids
- Expected improvement and discharge <48 hrs

OUTPATIENT if ALL:

- CURB-65 0-1 AND PSI Class I-II
- SpO2 ≥94% on RA, vital signs stable, tolerating oral

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours (ICU every 12 hours)

DAY 1-2:

- Blood cultures obtained before antibiotics (if not done in ED)
- Sputum culture if productive cough and not yet obtained
- Empiric antibiotics per ATS/IDSA CAP guidelines: non-ICU (ceftriaxone + azithromycin or respiratory fluoroquinolone); ICU (ceftriaxone + azithromycin + consider MRSA coverage if risk factors)
- Procalcitonin to guide antibiotic duration
- Clinical improvement assessment: fever trending down? WBC improving? SpO2 improving?
- MRSA nasal screen if MRSA risk (prior MRSA, IV drug use, recent hospitalization)

DAY 3 (Critical Decision Point):

- Clinical improvement expected by 48-72 hrs: afebrile, HR <100, RR <24, SpO2 >90% on RA, tolerating oral, mentation at baseline
- IF IMPROVING: transition IV to oral antibiotics (switch criteria: afebrile ≥24 hrs, HR <100, RR <24, SpO2 >90%, tolerating PO)
- IF NOT IMPROVING: broaden antibiotics, repeat imaging (CT chest), consider bronchoscopy, evaluate for empyema/abscess/resistant organism/alternative diagnosis

DAY 4-5+: CONTINUED STAY JUSTIFIED IF:

- Not meeting IV-to-oral switch criteria
- Empyema or lung abscess requiring drainage and IV antibiotics
- Respiratory failure not resolving (still on O2 >4L or NIV/ventilator)
- Sepsis/septic shock not resolved
- Unable to tolerate oral antibiotics
- Alternative/additional diagnosis identified requiring inpatient workup (cancer, PE, TB)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met (IV-to-PO Switch + Discharge Criteria):

- Afebrile (T <37.8°C) for ≥24 hours
- HR <100 bpm
- RR <24 breaths/min
- SpO2 >90% on room air (or baseline O2 requirement)
- SBP >90 mmHg without IV fluids
- Mental status at baseline
- Tolerating oral medications and fluids
- WBC trending toward normal (need not be normal at discharge)
- Appropriate oral antibiotic regimen prescribed
- Total antibiotic duration determined: minimum 5 days per ATS/IDSA 2019 (procalcitonin-guided acceptable; stop if afebrile ≥48 hrs and ≤1 sign of instability)
- Follow-up CXR at 6-8 weeks recommended for smokers, age >50 (rule out underlying mass)
- Follow-up PCP/pulmonology 1-2 weeks

TRANSITION TO:

- Home: majority once oral switch criteria met
- SNF: if deconditioning, O2-dependent (new), unable to manage oral medications independently
- Home Health: if O2 management needed, medication oversight

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ATS/IDSA Guideline for CAP. Metlay JP, et al. Am J Respir Crit Care Med. 2019;200:e45-e67. 2. CURB-65 Score. Lim WS, et al. Thorax. 2003;58:377-382. 3. PSI/PORT Score. Fine MJ, et al. NEJM. 1997;336:243-250. 4. Procalcitonin-Guided Antibiotic Duration. Schuetz P, et al. Cochrane Database. 2017;10:CD007498.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 177-179: Respiratory Infections & Inflammations w MCC/CC/w/o (RW ~2.15 / 1.41 / 1.03)
- DRG 193-195: Simple Pneumonia & Pleurisy w MCC/CC/w/o (RW ~1.46 / 0.99 / 0.72)
- DRG 207-208: Respiratory System Diagnosis w Ventilator Support (if intubated)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if severe/ventilated) | 0250: Pharmacy (IV antibiotics)
- 0300: Lab (cultures, procalcitonin, CBC) | 0320: Radiology (CXR) | 0350: CT Chest
- 0410: Respiratory Services (O2, nebulizers, ventilator) | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: Curative Appendix A; ATS/IDSA 2019 CAP Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Mechanical ventilation, high-flow >50 LPM/FiO_2 >60% with rising work of breathing, BiPAP failure, hemodynamic instability, septic shock, severe asthma with rising CO_2.
- Stepdown (Telemetry/PCU): BiPAP/HFNC requirement, frequent nebulizers (q1–2h), pulmonary hypertension on IV therapy, post-bronchoscopy with significant disease, large pneumothorax with chest tube.
- Med-Surg: Stable on ≤4 L NC or room air with monitoring, IV antibiotics, nebulizers q4–6h, chest tube without persistent leak.
- Observation: Mild–moderate exacerbation with rapid response to bronchodilator/steroid, oxygen requirement ≤2 L baseline, no comorbid sepsis or hypercapnia.
- Post-Acute (SNF/IRF/LTAC): Pulmonary rehab eligible but home unsafe; LTAC for vent weaning >21 days; SNF for skilled IV antibiotic completion when home unsafe.
- Home (with/without HHA): SpO_2 ≥90% on room air or stable home O_2, afebrile ≥24h, tolerating oral antibiotics/steroids, follow-up pulmonology or PCP in 1–2 weeks.

LOC Grid Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024 Report; GINA 2024 Strategy; BTS Pleural Disease Guideline 2023.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hypoxia or hypercapnia requiring continued NIV/HFNC beyond Goal LOS
- New positive respiratory culture requiring antibiotic escalation (MRSA, Pseudomonas, fungal)
- Persistent air leak (>5 days) from chest tube requiring further intervention
- Empyema requiring continued IV antibiotics, tPA/DNase, or VATS decortication
- Acute exacerbation overlapping with another acute process (pneumonia + CHF + AKI)
- Failure to tolerate weaning of supplemental O_2 to home baseline

Extended Stay Sources: Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024; BTS Pleural Disease 2023.

COPD ACUTE EXACERBATION

ICD-10-CM: J44.0 (COPD with acute lower respiratory infection), J44.1 (COPD with acute exacerbation)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥2:

- Increased dyspnea beyond baseline (unable to speak in full sentences, accessory muscle use, tripod positioning)
- SpO2 <88% on room air or <90% on usual home O2
- Respiratory rate >28 breaths/min
- PaCO2 >50 mmHg or pH <7.35 (acute respiratory acidosis)
- PaO2 <55 mmHg on room air
- New or worsening bilateral wheezing with poor air movement
- Altered mental status (CO2 narcosis, drowsiness, confusion)
- Heart rate >110 bpm
- Unable to eat, drink, or sleep due to dyspnea
- FEV1 <30% predicted (if known, indicating severe COPD at baseline)
- Significant comorbidity (CHF, CAD, renal failure, liver disease)

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- Continuous nebulized bronchodilators (albuterol + ipratropium q1-4h)
- Systemic corticosteroids (prednisone 40mg or methylprednisolone IV)
- Supplemental O2 titrated to SpO2 88-92% (controlled O2 to avoid CO2 retention)
- NIV (BiPAP) for acute hypercapnic respiratory failure (pH <7.35, PaCO2 >45)
- Mechanical ventilation for respiratory failure not responding to NIV
- ABG monitoring q4-6h for hypercapnic patients
- IV antibiotics (if purulent sputum and ≥2 of: increased dyspnea, increased sputum volume, increased sputum purulence)
- Continuous monitoring (pulse oximetry, telemetry if arrhythmia)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1:

- Respiratory acidosis (pH <7.35, PaCO2 >50)
- Altered mental status
- Requiring NIV (BiPAP) or mechanical ventilation
- SpO2 <88% on usual O2 or not improving with initial bronchodilators
- Unable to tolerate oral medications
- Significant comorbidity exacerbation (HF, pneumonia, PE)
- Inadequate home support/unable to manage at home

OBSERVATION if ALL:

- Moderate exacerbation responding to ED bronchodilator treatment
- SpO2 88-92% on ≤2-3L NC (stable)
- No respiratory acidosis (pH >7.35)
- Alert and oriented, able to tolerate oral
- Expected to respond to steroids + bronchodilators and discharge <48 hrs

OUTPATIENT if ALL:

- Mild exacerbation (increased dyspnea/sputum but SpO2 ≥92%, no respiratory distress)
- PEF/FEV1 >50% predicted after initial treatment
- Able to manage at home with increased bronchodilator use + oral prednisone

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours (ICU every 12 hours if on NIV/ventilator)

DAY 1:

- ABG if initial pH <7.35 or hypercapnic (repeat at 1-2 hrs post-NIV initiation, then q6-12h)
- Bronchodilator response documented (subjective + SpO2)
- Steroid initiated (prednisone 40mg/day x 5 days per GOLD 2024 — no taper needed)
- Antibiotics if indicated (azithromycin or doxycycline x 5 days; amoxicillin-clavulanate if frequent exacerbations)
- CXR to rule out pneumonia, CHF, pneumothorax
- If on NIV: reassess at 1-2 hrs — if pH improving and RR decreasing, continue; if not improving, consider intubation

DAY 2-3:

- Transition from continuous to q4h nebulizers if improving
- SpO2 stable 88-92% on ≤2-3L NC
- Weaning NIV: daytime NIV holiday if SpO2 and pH stable off BiPAP
- Ambulation with SpO2 monitoring (6-minute walk test when able)
- Transition nebulizers to MDI (metered dose inhaler) with spacer
- Inhaler technique education
- Home O2 evaluation if new O2 requirement persists

CONTINUED STAY >3 DAYS JUSTIFIED IF:

- Persistent respiratory acidosis or NIV dependence
- Recurrent bronchospasm on q4h nebulizers
- New complication (pneumothorax, PE, pneumonia, HF)
- Unable to wean supplemental O2 to manageable level for discharge setting
- Medication adjustment (initiating new controller therapy: LAMA/LABA)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- SpO2 88-92% on ≤2-3L NC (or baseline home O2) for ≤12 hours
- Bronchodilator frequency ≤q4h (can transition to home nebulizer or MDI)
- pH >7.35, PaCO2 at patient's baseline (if initial hypercapnia)
- Off NIV for ≤24 hours (if used)
- Able to ambulate at baseline level without significant desaturation (<88%)
- Able to eat/drink, sleep without respiratory distress
- Tolerating oral medications
- Steroid course prescribed (remaining days of 5-day course)
- Inhaler regimen optimized per GOLD guidelines (LAMA + LABA ± ICS based on eosinophils/exacerbation history)
- Inhaler technique confirmed
- Home O2 ordered if new requirement (qualifying ABG or SpO2 ≤88% on RA at rest or with ambulation)

- Action plan for future exacerbations provided
- Smoking cessation counseling documented (if current smoker)
- Pulmonology or PCP follow-up within 2 weeks
- Pulmonary rehabilitation referral

TRANSITION TO:

- Home: majority once nebulizer frequency ≤q4h and SpO2 stable
- Home Health: if new home O2, nebulizer management assistance, medication oversight
- SNF: if significant deconditioning, new O2 dependence with inability to manage at home, complex comorbidities

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. GOLD Report 2024: Global Strategy for COPD. https://goldcopd.org/ 2. REDUCE Trial (5-day steroid). Leuppi JD, et al. JAMA. 2013;309:2223-2231. 3. BTS Guideline for NIV. Davidson AC, et al. Thorax. 2016;71:ii1-ii35. 4. CMS Home Oxygen Qualifying Criteria. CMS NCD 240.2.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 190: COPD w MCC (RW ~1.35)
- DRG 191: COPD w CC (RW ~0.96)
- DRG 192: COPD w/o CC/MCC (RW ~0.72)
- DRG 207-208: If ventilator support required

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if BiPAP/ventilator) | 0250: Pharmacy (steroids, bronchodilators)
- 0300: Lab (ABG, CBC) | 0320: Radiology (CXR) | 0410: Respiratory Services (O2, nebs, BiPAP)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: Curative Appendix A; GOLD 2024 Report

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Mechanical ventilation, high-flow >50 LPM/FiO_2 >60% with rising work of breathing, BiPAP failure, hemodynamic instability, septic shock, severe asthma with rising CO_2.
- Stepdown (Telemetry/PCU): BiPAP/HFNC requirement, frequent nebulizers (q1–2h), pulmonary hypertension on IV therapy, post-bronchoscopy with significant disease, large pneumothorax with chest tube.
- Med-Surg: Stable on ≤4 L NC or room air with monitoring, IV antibiotics, nebulizers q4–6h, chest tube without persistent leak.
- Observation: Mild–moderate exacerbation with rapid response to bronchodilator/steroid, oxygen requirement ≤2 L baseline, no comorbid sepsis or hypercapnia.
- Post-Acute (SNF/IRF/LTAC): Pulmonary rehab eligible but home unsafe; LTAC for vent weaning >21 days; SNF for skilled IV antibiotic completion when home unsafe.
- Home (with/without HHA): SpO_2 ≥90% on room air or stable home O_2, afebrile ≥24h, tolerating oral antibiotics/steroids, follow-up pulmonology or PCP in 1–2 weeks.

LOC Grid Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024 Report; GINA 2024 Strategy; BTS Pleural Disease Guideline 2023.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hypoxia or hypercapnia requiring continued NIV/HFNC beyond Goal LOS
- New positive respiratory culture requiring antibiotic escalation (MRSA, Pseudomonas, fungal)
- Persistent air leak (>5 days) from chest tube requiring further intervention
- Empyema requiring continued IV antibiotics, tPA/DNase, or VATS decortication
- Acute exacerbation overlapping with another acute process (pneumonia + CHF + AKI)
- Failure to tolerate weaning of supplemental O_2 to home baseline

Extended Stay Sources: Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024; BTS Pleural Disease 2023.

ACUTE RESPIRATORY FAILURE

ICD-10-CM: J96.00, J96.01, J96.02 (hypoxemic), J96.10, J96.11, J96.12 (hypercapnic), J96.20, J96.21, J96.22 (combined), J80 (ARDS)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- PaO2 <60 mmHg on room air or SpO2 <90% on room air (hypoxemic failure)
- PaCO2 >50 mmHg with pH <7.35 (hypercapnic failure)
- PaO2/FiO2 ratio ≤300 (ALI) or ≤200 (ARDS per Berlin criteria)
- Respiratory rate >30 or <8 breaths/min
- Accessory muscle use, paradoxical breathing, or diaphoresis
- Bilateral opacities on CXR not fully explained by effusions/atelectasis (ARDS)
- Altered mental status from hypoxemia or hypercapnia
- Cyanosis

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- High-flow nasal cannula (HFNC) ≥30L/min with FiO2 >40%
- Non-invasive ventilation (BiPAP/CPAP)
- Mechanical ventilation (intubation)
- Continuous pulse oximetry and/or ABG monitoring
- ICU-level monitoring and staffing
- Prone positioning for ARDS (P/F <150)
- Neuromuscular blockade for ventilator dyssynchrony in severe ARDS
- ECMO evaluation for refractory hypoxemia (P/F <80 for >6 hrs)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT — All acute respiratory failure requires inpatient admission

- ICU if: mechanical ventilation, HFNC >40L, BiPAP with persistent hypoxemia, vasopressor requirement, ARDS
- Step-down/Med-Surg if: supplemental O2 ≤6L NC, stable, resolving etiology

No observation status for true respiratory failure

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (ICU); Every 24 hours (step-down)

ICU DAY 1-3:

- Etiology identified and treated (pneumonia → antibiotics; HF → diuretics; COPD → bronchodilators; PE → anticoagulation)
- Ventilator settings: lung-protective strategy for ARDS (Vt 6-8 mL/kg IBW, Pplat <30 cm H2O, PEEP per ARDSNet table)
- P/F ratio trend: improving? worsening?
- Daily SBT (spontaneous breathing trial) when: FiO2 ≤40%, PEEP ≤8, hemodynamically stable, no vasopressors, adequate mentation
- Prone positioning 16 hrs/day for moderate-severe ARDS (P/F <150)
- Fluid balance: conservative strategy for ARDS (target CVP <4 or net even-to-negative)

ICU DAY 4-7:

- If extubated: monitor for re-intubation (8-15% re-intubation rate within 48 hrs)
- If still intubated: daily SBT attempts, weaning protocol, tracheostomy discussion at day 7-10 if unable to wean
- PT/OT early mobilization (even if intubated, when hemodynamically stable)
- Nutrition: enteral feeding initiated within 24-48 hrs of ICU admission

CONTINUED ICU STAY >7 DAYS JUSTIFIED IF:

- Still requiring mechanical ventilation (tracheostomy evaluation)
- ECMO
- Recurrent respiratory failure after extubation
- Ongoing vasopressor requirement
- Multiorgan failure

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ICU → STEP-DOWN CRITERIA:

- FiO2 ≤40% (or ≤6L NC) with SpO2 >92%
- PEEP ≤8 or off ventilator
- Hemodynamically stable off vasopressors ≥24 hrs
- No active hemorrhage
- Adequate mentation (GCS ≥13 or at baseline)

STEP-DOWN → DISCHARGE CRITERIA:

- SpO2 >90% on ≤4L NC (or manageable home O2 level)
- Respiratory rate <24 at rest
- Underlying etiology treated and resolving
- Stable on current O2 for ≥24 hours without increase
- Ambulatory with acceptable desaturation (≥88% with exertion)
- Able to manage O2 equipment at home (if new requirement)
- Follow-up pulmonology within 2 weeks
- Home O2 ordered with qualifying ABG/SpO2 documentation

TRANSITION TO:

- LTAC: if ventilator-dependent >21 days (prolonged mechanical ventilation)
- SNF (ventilator-capable): if tracheostomy with ventilator weaning protocol
- SNF: if deconditioning, O2-dependent, skilled nursing needs
- Home with Home Health: if stable on O2, can manage with support

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. Berlin Definition of ARDS. ARDS Definition Task Force. JAMA. 2012;307:2526-2533. 2. ARDSNet Low Tidal Volume Ventilation. Brower RG, et al. NEJM. 2000;342:1301-1308. 3. PROSEVA Trial (Prone Positioning). Guerin C, et al. NEJM. 2013;368:2159-2168. 4. ACURASYS Trial (Neuromuscular Blockade). Papazian L, et al. NEJM. 2010;363:1107-1116. 5. ATS/ACCP Clinical Practice Guideline: Liberation from Mechanical Ventilation. Ouellette DR, et al. Chest. 2017;151:166-180. 6. EOLIA Trial (ECMO). Combes A, et al. NEJM. 2018;378:1965-1975.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 207: Respiratory System Diagnosis w Ventilator Support ≥96 hrs (RW ~5.36)
- DRG 208: Respiratory System Diagnosis w Ventilator Support <96 hrs (RW ~3.14)
- DRG 189: Pulmonary Edema & Respiratory Failure (RW ~1.43)
- DRG 003-004: ECMO or Tracheostomy w MCC/w/o (RW ~18.86 / 10.54)

REVENUE CODES:

- 0200: ICU | 0410: Respiratory Services (ventilator, HFNC, BiPAP)
- 0250: Pharmacy | 0300: Lab (ABG q4-6h) | 0636: Drugs (sedation, paralytics)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-21 days Source: Curative Appendix A (variable based on ventilator days); CMS MS-DRG 207-208

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Mechanical ventilation, high-flow >50 LPM/FiO_2 >60% with rising work of breathing, BiPAP failure, hemodynamic instability, septic shock, severe asthma with rising CO_2.
- Stepdown (Telemetry/PCU): BiPAP/HFNC requirement, frequent nebulizers (q1–2h), pulmonary hypertension on IV therapy, post-bronchoscopy with significant disease, large pneumothorax with chest tube.
- Med-Surg: Stable on ≤4 L NC or room air with monitoring, IV antibiotics, nebulizers q4–6h, chest tube without persistent leak.
- Observation: Mild–moderate exacerbation with rapid response to bronchodilator/steroid, oxygen requirement ≤2 L baseline, no comorbid sepsis or hypercapnia.
- Post-Acute (SNF/IRF/LTAC): Pulmonary rehab eligible but home unsafe; LTAC for vent weaning >21 days; SNF for skilled IV antibiotic completion when home unsafe.
- Home (with/without HHA): SpO_2 ≥90% on room air or stable home O_2, afebrile ≥24h, tolerating oral antibiotics/steroids, follow-up pulmonology or PCP in 1–2 weeks.

LOC Grid Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024 Report; GINA 2024 Strategy; BTS Pleural Disease Guideline 2023.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hypoxia or hypercapnia requiring continued NIV/HFNC beyond Goal LOS
- New positive respiratory culture requiring antibiotic escalation (MRSA, Pseudomonas, fungal)
- Persistent air leak (>5 days) from chest tube requiring further intervention
- Empyema requiring continued IV antibiotics, tPA/DNase, or VATS decortication
- Acute exacerbation overlapping with another acute process (pneumonia + CHF + AKI)
- Failure to tolerate weaning of supplemental O_2 to home baseline

Extended Stay Sources: Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024; BTS Pleural Disease 2023.

ASTHMA — SEVERE ACUTE EXACERBATION

ICD-10-CM: J45.21, J45.22, J45.31, J45.32, J45.41, J45.42, J45.51, J45.52, J45.901, J45.902

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- Severe: PEF 25-50% predicted, RR >30, HR >120, unable to complete sentences, accessory muscle use, SpO2 90-95%
- Life-threatening: PEF <25% predicted, SpO2 <92%, silent chest, cyanosis, poor respiratory effort, altered consciousness, bradycardia
- Near-fatal: PaCO2 >45 (rising CO2 = impending respiratory failure), requiring intubation
- Not responding to initial ED treatment: persistent wheeze/dyspnea after 3 nebulizer treatments (1 hour)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Continuous nebulization (albuterol 10-15mg/hr) or q1h intermittent nebulization
- Systemic corticosteroids (methylprednisolone 125mg IV or prednisone 40-60mg PO)
- IV magnesium sulfate 2g for severe/life-threatening (smooth muscle relaxation, not responding to bronchodilators)
- Ipratropium bromide added to albuterol for severe exacerbation
- Continuous pulse oximetry, ABG if SpO2 <92% or rising CO2 suspected
- Mechanical ventilation or NIV for respiratory failure
- Epinephrine 0.3mg IM for anaphylaxis-triggered or near-fatal

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1: PEF <40% predicted after 3 nebulizers, SpO2 <92%, rising PaCO2, requiring continuous nebulization, ICU for life-threatening/near-fatal OBSERVATION if: PEF 40-70% after treatment, SpO2 92-95%, improving but not ready for q4h bronchodilators, expected DC <48 hrs DISCHARGE FROM ED if: PEF >70% predicted, SpO2 >95%, symptom-free on q4h bronchodilators, can use MDI with spacer

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (ICU); Every 24 hours (floor)

DAY 1: Nebulizer frequency trend (q1h→q2h→q4h), PEF measurements q6-12h, corticosteroids continued (5-7 day burst), trigger identification (infection, allergen, GERD, medication non-compliance) DAY 2-3: Transition to MDI with spacer, PEF >70% sustained, controller medications reviewed/optimized per GINA step-up (ICS, LABA, LTRA, biologic assessment for severe persistent) CONTINUED STAY IF: Cannot space nebulizers to q4h, persistent SpO2 <92%, intubated, complicating pneumonia/pneumothorax

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- PEF >70% predicted and stable ≥12 hrs on q4h MDI/nebulizer
- SpO2 >94% on room air, RR <22
- Able to speak in full sentences, no accessory muscle use
- Tolerating oral medications
- Prednisone burst prescribed (40mg/day x 5-7 days, no taper needed per GINA 2024)
- Controller inhaler prescribed/optimized (ICS at minimum; step-up per severity)
- Inhaler technique confirmed, spacer provided
- Asthma action plan provided (green/yellow/red zones)
- Trigger avoidance counseling, smoking cessation if applicable
- PCP/pulmonology/allergy follow-up within 1-2 weeks

TRANSITION TO: Home (nearly all); referral for biologic assessment if ≥2 severe exacerbations/year

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. GINA Report 2024: Global Strategy for Asthma Management. https://ginasthma.org/ 2. NAEPP Expert Panel Report 4 (EPR-4). NHLBI. 2020. 3. BTS/SIGN Guideline for Asthma Management. BTS. 2019 (2024 update). 4. Cochrane Review: IV Magnesium for Acute Asthma. Rowe BH, et al. Cochrane Database. 2000;2:CD002163.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 202: Bronchitis & Asthma w CC/MCC (RW ~0.98)
- DRG 203: Bronchitis & Asthma w/o CC/MCC (RW ~0.65)

- DRG 207-208: Resp System Dx w Ventilator Support (if intubated) (RW ~5.36 / 3.14)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if intubated/near-fatal)
- 0410: Respiratory Services (continuous nebs, BiPAP, ventilator) | 0250: Pharmacy (albuterol, steroids, Mg)
- 0300: Lab (ABG) | 0320: Radiology (CXR)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 1-3 days Source: Curative Appendix A; GINA 2024 Strategy Report

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Mechanical ventilation, high-flow >50 LPM/FiO_2 >60% with rising work of breathing, BiPAP failure, hemodynamic instability, septic shock, severe asthma with rising CO_2.
- Stepdown (Telemetry/PCU): BiPAP/HFNC requirement, frequent nebulizers (q1–2h), pulmonary hypertension on IV therapy, post-bronchoscopy with significant disease, large pneumothorax with chest tube.
- Med-Surg: Stable on ≤4 L NC or room air with monitoring, IV antibiotics, nebulizers q4–6h, chest tube without persistent leak.
- Observation: Mild–moderate exacerbation with rapid response to bronchodilator/steroid, oxygen requirement ≤2 L baseline, no comorbid sepsis or hypercapnia.
- Post-Acute (SNF/IRF/LTAC): Pulmonary rehab eligible but home unsafe; LTAC for vent weaning >21 days; SNF for skilled IV antibiotic completion when home unsafe.
- Home (with/without HHA): SpO_2 ≥90% on room air or stable home O_2, afebrile ≥24h, tolerating oral antibiotics/steroids, follow-up pulmonology or PCP in 1–2 weeks.

LOC Grid Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024 Report; GINA 2024 Strategy; BTS Pleural Disease Guideline 2023.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hypoxia or hypercapnia requiring continued NIV/HFNC beyond Goal LOS
- New positive respiratory culture requiring antibiotic escalation (MRSA, Pseudomonas, fungal)
- Persistent air leak (>5 days) from chest tube requiring further intervention
- Empyema requiring continued IV antibiotics, tPA/DNase, or VATS decortication
- Acute exacerbation overlapping with another acute process (pneumonia + CHF + AKI)
- Failure to tolerate weaning of supplemental O_2 to home baseline

Extended Stay Sources: Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024; BTS Pleural Disease 2023.

PNEUMOTHORAX

ICD-10-CM: J93.0 (spontaneous tension), J93.11 (primary spontaneous), J93.12 (secondary spontaneous), J93.81-J93.83 (other), J93.9 (unspecified)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- Tension pneumothorax: tracheal deviation, absent breath sounds, hypotension, JVD → immediate needle decompression then chest tube
- Large primary spontaneous: >2 cm at apex on upright CXR (or >3 cm per BTS)
- Secondary spontaneous: any size in patient with underlying lung disease (COPD, CF, ILD, cancer)
- Bilateral pneumothorax
- Hemopneumothorax (blood + air in pleural space)
- Mechanically ventilated patient with PTX (high risk of tension)
- SpO2 <92% or significant dyspnea

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Chest tube (tube thoracostomy) or pigtail catheter placement
- Continuous suction (-20 cmH2O) or water seal
- Supplemental O2 (high-flow increases PTX reabsorption rate 4x)
- Continuous pulse oximetry, serial CXR
- Surgical consultation (VATS) if: persistent air leak >5-7 days, recurrent PTX (2nd ipsilateral), bilateral, hemothorax

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if: chest tube/pigtail placed, secondary spontaneous (any size), bilateral, hemopneumothorax, tension, mechanically ventilated OBSERVATION if: small primary spontaneous (<2cm), needle aspiration successful, stable on room air OUTPATIENT if: tiny primary spontaneous PTX, asymptomatic, SpO2 >96%, follow-up CXR in 2-4 weeks

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours

DAY 1: CXR post-chest tube (lung re-expanded?), air leak assessment (bubbling in water seal chamber), suction vs water seal DAY 2-3: If no air leak x 24 hrs → trial of water seal. CXR after 6-24 hrs water seal trial: lung remains expanded? → clamp trial then remove tube. If persistent air leak: continue suction, surgical consultation. DAY 5-7+: Persistent air leak → VATS with bleb resection + pleurodesis. Autologous blood patch if not surgical candidate. CONTINUED STAY IF: persistent air leak, lung not fully expanded, surgical intervention planned, secondary PTX with ongoing respiratory compromise

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Lung fully re-expanded on CXR
- No air leak for ≥24 hours on water seal or post-clamp trial
- Chest tube removed, post-removal CXR stable
- SpO2 >94% on room air, no dyspnea
- Activity restrictions: no flying for 2-6 weeks, no diving (permanent relative contraindication), no heavy lifting or Valsalva x 2 weeks
- Return precautions (sudden dyspnea, chest pain → ED immediately)
- Pulmonology follow-up 2-4 weeks with CXR

TRANSITION TO: Home (majority)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACCP Guideline: Spontaneous Pneumothorax. Baumann MH, et al. Chest. 2001;119:590-602. 2. BTS Guideline for Spontaneous Pneumothorax. MacDuff A, et al. Thorax. 2010;65(Suppl 2):ii18-ii31. 3. PSP Trial (Conservative vs Interventional). Brown SGA, et al. NEJM. 2020;382:405-415.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 163: Major Chest Procedures w MCC (RW ~4.71) — if VATS/thoracotomy
- DRG 164: Major Chest Procedures w CC (RW ~2.60)
- DRG 165: Major Chest Procedures w/o CC/MCC (RW ~1.81)
- DRG 204: Respiratory Signs & Symptoms (RW ~0.82) — if managed w chest tube only
- DRG 186: Pleural Effusion w MCC (RW ~1.53) — may group here

REVENUE CODES:

- 0120: Room & Board | 0360: OR (if VATS) | 0270: Med/Surg Supplies (chest tube, Pleur-Evac)
- 0320: Radiology (serial CXR) | 0300: Lab | 0250: Pharmacy

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: BTS Pleural Disease Guideline 2023; ACCP

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Mechanical ventilation, high-flow >50 LPM/FiO_2 >60% with rising work of breathing, BiPAP failure, hemodynamic instability, septic shock, severe asthma with rising CO_2.
- Stepdown (Telemetry/PCU): BiPAP/HFNC requirement, frequent nebulizers (q1–2h), pulmonary hypertension on IV therapy, post-bronchoscopy with significant disease, large pneumothorax with chest tube.
- Med-Surg: Stable on ≤4 L NC or room air with monitoring, IV antibiotics, nebulizers q4–6h, chest tube without persistent leak.
- Observation: Mild–moderate exacerbation with rapid response to bronchodilator/steroid, oxygen requirement ≤2 L baseline, no comorbid sepsis or hypercapnia.
- Post-Acute (SNF/IRF/LTAC): Pulmonary rehab eligible but home unsafe; LTAC for vent weaning >21 days; SNF for skilled IV antibiotic completion when home unsafe.
- Home (with/without HHA): SpO_2 ≥90% on room air or stable home O_2, afebrile ≥24h, tolerating oral antibiotics/steroids, follow-up pulmonology or PCP in 1–2 weeks.

LOC Grid Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024 Report; GINA 2024 Strategy; BTS Pleural Disease Guideline 2023.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity

triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hypoxia or hypercapnia requiring continued NIV/HFNC beyond Goal LOS
- New positive respiratory culture requiring antibiotic escalation (MRSA, Pseudomonas, fungal)
- Persistent air leak (>5 days) from chest tube requiring further intervention
- Empyema requiring continued IV antibiotics, tPA/DNase, or VATS decortication
- Acute exacerbation overlapping with another acute process (pneumonia + CHF + AKI)
- Failure to tolerate weaning of supplemental O_2 to home baseline

Extended Stay Sources: Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024; BTS Pleural Disease 2023.

ACUTE PANCREATITIS

ICD-10-CM: K85.00-K85.02 (idiopathic), K85.10-K85.12 (biliary), K85.20-K85.22 (alcohol), K85.80-K85.82 (other), K85.90-K85.92 (unspecified)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Classify by Revised Atlanta Classification: Mild: No organ failure, no local complications Moderate: Transient organ failure (<48 hrs) or local complications (necrosis, pseudocyst, fluid collection) Severe: Persistent organ failure >48 hrs (≥1 of: PaO2/FiO2 <300, Cr >1.9 or UOP <0.5mL/kg/hr, SBP <90 despite fluids)

- Epigastric/LUQ pain radiating to back, severe (NRS ≥7/10)
- Lipase >3x upper limit of normal (>180-200 U/L; lipase preferred over amylase)
- CT findings: pancreatic edema, peripancreatic fluid, necrosis (CT severity index)
- BISAP Score ≥3: BUN >25, Impaired mental status, SIRS ≥2 criteria, Age >60, Pleural effusion (predicts severity; mortality 22% if ≥3)
- SIRS criteria present at admission (≥2 of: T >38 or <36, HR >90, RR >20, WBC >12K or <4K)
- Hematocrit >44% or BUN >22 (hemoconcentration = predicted severity per HAPS)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Aggressive IV fluid resuscitation: Lactated Ringer's preferred, 1.5mL/kg/hr initially, reassess at 6 hrs (goal: decreased BUN, adequate UOP)
- IV opioid analgesia (hydromorphone or fentanyl preferred; morphine acceptable despite historical Sphincter of Oddi concern — ACG 2024 does not restrict morphine)
- NPO initially until pain improving, nausea resolved; then early oral feeding (within 24 hrs if tolerated — does NOT require NPO until lipase normalizes per ACG 2024)
- ERCP within 24 hrs if: cholangitis (fever + jaundice + RUQ pain), OR CBD stone with biliary obstruction on imaging
- ICU for: organ failure, necrotizing pancreatitis, hemodynamic instability

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1: inability to tolerate oral intake, severe pain requiring IV analgesics, BISAP ≥3, SIRS criteria, lipase >3x ULN with imaging findings, organ failure OBSERVATION if ALL: mild pain improving on oral analgesics, tolerating oral diet, lipase only mildly elevated, no SIRS, BISAP 0-1 NOT INPATIENT: chronic pancreatitis without acute exacerbation, mild lipase elevation without symptoms

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (severe/ICU); Every 24 hours (mild-moderate)

DAY 1-2: Fluid resuscitation with BUN and HCT trending at 6, 12, 24 hrs; pain assessment; early oral feeding if pain improving; ERCP if gallstone pancreatitis with cholangitis/obstruction; Ranson criteria calculated at 48 hrs DAY 3-5: Diet advancement (low-fat solid diet tolerated?); IV→PO analgesic transition; Gallstone pancreatitis: cholecystectomy during same admission if mild (ACG 2024 strong recommendation) or within 2 weeks DAY 7-14+ (Severe/Necrotizing): CT at 72-96 hrs if not improving (assess for necrosis, CTSI score); infected necrosis: step-up approach (percutaneous drain → endoscopic necrosectomy

→ surgical necrosectomy); nutrition via NJ tube if not tolerating oral

CONTINUED STAY IF: unable to tolerate oral, persistent organ failure, infected necrosis, cholecystectomy planned during admission, complications (pseudocyst, splenic vein thrombosis, ARDS)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Pain controlled on oral analgesics
- Tolerating low-fat solid diet without pain exacerbation
- Lipase trending down (need not be normal at discharge)
- No organ failure, hemodynamically stable
- Afebrile, WBC trending normal

- If gallstone pancreatitis: cholecystectomy done during admission (if mild) OR scheduled within 2 weeks
- Alcohol cessation counseling documented (if alcohol-related); AUDIT-C score, brief intervention, referral if indicated
- PCP/GI follow-up 2-4 weeks
- If severe/necrotizing: GI/surgery follow-up 1-2 weeks, repeat imaging as scheduled

TRANSITION TO: Home (mild-moderate, majority); SNF if: deconditioning, NJ tube management, wound care post-necrosectomy

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACG Clinical Guideline: Acute Pancreatitis. Tenner S, et al. Am J Gastroenterol. 2024;119:419-437. 2. Revised Atlanta Classification. Banks PA, et al. Gut. 2013;62:102-111. 3. BISAP Score. Wu BU, et al. Gut. 2008;57:1698-1703. 4. IAP/APA Guidelines for Acute Pancreatitis. Working Group IAP/APA. Pancreatology. 2013;13:e1-e15. 5. Dutch Pancreatitis Study Group (Step-Up Approach). van Santvoort HC, et al. NEJM. 2010;362:1491-1502.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 405: Pancreas, Liver & Shunt Procedures w MCC (RW ~4.87) — if necrosectomy/drainage
- DRG 438: Disorders of Pancreas Except Malignancy w MCC (RW ~1.76)
- DRG 439: Disorders of Pancreas Except Malignancy w CC (RW ~1.10)
- DRG 440: Disorders of Pancreas Except Malignancy w/o CC/MCC (RW ~0.73)
- DRG 411-413: Cholecystectomy (if gallstone pancreatitis w same-admission CCY)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (severe/necrotizing) | 0250: Pharmacy (IV fluids, analgesics)
- 0300: Lab (lipase, BMP, CBC, CRP) | 0350: CT A/P | 0750: GI (ERCP if biliary)
- 0360: OR (if necrosectomy/CCY) | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: Curative Appendix A (mild); 14+ severe; ACG 2013 AP Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Massive hemorrhage with hemodynamic instability (≥4 U PRBC/6h), vasopressor support, mechanical ventilation, ALF with grade III–IV encephalopathy, severe pancreatitis with organ failure (BISAP ≥3).
- Stepdown (Telemetry/PCU): Active GI bleed with stable hemodynamics on IV PPI drip, post-endoscopy with high-risk stigmata, severe pancreatitis without organ failure, hepatic encephalopathy on lactulose titration.
- Med-Surg: Hemodynamically stable, tolerating diet (clears → regular), no transfusion ≥24h, completing IV antibiotics, transitioning to oral.
- Observation: Uncomplicated cholecystitis bridging to lap chole within 1–2 midnights; mild pancreatitis with rapid pain control and PO tolerance.
- Post-Acute (SNF/IRF/LTAC): Decompensated cirrhosis with rehab needs (SNF); LTAC for vent weaning; SNF for skilled nutrition or wound care.
- Home (with/without HHA): Tolerating diet, pain controlled on oral, hemoglobin stable, follow-up GI/hepatology in 1–2 weeks; HHA for paracentesis or nutrition support.

LOC Grid Sources: ACG 2021 Upper GI Bleeding Guideline; ACG 2013 Acute Pancreatitis Guideline; AASLD HE Practice Guideline 2014; Tokyo Guidelines 2018.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Re-bleeding requiring repeat endoscopy or IR/surgery
- Persistent ileus or intolerance of oral intake requiring TPN initiation
- Worsening pancreatitis with new organ failure or necrosis on imaging
- Decompensated cirrhosis with hepatorenal syndrome or refractory ascites
- New infection (SBP, C. difficile, cholangitis) requiring antibiotics
- Surgical consult and planned intervention pending

Extended Stay Sources: Sources: ACG Practice Guidelines; AASLD Practice Guidance.

PLEURAL EFFUSION (COMPLICATED) / EMPYEMA / MASSIVE HEMOPTYSIS

ICD-10-CM: J86.0, J86.9 (empyema), J90, J91.0, J91.8 (effusion), R04.2, R04.81, R04.89 (hemoptysis)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Patient must meet ≥1 of the following: EMPYEMA: ✓ Pleural fluid: purulent, positive Gram stain/culture, pH <7.2, glucose <40 mg/dL, LDH >1000

- Loculated effusion on CT/US not amenable to simple thoracentesis
- Fever, leukocytosis with parapneumonic effusion

MASSIVE HEMOPTYSIS: ✓ >100-200 mL blood in 24 hours (or any amount causing hemodynamic instability or respiratory compromise)

- Visible large-volume bright red blood from airway
- SpO2 <90%, respiratory distress, or inability to maintain airway

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Chest tube (large-bore for empyema; consider image-guided pigtail for loculated collections)
- Intrapleural fibrinolytic therapy (tPA + DNase for loculated empyema per MIST-2 protocol)
- IV antibiotics (empyema)
- VATS or decortication if chest tube/fibrinolytics fail (empyema)
- Hemoptysis: CTA chest → bronchial artery embolization (IR), bronchoscopy (diagnostic + therapeutic), intubation with large ETT or double-lumen tube for airway protection, bleeding side DOWN

positioning

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: All empyema, all massive hemoptysis OBSERVATION: Diagnostic thoracentesis with borderline complicated effusion, monitoring for 24-48 hrs OUTPATIENT: Simple parapneumonic effusion responding to antibiotics, small hemoptysis with stable imaging

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours DAY 1-3: Empyema — chest tube output, imaging (US/CT to assess drainage adequacy), tPA/DNase if loculated (MIST-2: tPA 10mg + DNase 5mg q12h x 3 days). Hemoptysis — CTA bronchial arteries, IR embolization, bronchoscopy for source localization. DAY 4-7: Empyema — if no improvement with fibrinolytics: VATS/decortication. Hemoptysis — if embolization failed: consider surgical resection. CONTINUED STAY IF: Ongoing drainage/irrigation, persistent sepsis, failed fibrinolytics awaiting VATS, recurrent hemoptysis

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Empyema: drain output minimal, imaging shows resolved collection, afebrile, WBC normal, oral antibiotics prescribed (total 2-6 weeks)
- Hemoptysis: no recurrence ≥48 hrs, stable Hgb, hemodynamically stable, etiology identified and treated/addressed
- Follow-up: pulmonology/thoracic surgery 2-4 weeks, repeat imaging 4-6 weeks

TRANSITION TO: Home (majority); SNF if prolonged chest tube/complex wound

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACR/STR/STS Guideline for Empyema. Rahman NM, et al. NEJM. 2011;366:1800-1810 (MIST-2). 2. BTS Guideline for Pleural Infection. Davies HE, et al. Thorax. 2010;65(Suppl 2):ii41-ii53. 3. ATS/CHEST Practice Guideline: Massive Hemoptysis. Davidson K, Shojaee S. Chest. 2020;157:1289-1299. 4. ACR Appropriateness: Hemoptysis. ACR. 2023.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 186: Pleural Effusion w MCC (RW ~1.53)
- DRG 187: Pleural Effusion w CC (RW ~1.03)
- DRG 188: Pleural Effusion w/o CC/MCC (RW ~0.78)
- DRG 163-165: Major Chest Procedures (if VATS decortication for empyema)

REVENUE CODES:

- 0120: Room & Board | 0270: Supplies (chest tube, drainage kit) | 0350: CT Chest
- 0300: Lab (fluid analysis: protein, LDH, glucose, cell count, culture, cytology)
- 0360: OR (if VATS) | 0250: Pharmacy (IV antibiotics for empyema)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: ATS/STS/STR Pleural Disease Guidelines 2018

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Mechanical ventilation, high-flow >50 LPM/FiO_2 >60% with rising work of breathing, BiPAP failure, hemodynamic instability, septic shock, severe asthma with rising CO_2.
- Stepdown (Telemetry/PCU): BiPAP/HFNC requirement, frequent nebulizers (q1–2h), pulmonary hypertension on IV therapy, post-bronchoscopy with significant disease, large pneumothorax with chest tube.
- Med-Surg: Stable on ≤4 L NC or room air with monitoring, IV antibiotics, nebulizers q4–6h, chest tube without persistent leak.
- Observation: Mild–moderate exacerbation with rapid response to bronchodilator/steroid, oxygen requirement ≤2 L baseline, no comorbid sepsis or hypercapnia.
- Post-Acute (SNF/IRF/LTAC): Pulmonary rehab eligible but home unsafe; LTAC for vent weaning >21 days; SNF for skilled IV antibiotic completion when home unsafe.
- Home (with/without HHA): SpO_2 ≥90% on room air or stable home O_2, afebrile ≥24h, tolerating oral antibiotics/steroids, follow-up pulmonology or PCP in 1–2 weeks.

LOC Grid Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024 Report; GINA 2024 Strategy; BTS Pleural Disease Guideline 2023.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent hypoxia or hypercapnia requiring continued NIV/HFNC beyond Goal LOS
- New positive respiratory culture requiring antibiotic escalation (MRSA, Pseudomonas, fungal)
- Persistent air leak (>5 days) from chest tube requiring further intervention
- Empyema requiring continued IV antibiotics, tPA/DNase, or VATS decortication
- Acute exacerbation overlapping with another acute process (pneumonia + CHF + AKI)
- Failure to tolerate weaning of supplemental O_2 to home baseline

Extended Stay Sources: Sources: ATS/IDSA 2019 CAP Guideline; GOLD 2024; BTS Pleural Disease 2023.

NEUROLOGICAL

ACUTE ISCHEMIC STROKE

ICD-10-CM: I63.00 (cerebral infarction due to thrombosis of unspecified precerebral artery), I63.011 (cerebral infarction due to thrombosis of right vertebral artery), I63.012 (left vertebral), I63.013 (bilateral vertebral), I63.019 (unspecified vertebral) (thrombosis of vertebral artery), I63.02 (thrombosis of basilar artery), I63.031 (cerebral infarction due to thrombosis of right carotid artery), I63.032 (left carotid), I63.033 (bilateral carotid), I63.039 (unspecified carotid) (thrombosis of carotid artery), I63.09 (thrombosis of other precerebral artery), I63.10 (cerebral infarction due to embolism of unspecified precerebral artery), I63.111-I63.119 (embolism of vertebral arteries), I63.12 (embolism of basilar artery), I63.131-I63.139 (embolism of carotid arteries), I63.19 (embolism of other precerebral artery) (cerebral infarction due to embolism of precerebral arteries), I63.20 (cerebral infarction due to unspecified occlusion of unspecified precerebral artery), I63.211-I63.219 (occlusion of vertebral arteries), I63.22 (occlusion of basilar artery), I63.231-I63.239 (occlusion of carotid arteries), I63.29 (occlusion of other precerebral artery) (cerebral infarction due to unspecified occlusion of precerebral arteries), I63.30 (cerebral infarction due to thrombosis of unspecified cerebral artery), I63.311-I63.319 (thrombosis of MCA), I63.321-I63.329 (thrombosis of ACA), I63.331-I63.339 (thrombosis of PCA), I63.341-I63.349 (thrombosis of cerebellar artery), I63.39 (thrombosis of other cerebral artery) (cerebral infarction due to thrombosis of cerebral arteries), I63.40 (cerebral infarction due to embolism of unspecified cerebral artery), I63.411-I63.419 (embolism of MCA), I63.421-I63.429 (embolism of ACA), I63.431-I63.439 (embolism of PCA), I63.441-I63.449 (embolism of cerebellar artery), I63.49 (embolism of other cerebral artery) (cerebral infarction due to embolism of cerebral arteries), I63.50 (cerebral infarction due to unspecified occlusion of unspecified cerebral artery), I63.511-I63.519 (occlusion of MCA), I63.521-I63.529 (occlusion of ACA), I63.531-I63.539 (occlusion of PCA), I63.541-I63.549 (occlusion of cerebellar artery), I63.59 (occlusion of other cerebral artery) (cerebral infarction due to unspecified occlusion of cerebral arteries), I63.6 (cerebral infarction due to cerebral venous thrombosis nonpyogenic), I63.81 (other cerebral infarction due to occlusion of small artery), I63.89 (other cerebral infarction) (other cerebral infarction), I63.9 (cerebral infarction unspecified) (all cerebral infarction codes)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- Acute focal neurological deficit: hemiparesis/hemiplegia (arm or leg weakness), facial droop, aphasia (expressive or receptive), dysarthria, visual field cut, neglect, ataxia
- NIHSS score ≥1 with acute onset (≤24 hours from symptom onset or last known well)
- CT head negative for hemorrhage (or positive for ischemic changes)
- CT angiography showing large vessel occlusion (LVO) — ICA, M1/M2, basilar
- MRI DWI positive for acute infarction
- Blood glucose checked and not hypoglycemic (<60 mg/dL) as mimic

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- IV alteplase (tPA): within 4.5 hours of symptom onset per AHA/ASA criteria
- Mechanical thrombectomy: LVO with NIHSS ≥6 within 24 hours (DAWN/DEFUSE-3 criteria for 6-24 hr window)
- Stroke unit or ICU monitoring (neuro checks q1h x 24h post-tPA)
- Continuous cardiac monitoring (AF detection protocol)
- BP management per protocol: permissive HTN <220/120 if no tPA; <185/110 pre-tPA, <180/105 post-tPA
- Dysphagia screening before any PO intake
- DVT prophylaxis within 24-48 hrs (SCDs immediately; pharmacologic after 24 hrs if no hemorrhagic conversion)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT — All acute ischemic strokes require inpatient admission

- ICU/Stroke unit if: tPA administered, thrombectomy, NIHSS ≥10, LVO, declining neuro exam
- Med/Surg (monitored bed) if: minor stroke (NIHSS 1-4), stable, no tPA/thrombectomy

TIA (Not stroke but often admitted):

- INPATIENT if: ABCD2 ≥4, crescendo TIA, AF detected, carotid stenosis >50%, dual antiplatelet monitoring
- OBSERVATION if: ABCD2 ≤3 with rapid workup available (MRI, carotid US, echo, telemetry within 24 hrs)
- OUTPATIENT if: single TIA, low ABCD2, all workup available within 48-72 hrs through stroke clinic

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours (neuro checks q1h x 24 hrs post-tPA, then q4h)

DAY 1 (Acute Phase):

- Neuroimaging complete (CT/CTA at minimum; MRI within 24 hrs preferred)
- tPA given if within window → monitor for hemorrhagic conversion (repeat CT if neuro decline)
- Thrombectomy if LVO → post-procedure monitoring in ICU/NICU
- NIHSS documented at baseline, 2hr, 24hr
- Dysphagia screen completed before PO (bedside water swallow; SLP formal eval if failed)
- Telemetry x ≥24 hrs for AF detection
- Stroke etiology workup initiated: echo (TTE ± TEE), carotid imaging, lipid panel, HbA1c, hypercoagulable panel if young/cryptogenic
- Aspirin 325mg within 24-48 hrs (not within 24 hrs of tPA)
- Statin high-intensity (atorvastatin 80mg or rosuvastatin 20mg)

DAY 2-3:

- NIHSS reassessment (improving, stable, or worsening?)
- PT/OT/SLP evaluation initiated
- Etiologic workup results reviewed: AF detected? Carotid stenosis? PFO? Cardioembolic source?
- Secondary prevention regimen finalized: antiplatelet vs anticoagulation, statin, BP target <130/80 after acute phase
- Rehabilitation disposition planning: IRF vs SNF vs home based on functional assessment

DAY 4+: CONTINUED STAY JUSTIFIED IF:

- Neurological decline (hemorrhagic conversion, cerebral edema, progressive infarction)
- Decompressive hemicraniectomy evaluation (malignant MCA syndrome: age <60, large territory, declining)
- Carotid endarterectomy/stenting planned during same admission (within 2 weeks of stroke per guidelines)
- Medical complications: aspiration pneumonia, DVT/PE, UTI, seizure
- Awaiting rehab bed placement (IRF/SNF)
- Heparin bridge for high-risk cardiac source (mechanical valve, intracardiac thrombus)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Neurologically stable: NIHSS stable or improving for ≥24 hours
- No hemorrhagic conversion on follow-up imaging (if tPA/thrombectomy)
- Vital signs stable: BP at target (typically <140/90 or <130/80), afebrile, HR stable
- Swallowing safe (SLP cleared for appropriate diet) or tube feeding plan in place
- Secondary prevention initiated: antiplatelet or anticoagulation, statin, BP medication, diabetes management
- DVT prophylaxis plan in place
- Rehabilitation disposition determined: IRF, SNF, home with home health, or outpatient based on functional level
- Driving restrictions discussed (typically no driving x 1-3 months depending on deficit and state law)

- Follow-up neurology/stroke clinic 2-4 weeks
- Carotid intervention plan documented if indicated

TRANSITION TO:

- IRF: moderate-severe deficits, can tolerate 3 hrs/day therapy, realistic goals (most common for moderate stroke)
- SNF: mild-moderate deficits but cannot tolerate IRF intensity, or medical complexity requiring skilled nursing
- Home with Home Health: minor deficits, adequate caregiver support, safe home environment
- Home with outpatient rehab: mild deficits, independent in basic ADLs

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AHA/ASA Guideline for Acute Ischemic Stroke. Powers WJ, et al. Stroke. 2019;50:e344-e418. 2024 update. 2. DAWN Trial (Extended Thrombectomy). Nogueira RG, et al. NEJM. 2018;378:11-21. 3. DEFUSE-3 Trial. Albers GW, et al. NEJM. 2018;378:708-718. 4. NIHSS Scale. Brott T, et al. Stroke. 1989;20:864-870. 5. AHA/ASA Secondary Prevention. Kleindorfer DO, et al. Stroke. 2021;52:e364-e467.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 061: Acute Ischemic Stroke w Use of Thrombolytic Agent w MCC (RW ~3.68)
- DRG 062: Acute Ischemic Stroke w Use of Thrombolytic Agent w CC (RW ~2.63)
- DRG 063: Acute Ischemic Stroke w Use of Thrombolytic Agent w/o CC/MCC (RW ~2.01)
- DRG 064-066: Intracranial Hemorrhage or Cerebral Infarction w MCC/CC/w/o (RW ~1.89 / 1.08 / 0.76)
- DRG 023-027: Craniotomy/Intracranial Procedures (if thrombectomy coded as surgical)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU/Stroke Unit | 0250: Pharmacy (tPA, antiplatelets, statins)
- 0300: Lab | 0350: CT/CTA | 0610-0619: MRI | 0402: Ultrasound (carotid duplex, TTE/TEE)
- 0730: EKG | 0636: Drugs (alteplase — high-cost drug)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: Curative Appendix A; AHA/ASA 2019 AIS Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.
- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per $ABCD^2$ <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)
- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

HEMORRHAGIC STROKE — INTRACEREBRAL HEMORRHAGE (ICH) AND SUBARACHNOID HEMORRHAGE (SAH)

ICD-10-CM: I61.0 (nontraumatic intracerebral hemorrhage in hemisphere subcortical), I61.1 (nontraumatic ICH in hemisphere cortical), I61.2 (nontraumatic ICH in hemisphere unspecified), I61.3 (nontraumatic ICH in brain stem), I61.4 (nontraumatic ICH in cerebellum), I61.5 (nontraumatic ICH intraventricular), I61.6 (nontraumatic ICH multiple localized), I61.8 (other nontraumatic ICH), I61.9 (nontraumatic ICH unspecified) (ICH), I60.00 (nontraumatic SAH from unspecified carotid siphon and bifurcation), I60.01 (right carotid), I60.02 (left carotid) (nontraumatic SAH from carotid siphon and bifurcation), I60.10 (SAH from unspecified MCA), I60.11 (right MCA), I60.12 (left MCA) (SAH from middle cerebral artery), I60.20 (SAH from unspecified anterior communicating artery), I60.21 (right AComm), I60.22 (left AComm) (SAH from anterior communicating artery), I60.30 (SAH from unspecified posterior communicating artery), I60.31 (right PComm), I60.32 (left PComm) (SAH from posterior communicating artery), I60.4 (SAH from basilar artery), I60.50 (SAH from unspecified vertebral artery), I60.51 (right vertebral), I60.52 (left vertebral) (SAH from vertebral artery), I60.6 (SAH from other intracranial arteries), I60.7 (SAH from unspecified intracranial artery), I60.8 (other nontraumatic SAH), I60.9 (nontraumatic SAH unspecified) (SAH)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Patient must meet ≥1 of the following: ICH: ✓ Acute onset focal neuro deficit + CT showing intraparenchymal hemorrhage

- ICH Score (predicts 30-day mortality): GCS (3-4=+2, 5-12=+1, 13-15=0), ICH volume (>30cc=+1), IVH present (+1), Infratentorial (+1), Age ≥80 (+1). Score ≥3: >72% 30-day mortality.
- GCS at presentation, hematoma volume, location (deep/lobar/cerebellar/brainstem)
- Anticoagulated: INR >1.5 or on DOAC (urgent reversal required)

SAH: ✓ Thunderclap headache (worst headache of life, peak intensity in seconds)

- CT head positive for subarachnoid blood (sensitivity 95% within 6 hrs)
- LP: xanthochromia or RBC with non-clearing tubes if CT negative <6hrs (sensitivity 100%)
- CTA/DSA: aneurysm identified (85% of SAH have aneurysm)
- Hunt-Hess Grade I-V (I: mild HA; II: moderate HA, nuchal rigidity; III: drowsy; IV: stupor; V: coma)
- Modified Fisher Scale (predicts vasospasm risk based on blood pattern/thickness on CT)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- ICU/neuro-ICU for ALL hemorrhagic strokes
- ICH: BP management (target SBP <140 if presenting SBP 150-220 per AHA/ASA 2022), reversal of anticoagulation (4-factor PCC for warfarin; idarucizumab for dabigatran; andexanet for Xa

inhibitors), ICP monitoring if GCS ≤8, neurosurgical evaluation (EVD for hydrocephalus, hematoma evacuation per STICH-2 criteria for lobar ICH 10-100cc)

- SAH: Aneurysm securing within 24 hrs (surgical clipping or endovascular coiling), nimodipine 60mg PO q4h x 21 days (vasospasm prevention), EVD for hydrocephalus, vasospasm monitoring days

3-14 (TCDs daily, CTA if clinical concern), hypertensive therapy for symptomatic vasospasm (augment MAP)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT/ICU — No observation for any hemorrhagic stroke

- ICH: ICU with neuro checks q1h, BP monitoring (arterial line), ICP monitoring as indicated
- SAH: neuro-ICU minimum 14 days for vasospasm monitoring period

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 6-12 hours (ICU)

ICH DAY 1-3: BP control (SBP <140 on IV nicardipine/labetalol → transition oral), repeat CT at 6-24 hrs (expansion?), anticoagulation reversal confirmed, goals of care discussion if ICH score ≥3, DVT prophylaxis (SCDs immediately; pharmacologic at 24-48 hrs if stable hematoma) ICH DAY 4-7: Clinical trajectory clear, BP controlled on oral, rehab evaluation, disposition planning SAH DAY 1: Aneurysm secured (clip or coil), EVD if hydrocephalus, nimodipine started SAH DAY 3-14: CRITICAL vasospasm window — daily TCDs, neurological exam q2-4h, if clinical vasospasm: CTA/DSA + hypertensive therapy (phenylephrine/norepinephrine to augment MAP) ± intra-arterial vasodilator/angioplasty SAH DAY 14-21+: Vasospasm window closing, EVD weaning trials, ventriculoperitoneal shunt if hydrocephalus persists, rehab disposition CONTINUED STAY IF: Active vasospasm management, EVD in place, rebleeding, hydrocephalus, medical complications

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ICH DISCHARGE: Neuro exam stable ≥48 hrs, BP controlled on oral medications, anticoagulation plan documented (restart vs permanently discontinue per risk-benefit), rehab disposition determined SAH DISCHARGE: Past vasospasm window (day 14-21), aneurysm secured, EVD removed or VP shunt placed, neuro stable, nimodipine course completing (can finish outpatient)

- Neurology/neurosurgery follow-up 2-4 weeks
- Repeat imaging per neurosurgeon recommendation
- Activity restrictions, seizure precautions, driving restrictions documented

TRANSITION TO: IRF (most moderate-severe), SNF (if cannot tolerate IRF), Home (mild/good recovery)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AHA/ASA Guideline for ICH. Greenberg SM, et al. Stroke. 2022;53:e282-e361. 2. AHA/ASA Guideline for SAH. Connolly ES, et al. Stroke. 2012;43:1711-1737. 2023 update. 3. ICH Score. Hemphill JC, et al. Stroke. 2001;32:891-897. 4. Hunt-Hess Scale. Hunt WE, Hess RM. J Neurosurg. 1968;28:14-20. 5. INTERACT2 Trial (ICH BP Management). Anderson CS, et al. NEJM. 2013;368:2355-2365. 6. ISAT Trial (Coiling vs Clipping). Molyneux AJ, et al. Lancet. 2002;360:1267-1274.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 064: Intracranial Hemorrhage or Cerebral Infarction w MCC (RW ~1.89)
- DRG 065: w CC (RW ~1.08) | DRG 066: w/o CC/MCC (RW ~0.76)
- DRG 023-027: Craniotomy (if hematoma evacuation, aneurysm clipping, EVD placement)
- DRG 025: Craniotomy & Endovascular Intracranial Procedures w MCC (RW ~5.75) — if coiling

REVENUE CODES:

- 0200: ICU/Neuro-ICU (extended) | 0360: OR (if craniotomy/EVD) | 0350: CT/CTA
- 0610: MRI | 0300: Lab | 0250: Pharmacy (nimodipine for SAH, anticoagulant reversal)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 7-14 days Source: Curative Appendix A; AHA/ASA 2022 ICH Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.
- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per ABCD² <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)
- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

MENINGITIS / ENCEPHALITIS

ICD-10-CM: G00.0 (hemophilus meningitis), G00.1 (pneumococcal meningitis), G00.2 (streptococcal meningitis), G00.3 (staphylococcal meningitis), G00.8 (other bacterial meningitis), G00.9 (bacterial meningitis unspecified), G01, G03.0 (nonpyogenic meningitis), G03.1 (chronic meningitis), G03.2 (benign recurrent meningitis), G03.8 (meningitis due to other specified causes),

G03.9 (meningitis unspecified) (meningitis), G04.00 (acute disseminated encephalitis unspecified), G04.01 (postinfectious ADEM), G04.02 (postimmunization ADEM), G04.2 (bacterial meningoencephalitis/meningomyelitis NEC), G04.30 (acute necrotizing hemorrhagic encephalopathy unspecified), G04.31 (postinfectious), G04.32 (postimmunization), G04.39 (other), G04.81 (other encephalitis/encephalomyelitis), G04.89 (other myelitis), G04.90 (encephalitis/myelitis unspecified), G04.91 (myelitis unspecified) (encephalitis)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — BACTERIAL MENINGITIS (≥1):

- Classic triad: fever, nuchal rigidity, altered mental status (triad present in <50% but ≥2/3 features in >95%)
- Jolt accentuation of headache (sensitive screening test)
- Kernig/Brudzinski signs positive
- CSF: WBC >1000 (neutrophilic predominance), protein >100, glucose <40 or CSF:serum glucose ratio <0.4, positive Gram stain or culture
- Petechial/purpuric rash (Neisseria meningitidis)
- GCS <15 (altered mentation)

ENCEPHALITIS (≥1):

- Altered mental status + fever with: seizures, focal neuro deficit, CSF pleocytosis (lymphocytic), MRI temporal lobe abnormality (HSV encephalitis)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- LP performed (unless contraindicated: mass lesion on CT with midline shift, coagulopathy, hemodynamic instability)
- Empiric IV antibiotics IMMEDIATELY (do NOT delay for LP/CT): ceftriaxone 2g q12h + vancomycin + ampicillin (if age >50 or immunocompromised for Listeria) + dexamethasone 0.15mg/kg q6h x 4

days (give BEFORE or WITH first antibiotic dose per van de Beek trial)

- Empiric IV acyclovir 10mg/kg q8h until HSV encephalitis ruled out (PCR negative at 48-72 hrs)
- Continuous monitoring, seizure precautions
- ICU if: GCS <12, seizures, hemodynamic instability, septic shock

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for suspected/confirmed bacterial meningitis or encephalitis

- ICU if: altered consciousness (GCS <12), seizures, septic shock, signs of raised ICP, DIC
- Contact precautions + droplet isolation until N. meningitidis ruled out

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (ICU); Every 24 hours (floor)

DAY 1: LP results, blood cultures, empiric antibiotics given (<1 hr of suspicion), dexamethasone started, CT head if focal deficits/papilledema (before LP), close contacts notified if meningococcus suspected (chemoprophylaxis: rifampin, ciprofloxacin, or ceftriaxone) DAY 2-3: Culture/PCR results → narrow antibiotics. Bacterial: 7 days (meningococcus), 10-14 days (pneumococcus), 21+ days (Listeria, GNR). HSV encephalitis: acyclovir x 14-21 days. Viral meningitis (confirmed): antibiotics stopped, supportive care, often can discharge. CONTINUED STAY IF: Not improving on antibiotics, complications (subdural empyema, cerebral abscess, hydrocephalus, SIADH, cerebral venous thrombosis), persistent seizures, hearing loss evaluation

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Afebrile ≥24 hours
- Mental status at baseline or significantly improved
- Able to tolerate oral medications (some patients may complete IV antibiotics at home via OPAT)
- IV antibiotic course: can determine OPAT eligibility vs. need for inpatient completion
- No seizures for ≥48 hours
- Hearing assessment performed (bacterial meningitis: 10-30% sensorineural hearing loss, especially pneumococcal)
- Neurology follow-up 2-4 weeks, audiometry follow-up

TRANSITION TO: Home once stable (viral meningitis: 2-3 days; bacterial: 7-14+ days); Home with OPAT if completing IV antibiotics; SNF if cognitive/functional deficits

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. IDSA Guidelines for Bacterial Meningitis. Tunkel AR, et al. Clin Infect Dis. 2004;39:1267-1284. 2017 update. 2. Dexamethasone in Bacterial Meningitis. van de Beek D, et al. NEJM. 2002;347:1549-1556. 3. IDSA Guidelines for Encephalitis. Tunkel AR, et al. Clin Infect Dis. 2008;47:303-327. 4. AAN Practice Parameter: HSV Encephalitis. Whitley RJ. Neurology. 2007;69:2045-2048. 5. Cochrane Review: Corticosteroids for Bacterial Meningitis. Brouwer MC, et al. Cochrane Database. 2015;9:CD004405.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 076: Viral Meningitis w CC/MCC (RW ~1.37)
- DRG 077: Viral Meningitis w/o CC/MCC (RW ~0.82)
- DRG 074: Cranial & Peripheral Nerve Disorders w MCC (RW ~1.63) — bacterial meningitis may group here
- DRG 853-855: Infectious & Parasitic Diseases w OR Procedure (if VP shunt placed)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if AMS, seizures, septic shock)
- 0250: Pharmacy (IV ceftriaxone, vancomycin, ampicillin, acyclovir, dexamethasone)
- 0300: Lab (CSF analysis, cultures, PCR, CRP) | 0610: MRI Brain | 0350: CT Head

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 7-14 days Source: Curative Appendix A (bacterial); IDSA 2004 Bacterial Meningitis Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.
- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per ABCD² <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)
- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

STATUS EPILEPTICUS / SEIZURE REQUIRING INPATIENT

ICD-10-CM: G40.301 (generalized idiopathic epilepsy not intractable with status epilepticus), G40.309 (without status epilepticus), G40.311 (intractable with status), G40.319 (intractable without status), G40.401 (other generalized epilepsy not intractable with status epilepticus), G40.409 (without status), G40.411 (intractable with status), G40.419 (intractable without status) (other generalized epilepsy series), G40.501-G40.519 (epileptic syndromes), G40.801-G40.819 (other epilepsy), G40.901-G40.919 (epilepsy unspecified) (status epilepticus), R56.1, R56.9 (seizure NOS)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Patient must meet ≥1 of the following:

- Convulsive status epilepticus: continuous seizure ≥5 min or ≥2 seizures without return to baseline between them
- Non-convulsive status epilepticus: altered mental status with EEG showing continuous seizure activity
- First seizure with: abnormal neuroimaging (mass, hemorrhage, infarct), persistent altered mentation >1 hr post-ictal, focal neurological deficit, underlying structural brain disease
- Cluster seizures (≥3 in 24 hours)

- Seizure on anticoagulation (need CT to rule out ICH)
- Seizure secondary to eclampsia, meningitis/encephalitis, hyponatremia, hypoglycemia, or drug toxicity requiring inpatient treatment

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- IV benzodiazepine (lorazepam 4mg IV → repeat if needed) → IV fosphenytoin/phenytoin (20mg/kg) or levetiracetam (60mg/kg) or valproate (40mg/kg) → if refractory: RSI and continuous infusion

(midazolam, propofol, or pentobarbital)

- Continuous EEG monitoring for refractory/non-convulsive SE
- ICU for: refractory SE, intubation, hemodynamic instability
- Neuroimaging (CT → MRI) to identify etiology

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: All status epilepticus, first seizure with abnormal imaging/exam/prolonged post-ictal, cluster seizures, seizure with metabolic emergency OBSERVATION: First seizure with rapid return to baseline, normal CT, normal labs → observation with EEG/MRI, neurology consult OUTPATIENT: Known epilepsy with breakthrough seizure, at baseline, medication adjustment feasible, reliable follow-up

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (ICU with continuous EEG); Every 24 hours (floor) DAY 1: Seizure terminated, etiology workup (CT/MRI, EEG, metabolic panel, toxicology, LP if infection suspected), AED loading completed, continuous EEG if altered mentation DAY 2-3: EEG showing no electrographic seizures, AED levels therapeutic, MRI completed, neurology recommendations for long-term AED therapy CONTINUED STAY IF: Refractory SE requiring continuous infusion, ongoing electrographic seizures on EEG, etiology requiring inpatient treatment (meningitis, tumor)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Seizure-free ≥24 hours, mental status at baseline
- AED regimen established with therapeutic levels (if applicable)
- Etiology identified and addressed
- EEG completed (no ongoing epileptiform activity)
- MRI brain completed
- Driving restrictions counseled (varies by state; typically 3-12 months seizure-free)
- Seizure precautions reviewed, neurology follow-up 2-4 weeks

TRANSITION TO: Home (majority); IRF/SNF if new neurological deficit from underlying cause

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AES/NCS Guideline: Status Epilepticus. Brophy GM, et al. Neurocrit Care. 2012;17:3-23. 2024 update. 2. AAN Practice Guideline: First Unprovoked Seizure. Krumholz A, et al. Neurology. 2015;84:1705-1713. 3. ESETT Trial (SE Treatment). Kapur J, et al. NEJM. 2019;381:2103-2113. 4. NCS Guideline: Continuous EEG Monitoring. Herman ST, et al. J Clin Neurophysiol. 2015;32:87-95.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 100: Seizures w MCC (RW ~1.55)
- DRG 101: Seizures w CC (RW ~0.90)
- DRG 102: Seizures w/o CC/MCC (RW ~0.60)

REVENUE CODES:

- 0200: ICU (status epilepticus requiring continuous infusion) | 0120: Room & Board
- 0250: Pharmacy (lorazepam, levetiracetam, fosphenytoin, midazolam/propofol drip)
- 0300: Lab (AED levels, BMP, tox screen) | 0350: CT Head | 0610: MRI | 0920: EEG (continuous)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: NCS Status Epilepticus Guidelines 2016; AES 2016

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.

- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per ABCD² <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)
- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

GUILLAIN-BARRÉ SYNDROME

ICD-10-CM: G61.0

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Patient must meet ≥1 of the following:

- Ascending symmetric weakness (legs → arms → respiratory muscles → cranial nerves)
- Areflexia or hyporeflexia
- Rapidly progressive (nadir typically 2-4 weeks from onset)
- CSF: albuminocytologic dissociation (elevated protein >45 mg/dL with normal WBC <10) — may be normal in first week
- NCS/EMG: demyelinating pattern (AIDP) or axonal pattern (AMAN/AMSAN)
- FVC declining (<30 mL/kg = impending respiratory failure; normal ~60 mL/kg)
- Bulbar dysfunction: dysphagia, facial weakness, ophthalmoplegia (Miller Fisher variant)
- Autonomic instability: labile BP, arrhythmia, urinary retention
- Erasmus GBS Respiratory Insufficiency Score (EGRIS) ≥4 (high risk of ventilation)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- ICU monitoring with FVC and NIF measurements q4-6h (20/30/40 rule: intubate if FVC <20 mL/kg, NIF worse than -30 cmH2O, or >30% decline from baseline FVC)
- IVIG 0.4 g/kg/day x 5 days (first-line per AAN) OR plasma exchange (PLEX) 5 sessions over 7-14 days (equally effective; do NOT combine IVIG + PLEX)
- DVT prophylaxis (immobile patients)
- Pain management (neuropathic: gabapentin/pregabalin; somatic: acetaminophen/NSAIDs; severe: opioids short-term)
- Avoid succinylcholine if intubation needed (hyperkalemia risk from denervation)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for confirmed/suspected GBS

- ICU if: FVC <30 mL/kg or declining rapidly, bulbar dysfunction, autonomic instability
- Floor if: mild weakness, FVC >30, stable trajectory — but with respiratory monitoring capability

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: FVC/NIF q4-6h (acute phase); Every 12 hours (ICU); Every 24 hours (floor) DAY 1-5: IVIG or PLEX course, daily FVC/NIF trending, motor strength documentation (MRC sum score), LP and NCS completed, swallow evaluation DAY 5-14: Nadir identification (usually day 7-14). If improving: PT/OT initiated. If plateau/worsening after IVIG: consider second course of IVIG or switch to PLEX. DAY 14-28+: Ventilator weaning if intubated (tracheostomy if ventilated >14 days), rehabilitation planning,

functional assessment for disposition CONTINUED STAY IF: Still at nadir or declining, ventilator-dependent, autonomic instability, unable to participate in rehabilitation

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Motor function at nadir and showing early improvement (even mild)
- FVC stable and >15 mL/kg (or baseline if chronic neuromuscular disease)
- Off ventilator (or tracheostomy with stable vent settings for LTAC/rehab transfer)
- Swallowing safe or tube feeding plan established
- Autonomic function stable (no labile BP, no arrhythmia ≥24 hrs)
- IVIG or PLEX course completed
- Pain regimen established
- Rehabilitation disposition: IRF (majority — intensive rehab for motor recovery), LTAC (if ventilator-dependent), SNF (if milder deficits)
- Neurology follow-up 2-4 weeks, NCS/EMG follow-up at 3-6 months

TRANSITION TO: IRF (most common); LTAC if ventilator-dependent; SNF if mild; Home with outpatient PT if very mild

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AAN Practice Parameter: Immunotherapy for GBS. Hughes RA, et al. Neurology. 2003;61:736-740. 2024 update. 2. Plasma Exchange/Sandoglobulin GBS Trial Group. Lancet. 1997;349:225-230. 3. IGOS Study (International GBS Outcome Study). Doets AY, et al. Brain. 2022;145:3203-3215. 4. EGRIS Score. Walgaard C, et al. Ann Neurol. 2010;67:781-787. 5. 20/30/40 Rule for Intubation. Lawn ND, et al. Neurology. 2001;56:17-22.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 072: Cranial & Peripheral Nerve Disorders w MCC (RW ~1.63)
- DRG 073: Cranial & Peripheral Nerve Disorders w CC (RW ~1.04)
- DRG 074: Cranial & Peripheral Nerve Disorders w/o CC/MCC (RW ~0.77)
- DRG 207-208: If ventilator support required

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (respiratory monitoring, if intubated)
- 0250: Pharmacy (IVIG — high-cost) | 0390: Blood Products (plasmapheresis/PLEX)
- 0300: Lab (NCS/EMG) | 0410: Respiratory (PFT/NIF monitoring) | 0420: PT | 0430: OT

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 7-14 days inpatient (often longer in ICU) Source: AAN Practice Parameter (2003); EAN/PNS 2023

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.
- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per $ABCD^2$ <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)

- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

MYASTHENIC CRISIS

ICD-10-CM: G70.01 (myasthenia gravis with exacerbation)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Respiratory muscle weakness with FVC <20 mL/kg or NIF (negative inspiratory force) weaker than -30 cmH2O, bulbar weakness (dysphagia, dysarthria, inability to handle secretions), rapidly worsening limb weakness despite medications, hypoxemia or hypercapnia from respiratory failure, aspiration risk

INTENSITY OF SERVICE (IS) — Must require ≥1: ICU for respiratory monitoring (FVC and NIF q4-6h — intubate if FVC <15 mL/kg or NIF weaker than -20 or clinical deterioration), plasmapheresis (5 exchanges over 10-14 days) or IVIG (0.4g/kg/day x 5 days) for acute crisis, avoid medications that worsen MG (aminoglycosides, fluoroquinolones, beta-blockers, magnesium, neuromuscular blocking agents), identify trigger (infection, surgery, medication change, steroid taper, pregnancy, emotional stress)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT/ICU for myasthenic crisis INPATIENT (floor): MG exacerbation with worsening weakness but FVC >20 mL/kg and NIF better than -30

C. CONTINUED STAY / CONCURRENT REVIEW

q4-6h FVC/NIF measurements (ICU). DAY 1-3: PLEX or IVIG initiated, respiratory function trend (20-2-30 rule: intubate if FVC <20 mL/kg, FVC decline >20% from baseline, NIF weaker than -30). Trigger identified and treated (antibiotics for infection, offending medication stopped). DAY 3-7: Improvement expected 2-5 days after PLEX, 3-7 days after IVIG. Immunosuppressive regimen adjustment (pyridostigmine dose optimization, prednisone initiation or increase, steroid-sparing agent: azathioprine, mycophenolate, or eculizumab/rituximab for refractory). CONTINUED STAY IF: FVC not improving, intubated/unable to wean, bulbar dysfunction preventing safe swallowing, second course PLEX/IVIG needed

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- FVC >20 mL/kg and stable or improving
- NIF better than -30 cmH2O
- Extubated (if was intubated) ≥48 hrs
- Swallowing safe (SLP cleared) or tube feeding plan in place
- Oral medications tolerated (pyridostigmine, immunosuppressant)
- Trigger addressed
- Neurology follow-up 1-2 weeks
- Patient educated: MG crisis signs, medication compliance, MG medical alert bracelet, medication precautions list

TRANSITION TO: Home (majority once FVC stable); SNF/LTAC if ventilator-dependent or significant weakness; IRF if functional deficits requiring rehab

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AAN Practice Parameter: Thymectomy for MG. Gronseth GS, et al. Neurology. 2000;55:7-15. 2. International Consensus: MG Management. Sanders DB, et al. Neurology. 2016;87:419-425. 3. REGAIN Trial (Eculizumab). Howard JF, et al. Lancet Neurol. 2017;16:976-986. 4. Myasthenia Gravis Foundation of America: Clinical Classification and Treatment Guidelines.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 072-074: Cranial & Peripheral Nerve Disorders w MCC/CC/w/o (RW ~1.63 / 1.04 / 0.77)
- DRG 207-208: If ventilator support required

REVENUE CODES:

- 0200: ICU (ventilator, respiratory monitoring) | 0250: Pharmacy (IVIG, pyridostigmine, immunosuppressants)
- 0390: Blood Products (plasmapheresis) | 0410: Respiratory (NIF, FVC monitoring)
- 0300: Lab (acetylcholine receptor antibodies) | 0420: PT | 0430: OT

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 7-14 days Source: AAN 2020 MG Guidelines; MGFA Consensus

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.
- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per ABCD² <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)
- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

SPINAL CORD COMPRESSION — ACUTE

ICD-10-CM: G95.20 (myelopathy unspecified), G95.29 (other cord compression), M47.10-M47.16 (spondylosis with myelopathy), M51.04-M51.06 (disc disorder with myelopathy)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Acute/subacute onset of: bilateral lower extremity weakness (paraparesis), sensory level (numbness below a dermatomal level), bowel/bladder dysfunction (urinary retention/incontinence, fecal incontinence), saddle anesthesia, rapidly progressive neurological deficit, MRI showing cord compression (disc herniation, abscess, hematoma, tumor, fracture)

- MALIGNANT: known cancer with new back pain + neurological deficit (see Malignant Spinal Cord Compression below for oncologic-specific criteria)
- EPIDURAL ABSCESS: fever + back pain + neurological deficit (neurosurgical emergency)

INTENSITY OF SERVICE (IS) — Must require ≥1: Emergent MRI of entire spine (with and without contrast), neurosurgical consultation for decompressive surgery (within 24-48 hrs for best outcomes per Fehlings meta-analysis), dexamethasone 10mg IV then 4mg q6h for edema reduction (malignant or inflammatory), IV antibiotics if abscess suspected (vancomycin + ceftriaxone pending cultures), Foley catheter for urinary retention, DVT prophylaxis

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for acute spinal cord compression with neurological deficit EMERGENT SURGERY: Cauda equina syndrome (bilateral symptoms, bowel/bladder dysfunction — decompression within 24-48 hrs improves outcomes), epidural abscess with deficit, progressive myelopathy

C. CONTINUED STAY / CONCURRENT REVIEW

q12-24h with neuro checks q4-8h. DAY 1: MRI completed, neurosurgical plan determined (surgery vs. radiation for malignant vs. antibiotics for abscess). Neurological exam documented as baseline: ASIA impairment scale (A-E), motor level, sensory level. DAY 2-5: Post-surgical monitoring, drain management, mobilization per surgeon protocol. If non-surgical (radiation for malignant SCC): radiation oncology consultation, dexamethasone taper. CONTINUED STAY IF: Post-operative monitoring, new or worsening deficit, abscess requiring prolonged IV antibiotics, radiation course in progress, bowel/bladder program establishment

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Neurological exam stable or improving post-intervention
- Surgical wound stable (if operative)
- Ambulatory with assistive device (or wheelchair if paraplegia) and PT/OT assessment complete
- Bowel/bladder program established (intermittent catheterization schedule if retention, bowel regimen)
- Pain controlled on oral medications
- If abscess: IV antibiotic plan (PICC + OPAT for 6-8 weeks)
- If malignant: radiation completed or plan for outpatient continuation, oncology follow-up
- Neurosurgery/spine follow-up 2-4 weeks
- Rehabilitation disposition determined

TRANSITION TO: IRF (functional deficits requiring intensive rehab), SNF (medical complexity, ongoing IV antibiotics, unable to tolerate IRF), Home (mild deficit with outpatient PT)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. Fehlings MG, et al. Timing of Decompressive Surgery for SCI. J Neurotrauma. 2012;29:1850-1863. 2. AO Spine: Guidelines for Degenerative Cervical Myelopathy. Fehlings MG, et al. Global Spine J. 2017;7:28S-52S. 3. NICE Guideline: Metastatic Spinal Cord Compression. CG75. 2008 (2023 update). 4. CES Meta-Analysis. Ahn UM, et al. Spine. 2000;25:1515-1522.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 028-030: Spinal Procedures w MCC/CC/w/o (RW ~4.19 / 2.56 / 1.89) — if decompression surgery
- DRG 052-054: Spinal Disorders & Injuries w MCC/CC/w/o (RW ~1.86 / 1.11 / 0.85) — if medical only

REVENUE CODES:

- 0200: ICU (if post-surgical) | 0360: OR (decompressive laminectomy)
- 0610: MRI Spine | 0250: Pharmacy (dexamethasone, radiation oncology drugs)
- 0330-0339: Radiation Therapy (if radiation for malignant compression) | 0300: Lab

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 5-10 days Source: AANS/CNS 2013 Spinal Cord Injury Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.
- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per ABCD² <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)
- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

CAUDA EQUINA SYNDROME

ICD-10-CM: G83.4 (cauda equina syndrome), M48.06 (spinal stenosis lumbar), M51.16-M51.17 (intervertebral disc degeneration lumbar with radiculopathy/myelopathy)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- New bilateral lower extremity weakness or numbness (L4-S1 distribution)
- Saddle anesthesia (perineal/perianal numbness S2-S5)
- Urinary retention (post-void residual >100-200 mL) or new urinary incontinence
- Fecal incontinence or loss of anal sphincter tone (absent anal wink, decreased rectal tone on DRE)
- Bilateral sciatica (may be asymmetric)
- MRI lumbar spine: large central disc herniation, tumor, abscess, hematoma compressing cauda equina
- Progressive neurologic deficit (worsening weakness or bowel/bladder function)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- EMERGENT MRI lumbar spine (within 1-4 hours of presentation if clinical suspicion)
- Emergent neurosurgical consultation
- Emergent surgical decompression (laminectomy/discectomy) — ideally within 24-48 hrs of symptom onset (better outcomes with earlier surgery; meta-analyses show surgery <48 hrs improves

bladder recovery)

- IV dexamethasone if tumor-related compression
- Foley catheter for urinary retention
- Post-operative monitoring: neurologic exam q4h, wound, I&O

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for confirmed or suspected cauda equina syndrome

- Surgical emergency — decompression within 24-48 hrs for best outcomes
- MRI must be obtained emergently even after hours (this is one of the few true emergent MRI indications)

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: q12h pre-op; q24h post-op

PRE-OP: MRI completed, neurosurgery consulted, pre-operative labs and clearance, Foley placed if retention, pain management, DVT prophylaxis POST-OP DAY 1: Neurologic exam (compare to pre-op baseline — document motor, sensory, bladder, bowel), wound assessment, Foley trial of void (if pre-op retention: trial after 24-48 hrs post-op; if PVR >200: replace and retry in 48-72 hrs) POST-OP DAY 2-4: PT/OT initiated, voiding trial, pain transitioning to PO, ambulation with assessment of gait/balance CONTINUED STAY IF: Unable to void (continued urinary retention requiring Foley management teaching), new or worsening deficit post-op (repeat MRI), wound complication, inadequate pain control, functional limitations requiring rehab evaluation

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Neurologic exam stable or improved from pre-operative baseline
- Pain controlled on oral analgesics
- Voiding successfully (PVR <100-150 mL) OR self-catheterization teaching completed if persistent retention
- Ambulatory with or without assistive device
- Wound clean and dry, no signs of infection
- Bowel function returned (if pre-op dysfunction: bowel regimen established)
- Neurosurgery follow-up 2-4 weeks
- PT/OT outpatient if residual deficits
- Patient counseled: recovery of bladder function may take weeks-months; follow-up urodynamics if persistent dysfunction

TRANSITION TO: Home (majority if ambulatory and voiding); IRF/SNF if significant motor deficit requiring intensive rehabilitation; Home Health if self-catheterization support needed

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AANS/CNS Guidelines for Lumbar Disc Herniation with Radiculopathy. Kreiner DS, et al. Spine J. 2014;14:180-191. 2. Meta-analysis: Timing of Surgery for CES. Ahn UM, et al. Spine. 2000;25:1515-1522. 3. Systematic Review: CES Outcomes. Todd NV. Br J Neurosurg. 2005;19:301-306. 4. NICE Guideline: Low Back Pain and Sciatica. NG59. 2016 (2020 update). Section on red flags.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 028-030: Spinal Procedures w MCC/CC/w/o (RW ~4.19 / 2.56 / 1.89)
- DRG 518-520: Back & Neck Procedures Except Spinal Fusion w MCC/CC/w/o (RW ~2.52 / 1.51 / 1.07)

REVENUE CODES:

- 0360: OR (emergent laminectomy/discectomy) | 0610: MRI Lumbar (emergent)
- 0120: Room & Board | 0250: Pharmacy | 0300: Lab | 0420: PT | 0430: OT

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-5 days Source: Curative Appendix A; NASS 2020 Cauda Equina Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.
- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per ABCD² <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)
- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

INFECTIOUS DISEASE / SEPSIS

SEPSIS / SEVERE SEPSIS / SEPTIC SHOCK

ICD-10-CM: A40.0 (sepsis due to streptococcus group A), A40.1 (sepsis due to streptococcus group B), A40.3 (sepsis due to Streptococcus pneumoniae), A40.8 (other streptococcal sepsis), A40.9 (streptococcal sepsis unspecified), A41.01 (sepsis due to MSSA), A41.02 (sepsis due to MRSA), A41.1 (sepsis due to other specified staphylococcus), A41.2 (sepsis due to unspecified staphylococcus), A41.3 (sepsis due to Hemophilus influenzae), A41.4 (sepsis due to anaerobes), A41.50 (gram-negative sepsis unspecified), A41.51 (sepsis due to Escherichia coli), A41.52 (sepsis due to Pseudomonas), A41.53 (sepsis due to Serratia), A41.59 (other gram-negative sepsis), A41.81 (sepsis due to Enterococcus), A41.89 (other specified sepsis), A41.9 (sepsis unspecified organism) (sepsis); R65.10, R65.11, R65.20, R65.21 (SIRS/severe sepsis/septic shock)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet suspected/documented infection PLUS ≥2 SIRS criteria or SOFA ≥2: SIRS criteria (≥2 of): Temperature >38.3°C or <36°C; HR >90 bpm; RR >20 or PaCO2 <32; WBC >12,000 or <4,000 or >10% bands qSOFA (≥2 of): Altered mental status (GCS <15); SBP ≤100; RR ≥22

- SEPSIS (Sepsis-3): Suspected infection + SOFA score increase ≥2 from baseline (respiratory, coagulation, liver, cardiovascular, CNS, renal)

- SEPTIC SHOCK: Sepsis + vasopressor requirement to maintain MAP ≥65 AFTER adequate fluid resuscitation + lactate >2 mmol/L

LABORATORY SI indicators:

- Lactate >2 mmol/L (tissue hypoperfusion) — Lactate >4: high mortality risk
- Procalcitonin >0.5 ng/mL (suggests bacterial infection)
- WBC >12,000 or <4,000 or bands >10%
- Platelet count <100,000 (DIC concern)
- INR >1.5 or aPTT >60 sec (coagulopathy)
- Cr rise >0.5 mg/dL from baseline or UOP <0.5 mL/kg/hr (AKI)
- Bilirubin >2 mg/dL (hepatic dysfunction)
- Blood glucose >140 in non-diabetic (stress response)

INTENSITY OF SERVICE (IS) — Hour-1 SEP-1 Bundle:

- Lactate measured
- Blood cultures obtained (before antibiotics)
- Broad-spectrum IV antibiotics administered within 1 hour of recognition
- 30 mL/kg crystalloid bolus if: hypotension (MAP <65 or SBP <90) or lactate ≥4
- Vasopressors if MAP <65 after fluids (norepinephrine first-line)
- Repeat lactate if initial >2 (target: declining by ≥20% in 6 hrs or normalize)
- Central line for vasopressor administration
- Arterial line for continuous BP monitoring (if vasopressors)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT — All sepsis requires inpatient admission

- ICU if: septic shock (vasopressors, lactate >4), multiorgan failure, mechanical ventilation, altered mental status, lactate >4
- Med/Surg (monitored) if: sepsis without shock, responding to fluid resuscitation, lactate 2-4 and trending down, single organ dysfunction

NOT OBSERVATION for sepsis — even if patient appears to be improving rapidly

- Reason: sepsis trajectory is unpredictable; patients can decompensate rapidly in first 24-48 hours

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (ICU); Every 24 hours (Med/Surg)

HOUR 1-6 (Resuscitation Phase):

- SEP-1 bundle completed? (lactate, cultures, antibiotics, fluids if indicated)
- Source identified? (UA/UCx, CXR, CT A/P, wound culture, LP if indicated)
- Antibiotics appropriate for suspected source? (escalate/narrow based on data)
- Fluid responsiveness assessed (passive leg raise, IVC variability, stroke volume variation)
- If hypotensive after 30 mL/kg: vasopressors initiated (norepinephrine first-line, target MAP ≥65)
- Lactate repeat at 6 hours: improving?

DAY 1-2:

- Source control achieved? (abscess drained, infected device removed, surgical source controlled within 6-12 hrs)
- Cultures finalized: narrow antibiotics to targeted therapy (antibiotic stewardship)
- Vasopressor weaning: can MAP be maintained on decreasing doses?
- Lactate normalizing (<2) or trending down by ≥20%/6 hrs?
- Organ function improving: Cr stable/improving, UOP adequate, bilirubin stable, platelet count stable/rising, mentation improving
- Glucose management (target 140-180 per SSI; insulin drip if persistently >180)
- DVT prophylaxis (pharmacologic when platelets >50K and no active bleeding)
- Stress ulcer prophylaxis if ICU (PPI or H2 blocker)

DAY 3-5:

- Antibiotic duration planned: procalcitonin-guided (stop when <0.5 or 80% decrease from peak); typical course 7-10 days for most sources
- Vasopressors off? If still requiring vasopressors at day 3-5: evaluate for uncontrolled source, resistant organism, secondary infection, adrenal insufficiency (cortisol level, consider stress-dose

hydrocortisone 200mg/day if refractory shock)

- IV-to-oral antibiotic transition criteria (same as pneumonia switch criteria)

CONTINUED STAY >5 DAYS JUSTIFIED IF:

- Ongoing vasopressor requirement
- Source not controlled (abscess not drained, prosthetic infection, endocarditis)
- Multiorgan failure not resolving
- IV antibiotics required (cannot transition to oral: absorption concerns, specific organism, endocarditis)
- Complications: C. difficile, secondary infection, DVT/PE, deconditioning

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ICU → STEP-DOWN:

- Off vasopressors ≥24 hours
- Lactate <2 mmol/L
- Mentation at baseline
- Not requiring mechanical ventilation or HFNC

STEP-DOWN → DISCHARGE:

- Afebrile (T <37.8°C) for ≥24 hours
- HR <100, SBP >100 without IV fluids
- WBC trending toward normal
- Lactate normal (<2 mmol/L)
- Organ function at new baseline: Cr stable, UOP adequate, mentation clear
- Source controlled and documented
- Tolerating oral medications and nutrition
- Antibiotic plan finalized: oral step-down if appropriate, total duration documented, OPAT if IV required (PICC + home infusion or SNF)
- Follow-up PCP/ID 1-2 weeks
- Blood culture follow-up documented (if S. aureus: mandatory repeat cultures until clearance + echo for endocarditis)

TRANSITION TO:

- Home: majority once oral antibiotics and stable
- Home with OPAT (outpatient parenteral antibiotic therapy): if IV antibiotics still needed but otherwise stable (osteomyelitis, endocarditis, abscess)
- SNF: if deconditioning, PICC + IV antibiotics with skilled nursing needs, unable to manage OPAT at home
- LTAC: if prolonged ventilator weaning, tracheostomy, multiorgan failure recovery

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. Surviving Sepsis Campaign Guidelines 2021. Evans L, et al. Crit Care Med. 2021;49:e1063-e1143. 2. Sepsis-3 Definitions. Singer M, et al. JAMA. 2016;315:801-810. 3. qSOFA Score. Seymour CW, et al. JAMA. 2016;315:762-774. 4. SOFA Score. Vincent JL, et al. Intensive Care Med. 1996;22:707-710. 5. SEP-1 (CMS Severe Sepsis/Septic Shock Early Management Bundle). CMS. 2015/2024 update. 6. Procalcitonin-Guided Antibiotic De-escalation. de Jong E, et al. Lancet Infect Dis. 2016;16:819-827. 7. IDSA Guideline for Diagnosis and Management of Infectious Diseases. Various pathogen-specific guidelines.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 870: Septicemia or Severe Sepsis w MV >96 hrs (RW ~5.70)
- DRG 871: Septicemia or Severe Sepsis w/o MV >96 hrs w MCC (RW ~2.19)
- DRG 872: Septicemia or Severe Sepsis w/o MV >96 hrs w/o MCC (RW ~1.37)

NOTE: DRG 871 is the #1 highest-volume DRG in US hospitals.

REVENUE CODES:

- 0120: Room & Board | 0200: ICU | 0250: Pharmacy (IV antibiotics, vasopressors)
- 0300: Lab (cultures, lactate, procalcitonin, CBC, BMP) | 0320: Radiology (CXR, CT)
- 0636: Drugs Requiring Detailed Coding | 0940: Other (central line supplies)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 4-7 days Source: Curative Appendix A; SCCM Surviving Sepsis Campaign 2021

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Septic shock requiring vasopressors, MAP <65 despite 30 mL/kg crystalloid, lactate ≥4 mmol/L, mechanical ventilation, multi-organ dysfunction.
- Stepdown (Telemetry/PCU): Source control completed but ongoing IV vasopressor wean, BiPAP, escalating organ dysfunction without intubation criteria, infectious disease consult active.

- Med-Surg: Source controlled, off vasopressors ≥24h, transitioning IV → PO antibiotics, afebrile trending, mobilizing.
- Observation: Uncomplicated cellulitis/UTI with rapid clinical response, expected discharge within 1–2 midnights; falls under CMS 2-Midnight Rule.
- Post-Acute (SNF/IRF/LTAC): OPAT not feasible at home → SNF for IV antibiotic completion (e.g., 4–6 weeks for osteomyelitis/IE); LTAC for vent weaning.
- Home (with/without HHA): Hemodynamically stable, tolerating PO antibiotics or established OPAT line, follow-up ID in 1–2 weeks; HHA for IV antibiotic infusion when applicable.

LOC Grid Sources: SCCM Surviving Sepsis Campaign 2021; IDSA 2014 SSTI; IDSA 2015 Vertebral Osteomyelitis; IDSA 2010 UTI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent fever or rising inflammatory markers despite source control
- Lack of source control (undrained abscess, retained hardware, persistent bacteremia)
- New positive culture requiring antibiotic escalation
- Drug reaction (rash, DRESS, AIN, transaminitis) requiring rotation
- OPAT not feasible (no IV access, social, payer constraints) → SNF placement coordination
- Surgical intervention required and not yet performed (e.g., valve replacement for IE)

Extended Stay Sources: Sources: SCCM Surviving Sepsis Campaign 2021; IDSA Treatment Guidelines.

COMPLICATED CELLULITIS / SKIN AND SOFT TISSUE INFECTION

ICD-10-CM: L03.011-L03.319 (cellulitis by site), L03.90 (cellulitis unspecified), M72.6 (necrotizing fasciitis)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Cellulitis with failed oral antibiotics (≥48 hrs appropriate PO), rapidly spreading erythema (>5cm in 24 hrs despite antibiotics), systemic signs (fever >38°C, WBC >12K, tachycardia), facial cellulitis (risk of cavernous sinus thrombosis), periorbital/orbital cellulitis (CT orbits to rule out abscess/orbital involvement), cellulitis overlying prosthetic joint or hardware, immunocompromised patient, bullous or hemorrhagic cellulitis

- NECROTIZING FASCIITIS (surgical emergency): pain out of proportion to exam, crepitus, violaceous skin changes, rapid progression, systemic toxicity, LRINEC score ≥8 (WBC >15, Hgb <13.5, Na

<135, glucose >180, Cr >1.6, CRP >150)

INTENSITY OF SERVICE (IS) — Must require ≥1: IV antibiotics (vancomycin + piperacillin-tazobactam for broad coverage; cefazolin for uncomplicated), wound marking (draw border and time to track progression q8-12h), surgical consultation for necrotizing fasciitis (emergent OR debridement — mortality doubles with each hour of delay), I&D for abscess, blood cultures if sepsis

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: Failed oral antibiotics, systemic sepsis, necrotizing fasciitis (ICU), orbital cellulitis, overlying hardware/prosthetic, immunocompromised, bullous/hemorrhagic OBSERVATION: Moderate cellulitis not responding to PO, stable vitals, expected to improve on IV antibiotics <48 hrs, single IV dose + close observation OUTPATIENT: Mild-moderate cellulitis without systemic signs, no risk factors, first-line PO antibiotics + follow-up 48-72 hrs (can do outpatient IV ceftriaxone IM/IV daily through ED return visits)

C. CONTINUED STAY / CONCURRENT REVIEW

q24h with wound reassessment q8-12h. DAY 1: Mark erythema borders, photo-document, track progression vs regression. Blood cultures if febrile. If not improving at 48 hrs: broaden antibiotics, imaging (CT/MRI for deep space infection/abscess/osteomyelitis/necrotizing fasciitis). DAY 2-3: Erythema regressing? Afebrile? WBC improving? → transition IV to PO if: afebrile ≥24h, erythema regressing, WBC improving, tolerating PO. CONTINUED STAY IF: Progression despite appropriate antibiotics, deep space abscess requiring drainage, necrotizing fasciitis requiring serial debridements (OR q24-48h until clean margins), new bacteremia, overlying osteomyelitis

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Erythema significantly regressing (>50% reduction from marked border)
- Afebrile ≥24 hrs, WBC trending normal
- Pain improving, no crepitus or induration
- Tolerating PO antibiotics (TMP-SMX, doxycycline, or clindamycin for MRSA; cephalexin for MSSA)
- PO antibiotic course: 5-7 days for uncomplicated, 7-14 days for complicated
- If abscess: adequately drained, wound care instructions provided

- Follow-up PCP 48-72 hrs to confirm continued improvement

TRANSITION TO: Home (majority); Home Health for wound care; SNF if serial wound care/IV antibiotics/debility

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. IDSA Practice Guideline for Skin and Soft Tissue Infections. Stevens DL, et al. Clin Infect Dis. 2014;59:e10-e52. 2. LRINEC Score for Necrotizing Fasciitis. Wong CH, et al. Crit Care Med. 2004;32:1535-1541. 3. WSES Guidelines for NSTIs. Sartelli M, et al. World J Emerg Surg. 2018;13:58.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 602: Cellulitis w MCC (RW ~1.41)
- DRG 603: Cellulitis w CC (RW ~0.96)
- DRG 604: Cellulitis w/o CC/MCC (RW ~0.67)
- DRG 856-858: Postop/Post-Traumatic Infections w OR Procedure (if I&D/debridement) (RW ~3.82 / 2.02 / 1.32)

REVENUE CODES:

- 0120: Room & Board | 0250: Pharmacy (IV vancomycin, pip-tazo, clindamycin)
- 0300: Lab (CBC, CRP, cultures) | 0360: OR (if I&D or debridement) | 0270: Wound care supplies

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: IDSA 2014 SSTI Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Septic shock requiring vasopressors, MAP <65 despite 30 mL/kg crystalloid, lactate ≥4 mmol/L, mechanical ventilation, multi-organ dysfunction.
- Stepdown (Telemetry/PCU): Source control completed but ongoing IV vasopressor wean, BiPAP, escalating organ dysfunction without intubation criteria, infectious disease consult active.
- Med-Surg: Source controlled, off vasopressors ≥24h, transitioning IV → PO antibiotics, afebrile trending, mobilizing.
- Observation: Uncomplicated cellulitis/UTI with rapid clinical response, expected discharge within 1–2 midnights; falls under CMS 2-Midnight Rule.
- Post-Acute (SNF/IRF/LTAC): OPAT not feasible at home → SNF for IV antibiotic completion (e.g., 4–6 weeks for osteomyelitis/IE); LTAC for vent weaning.
- Home (with/without HHA): Hemodynamically stable, tolerating PO antibiotics or established OPAT line, follow-up ID in 1–2 weeks; HHA for IV antibiotic infusion when applicable.

LOC Grid Sources: SCCM Surviving Sepsis Campaign 2021; IDSA 2014 SSTI; IDSA 2015 Vertebral Osteomyelitis; IDSA 2010 UTI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent fever or rising inflammatory markers despite source control
- Lack of source control (undrained abscess, retained hardware, persistent bacteremia)
- New positive culture requiring antibiotic escalation
- Drug reaction (rash, DRESS, AIN, transaminitis) requiring rotation
- OPAT not feasible (no IV access, social, payer constraints) → SNF placement coordination
- Surgical intervention required and not yet performed (e.g., valve replacement for IE)

Extended Stay Sources: Sources: SCCM Surviving Sepsis Campaign 2021; IDSA Treatment Guidelines.

PYELONEPHRITIS — COMPLICATED

ICD-10-CM: N10 (acute pyelonephritis), N13.6 (pyonephrosis), N15.1 (renal/perinephric abscess)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Fever >38.5°C with flank pain and pyuria, sepsis criteria met, unable to tolerate oral antibiotics/fluids (persistent vomiting), AKI (Cr rise), CT showing renal/perinephric abscess or pyonephrosis, ureteral obstruction with infected hydronephrosis (emergency: emergent decompression needed), immunocompromised, pregnant (always inpatient), diabetes (higher complication rate), indwelling urinary catheter or structural urinary abnormality

INTENSITY OF SERVICE (IS) — Must require ≥1: IV antibiotics (ceftriaxone or fluoroquinolone; add ampicillin for Enterococcus

coverage if indicated), IV fluids, blood cultures x2, UA/UCx, CT abdomen/pelvis without contrast (for abscess/obstruction), urology consultation for obstruction (nephrostomy tube or ureteral stent)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: Sepsis, unable to tolerate PO, obstruction with infection (urologic emergency), abscess/pyonephrosis, AKI, pregnant, immunocompromised OBSERVATION: Moderate pyelonephritis without sepsis, tolerating oral after initial IV dose, expected discharge <48 hrs OUTPATIENT: Uncomplicated pyelonephritis in young healthy female: PO fluoroquinolone x 5-7 days or TMP-SMX x 14 days, follow-up 48-72 hrs

C. CONTINUED STAY / CONCURRENT REVIEW

q24h. DAY 1: Cultures drawn, empiric IV antibiotics, imaging if complicated features. DAY 2-3: Culture finalized, narrow antibiotics. Afebrile? Tolerating PO? → IV-to-PO transition. Obstruction decompressed? CONTINUED STAY IF: Persistent fever >72 hrs (repeat imaging for abscess, resistant organism), AKI worsening, ongoing sepsis, abscess requiring IR drainage

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Afebrile ≥24 hrs, WBC improving
- Tolerating PO antibiotics and fluids
- Cr stable or improving
- Obstruction decompressed (if present)
- PO antibiotic course prescribed (total 10-14 days; fluoroquinolone 5-7 days if susceptible per AUA)
- Follow-up urine culture in 1-2 weeks
- Urology follow-up if structural abnormality or recurrent UTI

TRANSITION TO: Home (majority)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AUA/CUA/SUFU Guideline: Recurrent UTI. Anger J, et al. J Urol. 2019;202:282-289. 2. IDSA Guideline: Uncomplicated Pyelonephritis. Gupta K, et al. Clin Infect Dis. 2011;52:e103-e120. 3. EAU Guidelines: Urological Infections. Bonkat G, et al. EAU. 2024.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 689: Kidney & Urinary Tract Infections w MCC (RW ~1.32)
- DRG 690: Kidney & Urinary Tract Infections w CC (RW ~0.88)
- DRG 691: Kidney & Urinary Tract Infections w/o CC/MCC (RW ~0.66)

REVENUE CODES:

- 0120: Room & Board | 0250: Pharmacy (IV antibiotics) | 0300: Lab (UA, UCx, BMP, CBC)
- 0350: CT A/P (if abscess/obstruction concern) | 0402: Ultrasound (renal US)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: IDSA 2010 UTI Guideline; AUA 2019

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Septic shock requiring vasopressors, MAP <65 despite 30 mL/kg crystalloid, lactate ≥4 mmol/L, mechanical ventilation, multi-organ dysfunction.
- Stepdown (Telemetry/PCU): Source control completed but ongoing IV vasopressor wean, BiPAP, escalating organ dysfunction without intubation criteria, infectious disease consult active.
- Med-Surg: Source controlled, off vasopressors ≥24h, transitioning IV → PO antibiotics, afebrile trending, mobilizing.
- Observation: Uncomplicated cellulitis/UTI with rapid clinical response, expected discharge within 1–2 midnights; falls under CMS 2-Midnight Rule.
- Post-Acute (SNF/IRF/LTAC): OPAT not feasible at home → SNF for IV antibiotic completion (e.g., 4–6 weeks for osteomyelitis/IE); LTAC for vent weaning.
- Home (with/without HHA): Hemodynamically stable, tolerating PO antibiotics or established OPAT line, follow-up ID in 1–2 weeks; HHA for IV antibiotic infusion when applicable.

LOC Grid Sources: SCCM Surviving Sepsis Campaign 2021; IDSA 2014 SSTI; IDSA 2015 Vertebral Osteomyelitis; IDSA 2010 UTI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent fever or rising inflammatory markers despite source control
- Lack of source control (undrained abscess, retained hardware, persistent bacteremia)
- New positive culture requiring antibiotic escalation
- Drug reaction (rash, DRESS, AIN, transaminitis) requiring rotation
- OPAT not feasible (no IV access, social, payer constraints) → SNF placement coordination
- Surgical intervention required and not yet performed (e.g., valve replacement for IE)

Extended Stay Sources: Sources: SCCM Surviving Sepsis Campaign 2021; IDSA Treatment Guidelines.

OSTEOMYELITIS — ACUTE

ICD-10-CM: M86.00-M86.09 (acute hematogenous osteomyelitis), M86.10-M86.19 (other acute osteomyelitis), M86.20-M86.29 (subacute osteomyelitis)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Fever with bone pain/tenderness at affected site, MRI showing bone marrow edema with periosteal reaction and soft tissue extension (sensitivity 90-100%), elevated inflammatory markers (CRP, ESR), WBC >12K, positive blood cultures (hematogenous osteomyelitis), open fracture with exposed bone and infection signs, diabetic foot ulcer probing to bone (positive probe-to-bone test: 89% PPV for osteomyelitis)

INTENSITY OF SERVICE (IS) — Must require ≥1: IV antibiotics for 4-6 weeks (pathogen-directed: S. aureus → nafcillin/cefazolin or vancomycin if MRSA), bone biopsy for culture/pathology (gold standard — obtain BEFORE antibiotics if possible), surgical debridement if: sequestrum on imaging, hardware-associated, inadequate response to antibiotics, abscess requiring drainage, orthopedic/podiatric consultation

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: Sepsis, acute hematogenous (blood culture positive), hardware-associated requiring removal, surgical debridement needed, new diagnosis requiring bone biopsy and IV antibiotic initiation, unable to tolerate oral OBSERVATION: Chronic osteomyelitis flare in known patient, bone biopsy planned with short stay for IV antibiotic initiation NOTE: Many osteomyelitis patients can complete IV antibiotics via OPAT after initial inpatient stabilization (3-7 day inpatient stay then home with PICC)

C. CONTINUED STAY / CONCURRENT REVIEW

q24h. DAY 1-3: MRI completed, bone biopsy/culture obtained, blood cultures x2, empiric IV antibiotics started (vancomycin + ceftriaxone until culture data), surgical debridement if indicated. DAY 4-7: Culture finalized, antibiotics narrowed, PICC placed for OPAT, home infusion arranged. CONTINUED STAY IF: Culture-negative (need extended empiric course), surgical wound requiring monitoring, sepsis not resolving, hardware removal with complex closure

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Afebrile ≥24 hrs, WBC/CRP trending down
- Pain improving on oral analgesics
- Surgical wound stable (if applicable)
- Culture-directed IV antibiotic established
- PICC line placed and functioning
- OPAT arranged: home infusion nursing, antibiotic schedule, weekly labs (CBC, CMP, CRP, vancomycin levels if applicable)
- Total antibiotic duration documented: 4-6 weeks IV (may transition to PO at 3+ weeks per OVIVA trial for select patients)
- ID/orthopedic follow-up weekly during treatment

TRANSITION TO: Home with OPAT (most common), SNF if unable to manage OPAT

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. IDSA Guideline for Diagnosis and Treatment of Diabetic Foot Infections. Lipsky BA, et al. Clin Infect Dis. 2012;54:e132-e173. 2. OVIVA Trial (Oral vs IV Antibiotics for Bone/Joint Infections). Li HK, et al. NEJM. 2019;380:425-436. 3. AO Foundation: Treatment of Fracture-Related Infections. Metsemakers WJ, et al. Injury. 2018;49:511-522. 4. CID Review: Osteomyelitis. Lew DP, Waldvogel FA. Lancet. 2004;364:369-379.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 539: Osteomyelitis w MCC (RW ~2.14)
- DRG 540: Osteomyelitis w CC (RW ~1.44)
- DRG 541: Osteomyelitis w/o CC/MCC (RW ~1.02)
- DRG 485-489: Knee/Lower Extremity Procedures (if surgical debridement)

REVENUE CODES:

- 0120: Room & Board | 0250: Pharmacy (IV antibiotics 4-6 weeks — PICC for OPAT)
- 0610: MRI (diagnostic) | 0360: OR (debridement, bone biopsy)
- 0300: Lab (ESR, CRP, cultures, weekly CBC/CMP on OPAT) | 0270: Supplies (PICC, wound care)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 5-7 days inpatient; 4-6 weeks total IV/PO Source: IDSA 2015 Vertebral Osteomyelitis; AAOS

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Septic shock requiring vasopressors, MAP <65 despite 30 mL/kg crystalloid, lactate ≥4 mmol/L, mechanical ventilation, multi-organ dysfunction.
- Stepdown (Telemetry/PCU): Source control completed but ongoing IV vasopressor wean, BiPAP, escalating organ dysfunction without intubation criteria, infectious disease consult active.
- Med-Surg: Source controlled, off vasopressors ≥24h, transitioning IV → PO antibiotics, afebrile trending, mobilizing.
- Observation: Uncomplicated cellulitis/UTI with rapid clinical response, expected discharge within 1–2 midnights; falls under CMS 2-Midnight Rule.
- Post-Acute (SNF/IRF/LTAC): OPAT not feasible at home → SNF for IV antibiotic completion (e.g., 4–6 weeks for osteomyelitis/IE); LTAC for vent weaning.
- Home (with/without HHA): Hemodynamically stable, tolerating PO antibiotics or established OPAT line, follow-up ID in 1–2 weeks; HHA for IV antibiotic infusion when applicable.

LOC Grid Sources: SCCM Surviving Sepsis Campaign 2021; IDSA 2014 SSTI; IDSA 2015 Vertebral Osteomyelitis; IDSA 2010 UTI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent fever or rising inflammatory markers despite source control
- Lack of source control (undrained abscess, retained hardware, persistent bacteremia)
- New positive culture requiring antibiotic escalation
- Drug reaction (rash, DRESS, AIN, transaminitis) requiring rotation
- OPAT not feasible (no IV access, social, payer constraints) → SNF placement coordination
- Surgical intervention required and not yet performed (e.g., valve replacement for IE)

Extended Stay Sources: Sources: SCCM Surviving Sepsis Campaign 2021; IDSA Treatment Guidelines.

COVID-19 — SEVERE / CRITICAL

ICD-10-CM: U07.1 (COVID-19 confirmed)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI — SEVERE (≥1): SpO2 <94% on room air, RR >30, PaO2/FiO2 <300, lung infiltrates >50% within 24-48 hrs. CRITICAL: respiratory failure requiring mechanical ventilation, septic shock, multiorgan dysfunction.

- Inflammatory markers markedly elevated: CRP >100, ferritin >500, D-dimer >1.0, LDH >300, lymphopenia (<800)
- High-risk comorbidities: age >65, BMI >30, diabetes, CKD, immunocompromised, cardiovascular disease

INTENSITY OF SERVICE (IS) — Must require ≥1: Supplemental O2 (target SpO2 92-96%), dexamethasone 6mg/day x 10 days (or equivalent) for ALL patients requiring O2 (RECOVERY trial), remdesivir 200mg IV day 1 then 100mg/day x 5 days if within 7 days of symptom onset and on supplemental O2, tocilizumab 8mg/kg IV x1 if rapidly escalating O2 requirement and CRP >75 (REMAP-CAP/RECOVERY), prone positioning (awake proning for non-intubated, prone 16 hrs/day for ARDS), anticoagulation (prophylactic-dose for floor patients per ACTIV-4a, therapeutic-dose for non-critically ill per HEP-COVID if D-dimer >2x ULN)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: SpO2 <94% on RA, requiring supplemental O2, severe/critical disease OBSERVATION: SpO2 94-96% on RA, high-risk patient requiring monitoring, expected improvement with antiviral treatment OUTPATIENT: SpO2 >96%, mild-moderate symptoms, outpatient antivirals (nirmatrelvir-ritonavir within 5 days if high-risk)

C. CONTINUED STAY / CONCURRENT REVIEW

q24h (ICU q12h). DAY 1-2: O2 requirement trend, CRP/ferritin/D-dimer trending, dexamethasone + remdesivir started, prone positioning if applicable, tocilizumab if meeting criteria. DAY 3-7: O2 weaning? Inflammatory markers trending down? DAY 7-14: ARDS if progressing (lung-protective ventilation, prone, consider ECMO per EOLIA criteria). Secondary bacterial infection surveillance. CONTINUED STAY IF: Escalating O2, ARDS, secondary bacterial pneumonia, VTE, myocarditis, AKI

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- SpO2 >92% on ≤4L NC (or manageable home O2) stable ≥24 hrs
- O2 requirement not increasing
- Inflammatory markers trending down
- Tolerating oral diet and medications
- Dexamethasone course completing (can finish 10-day course outpatient)
- Ambulatory without significant desaturation
- Home O2 ordered if new requirement
- Follow-up PCP 1-2 weeks, pulmonology if persistent O2 requirement or dyspnea

TRANSITION TO: Home (majority); SNF if deconditioning, O2-dependent, functional limitations

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. RECOVERY Trial (Dexamethasone). Horby P, et al. NEJM. 2021;384:693-704. 2. REMAP-CAP/RECOVERY (Tocilizumab). RECOVERY Collaborative. Lancet. 2021;397:1637-1645. 3. ACTT-1 Trial (Remdesivir). Beigel JH, et al. NEJM. 2020;383:1813-1826. 4. NIH COVID-19 Treatment Guidelines. covid19treatmentguidelines.nih.gov (updated regularly). 5. ACTIV-4a/HEP-COVID (Anticoagulation). Spyropoulos AC, et al. NEJM. 2021;385:790-802.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 177-179: Respiratory Infections w MCC/CC/w/o (RW ~2.15 / 1.41 / 1.03)
- DRG 207-208: Respiratory System Dx w Ventilator Support (if intubated)
- DRG 003-004: ECMO or Tracheostomy (if applicable)

REVENUE CODES:

- 0200: ICU | 0410: Respiratory (HFNC, ventilator, prone positioning)
- 0250: Pharmacy (remdesivir, dexamethasone, tocilizumab/baricitinib) | 0300: Lab
- 0636: Drugs Requiring Detailed Coding (remdesivir, biologics)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 5-10 days Source: NIH COVID-19 Treatment Guidelines (2024); IDSA

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Septic shock requiring vasopressors, MAP <65 despite 30 mL/kg crystalloid, lactate ≥4 mmol/L, mechanical ventilation, multi-organ dysfunction.
- Stepdown (Telemetry/PCU): Source control completed but ongoing IV vasopressor wean, BiPAP, escalating organ dysfunction without intubation criteria, infectious disease consult active.
- Med-Surg: Source controlled, off vasopressors ≥24h, transitioning IV → PO antibiotics, afebrile trending, mobilizing.
- Observation: Uncomplicated cellulitis/UTI with rapid clinical response, expected discharge within 1–2 midnights; falls under CMS 2-Midnight Rule.
- Post-Acute (SNF/IRF/LTAC): OPAT not feasible at home → SNF for IV antibiotic completion (e.g., 4–6 weeks for osteomyelitis/IE); LTAC for vent weaning.
- Home (with/without HHA): Hemodynamically stable, tolerating PO antibiotics or established OPAT line, follow-up ID in 1–2 weeks; HHA for IV antibiotic infusion when applicable.

LOC Grid Sources: SCCM Surviving Sepsis Campaign 2021; IDSA 2014 SSTI; IDSA 2015 Vertebral Osteomyelitis; IDSA 2010 UTI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent fever or rising inflammatory markers despite source control
- Lack of source control (undrained abscess, retained hardware, persistent bacteremia)
- New positive culture requiring antibiotic escalation
- Drug reaction (rash, DRESS, AIN, transaminitis) requiring rotation
- OPAT not feasible (no IV access, social, payer constraints) → SNF placement coordination
- Surgical intervention required and not yet performed (e.g., valve replacement for IE)

Extended Stay Sources: Sources: SCCM Surviving Sepsis Campaign 2021; IDSA Treatment Guidelines.

HIV WITH OPPORTUNISTIC INFECTION

ICD-10-CM: B20 (HIV disease), B37.1 (pulmonary candidiasis), B38.0 (acute pulmonary coccidioidomycosis), B38.1 (chronic pulmonary), B38.2 (pulmonary unspecified), B38.3 (cutaneous), B38.4 (meningitis), B38.7 (disseminated), B38.89 (other forms), B38.9 (unspecified) (coccidioidomycosis), B39.0 (acute pulmonary histoplasmosis capsulati), B39.1 (chronic pulmonary), B39.2 (pulmonary unspecified), B39.3 (disseminated), B39.4 (histoplasmosis capsulati unspecified), B39.5 (histoplasmosis duboisii), B39.9 (histoplasmosis unspecified) (histoplasmosis), B45.0 (pulmonary cryptococcosis), B45.1 (cerebral cryptococcosis), B45.2 (cutaneous), B45.3 (osseous), B45.7 (disseminated), B45.8 (other forms), B45.9 (cryptococcosis unspecified) (cryptococcosis), B59 (Pneumocystis pneumonia), B25.0 (cytomegaloviral pneumonitis), B25.1 (cytomegaloviral hepatitis), B25.2 (cytomegaloviral pancreatitis), B25.8 (other cytomegaloviral diseases), B25.9 (cytomegaloviral disease unspecified) (CMV), A81.2 (PML), A15-A19 (TB), B20+G05 (toxoplasmosis)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Known or new HIV diagnosis with CD4 <200 and presenting with: PCP (Pneumocystis jirovecii pneumonia: dyspnea, dry cough, fever, bilateral ground-glass opacities on CT, LDH >500, hypoxemia), Cryptococcal meningitis (headache, fever, AMS, CSF opening pressure >20 cmH2O, positive cryptococcal antigen), Toxoplasma encephalitis (ring-enhancing lesions on MRI, focal neurologic deficits, CD4 <100), CMV retinitis/colitis (visual changes, bloody diarrhea, CD4 <50), TB (cough >2 weeks, night sweats, weight loss, cavitary/miliary pattern on CXR, positive AFB), Disseminated MAC (fever, weight loss, diarrhea, pancytopenia, CD4 <50)

- Immune reconstitution inflammatory syndrome (IRIS): paradoxical worsening after ART initiation

INTENSITY OF SERVICE (IS) — Must require ≥1: Pathogen-specific IV treatment: PCP (TMP-SMX 15-20mg/kg/day IV + prednisone taper if PaO2 <70), Cryptococcal meningitis (amphotericin B liposomal + flucytosine x 2 weeks induction per ACTHIV/IDSA, serial LPs for pressure management target OP <20), Toxoplasmosis (pyrimethamine + sulfadiazine + leucovorin), CMV (ganciclovir IV or foscarnet), TB (RIPE: rifampin, isoniazid, pyrazinamide, ethambutol). ART initiation timing: START within 2 weeks for most OIs EXCEPT cryptococcal meningitis (delay ART 4-6 weeks to prevent IRIS) and TB meningitis (delay 2-8 weeks).

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for acute OI requiring IV treatment

- ICU if: respiratory failure (PCP), septic shock, cerebral edema (crypto), altered consciousness
- Airborne isolation for suspected TB until 3 negative AFB smears or alternative diagnosis confirmed

C. CONTINUED STAY / CONCURRENT REVIEW

q24h. DAY 1-3: OI diagnosis confirmed (cultures, serology, imaging, LP), targeted treatment initiated, baseline CD4/viral load, resistance testing (genotype), prophylaxis for other OIs initiated (if not already on). DAY 3-7: Clinical improvement? PCP: oxygenation improving by day 3-5. Crypto: repeat LP for pressure management (q24h if OP >25 initially). ART plan: when to start (2 weeks for most, 4-6 weeks for crypto). CONTINUED STAY IF: Respiratory failure worsening, ICP not controlled (crypto), IRIS, secondary infection, drug toxicity (TMP-SMX rash/cytopenias, amphotericin nephrotoxicity), unable to tolerate oral medications

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- OI treatment response: afebrile, improving clinically
- PCP: SpO2 >92% on ≤2L, tolerating PO TMP-SMX (complete 21-day course)
- Crypto: CSF pressure controlled, completing induction (may finish as inpatient or transition to consolidation fluconazole outpatient)
- Tolerating oral medications
- ART plan documented (start date, regimen, drug interactions reviewed)
- OI prophylaxis prescribed (TMP-SMX for PCP/toxo if CD4 <200, azithromycin for MAC if CD4 <50)
- ID/HIV clinic follow-up within 1-2 weeks
- Social work: medication access (ADAP, 340B, Ryan White), housing stability, adherence support

TRANSITION TO: Home (majority once oral meds tolerated); SNF if functional limitations, complex medication management, IV medication completion

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. NIH/CDC/HIVMA/IDSA Guidelines for Prevention and Treatment of OIs in HIV. Panel on OIs in Adults and Adolescents. AIDSinfo. 2024. 2. ACTHIV Trial (Cryptococcal Meningitis Treatment). Molloy SF, et al. NEJM. 2018;378:1004-1017. 3. TEMPRANO/START Trials (Early ART). INSIGHT START Study Group. NEJM. 2015;373:795-807. 4. ATS/CDC/IDSA Guidelines: TB Treatment. Nahid P, et al. Clin Infect Dis. 2016;63:e147-e195.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 974: HIV w Major Related Condition w MCC (RW ~2.59)

- DRG 975: HIV w Major Related Condition w CC (RW ~1.64)
- DRG 976: HIV w Major Related Condition w/o CC/MCC (RW ~1.14)
- DRG 977: HIV w or w/o Other Related Condition (RW ~0.87)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if PCP with respiratory failure, crypto with ICP)
- 0250: Pharmacy (TMP-SMX, amphotericin B, ganciclovir, RIPE for TB, ART)
- 0300: Lab (CD4, viral load, cultures, CSF analysis) | 0610: MRI | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 5-14 days Source: Curative Appendix A; DHHS OI Guidelines 2024

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Septic shock requiring vasopressors, MAP <65 despite 30 mL/kg crystalloid, lactate ≥4 mmol/L, mechanical ventilation, multi-organ dysfunction.
- Stepdown (Telemetry/PCU): Source control completed but ongoing IV vasopressor wean, BiPAP, escalating organ dysfunction without intubation criteria, infectious disease consult active.
- Med-Surg: Source controlled, off vasopressors ≥24h, transitioning IV → PO antibiotics, afebrile trending, mobilizing.
- Observation: Uncomplicated cellulitis/UTI with rapid clinical response, expected discharge within 1–2 midnights; falls under CMS 2-Midnight Rule.
- Post-Acute (SNF/IRF/LTAC): OPAT not feasible at home → SNF for IV antibiotic completion (e.g., 4–6 weeks for osteomyelitis/IE); LTAC for vent weaning.
- Home (with/without HHA): Hemodynamically stable, tolerating PO antibiotics or established OPAT line, follow-up ID in 1–2 weeks; HHA for IV antibiotic infusion when applicable.

LOC Grid Sources: SCCM Surviving Sepsis Campaign 2021; IDSA 2014 SSTI; IDSA 2015 Vertebral Osteomyelitis; IDSA 2010 UTI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent fever or rising inflammatory markers despite source control
- Lack of source control (undrained abscess, retained hardware, persistent bacteremia)
- New positive culture requiring antibiotic escalation
- Drug reaction (rash, DRESS, AIN, transaminitis) requiring rotation
- OPAT not feasible (no IV access, social, payer constraints) → SNF placement coordination
- Surgical intervention required and not yet performed (e.g., valve replacement for IE)

Extended Stay Sources: Sources: SCCM Surviving Sepsis Campaign 2021; IDSA Treatment Guidelines.

OBSTRUCTIVE UROLITHIASIS WITH INFECTION (PYONEPHROSIS)

ICD-10-CM: N13.6 (pyonephrosis), N20.0 (calculus of kidney), N20.1 (calculus of ureter), N13.1-N13.2 (hydronephrosis with ureteral obstruction)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Ureteral calculus with signs of infection (urologic emergency): fever >38°C + flank pain + obstructive stone on CT, pyonephrosis on CT/US (dilated collecting system with debris/echogenic material), sepsis criteria with obstructive stone (even small stones with infection can be lethal), Cr rise (obstructive AKI, especially with solitary kidney or bilateral obstruction), stone >10mm unlikely to pass spontaneously

INTENSITY OF SERVICE (IS) — Must require ≥1: EMERGENT decompression within hours (ureteral stent or percutaneous nephrostomy tube — definitive stone treatment deferred until infection cleared), IV antibiotics (ceftriaxone or piperacillin-tazobactam; adjust per culture), IV fluids, pain management (ketorolac 30mg IV + opioid PRN), Foley if urinary retention

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: Any obstructive stone with infection/sepsis (emergent), obstructive stone with AKI, bilateral obstruction, solitary kidney with obstruction, intractable pain/vomiting despite ED management OBSERVATION: Ureteral stone <10mm without infection, pain controlled on PO, tolerating PO fluids, able to strain urine at home OUTPATIENT: Small stone (<5mm) without infection, controlled pain, adequate follow-up for spontaneous passage (alpha-blocker MET therapy)

C. CONTINUED STAY / CONCURRENT REVIEW

q12h if sepsis/post-decompression; q24h stable. DAY 1: Emergent decompression (stent or nephrostomy), blood/urine cultures, IV antibiotics, hydration. DAY 2-3: Sepsis resolving? Cr improving? Drain/stent functioning (urine output, creatinine trend)? Stone size/location documented for definitive treatment planning. CONTINUED STAY IF: Ongoing sepsis, AKI not improving, stent/nephrostomy complications (migration, obstruction), unable to tolerate oral

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Afebrile ≥24 hrs, WBC improving
- Cr at baseline or improving
- Pain controlled on oral analgesics
- Tolerating oral antibiotics and fluids
- Stent/nephrostomy functioning (adequate UOP)
- Oral antibiotic course prescribed (total 10-14 days for complicated UTI with obstruction)
- Definitive stone treatment plan documented: ESWL, ureteroscopy, or PCNL scheduled 2-6 weeks after infection cleared (do not attempt definitive treatment during acute infection)
- Urology follow-up 1-2 weeks
- Metabolic stone workup ordered: 24-hr urine (calcium, oxalate, citrate, uric acid, Na, pH), PTH if hypercalcemia

TRANSITION TO: Home (majority); Home Health if nephrostomy tube management needed

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AUA/Endourology Society Guideline: Surgical Management of Stones. Assimos D, et al. J Urol. 2016;196:1153-1160. 2. EAU Guidelines: Urolithiasis. Turk C, et al. EAU. 2024. 3. AUA: Medical Management of Kidney Stones. Pearle MS, et al. J Urol. 2014;192:316-324. 4. JAMA Review: Kidney Stones. Ziemba JB, Matlaga BR. JAMA. 2015;313:2244.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 673: Other Kidney & Urinary Tract Procedures w MCC (RW ~2.69) — if stent/nephrostomy
- DRG 674: Other Kidney & Urinary Tract Procedures w CC (RW ~1.64)
- DRG 675: Other Kidney & Urinary Tract Procedures w/o CC/MCC (RW ~1.11)
- DRG 695: Kidney & Urinary Tract Signs & Symptoms w MCC (RW ~1.12) — if medical only

REVENUE CODES:

- 0120: Room & Board | 0360: OR (ureteroscopy, PCNL) | 0481: Interventional (stent, nephrostomy)
- 0350: CT (CT KUB) | 0250: Pharmacy (IV antibiotics, analgesics) | 0300: Lab

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: Curative Appendix A; AUA 2016 Urolithiasis Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Septic shock requiring vasopressors, MAP <65 despite 30 mL/kg crystalloid, lactate ≥4 mmol/L, mechanical ventilation, multi-organ dysfunction.
- Stepdown (Telemetry/PCU): Source control completed but ongoing IV vasopressor wean, BiPAP, escalating organ dysfunction without intubation criteria, infectious disease consult active.
- Med-Surg: Source controlled, off vasopressors ≥24h, transitioning IV → PO antibiotics, afebrile trending, mobilizing.
- Observation: Uncomplicated cellulitis/UTI with rapid clinical response, expected discharge within 1–2 midnights; falls under CMS 2-Midnight Rule.
- Post-Acute (SNF/IRF/LTAC): OPAT not feasible at home → SNF for IV antibiotic completion (e.g., 4–6 weeks for osteomyelitis/IE); LTAC for vent weaning.
- Home (with/without HHA): Hemodynamically stable, tolerating PO antibiotics or established OPAT line, follow-up ID in 1–2 weeks; HHA for IV antibiotic infusion when applicable.

LOC Grid Sources: SCCM Surviving Sepsis Campaign 2021; IDSA 2014 SSTI; IDSA 2015 Vertebral Osteomyelitis; IDSA 2010 UTI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent fever or rising inflammatory markers despite source control
- Lack of source control (undrained abscess, retained hardware, persistent bacteremia)
- New positive culture requiring antibiotic escalation
- Drug reaction (rash, DRESS, AIN, transaminitis) requiring rotation

- OPAT not feasible (no IV access, social, payer constraints) → SNF placement coordination
- Surgical intervention required and not yet performed (e.g., valve replacement for IE)

Extended Stay Sources: Sources: SCCM Surviving Sepsis Campaign 2021; IDSA Treatment Guidelines.

GASTROINTESTINAL

UPPER GI HEMORRHAGE

ICD-10-CM: K92.0 (hematemesis) (hematemesis), K92.1 (melena) (melena), K92.2 (gastrointestinal hemorrhage unspecified) (GI hemorrhage NOS), K25.0, K25.4 (gastric ulcer with hemorrhage), K26.0, K26.4 (duodenal ulcer with hemorrhage), I85.01, I85.11 (variceal hemorrhage)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- Hematemesis (bright red blood or coffee-ground emesis)
- Melena or hematochezia with hemodynamic compromise
- SBP <100 mmHg or HR >100 bpm (hemodynamic instability)
- Hemoglobin <8 g/dL or Hgb drop >2 g/dL from baseline
- BUN >30 mg/dL with normal Cr (suggests upper GI source with blood digestion)
- Glasgow-Blatchford Score (GBS) ≥1 (score 0 = very low risk, may discharge)
- INR >1.5 or on therapeutic anticoagulation
- Hemodynamic instability: orthostatic hypotension (SBP drop >20), tachycardia
- Comorbidities: cirrhosis (variceal bleed risk), CKD, HF, prior GI bleed
- Active bleeding (bright red blood per NG tube if placed)

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- IV fluid resuscitation
- Blood transfusion (pRBC, FFP, platelets): target Hgb >7 (>8 if ACS or hemodynamically unstable)
- IV PPI (pantoprazole 80mg bolus then 8mg/hr drip) for suspected peptic ulcer
- IV octreotide for suspected variceal hemorrhage (+ IV ceftriaxone for SBP prophylaxis)
- Endoscopy (EGD): within 24 hours for non-variceal; within 12 hours for variceal or hemodynamically unstable
- Continuous cardiac monitoring
- Large-bore IV access (≥2 large-bore peripheral or central line)
- Type and screen/crossmatch
- ICU for: massive hemorrhage, vasopressor requirement, active variceal bleed, intubation for airway protection during EGD

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1:

- Glasgow-Blatchford Score ≥7 (high risk)
- Hemodynamic instability or active bleeding
- Requiring blood transfusion
- Known or suspected variceal hemorrhage (always inpatient)
- On anticoagulation with supratherapeutic INR
- Hgb <8 g/dL

OBSERVATION if ALL:

- GBS 1-6 (low-intermediate risk)
- Hemodynamically stable (SBP >100, HR <100)
- Hgb >8 and stable on repeat
- No active bleeding
- EGD can be done within 24 hrs
- Low Rockall score post-endoscopy (clean-base ulcer or Mallory-Weiss without active bleeding)

OUTPATIENT (Discharge from ED) if ALL:

- GBS = 0 (no urea elevation, no Hgb drop, no SBP drop, no HR >100, no melena/hematemesis, no syncope, no HF, no liver disease) → very low risk, outpatient EGD within 72 hrs

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (ICU); Every 24 hours (Med/Surg)

DAY 1:

- EGD performed (within 12 hrs if variceal or unstable; within 24 hrs otherwise)
- Endoscopic hemostasis achieved? (epinephrine injection, clips, thermocoagulation, banding for varices)
- Hgb stable post-EGD (check at 6-12 hrs post-procedure)
- Hemodynamically stable: SBP >100, HR <100, UOP adequate
- IV PPI continued post-EGD (high-dose drip x 72 hrs if high-risk stigmata: Forrest Ia/Ib/IIa)
- H. pylori testing if peptic ulcer (CLO test, stool antigen, or serology)
- NPO until post-EGD assessment; clear liquids then advance as tolerated

DAY 2-3:

- Hgb stable x 2 checks (≥6 hrs apart) without transfusion
- Transition IV PPI to oral (high-dose PO PPI BID if high-risk; standard dose if low-risk endoscopic findings)
- Diet advanced to regular
- Anticoagulation resumption plan: typically resume 48-72 hrs post-hemostasis if high thromboembolic risk (AF CHA2DS2-VASc ≥2, mechanical valve, recent DVT/PE). GI and cardiology coordination.

CONTINUED STAY >3 DAYS JUSTIFIED IF:

- Rebleeding (Hgb drop, hematemesis/melena recurrence → repeat EGD or IR embolization or surgery)
- Hemodynamic instability not resolved
- Variceal bleed: TIPS evaluation, beta-blocker initiation, SBP prophylaxis completion
- Cannot tolerate oral PPI/nutrition
- Ongoing transfusion requirement

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- No evidence of rebleeding: Hgb stable (±1 g/dL) x 24 hours without transfusion
- Hemodynamically stable: SBP >100, HR <100, orthostatics negative
- Tolerating oral diet and oral PPI
- No hematemesis, melena, or hematochezia x 24 hours
- Endoscopic findings: low-risk for rebleed (clean-base ulcer, flat pigmented spot) OR high-risk stigmata treated and 72 hrs IV PPI completed
- H. pylori treatment plan documented (if positive: triple/quadruple therapy + PPI)
- Anticoagulation/antiplatelet plan documented (resume when, what dose, GI follow-up for reassessment)
- High-risk medications reviewed: NSAID discontinuation counseled, COX-2 inhibitor with PPI if NSAID required
- Variceal bleed: beta-blocker initiated (nadolol or propranolol), band ligation follow-up 2-4 weeks, hepatology referral
- GI follow-up 2-4 weeks (repeat EGD at 8-12 weeks for gastric ulcer to document healing and rule out malignancy)

TRANSITION TO:

- Home: majority after stable 24 hrs post-EGD
- SNF: if deconditioning, unable to manage medications independently, ongoing anemia requiring monitoring

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACG Clinical Guideline: Upper GI Bleeding. Laine L, et al. Am J Gastroenterol. 2021;116:899-917. 2. Glasgow-Blatchford Score. Blatchford O, et al. Lancet. 2000;356:1318-1321. 3. AASLD: Portal Hypertension/Variceal Hemorrhage. Garcia-Tsao G, et al. Hepatology. 2024;80:169-218. 4. Forrest Classification. Forrest JA, et al. Lancet. 1974;2:394-397.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 377: GI Hemorrhage w MCC (RW ~1.77)
- DRG 378: GI Hemorrhage w CC (RW ~1.13)
- DRG 379: GI Hemorrhage w/o CC/MCC (RW ~0.77)
- DRG 393-395: Other Digestive System OR Procedures (if surgical intervention)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if massive hemorrhage) | 0250: Pharmacy (IV PPI, octreotide)
- 0300: Lab (CBC, T&S, coags) | 0750: Gastroenterology (EGD) | 0390: Blood (transfusions)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: Curative Appendix A; ACG 2021 Upper GI Bleeding Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Massive hemorrhage with hemodynamic instability (≥4 U PRBC/6h), vasopressor support, mechanical ventilation, ALF with grade III–IV encephalopathy, severe pancreatitis with organ failure (BISAP ≥3).
- Stepdown (Telemetry/PCU): Active GI bleed with stable hemodynamics on IV PPI drip, post-endoscopy with high-risk stigmata, severe pancreatitis without organ failure, hepatic encephalopathy on lactulose titration.
- Med-Surg: Hemodynamically stable, tolerating diet (clears → regular), no transfusion ≥24h, completing IV antibiotics, transitioning to oral.
- Observation: Uncomplicated cholecystitis bridging to lap chole within 1–2 midnights; mild pancreatitis with rapid pain control and PO tolerance.
- Post-Acute (SNF/IRF/LTAC): Decompensated cirrhosis with rehab needs (SNF); LTAC for vent weaning; SNF for skilled nutrition or wound care.
- Home (with/without HHA): Tolerating diet, pain controlled on oral, hemoglobin stable, follow-up GI/hepatology in 1–2 weeks; HHA for paracentesis or nutrition support.

LOC Grid Sources: ACG 2021 Upper GI Bleeding Guideline; ACG 2013 Acute Pancreatitis Guideline; AASLD HE Practice Guideline 2014; Tokyo Guidelines 2018.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Re-bleeding requiring repeat endoscopy or IR/surgery
- Persistent ileus or intolerance of oral intake requiring TPN initiation
- Worsening pancreatitis with new organ failure or necrosis on imaging
- Decompensated cirrhosis with hepatorenal syndrome or refractory ascites
- New infection (SBP, C. difficile, cholangitis) requiring antibiotics
- Surgical consult and planned intervention pending

Extended Stay Sources: Sources: ACG Practice Guidelines; AASLD Practice Guidance.

BOWEL OBSTRUCTION — SMALL AND LARGE

ICD-10-CM: K56.0 (paralytic ileus), K56.1 (intussusception), K56.2 (volvulus), K56.3 (gallstone ileus), K56.41 (fecal impaction), K56.49 (other impaction), K56.50-K56.52 (adhesive obstruction), K56.600-K56.699 (other intestinal obstruction), K56.7 (ileus NOS)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- Abdominal distension with pain, nausea, vomiting (bilious if proximal, feculent if distal)
- Absent or high-pitched/tinkling bowel sounds
- CT abdomen/pelvis: dilated loops (small bowel >3cm, large bowel >6cm, cecum >9cm = perforation risk), transition point identified, mesenteric edema/swirl (closed loop/volvulus)
- Air-fluid levels on upright abdominal XR
- Signs of strangulation/ischemia: localized tenderness, fever, tachycardia, leukocytosis, elevated lactate, CT showing wall thickening/pneumatosis/portal venous gas
- Complete obstruction: no flatus or stool, progressive distension
- Cecal diameter >12 cm (imminent perforation risk)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- NPO, NG tube decompression (especially for proximal SBO with vomiting)
- IV fluid resuscitation (third-spacing causes significant intravascular depletion)
- Surgical consultation (ALL obstructions need surgical evaluation)
- Serial abdominal exams q4-8h (peritoneal signs = emergent surgery)
- Water-soluble contrast study (Gastrografin) at 24-48 hrs if partial SBO not resolving (therapeutic and diagnostic; contrast in colon at 24h = likely resolution without surgery)
- Emergent surgery for: complete obstruction with ischemia, closed loop, volvulus with ischemia, large bowel obstruction with cecal dilation >12 cm, peritonitis, free air

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for confirmed bowel obstruction (complete or partial with significant distension)

- Emergent surgery if strangulation/ischemia suspected

- Non-operative management trial 24-72 hrs for adhesive SBO without ischemia signs

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (serial abdominal exams), Every 24 hours (imaging reassessment)

DAY 1: NPO, NG decompression, IV fluids, serial exams for peritoneal signs, labs (WBC, lactate, BMP). Contrast study ordered for 24 hrs if no improvement. DAY 2-3: Gastrografin challenge: contrast in colon at 24 hrs? If yes → likely resolution without surgery (90% PPV). If no → surgical intervention indicated. Clinical improvement: decreased NG output, decreased distension, passing flatus? IF SURGERY: Post-operative monitoring per surgical/trauma criteria (wound, diet advancement, bowel function) CONTINUED STAY IF: No resolution at 72 hrs (surgery usually indicated), post-operative complications, TPN requirement if prolonged NPO

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Resolution confirmed: passing flatus and/or stool
- Tolerating oral diet (clear liquids → regular advanced without recurrent distension/vomiting)
- NG tube removed and tolerating PO
- No abdominal distension or tenderness
- No fever, WBC normal, lactate normal
- Ambulatory
- If surgical: wound clean, diet tolerated, bowel function returned
- Surgeon follow-up 2 weeks
- Patient educated: signs of recurrent obstruction (seek ED immediately: vomiting + distension + unable to pass gas)

TRANSITION TO: Home (majority once eating); SNF if deconditioning, new ostomy teaching, complex wound care

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. EAST Practice Guideline: Small Bowel Obstruction. Maung AA, et al. J Trauma Acute Care Surg. 2012;73:S362-S369. 2. Gastrografin Challenge for Adhesive SBO. Branco BC, et al. Am J Surg. 2010;200:426-431. 3. Bologna Guidelines for Bowel Obstruction. Ten Broek RPG, et al. World J Emerg Surg. 2018;13:24. 4. AAST/WSES Guidelines: Large Bowel Obstruction. Pisano M, et al. World J Emerg Surg. 2018;13:36.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 388: GI Obstruction w MCC (RW ~1.49)
- DRG 389: GI Obstruction w CC (RW ~0.97)
- DRG 390: GI Obstruction w/o CC/MCC (RW ~0.68)
- DRG 329-331: Major Small & Large Bowel Procedures (if surgical lysis/resection) (RW ~4.44 / 2.23 / 1.42)

REVENUE CODES:

- 0120: Room & Board | 0360: OR (if surgical) | 0270: Supplies (NG tube, Gastrografin)
- 0350: CT A/P | 0320: Radiology (KUB/upright) | 0250: Pharmacy (IV fluids) | 0300: Lab

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-5 days Source: Curative Appendix A (3-7 if surgical); EAST 2019 SBO Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Massive hemorrhage with hemodynamic instability (≥4 U PRBC/6h), vasopressor support, mechanical ventilation, ALF with grade III–IV encephalopathy, severe pancreatitis with organ failure (BISAP ≥3).
- Stepdown (Telemetry/PCU): Active GI bleed with stable hemodynamics on IV PPI drip, post-endoscopy with high-risk stigmata, severe pancreatitis without organ failure, hepatic encephalopathy on lactulose titration.
- Med-Surg: Hemodynamically stable, tolerating diet (clears → regular), no transfusion ≥24h, completing IV antibiotics, transitioning to oral.
- Observation: Uncomplicated cholecystitis bridging to lap chole within 1–2 midnights; mild pancreatitis with rapid pain control and PO tolerance.
- Post-Acute (SNF/IRF/LTAC): Decompensated cirrhosis with rehab needs (SNF); LTAC for vent weaning; SNF for skilled nutrition or wound care.
- Home (with/without HHA): Tolerating diet, pain controlled on oral, hemoglobin stable, follow-up GI/hepatology in 1–2 weeks; HHA for paracentesis or nutrition support.

LOC Grid Sources: ACG 2021 Upper GI Bleeding Guideline; ACG 2013 Acute Pancreatitis Guideline; AASLD HE Practice Guideline 2014; Tokyo Guidelines 2018.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Re-bleeding requiring repeat endoscopy or IR/surgery
- Persistent ileus or intolerance of oral intake requiring TPN initiation
- Worsening pancreatitis with new organ failure or necrosis on imaging
- Decompensated cirrhosis with hepatorenal syndrome or refractory ascites
- New infection (SBP, C. difficile, cholangitis) requiring antibiotics
- Surgical consult and planned intervention pending

Extended Stay Sources: Sources: ACG Practice Guidelines; AASLD Practice Guidance.

ACUTE CHOLECYSTITIS / CHOLANGITIS

ICD-10-CM: K80.00-K80.19 (cholelithiasis with cholecystitis), K81.0-K81.9 (cholecystitis), K83.01-K83.09 (cholangitis)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Patient must meet ≥1 of the following: CHOLECYSTITIS: ✓ RUQ pain >6 hrs with positive Murphy sign, fever, WBC >10K

- Positive US findings: gallbladder wall thickening >3mm, pericholecystic fluid, sonographic Murphy sign, stones
- Tokyo Guidelines severity: Grade I (mild): no organ dysfunction; Grade II (moderate): WBC >18K, palpable RUQ mass, duration >72 hrs, gangrenous/emphysematous/abscess; Grade III (severe):

organ dysfunction (cardiovascular, neurologic, respiratory, renal, hepatic, hematologic)

CHOLANGITIS (Charcot triad: fever + jaundice + RUQ pain; Reynolds pentad: + confusion + hypotension):

- Bilirubin >4 mg/dL, ALP/GGT elevated, CBD dilated >6mm on US or CT
- Blood cultures positive (E. coli, Klebsiella most common)
- Tokyo 2018 criteria: biliary obstruction + systemic inflammation + organ dysfunction

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- IV antibiotics (ceftriaxone + metronidazole, or pip-tazo, or meropenem if severe)
- Cholecystectomy within 72 hrs for acute cholecystitis (early cholecystectomy per Tokyo/WSES guidelines)
- ERCP for cholangitis or CBD stone: within 24 hrs if severe cholangitis, within 72 hrs if moderate
- Percutaneous cholecystostomy tube if: not surgical candidate (critically ill, high-risk) for gallbladder decompression

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: All acute cholecystitis (surgery within 72 hrs), all cholangitis (ERCP needed) OBSERVATION: Biliary colic without cholecystitis (RUQ pain with normal WBC, no fever, thin-walled GB) → pain control, elective cholecystectomy scheduled outpatient

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours DAY 1: Surgery consulted, HIDA scan if US equivocal (ejection fraction <35% = chronic cholecystitis), antibiotics started, NPO, cholangitis workup (LFTs, MRCP or EUS if CBD stone suspected but not confirmed) DAY 2-3: Cholecystectomy performed (lap preferred). Post-op: diet advanced, pain on PO, ambulatory. Cholangitis: ERCP completed, CBD cleared, stent placed if needed. CONTINUED STAY IF: Gangrenous/perforated GB requiring open surgery, bile leak post-cholecystectomy, failed ERCP requiring percutaneous drainage, persistent sepsis

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Post-cholecystectomy: tolerating regular diet, pain on oral analgesics, afebrile, ambulatory, wound clean
- Post-ERCP: tolerating diet, bilirubin trending down, no pancreatitis (occurs in 3-5% post-ERCP), no bleeding
- WBC normal, LFTs trending down
- Surgeon/GI follow-up 2 weeks

TRANSITION TO: Home (majority day 1-3); SNF if complex comorbidities

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. Tokyo Guidelines 2018: Acute Cholecystitis/Cholangitis. Yokoe M, et al. J Hepatobiliary Pancreat Sci. 2018;25:55-72. 2. WSES Guidelines: Acute Cholecystitis. Pisano M, et al. World J Emerg Surg. 2020;15:61. 3. ASGE Guideline: CBD Stone Management. Buxbaum JL, et al. Gastrointest Endosc. 2019;89:1075-1105. 4. Cochrane Review: Early vs Delayed Cholecystectomy. Gurusamy KS, et al. Cochrane Database. 2013;6:CD005440.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 411: Cholecystectomy w/o CDE w MCC (RW ~2.51)
- DRG 412: Cholecystectomy w/o CDE w CC (RW ~1.56)
- DRG 413: Cholecystectomy w/o CDE w/o CC/MCC (RW ~1.07)
- DRG 414-416: Cholecystectomy w CDE (if common bile duct exploration) (RW ~3.43 / 2.14 / 1.51)
- DRG 444-446: Disorders of Biliary Tract w MCC/CC/w/o (if medical only) (RW ~1.56 / 0.97 / 0.71)

REVENUE CODES:

- 0360: OR (laparoscopic cholecystectomy) | 0710: Recovery Room
- 0750: GI Services (ERCP if cholangitis/CBD stone) | 0250: Pharmacy (IV antibiotics)
- 0300: Lab (LFTs, CBC, lipase) | 0402: Ultrasound (RUQ US) | 0350: CT (if complicated)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: Curative Appendix A; Tokyo Guidelines 2018

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Massive hemorrhage with hemodynamic instability (≥4 U PRBC/6h), vasopressor support, mechanical ventilation, ALF with grade III–IV encephalopathy, severe pancreatitis with organ failure (BISAP ≥3).
- Stepdown (Telemetry/PCU): Active GI bleed with stable hemodynamics on IV PPI drip, post-endoscopy with high-risk stigmata, severe pancreatitis without organ failure, hepatic encephalopathy on lactulose titration.
- Med-Surg: Hemodynamically stable, tolerating diet (clears → regular), no transfusion ≥24h, completing IV antibiotics, transitioning to oral.
- Observation: Uncomplicated cholecystitis bridging to lap chole within 1–2 midnights; mild pancreatitis with rapid pain control and PO tolerance.
- Post-Acute (SNF/IRF/LTAC): Decompensated cirrhosis with rehab needs (SNF); LTAC for vent weaning; SNF for skilled nutrition or wound care.
- Home (with/without HHA): Tolerating diet, pain controlled on oral, hemoglobin stable, follow-up GI/hepatology in 1–2 weeks; HHA for paracentesis or nutrition support.

LOC Grid Sources: ACG 2021 Upper GI Bleeding Guideline; ACG 2013 Acute Pancreatitis Guideline; AASLD HE Practice Guideline 2014; Tokyo Guidelines 2018.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Re-bleeding requiring repeat endoscopy or IR/surgery
- Persistent ileus or intolerance of oral intake requiring TPN initiation
- Worsening pancreatitis with new organ failure or necrosis on imaging
- Decompensated cirrhosis with hepatorenal syndrome or refractory ascites
- New infection (SBP, C. difficile, cholangitis) requiring antibiotics
- Surgical consult and planned intervention pending

Extended Stay Sources: Sources: ACG Practice Guidelines; AASLD Practice Guidance.

COMPLICATED DIVERTICULITIS

ICD-10-CM: K57.01, K57.11, K57.21, K57.31, K57.41, K57.51, K57.80, K57.81 (diverticulitis with various complications)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Hinchey Classification: Hinchey I: Pericolic abscess ≤4 cm Hinchey II: Pelvic/retroperitoneal abscess >4 cm Hinchey III: Purulent peritonitis (perforated) Hinchey IV: Fecal peritonitis (free perforation)

- CT findings: pericolic fat stranding, wall thickening, abscess, extraluminal air, free fluid
- Fever >38.5°C, WBC >15K, significant LLQ tenderness with peritoneal signs
- Abscess >4 cm requiring percutaneous drainage
- Free perforation with pneumoperitoneum
- Fistula (colovesical: pneumaturia, fecaluria; colovaginal: feculent vaginal discharge)
- Obstruction
- Failed outpatient antibiotics for uncomplicated diverticulitis (≥48-72 hrs oral antibiotics without improvement)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- IV antibiotics (metronidazole + fluoroquinolone, or pip-tazo, or meropenem if severe)
- CT-guided percutaneous abscess drainage (Hinchey I-II with abscess >3-4 cm)

- Surgical consultation for: Hinchey III-IV (emergent surgery), recurrent episodes, obstruction, fistula
- NPO/clear liquid diet, IV fluids, pain management

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1: complicated diverticulitis (abscess, perforation, obstruction, fistula), failed outpatient antibiotics, unable to tolerate oral, hemodynamic instability, immunocompromised, significant comorbidity OBSERVATION: mild exacerbation tolerating oral, expected improvement <48 hrs, no abscess/perforation OUTPATIENT: uncomplicated diverticulitis in immunocompetent patient → PO antibiotics (or no antibiotics per AVOD trial for uncomplicated) + clear liquid diet + follow-up 48-72 hrs

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours DAY 1-3: Antibiotics, abscess drainage if indicated, diet advancement as tolerated (clear → low residue), pain improving, WBC trending down DAY 3-5: If improving: transition IV→PO antibiotics (total 10-14 days for complicated). If not improving: repeat CT (interval abscess? undrained collection? alternative diagnosis?) CONTINUED STAY IF: Ongoing drainage, Hinchey III-IV requiring surgery (Hartmann procedure or primary anastomosis with diverting ileostomy), post-operative complications

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Pain controlled on oral analgesics, tolerating low-residue diet
- Afebrile ≥24 hrs, WBC trending normal
- Drain output minimal (if placed) or drain removed
- Oral antibiotic course prescribed
- GI/surgery follow-up 2-4 weeks
- Colonoscopy scheduled 6-8 weeks after resolution (rule out malignancy — present in 1-2% of acute diverticulitis presentations)
- Dietary counseling (high-fiber diet after recovery)
- Elective sigmoid colectomy discussion if: recurrent complicated episodes, fistula, immunosuppressed (individualized per AGA 2015 — no longer recommended after fixed number of episodes)

TRANSITION TO: Home (majority); SNF if new ostomy teaching, complex wound

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AGA Clinical Practice Update: Acute Diverticulitis. Strate LL, Morris AM. Gastroenterology. 2019;156:1532-1542. 2. WSES Guidelines: Acute Colonic Diverticulitis. Sartelli M, et al. World J Emerg Surg. 2016;11:37. 3. AVOD Trial (Antibiotics vs No Antibiotics for Uncomplicated). Chabok A, et al. Br J Surg. 2012;99:532-539. 4. Hinchey Classification. Hinchey EJ, et al. Adv Surg. 1978;12:85-109. 5. LADIES Trial (Lap Lavage vs Hartmann for Perforated). Vennix EC, et al. Lancet. 2015;386:1269-1277.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 388-390: GI Obstruction (if obstruction component) (RW ~1.49 / 0.97 / 0.68)
- DRG 329-331: Major Small & Large Bowel Procedures (if Hartmann/resection) (RW ~4.44 / 2.23 / 1.42)
- DRG 394-396: Other Digestive System Diagnoses w MCC/CC/w/o (RW ~1.44 / 0.89 / 0.64)

REVENUE CODES:

- 0120: Room & Board | 0360: OR (if surgical) | 0481: IR (CT-guided abscess drainage)
- 0350: CT A/P | 0250: Pharmacy (IV antibiotics) | 0300: Lab

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 4-7 days Source: ASCRS 2020 Diverticulitis Clinical Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Massive hemorrhage with hemodynamic instability (≥4 U PRBC/6h), vasopressor support, mechanical ventilation, ALF with grade III–IV encephalopathy, severe pancreatitis with organ failure (BISAP ≥3).
- Stepdown (Telemetry/PCU): Active GI bleed with stable hemodynamics on IV PPI drip, post-endoscopy with high-risk stigmata, severe pancreatitis without organ failure, hepatic encephalopathy on lactulose titration.
- Med-Surg: Hemodynamically stable, tolerating diet (clears → regular), no transfusion ≥24h, completing IV antibiotics, transitioning to oral.
- Observation: Uncomplicated cholecystitis bridging to lap chole within 1–2 midnights; mild pancreatitis with rapid pain control and PO tolerance.
- Post-Acute (SNF/IRF/LTAC): Decompensated cirrhosis with rehab needs (SNF); LTAC for vent weaning; SNF for skilled nutrition or wound care.
- Home (with/without HHA): Tolerating diet, pain controlled on oral, hemoglobin stable, follow-up GI/hepatology in 1–2 weeks; HHA for paracentesis or nutrition support.

LOC Grid Sources: ACG 2021 Upper GI Bleeding Guideline; ACG 2013 Acute Pancreatitis Guideline; AASLD HE Practice Guideline 2014; Tokyo Guidelines 2018.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Re-bleeding requiring repeat endoscopy or IR/surgery
- Persistent ileus or intolerance of oral intake requiring TPN initiation
- Worsening pancreatitis with new organ failure or necrosis on imaging
- Decompensated cirrhosis with hepatorenal syndrome or refractory ascites
- New infection (SBP, C. difficile, cholangitis) requiring antibiotics
- Surgical consult and planned intervention pending

Extended Stay Sources: Sources: ACG Practice Guidelines; AASLD Practice Guidance.

LOWER GI HEMORRHAGE

ICD-10-CM: K62.5 (hemorrhage of anus and rectum), K92.1 (melena) (melena), K92.2 (gastrointestinal hemorrhage unspecified) (GI hemorrhage unspecified), K57.31 (diverticulosis with hemorrhage)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Bright red blood per rectum (hematochezia) with hemodynamic compromise (HR >100, SBP <100, orthostatic), Hgb <8 or drop >2 g/dL from baseline, requiring transfusion, maroon stools with hemodynamic changes, Oakland Score ≥9 (age, sex, previous LGIB hospitalization, DRE findings, HR, SBP, Hgb — score ≤8 safe for outpatient management)

INTENSITY OF SERVICE (IS) — Must require ≥1: IV fluid resuscitation, blood transfusion (target Hgb >7, >8 if cardiac history), colonoscopy within 24 hrs (urgently if hemodynamically unstable after resuscitation — rapid prep), CTA abdomen/pelvis if massive bleed (locate source for IR embolization), tagged RBC scan for intermittent bleeding, IR angiography with embolization for active brisk bleeding not amenable to endoscopic therapy, surgical consultation for refractory/massive hemorrhage

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if: hemodynamic instability, Hgb <8, requiring transfusion, anticoagulated with significant bleed, Oakland Score ≥9
OBSERVATION if: hemodynamically stable, Hgb >10 stable on repeat, self-limited bleed, Oakland Score 9-16 (intermediate)
OUTPATIENT if: Oakland Score ≤8, stable vitals, Hgb stable, self-limited minor bleed → outpatient colonoscopy within 2 weeks

C. CONTINUED STAY / CONCURRENT REVIEW

q12-24h. DAY 1: Hgb q6-12h (stable?), colonoscopy within 24 hrs after prep (bowel prep: GoLYTELY or similar — even in active bleeding, prep improves visualization), NPO for potential procedure. DAY 2-3: Post-colonoscopy: bleeding source identified? Treatment successful (clips, epinephrine injection, thermal coagulation, band ligation for hemorrhoids)? Hgb stable x 24 hrs? Diet advancement. CONTINUED STAY IF: Rebleeding post-endoscopic therapy, unidentifiable source requiring repeat colonoscopy/CTA/tagged scan/capsule, ongoing transfusion requirement, hemodynamic instability, IR or surgical intervention

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- No visible bleeding x 24 hrs, Hgb stable (±1 g/dL) without transfusion
- Hemodynamically stable (no orthostasis)
- Tolerating regular diet
- Source identified and treated endoscopically (or self-limited)
- Anticoagulation plan documented (resume timing per GI/cardiology coordination)
- GI follow-up 2-4 weeks, surveillance colonoscopy plan

TRANSITION TO: Home (majority); SNF if deconditioning, ongoing anemia monitoring

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACG Clinical Guideline: Management of Lower GI Bleeding. Strate LL, et al. Am J Gastroenterol. 2023;118:208-231. 2. Oakland Score. Oakland K, et al. Gut. 2017;66:1441-1446. 3. BSG/AUGIS: Management of LGIB. Jairath V, et al. Gut. 2019;68:776-789.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 377: GI Hemorrhage w MCC (RW ~1.77)
- DRG 378: GI Hemorrhage w CC (RW ~1.13)
- DRG 379: GI Hemorrhage w/o CC/MCC (RW ~0.77)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if massive hemorrhage) | 0250: Pharmacy
- 0750: GI Services (colonoscopy) | 0300: Lab (CBC, T&S, coags) | 0390: Blood (transfusions)
- 0481: IR (angiography/embolization if needed) | 0350: CTA (if tagged RBC scan/CTA)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: ACG 2016 LGIB Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Massive hemorrhage with hemodynamic instability (≥4 U PRBC/6h), vasopressor support, mechanical ventilation, ALF with grade III–IV encephalopathy, severe pancreatitis with organ failure (BISAP ≥3).
- Stepdown (Telemetry/PCU): Active GI bleed with stable hemodynamics on IV PPI drip, post-endoscopy with high-risk stigmata, severe pancreatitis without organ failure, hepatic encephalopathy on lactulose titration.
- Med-Surg: Hemodynamically stable, tolerating diet (clears → regular), no transfusion ≥24h, completing IV antibiotics, transitioning to oral.
- Observation: Uncomplicated cholecystitis bridging to lap chole within 1–2 midnights; mild pancreatitis with rapid pain control and PO tolerance.
- Post-Acute (SNF/IRF/LTAC): Decompensated cirrhosis with rehab needs (SNF); LTAC for vent weaning; SNF for skilled nutrition or wound care.
- Home (with/without HHA): Tolerating diet, pain controlled on oral, hemoglobin stable, follow-up GI/hepatology in 1–2 weeks; HHA for paracentesis or nutrition support.

LOC Grid Sources: ACG 2021 Upper GI Bleeding Guideline; ACG 2013 Acute Pancreatitis Guideline; AASLD HE Practice Guideline 2014; Tokyo Guidelines 2018.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Re-bleeding requiring repeat endoscopy or IR/surgery
- Persistent ileus or intolerance of oral intake requiring TPN initiation
- Worsening pancreatitis with new organ failure or necrosis on imaging
- Decompensated cirrhosis with hepatorenal syndrome or refractory ascites
- New infection (SBP, C. difficile, cholangitis) requiring antibiotics
- Surgical consult and planned intervention pending

Extended Stay Sources: Sources: ACG Practice Guidelines; AASLD Practice Guidance.

IBD SEVERE FLARE — ULCERATIVE COLITIS / CROHN DISEASE

ICD-10-CM: K50.011-K50.919 (Crohn disease), K51.011-K51.919 (ulcerative colitis)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI — SEVERE UC (Truelove-Witts Criteria): ≥6 bloody stools/day PLUS ≥1 of: HR >90, Temp >37.8°C, Hgb <10.5, ESR/CRP markedly elevated. FULMINANT UC: >10 bloody stools/day, continuous bleeding, abdominal distension, transfusion requirement, toxic megacolon (colonic dilation >6cm on XR). SI — SEVERE CROHN: bowel obstruction, intra-abdominal abscess, high-output fistula, severe perianal disease with systemic infection, malnutrition requiring TPN, failed outpatient biologic/steroid therapy

INTENSITY OF SERVICE (IS) — Must require ≥1: IV corticosteroids (methylprednisolone 60mg/day or hydrocortisone 100mg q8h — standard first-line for severe UC flare), IV antibiotics if infection suspected (abscess, toxic megacolon, C. difficile), bowel rest (NPO or clear liquids for severe), surgical consultation (all severe UC flares should have colorectal surgery aware — colectomy for: toxic megacolon, perforation, massive hemorrhage, failure to respond to IV steroids at day 3-5), infliximab or cyclosporine rescue therapy if failing IV steroids at day 3 (per CONSTRUCT/CYSIF trials), serial abdominal XR or CT for toxic megacolon monitoring

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: All severe/fulminant IBD flares, bowel obstruction, abscess, toxic megacolon, TPN requirement OBSERVATION: Moderate flare with dehydration responding to IV fluids, IV steroids with expected improvement <48 hrs OUTPATIENT: Mild-moderate flare on oral steroids + mesalamine/biologic, adequate oral intake, reliable follow-up

C. CONTINUED STAY / CONCURRENT REVIEW

q24h. DAY 1-2: Stool frequency documented, C. difficile testing (10-15% of IBD flares triggered by C. diff), CBC/CMP/CRP daily, KUB or CT if abdominal distension (toxic megacolon), IV steroids started. DAY 3 (Critical Decision Point for UC): Assess response to IV steroids — Oxford criteria: >8 stools/day OR 3-8 stools + CRP >45 at day 3 = 85% chance of failing steroids. If failing → rescue

therapy (infliximab 5mg/kg or cyclosporine 2mg/kg/day continuous IV) OR colectomy discussion. DAY 5-7: If rescue therapy: response by day 5-7? If not → surgery. If responding: transition to oral steroids + plan for biologic maintenance. CONTINUED STAY IF: Toxic megacolon, not responding to IV steroids/rescue therapy, surgical intervention, TPN, abscess management, severe malnutrition

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Stool frequency ≤4/day with no visible blood (UC) or significant improvement in frequency/pain (Crohn)
- Tolerating oral diet without pain/worsening diarrhea
- CRP trending down
- Transition to oral steroids (prednisone 40mg/day with taper over 8-12 weeks)
- Maintenance therapy plan: biologic initiated or scheduled (infliximab, adalimumab, vedolizumab, ustekinumab per ACG/AGA guidelines)
- GI follow-up 1-2 weeks, sigmoidoscopy/colonoscopy at 8-12 weeks to assess mucosal healing
- VTE prophylaxis continued until discharge (IBD flares have 3x VTE risk)
- Bone health plan if repeated steroids (vitamin D, calcium, DEXA if >3 months cumulative steroids)

TRANSITION TO: Home (majority); TPN at home (rare) via Home Health; SNF if severe malnutrition/deconditioning

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACG Clinical Guideline: Ulcerative Colitis in Adults. Rubin DT, et al. Am J Gastroenterol. 2019;114:384-413. 2. ACG Clinical Guideline: Crohn Disease in Adults. Lichtenstein GR, et al. Am J Gastroenterol. 2018;113:481-517. 3. Truelove-Witts Criteria. Truelove SC, Witts LJ. BMJ. 1955;2:1041-1048. 4. CONSTRUCT Trial (Infliximab vs Cyclosporine for UC). Williams JG, et al. Health Technol Assess. 2016;20:1-320. 5. Oxford Criteria for Steroid Failure. Travis SP, et al. Gut. 1996;38:905-910.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 385: Inflammatory Bowel Disease w MCC (RW ~1.79)
- DRG 386: Inflammatory Bowel Disease w CC (RW ~1.10)
- DRG 387: Inflammatory Bowel Disease w/o CC/MCC (RW ~0.78)
- DRG 329-331: Major Bowel Procedures (if colectomy for fulminant colitis/toxic megacolon)

REVENUE CODES:

- 0120: Room & Board | 0250: Pharmacy (IV steroids, infliximab/vedolizumab, cyclosporine)
- 0750: GI (flexible sigmoidoscopy) | 0300: Lab (CRP, ESR, stool studies, C. diff)
- 0350: CT A/P (toxic megacolon evaluation) | 0636: Drugs (biologics — high-cost)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 5-10 days Source: ACG 2019 UC Guideline; ACG 2018 Crohn's Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Massive hemorrhage with hemodynamic instability (≥4 U PRBC/6h), vasopressor support, mechanical ventilation, ALF with grade III–IV encephalopathy, severe pancreatitis with organ failure (BISAP ≥3).
- Stepdown (Telemetry/PCU): Active GI bleed with stable hemodynamics on IV PPI drip, post-endoscopy with high-risk stigmata, severe pancreatitis without organ failure, hepatic encephalopathy on lactulose titration.
- Med-Surg: Hemodynamically stable, tolerating diet (clears → regular), no transfusion ≥24h, completing IV antibiotics, transitioning to oral.
- Observation: Uncomplicated cholecystitis bridging to lap chole within 1–2 midnights; mild pancreatitis with rapid pain control and PO tolerance.
- Post-Acute (SNF/IRF/LTAC): Decompensated cirrhosis with rehab needs (SNF); LTAC for vent weaning; SNF for skilled nutrition or wound care.
- Home (with/without HHA): Tolerating diet, pain controlled on oral, hemoglobin stable, follow-up GI/hepatology in 1–2 weeks; HHA for paracentesis or nutrition support.

LOC Grid Sources: ACG 2021 Upper GI Bleeding Guideline; ACG 2013 Acute Pancreatitis Guideline; AASLD HE Practice Guideline 2014; Tokyo Guidelines 2018.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Re-bleeding requiring repeat endoscopy or IR/surgery
- Persistent ileus or intolerance of oral intake requiring TPN initiation

- Worsening pancreatitis with new organ failure or necrosis on imaging
- Decompensated cirrhosis with hepatorenal syndrome or refractory ascites
- New infection (SBP, C. difficile, cholangitis) requiring antibiotics
- Surgical consult and planned intervention pending

Extended Stay Sources: Sources: ACG Practice Guidelines; AASLD Practice Guidance.

ENDOCRINE / METABOLIC

DIABETIC KETOACIDOSIS (DKA)

ICD-10-CM: E10.10 (type 1 diabetes mellitus with ketoacidosis without coma), E10.11 (type 1 diabetes mellitus with ketoacidosis with coma) (T1DM with DKA), E13.10 (other specified diabetes mellitus with ketoacidosis without coma), E13.11 (other specified diabetes mellitus with ketoacidosis with coma) (other DM with DKA), E11.65 (T2DM with hyperglycemia)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Classify by severity:

MILD DKA: pH 7.25-7.30, HCO3 15-18, glucose >250, ketones positive, alert MODERATE DKA: pH 7.00-7.24, HCO3 10-14, glucose >250, moderate ketonemia, alert/drowsy SEVERE DKA: pH <7.00, HCO3 <10, glucose >250, large ketonemia, obtunded/comatose

- Blood glucose >250 mg/dL (usually 300-800; can be <250 in euglycemic DKA with SGLT2i)
- Arterial pH <7.30 or venous pH <7.25
- Serum bicarbonate <18 mEq/L
- Anion gap >12 (calculated: Na - (Cl + HCO3))
- Positive serum or urine ketones (beta-hydroxybutyrate >3 mmol/L preferred over urine ketones)
- Altered mental status (moderate-severe DKA)
- Kussmaul respirations (deep, labored breathing — respiratory compensation for acidosis)
- Dehydration: tachycardia, hypotension, dry mucous membranes, poor skin turgor (typical deficit 5-10L)
- Abdominal pain, nausea, vomiting (common in DKA; rule out surgical abdomen)
- Potassium abnormality: serum K+ may be high/normal/low (total body K+ always depleted)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Continuous IV insulin infusion (regular insulin 0.1-0.14 units/kg/hr) — NO SQ insulin until anion gap closed
- Aggressive IV fluid resuscitation (NS 1-1.5L/hr x 1-2 hrs, then 250-500 mL/hr; switch to D5 1/2 NS when glucose <200-250)
- Potassium replacement: if K+ <5.2 and UOP adequate, add 20-40 mEq KCl per liter; if K+ <3.3: hold insulin, replace K+ first
- BMP (K+, Na+, glucose, HCO3, Cr) every 1-2 hours until anion gap closed
- Continuous cardiac monitoring (K+ shifts can cause fatal arrhythmia)
- Arterial or venous blood gas monitoring
- Identify and treat precipitant (infection #1 cause, medication non-compliance, new-onset DM, MI, pancreatitis, substance use)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT — ALL DKA:

- Moderate-Severe DKA (pH <7.24): ICU (insulin drip, q1-2h labs, continuous monitoring)
- Mild DKA (pH 7.25-7.30): May manage on Med/Surg with insulin drip if hospital protocol allows; otherwise ICU

NOT OBSERVATION for DKA — insulin drip requires inpatient monitoring

- Anion gap closure typically requires 12-24+ hours of IV insulin
- Premature transition to SQ insulin before gap closure = DKA recurrence

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 2-4 hours until anion gap closed; then every 12 hours

HOURS 0-6 (Acute Resuscitation):

- BMP q1-2h: trending glucose, K+, HCO3, anion gap
- Glucose falling 50-70 mg/dL per hour? (if faster: reduce insulin rate; if slower: increase)
- K+ in safe range (3.5-5.2)? Replace aggressively if <3.5
- UOP adequate (≥0.5 mL/kg/hr)? If not: assess volume status, consider more fluids
- Switch IV fluids to D5 1/2NS when glucose <200-250 (do NOT stop insulin — anion gap not yet closed)

HOURS 6-24 (Resolution Phase):

- Anion gap closing? (calculate at each BMP: target anion gap <12 or patient's baseline)
- pH improving toward >7.30?
- Bicarbonate rising above 18?
- Glucose 150-200 mg/dL on D5 containing fluids + insulin drip?
- Precipitant identified and being treated?

ANION GAP CLOSED (TRANSITION):

- Criteria for insulin drip discontinuation: pH >7.30 AND HCO3 >18 AND anion gap <12 AND patient eating
- Overlap SQ insulin with drip: give SQ long-acting (glargine/detemir) AND SQ rapid-acting (lispro/aspart) with meal → stop drip 2 hours after SQ long-acting dose
- SQ insulin dose: if known regimen, resume (adjust as needed); if new-onset: 0.5-0.8 units/kg/day total daily dose (50% basal, 50% bolus)

POST-TRANSITION DAY:

- BMP q6-12h for 24 hrs after drip discontinuation (monitor for rebound DKA/hypoglycemia)
- Glucose monitoring AC+HS (before meals and bedtime)
- Diabetes education initiated: insulin injection technique, glucose monitoring, sick-day rules, when to go to ED
- Endocrinology consultation for: new-onset T1DM, recurrent DKA, insulin pump management

CONTINUED STAY BEYOND GAP CLOSURE JUSTIFIED IF:

- Rebound DKA (anion gap reopens after drip stopped — usually premature transition)
- Precipitant not yet resolved (ongoing sepsis, pancreatitis)
- Severe hypokalemia or hyperkalemia requiring ongoing IV replacement and monitoring
- AKI not resolving
- New-onset T1DM requiring comprehensive education before safe discharge

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Anion gap closed: <12 (or patient's baseline) for ≥12 hours
- pH >7.30 and HCO3 >18
- On SQ insulin regimen for ≥12-24 hours with glucose 70-250 mg/dL (no severe hypo/hyperglycemia)
- Tolerating oral diet
- K+ 3.5-5.0 mEq/L (stable, not requiring IV replacement)
- Cr at baseline or trending toward baseline
- Precipitant addressed (infection treated, medication compliance plan, substance use referral)
- Diabetes education completed: insulin technique, BG monitoring, sick-day rules, hypoglycemia treatment, DKA warning signs
- Insulin and supplies prescribed (glucometer, test strips, needles, sharps container)
- Endocrinology or PCP follow-up within 1 week
- A1C checked (guides outpatient insulin adjustment)

TRANSITION TO:

- Home: majority once stable on SQ insulin and educated
- Home Health: if insulin injection assistance needed, elderly/cognitive impairment requiring daily glucose monitoring support
- SNF: if unable to self-manage insulin/glucose (cognitive impairment, no caregiver), ongoing medical complexity

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ADA Standards of Care in Diabetes. Diabetes Care. 2024;47(Suppl 1):S1-S322. (Chapter 16: Diabetes Care in the Hospital). 2. ADA Consensus Statement on DKA/HHS. Kitabchi AE, et al. Diabetes Care. 2009;32:1335-1343. 3. Joint British Diabetes Societies: Management of DKA. Dhatariya KK, et al. Diabet Med. 2022;39:e14788. 4. SGLT2i-Associated Euglycemic DKA. Goldenberg RM, et al. Diabetes Care. 2016;39:2036-2039. 5. Insulin Drip Protocols: Yale, Stanford, and institutional protocols. (Non-proprietary, publicly available).

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 637: Diabetes w MCC (RW ~1.56)
- DRG 638: Diabetes w CC (RW ~0.94)
- DRG 639: Diabetes w/o CC/MCC (RW ~0.67)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (moderate-severe DKA) | 0250: Pharmacy (insulin drip, IV fluids, K+)

- 0300: Lab (BMP q1-2h, ABG, ketones) | 0636: Drugs | 0940: Diabetes Education

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 1-3 days Source: Curative Appendix A; ADA Standards of Care 2024

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: DKA/HHS with severe acidosis (pH <7.0), refractory hyperkalemia, mechanical ventilation, hemodynamic instability, severe hyponatremia with CNS symptoms requiring 3% saline titration, thyroid storm with cardiovascular collapse, adrenal crisis with shock.
- Stepdown (Telemetry/PCU): IV insulin drip with q1–2h labs, electrolyte titration q2–4h, IV steroid replacement, telemetry for arrhythmia from electrolytes.
- Med-Surg: Anion gap closed, transitioned to SQ insulin, tolerating PO, electrolytes stable on PO replacement, completing IV steroid taper.
- Observation: Mild DKA with rapid response (gap closing <12h), euglycemic DKA in pump patient; brief monitoring for adrenal insufficiency education.
- Post-Acute (SNF/IRF/LTAC): Rarely needed; SNF for new-onset diabetes with social barriers or cognitive impairment requiring teaching.
- Home (with/without HHA): Glucose stable on home regimen, electrolytes corrected, diabetes/endocrine education completed, follow-up endocrinology in 1–2 weeks; HHA for diabetic education.

LOC Grid Sources: ADA Standards of Medical Care in Diabetes 2024; Endocrine Society Adrenal Insufficiency Guideline 2016; ATA/AACE 2016 Hyperthyroidism Guideline.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent anion gap or osmolar gap despite aggressive therapy
- Refractory hypokalemia or hypomagnesemia delaying insulin transition
- New infection identified as DKA/HHS precipitant requiring IV antibiotics
- Cerebral edema (DKA in pediatric or young adult) requiring monitoring
- Thyroid storm not yet controlled — persistent tachycardia, hyperthermia
- Adrenal crisis with refractory hypotension or hyponatremia

Extended Stay Sources: Sources: ADA Standards of Medical Care 2024; Endocrine Society Guidelines.

HYPEROSMOLAR HYPERGLYCEMIC STATE (HHS)

ICD-10-CM: E11.00, E11.01, E11.65

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Patient must meet ≥1 of the following:

- Blood glucose >600 mg/dL (often 800-2000)
- Serum osmolality >320 mOsm/kg (calculated: 2[Na+] + glucose/18 + BUN/2.8)
- Altered mental status proportional to osmolality (confusion, lethargy, obtundation, coma)
- Minimal or no ketosis (pH >7.30, HCO3 >18, ketones trace or negative — distinguishes from DKA)
- Severe dehydration: average fluid deficit 8-10 liters (greater than DKA)
- AKI from dehydration (BUN/Cr elevated, oliguria)
- Seizures (from hyperosmolality), thrombotic events (hyperviscosity)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- ICU admission (all HHS — higher mortality than DKA: 10-20% vs 1-5%)
- Aggressive IV fluid resuscitation: NS 1-1.5L/hr x 1-2 hrs, then 250-500 mL/hr (correct 50% of deficit in first 12 hrs, remainder over next 24 hrs)
- IV insulin AFTER initial fluid resuscitation (insulin without fluids can cause cardiovascular collapse from fluid shifting). Start at 0.05-0.1 units/kg/hr.
- Electrolyte monitoring q1-2h: K+ replacement (same as DKA protocol), Na+ correction (avoid too rapid: risk of central pontine myelinolysis if corrected >10 mEq/L/24h)
- DVT prophylaxis (hyperviscosity increases thrombotic risk significantly)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT/ICU for HHS

- Higher acuity than DKA: fluid deficit larger, mortality higher, slower correction required, higher risk of thromboembolic complications

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 2-4 hours until glucose <300 and osmolality <315; then every 12 hours HOURS 0-12: Aggressive hydration (often 6-8L in first 12 hrs), glucose trending down (target decrease 50-70 mg/dL/hr), osmolality trending down, UOP improving, mental status improving HOURS 12-48: Continue hydration, Na+ correcting appropriately (<10 mEq/24h), insulin drip adjustments, glucose target 200-300, identify precipitant (infection in 40-60%, medication non-compliance, new DM diagnosis, MI, stroke) DAY 3-5: Transition to SQ insulin (same DKA transition criteria: tolerating PO, glucose stable on low-dose drip), ambulation, diabetes education CONTINUED STAY IF: Osmolality not normalizing, persistent AMS, AKI requiring dialysis, precipitant not controlled, thrombotic complication

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Glucose <300 mg/dL on SQ insulin regimen
- Serum osmolality <315 and trending toward normal
- Mental status at baseline
- Cr at baseline or stable, adequate UOP
- Na+ corrected appropriately (normal or correcting within safe range)
- On SQ insulin regimen ≥12-24 hrs with glucose 100-300
- Tolerating oral diet and medications
- Same education requirements as DKA (insulin, BG monitoring, sick-day rules, when to go to ED)
- Endocrinology/PCP follow-up within 1 week

TRANSITION TO: Home (if able to manage insulin); SNF if unable to self-manage (cognitive impairment from baseline or residual)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ADA Standards of Care: Diabetes in Hospital. Diabetes Care. 2024;47(Suppl 1) Ch.16. 2. ADA Consensus: DKA/HHS. Kitabchi AE, et al. Diabetes Care. 2009;32:1335-1343. 3. Joint British Diabetes Societies: HHS Management. Scott AR. Diabet Med. 2015;32:714-724.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 637: Diabetes w MCC (RW ~1.56)
- DRG 638: Diabetes w CC (RW ~0.94)
- DRG 639: Diabetes w/o CC/MCC (RW ~0.67)

NOTE: Same DRG as DKA. HHS typically has higher resource use but same grouping.

REVENUE CODES:

- 0200: ICU (all HHS) | 0250: Pharmacy (insulin drip, massive IV fluids, K+)
- 0300: Lab (BMP q1-2h, osmolality, glucose) | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-5 days Source: Curative Appendix A; ADA Standards of Care 2024

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: DKA/HHS with severe acidosis (pH <7.0), refractory hyperkalemia, mechanical ventilation, hemodynamic instability, severe hyponatremia with CNS symptoms requiring 3% saline titration, thyroid storm with cardiovascular collapse, adrenal crisis with shock.
- Stepdown (Telemetry/PCU): IV insulin drip with q1–2h labs, electrolyte titration q2–4h, IV steroid replacement, telemetry for arrhythmia from electrolytes.
- Med-Surg: Anion gap closed, transitioned to SQ insulin, tolerating PO, electrolytes stable on PO replacement, completing IV steroid taper.
- Observation: Mild DKA with rapid response (gap closing <12h), euglycemic DKA in pump patient; brief monitoring for adrenal insufficiency education.
- Post-Acute (SNF/IRF/LTAC): Rarely needed; SNF for new-onset diabetes with social barriers or cognitive impairment requiring teaching.
- Home (with/without HHA): Glucose stable on home regimen, electrolytes corrected, diabetes/endocrine education completed, follow-up endocrinology in 1–2 weeks; HHA for diabetic education.

LOC Grid Sources: ADA Standards of Medical Care in Diabetes 2024; Endocrine Society Adrenal Insufficiency Guideline 2016; ATA/AACE 2016 Hyperthyroidism Guideline.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent anion gap or osmolar gap despite aggressive therapy
- Refractory hypokalemia or hypomagnesemia delaying insulin transition
- New infection identified as DKA/HHS precipitant requiring IV antibiotics
- Cerebral edema (DKA in pediatric or young adult) requiring monitoring
- Thyroid storm not yet controlled — persistent tachycardia, hyperthermia
- Adrenal crisis with refractory hypotension or hyponatremia

Extended Stay Sources: Sources: ADA Standards of Medical Care 2024; Endocrine Society Guidelines.

RHABDOMYOLYSIS

ICD-10-CM: M62.82

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Patient must meet ≥1 of the following:

- CK >5,000 U/L (5x ULN) with clinical context (or >10,000 — high risk for AKI)
- Muscle pain, weakness, dark/tea-colored urine (myoglobinuria)
- AKI: Cr rise >0.3 or declining UOP (myoglobin is directly nephrotoxic; risk increases with CK >15,000-20,000)
- Hyperkalemia (muscle cell lysis releases K+)
- Hyperphosphatemia, hypocalcemia (from calcium-phosphate deposition in damaged muscle)
- Metabolic acidosis (lactic acid from ischemic muscle)
- DIC (severe cases)
- Compartment syndrome (cause or consequence of rhabdomyolysis)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Aggressive IV fluid resuscitation: NS or LR at 200-300 mL/hr (target UOP 200-300 mL/hr or 3 mL/kg/hr) — this is the PRIMARY treatment
- Continuous cardiac monitoring for hyperkalemia
- CK, BMP, Ca2+, phosphate q6-12h until CK peaking/declining
- Foley catheter for accurate UOP measurement
- Sodium bicarbonate: controversial; may alkalinize urine to prevent myoglobin cast formation (target urine pH >6.5) but evidence is limited
- Avoid hypocalcemia correction unless symptomatic/ECG changes (calcium may deposit in damaged muscle and worsen injury; hypocalcemia often corrects spontaneously during recovery)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1: CK >5,000, AKI, hyperkalemia, significant muscle symptoms with CK rising, compartment syndrome, unable to maintain adequate oral hydration OBSERVATION if: CK 1,000-5,000 without AKI, responding to IV fluids, expected CK to peak and decline <48 hrs, adequate UOP OUTPATIENT: CK mildly elevated (<1,000-2,000), no AKI, no electrolyte derangement, can tolerate aggressive oral hydration

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (CK >10,000 or AKI); Every 24 hours (CK <10,000 without AKI) DAY 1-2: CK trending (peak typically 24-72 hrs after insult), UOP target ≥200 mL/hr with fluids, K+ monitored q6h, Cr monitored, cause identified (crush injury, exertion, drugs/statins/alcohol/cocaine, NMS, seizure, compartment syndrome, heat stroke) DAY 2-4: CK peaking then declining? UOP adequate? Cr stable? If CK declining and renal function preserved: begin weaning IV fluids. If AKI developing: nephrology consultation, dialysis if refractory hyperkalemia/acidosis/volume overload. CONTINUED STAY IF: CK still rising or >50,000, AKI worsening, dialysis required, compartment syndrome requiring fasciotomy, K+ >6.0 requiring ongoing treatment

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- CK peaked and declining for ≥24 hours
- Cr stable or improving
- K+ <5.0, Ca2+/phosphate normalizing
- UOP adequate without aggressive IV fluids
- Able to tolerate oral hydration (recommend aggressive PO fluids until CK <5,000)
- Cause addressed (offending medication stopped, compartment released, substance use counseling)
- Statin-related: statin held, reassess need and risk-benefit with lower dose or alternative agent after CK normalized

- Follow-up: PCP/nephrology 1 week with repeat CK, Cr

TRANSITION TO: Home (majority); SNF if functional impairment from compartment syndrome/injury

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AKIN/KDIGO Guidelines: AKI in Rhabdomyolysis. Bosch X, et al. NEJM. 2009;361:62-72. 2. McMahon Score for Rhabdomyolysis-Associated AKI. McMahon GM, et al. JAMA Intern Med. 2013;173:1821-1828. 3. Cochrane Review: Bicarbonate for Rhabdomyolysis. Scharman EJ, Troutman WG. Ann Pharmacother. 2013;47:90-105.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 640: Misc Disorders of Nutrition/Metabolism/Fluids w MCC (RW ~1.42)
- DRG 641: w CC (RW ~0.85)
- DRG 642: w/o CC/MCC (RW ~0.58)
- DRG 682-684: Renal Failure (if AKI predominant) (RW ~1.68 / 1.00 / 0.67)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if hyperkalemia/AKI requiring dialysis)
- 0250: Pharmacy (aggressive IV NS, bicarb) | 0300: Lab (CK q6-12h, BMP, UA myoglobin)
- 0800: Dialysis (if AKI requiring RRT)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-5 days Source: ACC/AHA Rhabdomyolysis Statements; CMS MS-DRG 947-948

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: DKA/HHS with severe acidosis (pH <7.0), refractory hyperkalemia, mechanical ventilation, hemodynamic instability, severe hyponatremia with CNS symptoms requiring 3% saline titration, thyroid storm with cardiovascular collapse, adrenal crisis with shock.
- Stepdown (Telemetry/PCU): IV insulin drip with q1–2h labs, electrolyte titration q2–4h, IV steroid replacement, telemetry for arrhythmia from electrolytes.
- Med-Surg: Anion gap closed, transitioned to SQ insulin, tolerating PO, electrolytes stable on PO replacement, completing IV steroid taper.
- Observation: Mild DKA with rapid response (gap closing <12h), euglycemic DKA in pump patient; brief monitoring for adrenal insufficiency education.
- Post-Acute (SNF/IRF/LTAC): Rarely needed; SNF for new-onset diabetes with social barriers or cognitive impairment requiring teaching.
- Home (with/without HHA): Glucose stable on home regimen, electrolytes corrected, diabetes/endocrine education completed, follow-up endocrinology in 1–2 weeks; HHA for diabetic education.

LOC Grid Sources: ADA Standards of Medical Care in Diabetes 2024; Endocrine Society Adrenal Insufficiency Guideline 2016; ATA/AACE 2016 Hyperthyroidism Guideline.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent anion gap or osmolar gap despite aggressive therapy
- Refractory hypokalemia or hypomagnesemia delaying insulin transition
- New infection identified as DKA/HHS precipitant requiring IV antibiotics
- Cerebral edema (DKA in pediatric or young adult) requiring monitoring
- Thyroid storm not yet controlled — persistent tachycardia, hyperthermia
- Adrenal crisis with refractory hypotension or hyponatremia

Extended Stay Sources: Sources: ADA Standards of Medical Care 2024; Endocrine Society Guidelines.

THYROID STORM / THYROTOXICOSIS WITH CRISIS

ICD-10-CM: E05.01, E05.11, E05.21, E05.81, E05.91 (thyrotoxicosis with storm)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Burch-Wartofsky Score ≥45 (highly suggestive): Temperature scoring (≥37.2 to ≥40°C: 5-30 pts), CNS effects (absent to coma: 0-30 pts), GI/hepatic (absent to jaundice: 0-20 pts), HR (99 to ≥140 or AF: 5-25 pts), HF

(absent to pulmonary edema: 0-15 pts), precipitant history (+10). Score 25-44: impending storm. ≥45: thyroid storm.

- Free T4 markedly elevated, TSH suppressed <0.01
- Fever >40°C, tachycardia >140, AMS/psychosis/seizure/coma, GI symptoms (diarrhea, jaundice → hepatic failure), HF/pulmonary edema
- Mortality 10-30% even with treatment

INTENSITY OF SERVICE (IS) — Must require ≥1: ICU, beta-blocker (propranolol 60-80mg PO q4-6h or esmolol drip — also blocks T4→T3), thionamide (PTU 500-1000mg load then 250mg q4h — preferred over methimazole in storm for peripheral conversion blockade), iodine (Lugol 10 drops or SSKI 5 drops q8h — give ≥1 hr AFTER thionamide), hydrocortisone 100mg IV q8h (blocks peripheral conversion + treats relative adrenal insufficiency), cooling measures (acetaminophen + cooling blankets — AVOID aspirin which displaces T4 from TBG), cholestyramine 4g QID (binds thyroid hormone in enterohepatic circulation — adjunctive)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT/ICU for thyroid storm (Burch-Wartofsky ≥45)

C. CONTINUED STAY / CONCURRENT REVIEW

q6-12h ICU. DAY 1-2: Burch-Wartofsky recalculation q12h, HR trending <120? Temperature normalizing? Mentation improving? Free T4/T3 levels trending. Precipitant treatment (infection, surgery, iodine contrast load, DKA, medication non-compliance, pregnancy). DAY 3-5: Transition PTU→methimazole when stable (PTU hepatotoxicity limits long-term use), beta-blocker optimization, iodine discontinued after 7-10 days, endocrinology consultation for definitive therapy plan. CONTINUED STAY IF: Burch-Wartofsky >25, persistent tachycardia/HF, hepatic dysfunction worsening, AMS

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Burch-Wartofsky <25, HR <100 on oral beta-blocker, afebrile, mentation baseline
- Tolerating oral medications (methimazole 20-40mg/day + propranolol)
- Free T4 trending down (may take weeks to normalize fully)
- Endocrinology follow-up 1-2 weeks
- Definitive therapy plan: RAI ablation vs thyroidectomy vs long-term thionamide

TRANSITION TO: Home once clinically stable on oral medications

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ATA Guidelines for Hyperthyroidism. Ross DS, et al. Thyroid. 2016;26:1343-1421. 2. Burch-Wartofsky Score. Burch HB, Wartofsky L. Endocrinol Metab Clin NA. 1993;22:263-277. 3. Akamizu T, et al. Thyroid Storm: A Japanese Perspective. Thyroid. 2012;22:661-679.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 643: Endocrine Disorders w MCC (RW ~1.56)
- DRG 644: Endocrine Disorders w CC (RW ~0.93)
- DRG 645: Endocrine Disorders w/o CC/MCC (RW ~0.65)

REVENUE CODES:

- 0200: ICU (all thyroid storm) | 0250: Pharmacy (PTU, propranolol/esmolol, Lugol, hydrocortisone)
- 0300: Lab (TSH, free T4, free T3) | 0730: EKG | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: ATA/AACE 2016 Hyperthyroidism Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: DKA/HHS with severe acidosis (pH <7.0), refractory hyperkalemia, mechanical ventilation, hemodynamic instability, severe hyponatremia with CNS symptoms requiring 3% saline titration, thyroid storm with cardiovascular collapse, adrenal crisis with shock.
- Stepdown (Telemetry/PCU): IV insulin drip with q1–2h labs, electrolyte titration q2–4h, IV steroid replacement, telemetry for arrhythmia from electrolytes.
- Med-Surg: Anion gap closed, transitioned to SQ insulin, tolerating PO, electrolytes stable on PO replacement, completing IV steroid taper.
- Observation: Mild DKA with rapid response (gap closing <12h), euglycemic DKA in pump patient; brief monitoring for adrenal insufficiency education.
- Post-Acute (SNF/IRF/LTAC): Rarely needed; SNF for new-onset diabetes with social barriers or cognitive impairment requiring teaching.

- Home (with/without HHA): Glucose stable on home regimen, electrolytes corrected, diabetes/endocrine education completed, follow-up endocrinology in 1–2 weeks; HHA for diabetic education.

LOC Grid Sources: ADA Standards of Medical Care in Diabetes 2024; Endocrine Society Adrenal Insufficiency Guideline 2016; ATA/AACE 2016 Hyperthyroidism Guideline.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent anion gap or osmolar gap despite aggressive therapy
- Refractory hypokalemia or hypomagnesemia delaying insulin transition
- New infection identified as DKA/HHS precipitant requiring IV antibiotics
- Cerebral edema (DKA in pediatric or young adult) requiring monitoring
- Thyroid storm not yet controlled — persistent tachycardia, hyperthermia
- Adrenal crisis with refractory hypotension or hyponatremia

Extended Stay Sources: Sources: ADA Standards of Medical Care 2024; Endocrine Society Guidelines.

ADRENAL CRISIS / ACUTE ADRENAL INSUFFICIENCY

ICD-10-CM: E27.1 (primary adrenocortical insufficiency), E27.2 (Addisonian crisis), E27.40 (unspecified adrenocortical insufficiency)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Hypotension/shock refractory to IV fluids and vasopressors (classic presentation — should suspect adrenal crisis in any refractory shock), severe hyponatremia (Na+ <130), hyperkalemia (primary AI only), hypoglycemia, severe volume depletion/dehydration, AMS/lethargy/coma, abdominal pain/nausea/vomiting mimicking acute abdomen, known AI patient with acute illness/stress/surgery/missed doses, hyperpigmentation (primary AI — chronic ACTH elevation)

INTENSITY OF SERVICE (IS) — Must require ≥1: Hydrocortisone 100mg IV bolus immediately THEN 50mg IV q6-8h (do NOT delay for cortisol level — treat empirically if suspected), aggressive IV NS resuscitation (2-3L in first 1-2 hrs), D50 for hypoglycemia, continuous hemodynamic monitoring, random cortisol level BEFORE steroid administration if possible (cortisol <18 µg/dL during acute stress = insufficient; <3 = diagnostic), ACTH stimulation test when stable (250mcg cosyntropin → cortisol <18 at 30-60 min = AI confirmed)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for adrenal crisis ICU if: refractory hypotension, hemodynamic instability requiring vasopressors, AMS

C. CONTINUED STAY / CONCURRENT REVIEW

q6-12h ICU, q24h floor. DAY 1: Hydrocortisone 50mg IV q6-8h, aggressive fluids, glucose monitoring q4-6h, electrolyte correction (Na+, K+), identify precipitant (infection #1, medication non-compliance, surgery/trauma, adrenal hemorrhage). DAY 2-3: Hemodynamically stable? Transition IV to oral hydrocortisone (taper to physiologic replacement: 15-25mg/day in divided doses). If new diagnosis: ACTH stim test, ACTH level (high = primary/Addison, low = secondary/pituitary), CT adrenals, MRI pituitary. CONTINUED STAY IF: Persistent hypotension, precipitant not controlled (ongoing sepsis), new diagnosis requiring workup, electrolyte instability

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Hemodynamically stable on oral hydrocortisone replacement for ≥24 hrs
- Na+ >130, K+ <5.5, glucose stable
- Tolerating oral medications and diet
- Precipitant identified and treated
- Physiologic replacement prescribed: hydrocortisone 15-25mg/day (primary AI) or equivalent, fludrocortisone 0.05-0.1mg/day (primary AI only)
- Sick-day rules taught: double or triple steroid dose during illness/fever/surgery; IM hydrocortisone emergency kit prescribed
- Medical alert bracelet/ID recommended
- Endocrinology follow-up 1-2 weeks

TRANSITION TO: Home (majority); ensure patient/caregiver understands sick-day rules and emergency injection

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. Endocrine Society Clinical Practice Guideline: Primary Adrenal Insufficiency. Bornstein SR, et al. JCEM. 2016;101:364-389. 2. European Guideline: Adrenal Crisis. Rushworth RL, et al. Eur J Endocrinol. 2019;181:R1-R13. 3. Hahner S, et al. Adrenal Crisis

Frequency and Mortality. JCEM. 2015;100:407-416.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 643: Endocrine Disorders w MCC (RW ~1.56)
- DRG 644: Endocrine Disorders w CC (RW ~0.93)
- DRG 645: Endocrine Disorders w/o CC/MCC (RW ~0.65)

REVENUE CODES:

- 0200: ICU | 0250: Pharmacy (IV hydrocortisone, IV NS, D50 for hypoglycemia)
- 0300: Lab (cortisol, ACTH, BMP, glucose) | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: Endocrine Society 2016 Adrenal Insufficiency Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: DKA/HHS with severe acidosis (pH <7.0), refractory hyperkalemia, mechanical ventilation, hemodynamic instability, severe hyponatremia with CNS symptoms requiring 3% saline titration, thyroid storm with cardiovascular collapse, adrenal crisis with shock.
- Stepdown (Telemetry/PCU): IV insulin drip with q1–2h labs, electrolyte titration q2–4h, IV steroid replacement, telemetry for arrhythmia from electrolytes.
- Med-Surg: Anion gap closed, transitioned to SQ insulin, tolerating PO, electrolytes stable on PO replacement, completing IV steroid taper.
- Observation: Mild DKA with rapid response (gap closing <12h), euglycemic DKA in pump patient; brief monitoring for adrenal insufficiency education.
- Post-Acute (SNF/IRF/LTAC): Rarely needed; SNF for new-onset diabetes with social barriers or cognitive impairment requiring teaching.
- Home (with/without HHA): Glucose stable on home regimen, electrolytes corrected, diabetes/endocrine education completed, follow-up endocrinology in 1–2 weeks; HHA for diabetic education.

LOC Grid Sources: ADA Standards of Medical Care in Diabetes 2024; Endocrine Society Adrenal Insufficiency Guideline 2016; ATA/AACE 2016 Hyperthyroidism Guideline.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent anion gap or osmolar gap despite aggressive therapy
- Refractory hypokalemia or hypomagnesemia delaying insulin transition
- New infection identified as DKA/HHS precipitant requiring IV antibiotics
- Cerebral edema (DKA in pediatric or young adult) requiring monitoring
- Thyroid storm not yet controlled — persistent tachycardia, hyperthermia
- Adrenal crisis with refractory hypotension or hyponatremia

Extended Stay Sources: Sources: ADA Standards of Medical Care 2024; Endocrine Society Guidelines.

SEVERE ELECTROLYTE DISORDERS — HYPERKALEMIA, HYPONATREMIA, HYPERCALCEMIA

ICD-10-CM: E87.5 (hyperkalemia), E87.1 (hyponatremia), E87.0 (hypernatremia), E87.6 (hypokalemia), E83.52 (hypercalcemia), E83.51 (hypocalcemia)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI — HYPERKALEMIA: K+ >6.0 with ECG changes (peaked T, widened QRS, sine wave) or K+ >6.5 regardless SI — HYPOKALEMIA: K+ <2.5, or K+ <3.0 with arrhythmia/respiratory weakness/digoxin toxicity SI — HYPONATREMIA: Na+ <120, or Na+ <125 with symptoms (seizure, coma, headache) SI — HYPERNATREMIA: Na+ >160, or Na+ >150 with AMS SI — HYPERCALCEMIA: Corrected Ca2+ >14, or >12 with symptoms (AMS, dehydration, arrhythmia)

INTENSITY OF SERVICE (IS) — Must require ≥1: Continuous cardiac monitoring (K+/Ca2+ disorders), IV calcium gluconate 1-3g for hyperK with ECG changes (membrane stabilization within 1-3 min), IV insulin 10 units + D50 50mL (shifts K+), IV/PO kayexalate or patiromer (binding), emergent dialysis for refractory hyperK. Hypertonic 3% saline for symptomatic hyponatremia (100mL bolus over 10min, repeat x2 PRN, goal ↑4-6 mEq/L in first 6 hrs, max 8-10 in 24 hrs to avoid ODS). IV NS for hypernatremia (correct max 10 mEq/L/24h). Aggressive IV saline + calcitonin 4IU/kg + zoledronic acid 4mg for hypercalcemia.

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: K+ >6.0 with ECG changes, K+ <2.5, Na+ <120 or symptomatic <125, Na+ >160, Ca2+ >14 or symptomatic >12, any requiring IV replacement + cardiac monitoring OBSERVATION: Moderate asymptomatic derangements responding to treatment, expected resolution <48 hrs OUTPATIENT: Mild asymptomatic with oral replacement and close lab follow-up

C. CONTINUED STAY / CONCURRENT REVIEW

K+: q2h ECG + labs until <5.5. Na+: q4-6h during correction — CRITICAL: max correction 8-10 mEq/L in 24 hrs (overcorrection → DDAVP 2mcg IV to relower). Ca2+: q6-12h, aggressive saline then calcitonin (rapid onset, wanes at 48 hrs), zoledronic acid (onset 2-4 days). Identify underlying cause in all: medication review, renal function, endocrine workup. CONTINUED STAY IF: Electrolyte not in safe range, arrhythmia, etiology not identified, requiring ongoing IV therapy

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Electrolyte in safe range ≥24 hrs (K+ 3.5-5.0, Na+ >130, Ca2+ <12)
- ECG normalized
- Oral replacement maintaining levels
- Underlying cause identified and treated
- Offending medications stopped or adjusted
- Repeat labs 48-72 hrs post-discharge arranged

TRANSITION TO: Home; SNF if complex medication management

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AHA ACLS: Hyperkalemia Management. Circulation. 2015;132:S444. 2. European Guideline: Hyponatremia. Spasovski G, et al. Eur J Endocrinol. 2014;170:G1. 3. Sterns RH. Disorders of Plasma Sodium. NEJM. 2015;372:55-65. 4. Stewart AF. Hypercalcemia of Malignancy. NEJM. 2005;352:373.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 640: Misc Disorders of Nutrition/Metabolism/Fluids w MCC (RW ~1.42)
- DRG 641: w CC (RW ~0.85)
- DRG 642: w/o CC/MCC (RW ~0.58)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if hyperkalemia w ECG changes, severe hyponatremia w seizure)
- 0250: Pharmacy (IV calcium, insulin/glucose, hypertonic saline, zoledronic acid)
- 0300: Lab (BMP q2-6h, Mg, phos, Ca, ABG) | 0730: EKG (hyperkalemia) | 0800: Dialysis (refractory)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: KDIGO/NKF Electrolyte Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: DKA/HHS with severe acidosis (pH <7.0), refractory hyperkalemia, mechanical ventilation, hemodynamic instability, severe hyponatremia with CNS symptoms requiring 3% saline titration, thyroid storm with cardiovascular collapse, adrenal crisis with shock.
- Stepdown (Telemetry/PCU): IV insulin drip with q1–2h labs, electrolyte titration q2–4h, IV steroid replacement, telemetry for arrhythmia from electrolytes.
- Med-Surg: Anion gap closed, transitioned to SQ insulin, tolerating PO, electrolytes stable on PO replacement, completing IV steroid taper.
- Observation: Mild DKA with rapid response (gap closing <12h), euglycemic DKA in pump patient; brief monitoring for adrenal insufficiency education.
- Post-Acute (SNF/IRF/LTAC): Rarely needed; SNF for new-onset diabetes with social barriers or cognitive impairment requiring teaching.
- Home (with/without HHA): Glucose stable on home regimen, electrolytes corrected, diabetes/endocrine education completed, follow-up endocrinology in 1–2 weeks; HHA for diabetic education.

LOC Grid Sources: ADA Standards of Medical Care in Diabetes 2024; Endocrine Society Adrenal Insufficiency Guideline 2016; ATA/AACE 2016 Hyperthyroidism Guideline.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent anion gap or osmolar gap despite aggressive therapy

- Refractory hypokalemia or hypomagnesemia delaying insulin transition
- New infection identified as DKA/HHS precipitant requiring IV antibiotics
- Cerebral edema (DKA in pediatric or young adult) requiring monitoring
- Thyroid storm not yet controlled — persistent tachycardia, hyperthermia
- Adrenal crisis with refractory hypotension or hyponatremia

Extended Stay Sources: Sources: ADA Standards of Medical Care 2024; Endocrine Society Guidelines.

RENAL

ACUTE KIDNEY INJURY (AKI)

ICD-10-CM: N17.0 (AKI with tubular necrosis), N17.1 (AKI with acute cortical necrosis), N17.2 (AKI with medullary necrosis), N17.8 (other AKI), N17.9 (AKI unspecified)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Classify per KDIGO staging: Stage 1: Cr rise ≥0.3 mg/dL within 48 hrs OR 1.5-1.9x baseline within 7 days OR UOP <0.5 mL/kg/hr for 6-12 hrs Stage 2: Cr 2.0-2.9x baseline OR UOP <0.5 mL/kg/hr for ≥12 hrs Stage 3: Cr ≥3.0x baseline OR Cr ≥4.0 mg/dL OR UOP <0.3 mL/kg/hr for ≥24 hrs OR anuria ≥12 hrs OR initiation of RRT

- Cr rise ≥0.3 mg/dL from baseline within 48 hours (KDIGO Stage 1 minimum)
- Oliguria: UOP <0.5 mL/kg/hr for ≥6 hours despite adequate hydration
- Hyperkalemia: K+ >5.5 mEq/L (ECG changes if K+ >6.0: peaked T waves, widened QRS, sine wave)
- Metabolic acidosis: pH <7.30, HCO3 <18, anion gap elevated
- Volume overload: pulmonary edema, peripheral edema not responding to diuretics
- Uremic symptoms: encephalopathy, pericarditis (friction rub), nausea/vomiting, asterixis
- BUN >80 mg/dL with uremic symptoms

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- IV fluid resuscitation (pre-renal AKI) with hourly I&O monitoring
- Foley catheter for accurate UOP measurement
- IV diuretics for volume overload (furosemide ≥80mg IV or continuous infusion)
- Urgent dialysis: hyperkalemia refractory to medical management, severe acidosis (pH <7.1), refractory volume overload, uremic pericarditis/encephalopathy, BUN >100 with symptoms
- Continuous cardiac monitoring for hyperkalemia
- Nephrotoxin review and discontinuation
- Renal ultrasound to rule out obstruction (hydronephrosis)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1:

- KDIGO Stage 2-3 (Cr ≥2x baseline or ≥4.0 or oliguria)
- Hyperkalemia >6.0 with ECG changes
- Metabolic acidosis pH <7.25
- Volume overload not responsive to oral diuretics
- Uremic symptoms (encephalopathy, pericarditis)
- Dialysis required or anticipated
- Post-renal obstruction requiring emergent decompression (nephrostomy, stent)

OBSERVATION if ALL:

- KDIGO Stage 1 (Cr rise 0.3-0.5, UOP borderline)
- K+ <5.5, pH >7.30
- No volume overload, no uremic symptoms
- Expected to respond to IV fluids and nephrotoxin removal <48 hrs
- Close monitoring of Cr, K+, UOP available

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 12 hours (if dialysis or Stage 3); Every 24 hours (Stage 1-2)

DAY 1:

- AKI etiology determined: Pre-renal (volume depletion, HF, sepsis) vs Intrinsic (ATN, AIN, glomerulonephritis) vs Post-renal

(obstruction)
- Renal US completed (rule out obstruction)
- Nephrotoxins discontinued: NSAIDs, aminoglycosides, contrast, ACEi/ARB (temporarily), metformin
- UA with microscopy: muddy brown casts (ATN), WBC casts (AIN/pyelonephritis), RBC casts (GN), eosinophils (AIN)
- FeNa calculated: <1% pre-renal, >2% intrinsic (FeUrea if on diuretics: <35% pre-renal)
- BMP q8-12h (Cr, K+, HCO3, BUN)
- Strict I&O with UOP goal >0.5 mL/kg/hr
- Nephrology consultation if: Stage 3, dialysis anticipated, unclear etiology, GN suspected

DAY 2-3:

- Cr trend: peaking? plateauing? declining? (ATN typically peaks day 3-5, recovers over 1-3 weeks)
- K+ stable without IV replacement or kayexalate?
- UOP improving? (>0.5 mL/kg/hr indicates recovering renal function)
- If dialysis initiated: catheter functioning, adequacy assessed, schedule planned

CONTINUED STAY >3 DAYS JUSTIFIED IF:

- Cr still rising or not yet plateaued
- Ongoing dialysis requirement (K+, volume, acidosis not manageable without RRT)
- Complications: hyperkalemia requiring repeated IV calcium/insulin/glucose, volume overload requiring ultrafiltration, persistent acidosis
- Underlying cause not yet controlled (sepsis, obstruction)
- AKI on CKD with unclear baseline (may need outpatient nephrology to determine chronicity)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Cr trending downward or stable at new baseline for ≥24 hours
- K+ 3.5-5.0 without IV supplementation or binding agents
- Adequate UOP (≥0.5 mL/kg/hr or patient's baseline if CKD)
- pH >7.30, HCO3 >18 (or at patient's CKD baseline)
- Volume status euvolemic (no pulmonary edema, no significant peripheral edema)
- No uremic symptoms
- Tolerable oral intake and oral medications
- If new dialysis: outpatient dialysis arranged (center, schedule, access plan)
- Nephrotoxin avoidance plan documented
- Nephrology follow-up 1-2 weeks (sooner if new dialysis)
- Repeat BMP in 48-72 hrs post-discharge arranged

TRANSITION TO:

- Home: majority once Cr stabilizing and electrolytes safe
- Home with Home Health: if dialysis access management, medication management
- SNF: if new dialysis with functional limitations, complex medication regimen, deconditioning

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. KDIGO Clinical Practice Guideline for AKI. Kidney Int Suppl. 2012;2:1-138. 2. KDIGO AKI Guideline 2024 Update. Ostermann M, et al. Kidney Int. 2024;105:S1-S166. 3. Surviving Sepsis Campaign: AKI in Sepsis. Rhodes A, et al. Intensive Care Med. 2017;43:304-377. 4. ACR Appropriateness Criteria: Renal Failure. ACR. 2023. 5. ASN/NKF Consensus on AKI: Renal Replacement Therapy Initiation. Gaudry S, et al. CJASN. 2020;15:1506.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 682: Renal Failure w MCC (RW ~1.68)
- DRG 683: Renal Failure w CC (RW ~1.00)
- DRG 684: Renal Failure w/o CC/MCC (RW ~0.67)
- DRG 673-675: Other Kidney/Urinary Tract Procedures (if dialysis catheter placed)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if dialysis/hyperkalemia) | 0250: Pharmacy
- 0300: Lab (BMP q8-12h, UA) | 0402: Ultrasound (renal US) | 0800-0809: Dialysis (hemodialysis)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-5 days Source: Curative Appendix A; KDIGO 2012 AKI Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Continuous renal replacement therapy (CRRT) requirement, hemodynamic instability, refractory hyperkalemia, uremic encephalopathy with mechanical ventilation, severe metabolic acidosis with cardiovascular compromise.
- Stepdown (Telemetry/PCU): Intermittent hemodialysis with hemodynamic monitoring, K^+ shifts with telemetry, recovering AKI on diuretic challenge.
- Med-Surg: Creatinine trending appropriately, K^+ <5.5 on PO management, UOP adequate, transitioning fluid management.
- Observation: Mild contrast-induced or pre-renal AKI with rapid response to volume resuscitation.
- Post-Acute (SNF/IRF/LTAC): New-onset dialysis requiring outpatient access placement before discharge home, deconditioned patients needing skilled nursing.
- Home (with/without HHA): Creatinine stable or improving, electrolytes safe, dialysis access functional (if applicable), nephrology follow-up in 1 week; HHA for dialysis bridge support.

LOC Grid Sources: KDIGO 2012 AKI Guideline; KDIGO 2024 CKD Guideline; KDOQI Vascular Access 2019.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Dialysis dependence not yet established (access pending or AKI not recovering)
- Refractory hyperkalemia or acidosis on intermittent HD
- Volume overload with refractory diuretic resistance
- New AKI etiology identified requiring further work-up (biopsy, nephrology consult)

Extended Stay Sources: Sources: KDIGO 2012 AKI Guideline; KDOQI Vascular Access 2019.

HEMATOLOGIC / ONCOLOGIC EMERGENCIES

FEBRILE NEUTROPENIA

ICD-10-CM: D70.0 (congenital agranulocytosis), D70.1 (agranulocytosis secondary to cancer chemotherapy), D70.2 (other drug-induced agranulocytosis), D70.3 (neutropenia due to infection), D70.4 (cyclic neutropenia), D70.8 (other neutropenia), D70.9 (neutropenia unspecified) (neutropenia), R50.81 (fever presenting with conditions classified elsewhere)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Patient must meet ≥1 of the following:

- Absolute Neutrophil Count (ANC) <500 cells/mm³ (or <1000 and expected to decline to <500 within 48 hrs)
- Temperature ≥38.3°C (101°F) single reading OR ≥38.0°C (100.4°F) sustained for ≥1 hour
- On active chemotherapy or recent chemotherapy (within 6 weeks) or hematologic malignancy with marrow failure

RISK STRATIFICATION (MASCC Score — determines inpatient vs potential outpatient): Burden of illness: no/mild symptoms (+5), moderate symptoms (+3), severe/moribund (+0) No hypotension (SBP ≥90): +5 No COPD: +4 Solid tumor or no prior fungal infection: +4 No dehydration: +3 Outpatient at fever onset: +3 Age <60: +2 MASCC ≥21: low risk. MASCC <21: high risk.

- HIGH-RISK features (any = inpatient regardless of MASCC):
- ANC <100 (profound neutropenia)
- Expected neutropenia duration >7 days
- Hemodynamic instability (SBP <90, HR >110, lactate >2)
- New pulmonary infiltrate
- Hepatic insufficiency (transaminases >5x ULN) or renal insufficiency (CrCl <30)
- Altered mental status
- Mucositis Grade 3-4 (unable to swallow oral medications)
- GI symptoms (abdominal pain, diarrhea, vomiting suggesting typhlitis)
- Intravascular catheter infection suspected
- Acute leukemia or allogeneic HSCT recipient

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Blood cultures (2 sets — peripheral + each lumen of central line if present) BEFORE antibiotics
- IV broad-spectrum antibiotics within 60 minutes of triage (antipseudomonal beta-lactam: cefepime, meropenem, or piperacillin-tazobactam)
- Additional coverage as indicated: vancomycin for skin/catheter/MRSA concern; metronidazole or carbapenem for abdominal

source; antifungal if persistent fever >4-7 days (caspofungin,

voriconazole, or liposomal amphotericin B)

- Continuous monitoring for hemodynamic instability
- CBC with differential daily
- G-CSF (filgrastim) considered if: ANC <100 and expected prolonged neutropenia, sepsis, pneumonia, fungal infection

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT (High Risk) if ≥1:

- MASCC <21
- Any high-risk feature listed above
- Unable to tolerate oral antibiotics (mucositis, vomiting)
- Unreliable outpatient setting (no 24/7 access to care, lives alone, >1 hr from hospital)

OBSERVATION (Low Risk — Case-by-Case):

- MASCC ≥21 AND no high-risk features
- Tolerating oral antibiotics (fluoroquinolone + amoxicillin-clavulanate per NCCN/IDSA)
- Initial 4-12 hour observation in ED/clinic to confirm hemodynamic stability and tolerance of oral regimen
- Reliable outpatient setting with caregiver, phone, 30-min proximity to ED
- Oncologist agrees with outpatient management

NOTE: Most febrile neutropenia patients are admitted. Outpatient management is limited to very low-risk patients with strong support systems.

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours

DAY 1-2:

- Culture results pending → continue empiric therapy until results available
- CBC daily: ANC trend? Nadir expected when?
- If blood culture positive: narrow antibiotics per susceptibilities (S. aureus: add vancomycin and repeat cultures until clearance; gram-negative: confirm susceptibility and de-escalate)
- If catheter-related bloodstream infection (CRBSI): catheter removal vs. salvage per IDSA CRBSI guidelines
- CXR if respiratory symptoms (may be falsely negative in neutropenia; CT chest if high suspicion and CXR negative)
- Fever curve: improving? If persistent fever >72-96 hrs on broad-spectrum antibiotics → expand workup (CT chest/abdomen/pelvis, galactomannan, beta-D-glucan, consider empiric antifungal)

DAY 3-5:

- ANC recovering? ANC >500 = neutropenia resolving (often coincides with defervescence)
- If ANC recovering + afebrile ≥24 hrs + cultures negative: step down to oral antibiotics, plan discharge
- If ANC recovering + culture-positive: continue targeted IV therapy per organism (duration per source: bacteremia 7-14 days, catheter infection 10-14 days after catheter removal)
- If ANC NOT recovering + persistent fever: escalate antifungal coverage, CT imaging, consider bronchoalveolar lavage if pulmonary infiltrate

CONTINUED STAY >5 DAYS JUSTIFIED IF:

- ANC still <500 with ongoing fever
- Documented infection requiring IV therapy (positive cultures, fungal infection, pneumonia, typhlitis)
- Hemodynamic instability (septic shock)
- New complication (C. difficile, fungal infection, neutropenic enterocolitis)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- ANC ≥500 cells/mm³ (neutrophil recovery) OR ANC rising from nadir with clear upward trend
- Afebrile (T <37.8°C) for ≥24 hours
- Hemodynamically stable: SBP >100, HR <100, no vasopressors
- Blood cultures: finalized negative OR positive with adequate treatment course determined
- Tolerating oral medications and nutrition
- If positive cultures: oral step-down antibiotic appropriate and prescribed (for uncomplicated bacteremia with susceptible organism)
- Source controlled (catheter removed if CRBSI, abscess drained if present)

- Oncologist aware and follow-up scheduled for next chemo cycle planning
- Patient educated: neutropenic precautions until ANC >1000 (hand hygiene, avoid sick contacts, food safety, temperature monitoring, when to call/return to ED)

TRANSITION TO:

- Home: majority once ANC recovering and afebrile
- Home with OPAT: if IV antibiotics still needed for documented infection
- SNF: if deconditioning, unable to manage at home, ongoing PICC/IV antibiotic management

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. NCCN Clinical Practice Guidelines: Prevention and Treatment of Cancer-Related Infections. Version 1.2024. 2. IDSA Clinical Practice Guideline for Use of Antimicrobials in Neutropenic Patients with Cancer. Freifeld AG, et al. Clin Infect Dis. 2011;52:e56-e93. 3. MASCC Risk Index. Klastersky J, et al. JCO. 2000;18:3038-3051. 4. ASCO/IDSA Guideline Update on Antimicrobials for Febrile Neutropenia. Taplitz RA, et al. JCO. 2018;36:1443-1453. 5. IDSA CRBSI Guidelines. Mermel LA, et al. Clin Infect Dis. 2009;49:1-45.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 840: Lymphoma & Non-Acute Leukemia w MCC (RW ~2.88) — if underlying malignancy
- DRG 841: w CC (RW ~1.63) | DRG 842: w/o CC/MCC (RW ~1.07)
- DRG 811-813: RBC Disorders (if neutropenia coded as primary) (RW ~1.63 / 1.00 / 0.70)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if septic shock) | 0250: Pharmacy (cefepime/meropenem, vancomycin, antifungals)
- 0300: Lab (cultures, CBC daily, procalcitonin) | 0350: CT Chest (if pulmonary infiltrate)
- 0636: Drugs (antifungals — high-cost: caspofungin, voriconazole, liposomal amphotericin B)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: Curative Appendix A; IDSA/NCCN 2018 FN Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: CRS grade ≥3 (CAR-T) requiring vasopressors, ICANS grade ≥3, septic shock from neutropenia, tumor lysis with severe AKI on CRRT, intracranial mass with herniation risk on osmotherapy, ventilator support.
- Stepdown (Telemetry/PCU): CRS grade 2 on tocilizumab, ICANS grade 1–2 with frequent neuro checks, febrile neutropenia with hemodynamic concern, tumor lysis on aggressive IV fluids/rasburicase, post-engraftment graft failure monitoring.
- Med-Surg: Afebrile, ANC recovering, tolerating diet, transitioning IV → PO antibiotics, completing chemotherapy cycle, mucositis improving.
- Observation: Generally not applicable for active induction/HSCT/CAR-T; chemo administration with rapid recovery may use observation status when CMS criteria met.
- Post-Acute (SNF/IRF/LTAC): Post-HSCT/CAR-T patients deconditioned may require SNF; LTAC for prolonged vent weaning; IRF for stroke/neurologic complication.
- Home (with/without HHA): Afebrile, ANC ≥500, tolerating PO, pain controlled, follow-up onc 1–2 times/week; HHA for IV antibiotics, line care, and home labs.

LOC Grid Sources: NCCN Hematologic Malignancies Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT/EBMT HSCT Standards 2023; ASTCT CRS/ICANS Consensus 2019 (Lee criteria).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent febrile neutropenia despite broad-spectrum antibiotics → escalation or addition of antifungal
- Tumor lysis with continued laboratory abnormalities requiring rasburicase or dialysis
- Mucositis preventing oral intake with TPN dependence
- CRS or ICANS persisting beyond expected duration requiring tocilizumab/anakinra/steroids
- Graft failure or delayed engraftment (HSCT) beyond expected day +14

Extended Stay Sources: Sources: NCCN Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT CRS/ICANS Consensus 2019.

SICKLE CELL VASO-OCCLUSIVE CRISIS

ICD-10-CM: D57.00 (Hb-SS disease with crisis unspecified), D57.01 (Hb-SS disease with acute chest syndrome), D57.02 (Hb-SS

disease with splenic sequestration) (Hb-SS with crisis), D57.211 (Hb-SS disease with acute chest syndrome), D57.212 (Hb-SS disease with splenic sequestration), D57.213 (Hb-SS with cerebral vascular involvement), D57.214 (Hb-SS with dactylitis), D57.218 (Hb-SS with other crisis), D57.219 (Hb-SS with crisis unspecified) (Hb-SS with ACS), D57.411 (sickle-cell thalassemia with acute chest syndrome), D57.412 (with splenic sequestration), D57.413 (with cerebral vascular involvement), D57.414 (with dactylitis), D57.418 (with crisis with other specified complication), D57.419 (with crisis unspecified) (Hb-SC with crisis), D57.811 (other sickle-cell disorders with acute chest syndrome), D57.812 (with splenic sequestration), D57.813 (with cerebral vascular involvement), D57.814 (with dactylitis), D57.818 (with other crisis), D57.819 (with crisis unspecified) (other SCD with crisis)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- Severe pain (VAS/NRS ≥7/10) not controlled with home PO opioid regimen
- Pain requiring ≥2 doses IV opioid in ED without adequate relief
- Fever ≥38.5°C with SCD (must rule out ACS, osteomyelitis, bacteremia — functional asplenia risk)
- Acute Chest Syndrome (ACS): new pulmonary infiltrate + ≥1 of: fever, chest pain, cough, dyspnea, hypoxemia (SpO2 <95% or >3% below baseline)
- Hemoglobin <6 g/dL or Hgb drop >2 g/dL from baseline (aplastic crisis, splenic sequestration)
- Reticulocyte count <1% with Hgb drop (aplastic crisis — parvovirus B19)
- Priapism >4 hours (urologic emergency)
- Acute stroke symptoms (see Stroke criteria — SCD patients at high risk)
- SpO2 <95% or >3% below baseline
- Splenic sequestration: rapidly enlarging spleen with Hgb drop >2 g/dL, tachycardia, LUQ pain

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- IV opioid analgesia per sickle cell pain protocol (PCA pump preferred: morphine or hydromorphone)
- IV fluids: D5 1/2NS at 1-1.5x maintenance (avoid overhydration which worsens ACS)
- Simple transfusion if Hgb <7 or symptomatic anemia (target Hgb 10, do not exceed)
- Exchange transfusion (erythrocytapheresis) if: ACS with worsening hypoxemia, acute stroke, multiorgan failure, Hgb S >30% (target Hgb S <30%)
- Supplemental O2 to maintain SpO2 ≥95% (avoid unnecessary O2 which suppresses erythropoiesis)
- Incentive spirometry q2h while awake (ACS prevention — critical, evidence-based)
- Blood type and antibody screen (SCD patients develop alloantibodies; extended antigen matching required)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1:

- Pain not controlled after ≥2 IV opioid doses in ED (≥4-6 hours of ED management)
- ACS (all — no observation for ACS; 13% mortality, rapid deterioration possible)
- Hgb <7 or >2 g/dL drop from baseline
- Fever ≥38.5°C (need blood cultures and empiric antibiotics for functional asplenia)
- SpO2 <95% or new O2 requirement
- Priapism >4 hrs
- Stroke symptoms
- Splenic sequestration
- Aplastic crisis (reticulocyte count <1%)

OBSERVATION if ALL:

- Pain moderate (VAS 4-6), responding to IV opioids
- No ACS features (CXR clear, SpO2 ≥95%, no fever, no respiratory symptoms)
- Hgb at baseline, reticulocyte count normal
- Expected to transition to oral pain regimen within 24-48 hrs

OUTPATIENT / ED DISCHARGE if ALL:

- Pain controlled on PO regimen after 1-2 IV doses
- No ACS, no fever, SpO2 normal, Hgb at baseline
- Reliable follow-up with hematology within 48-72 hrs

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours (ICU every 12 hours for ACS/exchange transfusion)

DAY 1:

- Pain assessment q2-4h using NRS. PCA pump initiated with basal rate and demand dosing

- Incentive spirometry q2h while awake (document compliance — #1 intervention to prevent ACS)
- CBC with reticulocyte count, CMP, LDH, indirect bilirubin (hemolysis markers)
- If fever: blood cultures x2, CXR, UA/UCx. Empiric ceftriaxone until cultures finalized (encapsulated organisms: Streptococcus pneumoniae, H. flu due to functional asplenia)
- Type and screen (with extended antigen matching — document alloantibody history)
- IV fluids at maintenance (avoid overhydration)
- CXR if any respiratory symptom, fever, or SpO2 <95% (ACS can develop 24-72 hrs into admission)

DAY 2-3:

- Pain trending: can PCA be reduced? Transition to IV PRN then PO opioid?
- ACS surveillance: daily CXR if febrile or respiratory symptoms; continuous SpO2
- If ACS developing: escalate to simple transfusion or exchange transfusion
- Hgb stable or improving?
- Ambulation encouraged when pain allows
- Multimodal adjuncts: ketorolac (if Cr normal, ≤5 days), acetaminophen scheduled, heat packs, PT/OT

CONTINUED STAY >3 DAYS JUSTIFIED IF:

- Pain not controlled on PO regimen (still requiring IV PCA)
- ACS requiring ongoing O2, transfusion, or exchange transfusion
- New fever or culture-positive infection requiring IV antibiotics
- Stroke evaluation/management
- Multiorgan failure (hepatic sequestration, renal papillary necrosis, priapism management)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Pain controlled on oral opioid regimen for ≥12 hours (NRS ≤4/10 at baseline tolerable level)
- PCA discontinued ≥12 hours, oral regimen stable
- SpO2 ≥95% on room air (or at patient's baseline)
- Afebrile for ≥24 hours
- CXR stable or clear (no new/worsening ACS)
- Hgb at baseline or stable post-transfusion
- Tolerating oral intake
- Ambulating at baseline level
- Incentive spirometry compliance confirmed and device provided for home use
- Discharge opioid prescription: appropriate quantity (typically 5-7 day supply), naloxone coprescribed
- Hydroxyurea compliance assessed (if on hydroxyurea); if not on disease-modifying therapy, hematology referral for discussion
- Hematology follow-up within 1-2 weeks
- Transition of care plan: PCP and hematologist notified of admission, discharge medications documented, crisis action plan reviewed

TRANSITION TO:

- Home: majority once pain controlled on oral regimen
- Home Health: if infusion needs (desferoxamine for iron overload) or complex medication management

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ASH Clinical Practice Guidelines for SCD: Management of Acute and Chronic Complications. Brandow AM, et al. Blood Adv. 2020;4:2656-2701. 2. NHLBI Expert Panel Report: Evidence-Based Management of SCD. NIH Publication. 2014. 3. ACS in SCD. Vichinsky EP, et al. NEJM. 2000;342:1855-1865. 4. ASH Guidelines: SCD Cardiopulmonary and Kidney Disease. Liem RI, et al. Blood Adv. 2019;3:3867-3897. 5. ATS Clinical Practice Guideline: ACS in SCD. Farooq S, et al. AJRCCM. 2024;209:1-14.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 811: Red Blood Cell Disorders w MCC (RW ~1.63)
- DRG 812: Red Blood Cell Disorders w CC (RW ~1.00)
- DRG 813: Red Blood Cell Disorders w/o CC/MCC (RW ~0.70)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if ACS/exchange transfusion) | 0250: Pharmacy (PCA pump opioids)
- 0300: Lab (CBC, reticulocyte, hemoglobin electrophoresis) | 0320: Radiology (CXR for ACS)

- 0390: Blood/Blood Products (transfusions, exchange transfusion)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-5 days Source: Curative Appendix A; ASH 2020 SCD Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe SCD with ACS requiring mechanical ventilation, exchange transfusion in progress, DIC with hemodynamic instability, TTP/HUS with neurologic involvement on TPE, severe anemia <5 with hemodynamic compromise.
- Stepdown (Telemetry/PCU): PCA opioid titration, IS q1h, supplemental O_2, daily TPE, frequent labs, transfusion-dependent anemia.
- Med-Surg: Pain controlled on transitioning PCA → PO opioid, SpO_2 ≥95% on RA, no transfusion ≥24h, completing TPE course.
- Observation: Uncomplicated vaso-occlusive pain crisis with rapid response to IV opioid bolus and PO transition within 24 hours.
- Post-Acute (SNF/IRF/LTAC): Rarely needed; SNF if home unsafe for transfusion-dependent or chronic exchange.
- Home (with/without HHA): Pain controlled on PO, SpO_2 stable, hemoglobin trending, follow-up hematology in 1–2 weeks; HHA for IV iron or exchange bridge.

LOC Grid Sources: ASH 2020 SCD Guidelines; ISTH 2020 TTP Guideline; ISTH 2009 DIC Scoring System.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Acute chest syndrome with persistent hypoxia (SCD)
- Continued exchange transfusion course (multiday TPE for TTP)
- Persistent thrombocytopenia, hemolysis, or LDH elevation (TTP/HUS)
- Splenic sequestration crisis or new stroke (SCD)
- Pain crisis not yet controlled on PO opioid taper

Extended Stay Sources: Sources: ASH 2020 SCD Guidelines; ISTH 2020 TTP Guideline.

DIC (DISSEMINATED INTRAVASCULAR COAGULATION)

ICD-10-CM: D65

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Patient must meet ≥1 of the following:

- ISTH DIC Score ≥5 (compatible with overt DIC): Platelet count (>100K=0, 50-100K=+1, <50K=+2) + Fibrin markers/D-dimer (no increase=0, moderate=+2, strong=+3) + Prolonged PT (<3 sec=0, 3-6

sec=+1, >6 sec=+2) + Fibrinogen (>1.0g/L=0, <1.0g/L=+1)

- Platelet count <50,000 and dropping rapidly
- D-dimer markedly elevated (>10x ULN)
- Fibrinogen <150 mg/dL (or <100 — critical; indicates consumption)
- PT/INR prolonged, aPTT prolonged (consumption of clotting factors)
- Schistocytes on peripheral smear (microangiopathic hemolytic anemia)
- Active bleeding from multiple sites (IV sites, surgical wounds, mucosal) AND/OR thrombosis (DVT, PE, arterial)
- Underlying cause: sepsis (#1), trauma, malignancy (APL, adenocarcinoma), obstetric complications (abruption, amniotic fluid embolism, HELLP)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- TREAT THE UNDERLYING CAUSE (most important intervention)
- Blood product support: FFP (INR >1.5 with bleeding), cryoprecipitate (fibrinogen <100), platelets (<50K with bleeding or <20K without), pRBC for anemia
- Continuous monitoring, labs q6-12h (CBC, PT, aPTT, fibrinogen, D-dimer)
- Heparin: considered for DIC with predominantly thrombotic manifestations (not actively hemorrhaging)
- APL-related DIC: ATRA (all-trans retinoic acid) is the definitive treatment + aggressive blood product support

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT/ICU for overt DIC

- DIC is a secondary process — the underlying cause also requires inpatient management

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 6-12 hours (ICU) Labs q6-12h: platelet count, PT/INR, aPTT, fibrinogen, D-dimer trending. Underlying cause being treated. Blood product transfusion ongoing per thresholds. Reassess every lab cycle: fibrinogen >100? platelets >20K? bleeding controlled? CONTINUED STAY: Until underlying cause controlled and DIC resolving (fibrinogen rising, platelets rising, D-dimer falling, PT normalizing)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Underlying cause treated and controlled
- Fibrinogen >150, platelets >50K (and rising), PT normalizing, D-dimer declining
- No active bleeding or thrombosis for ≥24 hours
- Off blood product support ≥24 hours
- Hematology follow-up arranged

TRANSITION TO: Per underlying condition (sepsis → home/SNF; malignancy → oncology follow-up; obstetric → per OB disposition)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ISTH Guideline: Diagnosis and Treatment of DIC. Levi M, et al. J Thromb Haemost. 2009;7:1737-1740. 2. ISTH DIC Scoring System. Taylor FB, et al. Thromb Haemost. 2001;86:1327-1330. 3. BSH Guideline: DIC. Levi M, et al. Br J Haematol. 2009;145:24-33.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 813: Coagulation Disorders (RW ~1.42) — primary DIC
- NOTE: DRG often determined by underlying cause (sepsis DRG 871, obstetric DRG, trauma DRG) rather than DIC code

REVENUE CODES:

- 0200: ICU | 0390: Blood Products (pRBC, FFP, cryoprecipitate, platelets — massive transfusion)
- 0300: Lab (CBC, PT/INR, aPTT, fibrinogen, D-dimer q6-8h) | 0250: Pharmacy | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: ISTH 2009 DIC Scoring; treat underlying cause

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe SCD with ACS requiring mechanical ventilation, exchange transfusion in progress, DIC with hemodynamic instability, TTP/HUS with neurologic involvement on TPE, severe anemia <5 with hemodynamic compromise.
- Stepdown (Telemetry/PCU): PCA opioid titration, IS q1h, supplemental O_2, daily TPE, frequent labs, transfusion-dependent anemia.
- Med-Surg: Pain controlled on transitioning PCA → PO opioid, SpO_2 ≥95% on RA, no transfusion ≥24h, completing TPE course.
- Observation: Uncomplicated vaso-occlusive pain crisis with rapid response to IV opioid bolus and PO transition within 24 hours.
- Post-Acute (SNF/IRF/LTAC): Rarely needed; SNF if home unsafe for transfusion-dependent or chronic exchange.
- Home (with/without HHA): Pain controlled on PO, SpO_2 stable, hemoglobin trending, follow-up hematology in 1–2 weeks; HHA for IV iron or exchange bridge.

LOC Grid Sources: ASH 2020 SCD Guidelines; ISTH 2020 TTP Guideline; ISTH 2009 DIC Scoring System.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Acute chest syndrome with persistent hypoxia (SCD)
- Continued exchange transfusion course (multiday TPE for TTP)
- Persistent thrombocytopenia, hemolysis, or LDH elevation (TTP/HUS)
- Splenic sequestration crisis or new stroke (SCD)
- Pain crisis not yet controlled on PO opioid taper

Extended Stay Sources: Sources: ASH 2020 SCD Guidelines; ISTH 2020 TTP Guideline.

TUMOR LYSIS SYNDROME (TLS)

ICD-10-CM: E88.3

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Cairo-Bishop Classification: Laboratory TLS (≥2 of within 3 days before or 7 days after chemo): uric acid

≥8 mg/dL or 25% increase, K+ ≥6.0 or 25% increase, phosphate ≥4.5 or 25% increase, calcium ≤7.0 or 25% decrease Clinical TLS: Laboratory TLS + ≥1 of: Cr ≥1.5x ULN, cardiac arrhythmia/sudden death, seizure

- High-risk malignancies: Burkitt lymphoma, B-cell ALL, AML with WBC >100K, DLBCL with bulky disease, any tumor with rapid proliferation/high tumor burden
- Spontaneous TLS (before treatment) possible with very high proliferation tumors
- Hyperkalemia with ECG changes (most immediately life-threatening component)
- AKI from uric acid crystal deposition or calcium-phosphate precipitation in renal tubules

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Aggressive IV hydration (3L/m²/day or 200 mL/hr) to maintain UOP ≥100-200 mL/hr
- Rasburicase 0.2mg/kg IV single dose (rapidly converts uric acid to allantoin; use if uric acid >8 or rapidly rising). Contraindicated in G6PD deficiency (hemolytic anemia).
- Allopurinol 600-800mg/day for prophylaxis (but does NOT lower existing uric acid — only prevents new formation)
- Hyperkalemia treatment per protocol (see Electrolyte criteria)
- Phosphate binders (sevelamer, aluminum hydroxide) for hyperphosphatemia
- Dialysis for: refractory hyperkalemia, symptomatic hypocalcemia with hyperphosphatemia, severe AKI, volume overload
- Labs q4-6h: BMP + Ca + phosphate + uric acid + LDH (until stable for 24 hrs)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for clinical TLS or high-risk patients receiving chemotherapy

- ICU if: symptomatic hyperkalemia, AKI requiring dialysis, cardiac arrhythmia, seizure

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Labs q4-6h during active TLS; Every 12 hours once stabilizing KEY MILESTONES: Uric acid normalizing (<8), K+ <5.5, phosphate declining, calcium stable, Cr stable/improving, UOP adequate on IV fluids CONTINUED STAY: Until all metabolic parameters stable for ≥24 hours and renal function stable

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Uric acid <8 mg/dL, K+ <5.0, phosphate <4.5, calcium >8.0 — all stable ≥24 hrs
- Cr at baseline or stable
- Adequate UOP without aggressive IV fluids
- No arrhythmia or seizure
- Ongoing chemotherapy plan documented with TLS monitoring schedule
- Oncology follow-up per chemotherapy regimen

TRANSITION TO: Per underlying malignancy treatment plan

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ASCO/TLS Expert Panel Recommendations. Cairo MS, et al. JCO. 2024;42:1571-1582. 2. Cairo-Bishop Classification. Cairo MS, Bishop M. Br J Haematol. 2004;127:3-11. 3. Rasburicase Meta-Analysis. Lopez-Olivo MA, et al. Haematologica. 2020;105:e55-e59.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 640-642: Misc Disorders of Nutrition/Metabolism/Fluids (RW ~1.42 / 0.85 / 0.58)
- DRG 834-836: Acute Leukemia (if TLS from leukemia treatment) (RW ~4.56 / 2.72 / 1.68)

REVENUE CODES:

- 0200: ICU | 0250: Pharmacy (rasburicase — high-cost, allopurinol, aggressive IV fluids)
- 0300: Lab (BMP q4-6h, uric acid, phosphorus, LDH, calcium) | 0800: Dialysis (if AKI)
- 0636: Drugs Requiring Detailed Coding (rasburicase)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: Cairo-Bishop Criteria; NCCN TLS Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: CRS grade ≥3 (CAR-T) requiring vasopressors, ICANS grade ≥3, septic shock from neutropenia, tumor lysis with severe AKI on CRRT, intracranial mass with herniation risk on osmotherapy, ventilator support.
- Stepdown (Telemetry/PCU): CRS grade 2 on tocilizumab, ICANS grade 1–2 with frequent neuro checks, febrile neutropenia with hemodynamic concern, tumor lysis on aggressive IV fluids/rasburicase, post-engraftment graft failure monitoring.

- Med-Surg: Afebrile, ANC recovering, tolerating diet, transitioning IV → PO antibiotics, completing chemotherapy cycle, mucositis improving.
- Observation: Generally not applicable for active induction/HSCT/CAR-T; chemo administration with rapid recovery may use observation status when CMS criteria met.
- Post-Acute (SNF/IRF/LTAC): Post-HSCT/CAR-T patients deconditioned may require SNF; LTAC for prolonged vent weaning; IRF for stroke/neurologic complication.
- Home (with/without HHA): Afebrile, ANC ≥500, tolerating PO, pain controlled, follow-up onc 1–2 times/week; HHA for IV antibiotics, line care, and home labs.

LOC Grid Sources: NCCN Hematologic Malignancies Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT/EBMT HSCT Standards 2023; ASTCT CRS/ICANS Consensus 2019 (Lee criteria).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent febrile neutropenia despite broad-spectrum antibiotics → escalation or addition of antifungal
- Tumor lysis with continued laboratory abnormalities requiring rasburicase or dialysis
- Mucositis preventing oral intake with TPN dependence
- CRS or ICANS persisting beyond expected duration requiring tocilizumab/anakinra/steroids
- Graft failure or delayed engraftment (HSCT) beyond expected day +14

Extended Stay Sources: Sources: NCCN Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT CRS/ICANS Consensus 2019.

TTP / HUS (THROMBOTIC MICROANGIOPATHY)

ICD-10-CM: M31.1 (TTP), D59.30 (hemolytic-uremic syndrome unspecified), D59.31 (infection-associated HUS), D59.32 (hereditary HUS), D59.39 (other hemolytic-uremic syndrome) (HUS), D69.41 (Evans syndrome), D69.42 (congenital/hereditary TTP)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Classic pentad (full pentad in <5% of TTP; do NOT wait for all): thrombocytopenia, MAHA (schistocytes on smear, elevated LDH, low haptoglobin, indirect hyperbilirubinemia, negative direct Coombs), renal impairment, fever, neurologic symptoms (confusion, headache, seizure, stroke-like)

- PLASMIC score for TTP (Platelet <30K, combined hemolysis variables, no active cancer, no stem cell transplant, MCV <90, INR <1.5, Cr <2.0): ≥6 = high probability TTP
- ADAMTS13 activity <10% confirms TTP (send BEFORE plasma exchange)
- HUS: MAHA + thrombocytopenia + AKI, often post-diarrheal (STEC-HUS in children: E.coli O157:H7) or complement-mediated (aHUS)

INTENSITY OF SERVICE (IS) — Must require ≥1: EMERGENT plasma exchange (TPE) for TTP — mortality >90% without treatment, <20% with. Start TPE empirically if TTP suspected — do NOT wait for ADAMTS13 result. Corticosteroids (methylprednisolone 1g IV x 3 days then prednisone), caplacizumab (anti-vWF nanobody) per HERCULES trial, rituximab for refractory/relapsing TTP. HUS: supportive care for STEC-HUS (NO antibiotics — may worsen), eculizumab for aHUS, dialysis for AKI.

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT/ICU for TTP. ALWAYS INPATIENT for HUS.

- TTP: ICU with daily plasma exchange until platelet count >150K x 2 days and LDH normalizing

C. CONTINUED STAY / CONCURRENT REVIEW

q12h ICU. Daily: CBC, LDH, haptoglobin, reticulocyte count, Cr, peripheral smear. TPE daily until platelets >150K x 2 consecutive days. Platelet count should rise within 3-5 days of TPE. If platelets not responding by day 5-7: escalate (rituximab, increase TPE volume, caplacizumab). DO NOT TRANSFUSE PLATELETS in TTP (fuels microthrombosis) unless life-threatening hemorrhage. CONTINUED STAY IF: Platelets not responding to TPE, neurologic symptoms persisting, AKI requiring dialysis, relapse after initial response

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Platelets >150K x 2 consecutive days
- LDH normalizing, haptoglobin rising
- No neurologic symptoms
- Cr stable or improving
- ADAMTS13 result reviewed: if <10%, confirms TTP diagnosis; plan for long-term monitoring
- Caplacizumab course continued x 30 days post last TPE (with ADAMTS13 monitoring)

- Prednisone taper prescribed
- Hematology follow-up 1 week with CBC, LDH, ADAMTS13
- Patient educated: relapse signs (bruising, headache, dark urine → ED immediately)

TRANSITION TO: Home (majority once platelets stable); close outpatient hematology monitoring

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ASH ISTH Guidelines for TTP. Zheng XL, et al. Blood Adv. 2020;4:4648-4668. 2. HERCULES Trial (Caplacizumab). Scully M, et al. NEJM. 2019;380:335-346. 3. PLASMIC Score. Bendapudi PK, et al. Lancet Haematol. 2017;4:e157-e164. 4. KDIGO Guideline: aHUS. Goodship THJ, et al. Kidney Int. 2017;91:539-551.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 813: Coagulation Disorders (RW ~1.42)
- DRG 814: Reticuloendothelial & Immunity Disorders w MCC (RW ~1.88)

REVENUE CODES:

- 0200: ICU | 0390: Blood Products (daily plasma exchange — FFP, apheresis)
- 0250: Pharmacy (caplacizumab, steroids, rituximab) | 0300: Lab (CBC, LDH, haptoglobin, ADAMTS13 daily)
- 0636: Drugs (caplacizumab — high-cost; rituximab) | 0800: Apheresis services

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 7-14 days Source: Curative Appendix A; ISTH 2020 TTP Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe SCD with ACS requiring mechanical ventilation, exchange transfusion in progress, DIC with hemodynamic instability, TTP/HUS with neurologic involvement on TPE, severe anemia <5 with hemodynamic compromise.
- Stepdown (Telemetry/PCU): PCA opioid titration, IS q1h, supplemental O_2, daily TPE, frequent labs, transfusion-dependent anemia.
- Med-Surg: Pain controlled on transitioning PCA → PO opioid, SpO_2 ≥95% on RA, no transfusion ≥24h, completing TPE course.
- Observation: Uncomplicated vaso-occlusive pain crisis with rapid response to IV opioid bolus and PO transition within 24 hours.
- Post-Acute (SNF/IRF/LTAC): Rarely needed; SNF if home unsafe for transfusion-dependent or chronic exchange.
- Home (with/without HHA): Pain controlled on PO, SpO_2 stable, hemoglobin trending, follow-up hematology in 1–2 weeks; HHA for IV iron or exchange bridge.

LOC Grid Sources: ASH 2020 SCD Guidelines; ISTH 2020 TTP Guideline; ISTH 2009 DIC Scoring System.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Acute chest syndrome with persistent hypoxia (SCD)
- Continued exchange transfusion course (multiday TPE for TTP)
- Persistent thrombocytopenia, hemolysis, or LDH elevation (TTP/HUS)
- Splenic sequestration crisis or new stroke (SCD)
- Pain crisis not yet controlled on PO opioid taper

Extended Stay Sources: Sources: ASH 2020 SCD Guidelines; ISTH 2020 TTP Guideline.

MALIGNANT SPINAL CORD COMPRESSION (ONCOLOGIC EMERGENCY)

ICD-10-CM: G95.20, G95.29 (cord compression), C79.49 (metastasis to other parts of nervous system)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Known malignancy (breast, lung, prostate, myeloma most common) with: new back pain (90% present with pain first), neurological deficit (weakness, sensory changes, bowel/bladder dysfunction), MRI showing epidural disease with cord compression or cauda equina compression

- EMERGENT: progressive weakness, urinary retention/incontinence (cauda equina), saddle anesthesia, bilateral symptoms

INTENSITY OF SERVICE (IS) — Must require ≥1: Dexamethasone 10mg IV stat then 4mg IV q6h (reduce edema, improve neurological function pending definitive treatment), emergent MRI entire spine (33% have multilevel compression), radiation oncology consultation for emergent RT (most common definitive treatment: 30 Gy in 10 fractions or 8 Gy single fraction for poor prognosis), surgical consultation per Patchell criteria (single-level compression with ≥3-month life expectancy + radioresistant tumor or

unknown primary: surgical decompression + RT superior to RT alone), neurosurgical decompression within 24-48 hrs if indicated

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for malignant SCC with neurological deficit INPATIENT: Even without deficit if: high-grade compression on MRI with impending cord compromise, pain requiring IV management

C. CONTINUED STAY / CONCURRENT REVIEW

q24h with neuro checks q8-12h. DAY 1: MRI complete, dexamethasone started, multidisciplinary discussion (radiation oncology + surgery + medical oncology), ambulatory status documented (Tokuhashi/Tomita score for prognosis and treatment planning). DAY 2-7: RT or surgery initiated, neurological function trend, pain management, DVT prophylaxis, bowel program. CONTINUED STAY IF: Awaiting or recovering from surgery, completing inpatient RT course, neurological decline, pain requiring IV management, functional dependence requiring rehab disposition planning

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Neurological exam stable or improved post-treatment
- Dexamethasone taper prescribed (over 2-4 weeks to lowest effective dose)
- RT course completed or plan for outpatient continuation documented
- Pain controlled on oral medications
- Ambulatory with assistive device (if still ambulatory) or wheelchair
- Bowel/bladder program established if dysfunction present
- Oncology/RT/neurosurgery follow-up 2-4 weeks
- PPI + calcium/vitamin D if on prolonged dexamethasone

TRANSITION TO: IRF (functional deficits, rehab potential), SNF (medical complexity, hospice transition), Home with Home Health, Hospice (if prognosis <6 months and patient elects comfort)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. Patchell RA, et al. Direct Decompressive Surgical Resection in Treatment of SCC. Lancet. 2005;366:643-648. 2. NICE Guideline: Metastatic SCC (CG75). 2008 (2023 update). 3. NCCN Clinical Practice Guidelines: Central Nervous System Cancers. Version 2.2024. 4. Loblaw DA, et al. Systematic Review of RT for MSCC. JCO. 2005;23:2043-2049.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 028-030: Spinal Procedures w MCC/CC/w/o (RW ~4.19 / 2.56 / 1.89) — if surgical decompression
- DRG 054: Nervous System Neoplasms w MCC (RW ~1.72) — if medical/radiation only

REVENUE CODES:

- 0360: OR (decompressive laminectomy) | 0330: Radiation Therapy | 0610: MRI Spine
- 0250: Pharmacy (dexamethasone) | 0300: Lab | 0420: PT | 0430: OT

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 5-10 days Source: NICE Metastatic Spinal Cord Compression (CG75)

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: CRS grade ≥3 (CAR-T) requiring vasopressors, ICANS grade ≥3, septic shock from neutropenia, tumor lysis with severe AKI on CRRT, intracranial mass with herniation risk on osmotherapy, ventilator support.
- Stepdown (Telemetry/PCU): CRS grade 2 on tocilizumab, ICANS grade 1–2 with frequent neuro checks, febrile neutropenia with hemodynamic concern, tumor lysis on aggressive IV fluids/rasburicase, post-engraftment graft failure monitoring.
- Med-Surg: Afebrile, ANC recovering, tolerating diet, transitioning IV → PO antibiotics, completing chemotherapy cycle, mucositis improving.
- Observation: Generally not applicable for active induction/HSCT/CAR-T; chemo administration with rapid recovery may use observation status when CMS criteria met.
- Post-Acute (SNF/IRF/LTAC): Post-HSCT/CAR-T patients deconditioned may require SNF; LTAC for prolonged vent weaning; IRF for stroke/neurologic complication.
- Home (with/without HHA): Afebrile, ANC ≥500, tolerating PO, pain controlled, follow-up onc 1–2 times/week; HHA for IV antibiotics, line care, and home labs.

LOC Grid Sources: NCCN Hematologic Malignancies Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT/EBMT HSCT Standards 2023; ASTCT CRS/ICANS Consensus 2019 (Lee criteria).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity

triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent febrile neutropenia despite broad-spectrum antibiotics → escalation or addition of antifungal
- Tumor lysis with continued laboratory abnormalities requiring rasburicase or dialysis
- Mucositis preventing oral intake with TPN dependence
- CRS or ICANS persisting beyond expected duration requiring tocilizumab/anakinra/steroids
- Graft failure or delayed engraftment (HSCT) beyond expected day +14

Extended Stay Sources: Sources: NCCN Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT CRS/ICANS Consensus 2019.

SVC SYNDROME (SUPERIOR VENA CAVA SYNDROME)

ICD-10-CM: I87.1 (compression of vein), C78.1 (secondary malignant neoplasm of mediastinum)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Facial/neck/upper extremity edema, JVD, dyspnea, cough, head fullness/headache worse when bending forward, dilated superficial chest/neck veins (collateral circulation), stridor (airway compromise), cerebral edema (confusion, papilledema — emergent), CT chest with contrast showing SVC obstruction/compression/thrombosis, underlying malignancy (lung cancer 50%, lymphoma 25%, mediastinal mass, thymoma) or indwelling central venous catheter/pacemaker lead

INTENSITY OF SERVICE (IS) — Must require ≥1: Elevate head of bed 45°, supplemental O2, IV dexamethasone 4mg q6h (if lymphoma suspected or significant edema), tissue diagnosis (CT-guided biopsy, bronchoscopy, mediastinoscopy — critical to establish histology before treatment unless airway emergency), radiation therapy (emergent for airway compromise or cerebral edema), chemotherapy (lymphoma, SCLC — highly chemo-sensitive), endovascular SVC stenting (rapid relief within 24-72 hrs, especially if thrombosis or need for rapid symptom palliation), anticoagulation if catheter-associated SVC thrombosis

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for symptomatic SVC syndrome ICU if: stridor, cerebral edema, hemodynamic compromise

C. CONTINUED STAY / CONCURRENT REVIEW

q24h. DAY 1-2: CT chest with contrast completed, tissue biopsy planned or completed (do NOT delay treatment if airway compromise), dexamethasone started, head elevation, symptom trend. DAY 3-7: Treatment based on histology: lymphoma/SCLC → chemotherapy (often dramatic response); NSCLC/thymoma → RT ± chemo; catheter-related → anticoagulation ± catheter removal; SVC stenting if: tissue diagnosis obtained and awaiting treatment effect, or refractory symptoms. CONTINUED STAY IF: Airway compromise, cerebral edema, awaiting tissue diagnosis, initiating chemotherapy requiring inpatient monitoring, stenting procedure

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Facial/upper extremity edema improving
- No stridor or cerebral edema symptoms
- Tissue diagnosis established and treatment plan documented
- Able to lie relatively flat without severe symptoms (sleeping comfortably)
- Treatment initiated (chemo cycle 1 if lymphoma/SCLC, RT started, or stent placed)
- Oncology follow-up 1-2 weeks, repeat CT at 4-6 weeks

TRANSITION TO: Home (majority once treatment initiated and symptoms improving)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. NCCN Guidelines: Non-Small Cell Lung Cancer. Version 2024. 2. Wilson LD, et al. SVC Syndrome. NEJM. 2007;356:1862-1869. 3. Defined Medical/Interventional Management. Lancet Oncol. 2008;9:892-902.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 180: Respiratory Neoplasms w MCC (RW ~1.85) — most common underlying cause is lung cancer
- DRG 181: Respiratory Neoplasms w CC (RW ~1.23)
- DRG 252-254: Other Vascular Procedures (if SVC stenting) (RW ~3.46 / 2.22 / 1.59)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if airway compromise) | 0330: Radiation Therapy (emergent XRT)
- 0481: IR (SVC stenting) | 0350: CT Chest (CTV) | 0250: Pharmacy (dexamethasone, chemotherapy)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: NCCN Oncologic Emergencies

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: CRS grade ≥3 (CAR-T) requiring vasopressors, ICANS grade ≥3, septic shock from neutropenia, tumor lysis with severe AKI on CRRT, intracranial mass with herniation risk on osmotherapy, ventilator support.
- Stepdown (Telemetry/PCU): CRS grade 2 on tocilizumab, ICANS grade 1–2 with frequent neuro checks, febrile neutropenia with hemodynamic concern, tumor lysis on aggressive IV fluids/rasburicase, post-engraftment graft failure monitoring.
- Med-Surg: Afebrile, ANC recovering, tolerating diet, transitioning IV → PO antibiotics, completing chemotherapy cycle, mucositis improving.
- Observation: Generally not applicable for active induction/HSCT/CAR-T; chemo administration with rapid recovery may use observation status when CMS criteria met.
- Post-Acute (SNF/IRF/LTAC): Post-HSCT/CAR-T patients deconditioned may require SNF; LTAC for prolonged vent weaning; IRF for stroke/neurologic complication.
- Home (with/without HHA): Afebrile, ANC ≥500, tolerating PO, pain controlled, follow-up onc 1–2 times/week; HHA for IV antibiotics, line care, and home labs.

LOC Grid Sources: NCCN Hematologic Malignancies Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT/EBMT HSCT Standards 2023; ASTCT CRS/ICANS Consensus 2019 (Lee criteria).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent febrile neutropenia despite broad-spectrum antibiotics → escalation or addition of antifungal
- Tumor lysis with continued laboratory abnormalities requiring rasburicase or dialysis
- Mucositis preventing oral intake with TPN dependence
- CRS or ICANS persisting beyond expected duration requiring tocilizumab/anakinra/steroids
- Graft failure or delayed engraftment (HSCT) beyond expected day +14

Extended Stay Sources: Sources: NCCN Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT CRS/ICANS Consensus 2019.

ACUTE LEUKEMIA — NEW DIAGNOSIS OR RELAPSE

ICD-10-CM: C91.00 (ALL not having achieved remission), C91.01 (ALL in remission), C91.02 (ALL in relapse) (ALL), C92.00 (AML not having achieved remission), C92.01 (AML in remission), C92.02 (AML in relapse) (AML), C92.40 (acute promyelocytic leukemia not achieved remission), C92.41 (APL in remission), C92.42 (APL in relapse) (APL), C93.00 (acute monocytic leukemia not achieved remission), C93.01 (in remission), C93.02 (in relapse) (acute monocytic), C94.00 (acute erythroid leukemia not achieved remission), C94.01 (in remission), C94.02 (in relapse) (acute erythroid), C95.00 (acute leukemia of unspecified cell type not achieved remission), C95.01 (in remission), C95.02 (in relapse) (unspecified)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Pancytopenia: WBC >100K (hyperleukocytosis) OR WBC <1K, Hgb <8, platelets <20K; DIC (especially APL — all-trans retinoic acid ATRA must be started immediately on suspicion); leukostasis symptoms (dyspnea, hypoxia, AMS, blurred vision — WBC >100K in AML); severe infection (febrile neutropenia — see FN criteria); tumor lysis syndrome (see TLS criteria); bleeding (petechiae, mucosal bleeding, ICH from thrombocytopenia or DIC)

INTENSITY OF SERVICE (IS) — Must require ≥1: Oncology/hematology emergent consultation, bone marrow biopsy and aspirate with flow cytometry and cytogenetics (critical for treatment selection), leukapheresis for leukostasis (WBC >100K with symptoms), ATRA started immediately if APL suspected (promyelocytes on smear, DIC — do NOT wait for genetic confirmation), hydroxyurea for cytoreduction if WBC >50K, TLS prophylaxis (aggressive hydration, rasburicase if uric acid elevated, allopurinol), transfusion support (platelets >10K or >20K if febrile/bleeding, pRBC for symptomatic anemia), broad-spectrum antibiotics for febrile neutropenia, central line placement for chemotherapy

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for new diagnosis of acute leukemia or relapse Expected prolonged inpatient stay: AML induction 4-6 weeks, ALL induction 4-6 weeks, APL induction 4-6 weeks

C. CONTINUED STAY / CONCURRENT REVIEW

q24h (more frequent during induction chemotherapy). DAY 1-3: Diagnostic workup complete (marrow, flow, cytogenetics, FISH, molecular testing), central line placed, TLS prophylaxis, blood product support. DAY 4-7: Induction chemotherapy initiated (AML: 7+3 cytarabine + daunorubicin; ALL: multi-agent per NCCN; APL: ATRA + arsenic trioxide per Lo-Coco protocol). DAY 7-28: Nadir period — prolonged severe neutropenia (ANC <100 for 2-3 weeks typical), daily CBC, febrile neutropenia management, transfusion support, infection surveillance, nutrition support. DAY 28-35: Count recovery assessment, repeat marrow to assess remission. CONTINUED STAY: Until count recovery (ANC >500 sustained), afebrile, transfusion-independent, tolerating oral, safe for discharge

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- ANC >500 and rising for ≥2 consecutive days
- Platelet count >20K (or >10K if stable and asymptomatic) without transfusion x 48 hrs
- Afebrile ≥48 hrs off antibiotics (or planned oral antibiotic/antifungal prophylaxis)
- Tolerating oral intake and medications
- No active bleeding
- Remission status documented (complete remission vs. persistent disease on marrow)
- Consolidation therapy plan documented
- Oncology follow-up 1-2 weeks, weekly CBC during consolidation
- Neutropenic precautions counseled (hand hygiene, food safety, avoid crowds, temperature monitoring)

TRANSITION TO: Home (majority once counts recovering); readmission for consolidation cycles

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. NCCN Clinical Practice Guidelines: AML. Version 2024. 2. NCCN Clinical Practice Guidelines: ALL. Version 2024. 3. Lo-Coco F, et al. ATRA + ATO for APL. NEJM. 2013;369:111-121. 4. Dohner H, et al. ELN Recommendations for AML. Blood. 2022;140:2375-2408.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 834: Acute Leukemia w/o Major OR Procedure w MCC (RW ~4.56)
- DRG 835: Acute Leukemia w/o Major OR Procedure w CC (RW ~2.72)
- DRG 836: Acute Leukemia w/o Major OR Procedure w/o CC/MCC (RW ~1.68)
- DRG 829-830: Myeloproliferative Disorders or Poorly Differentiated Neoplasms w Major OR Procedure

REVENUE CODES:

- 0120: Room & Board (extended stay — induction 4-6 weeks) | 0200: ICU (if sepsis/TLS/DIC)
- 0250: Pharmacy (induction chemotherapy, supportive meds) | 0335: Chemotherapy Administration
- 0300: Lab (CBC daily, coags, chemistry) | 0390: Blood Products (pRBC, platelets frequent)
- 0636: Drugs (high-cost chemotherapy agents)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 28-35 days for 7+3 induction Source: NCCN AML/ALL Guidelines v3.2024

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: CRS grade ≥3 (CAR-T) requiring vasopressors, ICANS grade ≥3, septic shock from neutropenia, tumor lysis with severe AKI on CRRT, intracranial mass with herniation risk on osmotherapy, ventilator support.
- Stepdown (Telemetry/PCU): CRS grade 2 on tocilizumab, ICANS grade 1–2 with frequent neuro checks, febrile neutropenia with hemodynamic concern, tumor lysis on aggressive IV fluids/rasburicase, post-engraftment graft failure monitoring.
- Med-Surg: Afebrile, ANC recovering, tolerating diet, transitioning IV → PO antibiotics, completing chemotherapy cycle, mucositis improving.
- Observation: Generally not applicable for active induction/HSCT/CAR-T; chemo administration with rapid recovery may use observation status when CMS criteria met.
- Post-Acute (SNF/IRF/LTAC): Post-HSCT/CAR-T patients deconditioned may require SNF; LTAC for prolonged vent weaning; IRF for stroke/neurologic complication.
- Home (with/without HHA): Afebrile, ANC ≥500, tolerating PO, pain controlled, follow-up onc 1–2 times/week; HHA for IV antibiotics, line care, and home labs.

LOC Grid Sources: NCCN Hematologic Malignancies Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT/EBMT HSCT Standards 2023; ASTCT CRS/ICANS Consensus 2019 (Lee criteria).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent febrile neutropenia despite broad-spectrum antibiotics → escalation or addition of antifungal
- Tumor lysis with continued laboratory abnormalities requiring rasburicase or dialysis
- Mucositis preventing oral intake with TPN dependence
- CRS or ICANS persisting beyond expected duration requiring tocilizumab/anakinra/steroids
- Graft failure or delayed engraftment (HSCT) beyond expected day +14

Extended Stay Sources: Sources: NCCN Guidelines; IDSA/NCCN Febrile Neutropenia 2018; ASTCT CRS/ICANS Consensus 2019.

SURGICAL / TRAUMA

ACUTE APPENDICITIS

ICD-10-CM: K35.2 (acute appendicitis with generalized peritonitis), K35.20 (acute appendicitis with generalized peritonitis without abscess), K35.21 (acute appendicitis with generalized peritonitis with abscess), K35.30 (acute appendicitis with localized peritonitis without perforation or gangrene), K35.31 (with perforation without abscess), K35.32 (with localized peritonitis and gangrene without perforation), K35.33 (with perforation and localized peritonitis), K35.890 (other acute appendicitis without perforation or gangrene), K35.891 (other acute appendicitis without perforation with gangrene)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- RLQ pain with McBurney point tenderness and peritoneal signs (rebound, guarding)
- CT abdomen/pelvis: enlarged appendix >6mm with periappendiceal inflammation, appendicolith, or perforation
- Alvarado Score ≥7 (high probability): migration of pain (+1), anorexia (+1), nausea/vomiting (+1), RLQ tenderness (+2), rebound (+1), temp >37.3 (+1), WBC >10K (+2), left shift (+1)
- WBC >12,000 with left shift (neutrophilia) in appropriate clinical context
- Peritonitis signs: rigid abdomen, diffuse tenderness, involuntary guarding
- Sepsis criteria with intra-abdominal source
- CT showing perforation: free air, abscess, phlegmon

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- Surgical consultation for appendectomy (laparoscopic preferred)
- NPO status, IV fluid resuscitation
- IV antibiotics (preoperative: cefoxitin or ceftriaxone + metronidazole; continue post-op if complicated)
- Pain management (IV opioids and/or ketorolac)
- Post-operative monitoring (vital signs, wound assessment, ambulation, diet advancement)
- If complicated (perforation/abscess): percutaneous drainage (IR) ± interval appendectomy in 6-8 weeks

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for confirmed acute appendicitis

- Uncomplicated: laparoscopic appendectomy, 23-hour admission typical (may be observation)
- Complicated (perforation, abscess, peritonitis): inpatient with IV antibiotics

OBSERVATION may be appropriate if:

- Uncomplicated appendicitis with successful laparoscopic appendectomy
- Expected discharge within 24 hours (tolerating diet, pain controlled, afebrile)
- NOTE: CMS observation may apply for uncomplicated laparoscopic appendectomy with same-day/next-day discharge

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours

DAY 1 (Post-Operative):

- Surgery completed (time to OR documented)
- Pathology confirmed appendicitis (if incidental finding or normal appendix: document rationale)
- Pain controlled on PO analgesics
- Tolerating clear liquids, advancing to regular diet
- Ambulating
- Afebrile, WBC trending down
- If uncomplicated: discharge planning initiated

DAY 2-3 (Complicated Appendicitis):

- IV antibiotics continued (4-7 day course for complicated; ertapenem or ceftriaxone/metronidazole)
- Drain output monitored (if percutaneous drain placed)
- Diet advancement as tolerated
- Return of bowel function (flatus, BM)

CONTINUED STAY >3 DAYS JUSTIFIED IF:

- Ileus (no bowel function, distension, nausea) requiring NGT decompression
- Wound infection or intra-abdominal abscess requiring drainage

- Persistent fever or rising WBC (imaging to rule out collection)
- Unable to tolerate oral antibiotics (transition IV→PO not possible)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Afebrile for ≥24 hours
- Pain controlled on oral analgesics
- Tolerating regular diet, bowel function returned
- WBC trending toward normal
- Ambulating independently
- No wound complications (no erythema, no drainage)
- If complicated: oral antibiotic course prescribed (total 4-7 days including IV)
- If drain placed: drain management plan (removal timing, output criteria)
- Surgeon follow-up 1-2 weeks
- Activity restrictions reviewed (no heavy lifting >10 lbs for 2-4 weeks post-laparoscopic)

TRANSITION TO:

- Home: majority (day 0-1 uncomplicated, day 2-5 complicated)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. SAGES Guidelines for Laparoscopic Appendectomy. Di Saverio S, et al. Surg Endosc. 2020;34:2310-2320. 2. Alvarado Score. Alvarado A. Ann Emerg Med. 1986;15:557-564. 3. SIS/IDSA Guidelines for Complicated Intra-Abdominal Infections. Mazuski JE, et al. Surg Infect. 2017;18:1-76. 4. CODA Trial (Antibiotics vs Appendectomy for Uncomplicated Appendicitis). CODA Collaborative. NEJM. 2020;383:1907-1919. 5. EAST Practice Guideline: Evaluation and Management of Appendicitis in Adults. Stable SR, et al. J Trauma. 2010;68:239.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 338: Appendectomy w Complicated Principal Diag w MCC (RW ~2.99)
- DRG 339: Appendectomy w Complicated Principal Diag w CC (RW ~1.79)
- DRG 340: Appendectomy w Complicated Principal Diag w/o CC/MCC (RW ~1.26)
- DRG 341-343: Appendectomy w/o Complicated Principal Diag w MCC/CC/w/o (RW ~2.11 / 1.33 / 0.92)

REVENUE CODES:

- 0120: Room & Board | 0360: Operating Room | 0710: Recovery Room
- 0250: Pharmacy (IV antibiotics) | 0270: Med/Surg Supplies | 0300: Lab

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 1-2 days Source: Curative Appendix A; WSES 2020 Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Perforated appendicitis with septic shock, ventilator support, ongoing peritoneal sepsis.
- Stepdown (Telemetry/PCU): Sepsis requiring monitoring without ICU criteria, ongoing IV antibiotic and source-control bridging.
- Med-Surg: Post-laparoscopic appendectomy with stable course, IV antibiotics, advancing diet.
- Observation: Uncomplicated laparoscopic appendectomy with rapid recovery commonly discharged within 1 midnight (CMS 2-Midnight Rule).
- Post-Acute: Rarely required.
- Home (with/without HHA): Afebrile, tolerating diet, pain on PO, follow-up surgery in 1–2 weeks.

LOC Grid Sources: WSES Acute Appendicitis Guidelines 2020; ACS NSQIP; CMS 2-Midnight Rule.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Perforated appendicitis with sepsis or abscess formation requiring drainage and prolonged IV antibiotics
- Postoperative ileus or wound infection

Extended Stay Sources: Sources: WSES 2020 Appendicitis Guidelines; ACS NSQIP.

HIP FRACTURE

ICD-10-CM: S72.001A (fracture of unspecified part of neck of right femur initial), S72.002A (left), S72.009A (unspecified side), S72.011A (unspecified intracapsular fracture of right femur), S72.012A (left), S72.019A (unspecified), S72.021A (displaced fracture of epiphysis upper end right femur), S72.022A (left), S72.031A (displaced midcervical fracture right femur), S72.032A (left), S72.041A (displaced fracture of base of neck right femur), S72.042A (left), S72.051A (displaced fracture of head right femur), S72.052A (left), S72.059A (unspecified), S72.061A (displaced articular fracture of head right femur), S72.062A (left), S72.091A (other fracture of head and neck right femur), S72.092A (left), S72.099A (unspecified) (femoral neck), S72.101A (unspecified trochanteric fracture right femur initial), S72.102A (left), S72.109A (unspecified), S72.111A (fracture of greater trochanter right femur), S72.112A (left), S72.121A (displaced fracture of lesser trochanter right femur), S72.122A (left), S72.131A (displaced apophyseal fracture right femur), S72.132A (left), S72.141A (displaced intertrochanteric fracture right femur), S72.142A (left) (trochanteric), S72.21XA-S72.26XA (subtrochanteric)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1:

- Radiographic fracture confirmed: X-ray or CT showing femoral neck, intertrochanteric, or subtrochanteric fracture
- MRI if occult fracture suspected (negative X-ray with high clinical suspicion: groin pain, inability to bear weight, shortened/externally rotated limb)
- Unable to ambulate or bear weight on affected limb
- Severe pain with any hip movement (log roll test positive)
- Shortened, externally rotated limb (classic physical finding)
- Anemia from fracture-related blood loss (Hgb may drop 2-4 g/dL with hip fracture)
- Advanced age (≥65) with fall — most common scenario; 1-year mortality 20-30%

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- Surgical fixation required: ORIF, hemiarthroplasty, THA, cephalomedullary nail — per fracture type and patient factors
- Preoperative medical optimization (within 24-48 hrs per ACS NSQIP/AAOS): anticoagulation reversal, cardiac clearance, volume resuscitation
- VTE prophylaxis: LMWH or DOAC (begin within 12 hrs post-op per AAOS/ACCP)
- Post-operative pain management (multimodal: nerve block preferred — fascia iliaca or femoral nerve block, acetaminophen, PO opioid PRN, avoid/minimize IV opioid in elderly)
- Post-operative monitoring: wound, drain output, neurovascular status of limb
- PT/OT initiated POD 0-1 (weight-bearing per surgeon protocol)
- Delirium prevention protocol (avoid anticholinergics, benzos; sleep hygiene, reorientation, early mobilization)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT — No observation for hip fracture

- Surgery should be performed within 24-48 hours of admission (AAOS CPG strong recommendation; every 24 hrs delay increases 30-day mortality by 5%)
- Only delay if: active ACS, acute HF requiring optimization, platelet count <50K, INR >1.5 requiring reversal

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Every 24 hours

PRE-OPERATIVE (Day 0-1):

- Fracture classified (Garden classification for femoral neck; AO/OTA for others)
- Surgical plan determined: femoral neck (non-displaced → screws; displaced in >65 → hemiarthroplasty/THA; <65 → ORIF with screws); intertrochanteric → cephalomedullary nail; subtrochanteric →

IM nail

- Anticoagulation held/reversed (warfarin: INR <1.5; DOAC: ≥48 hrs or per agent-specific guidance)
- Medical clearance: ECG, CBC, BMP, type and screen. Cardiology consult ONLY if active cardiac condition
- Fascia iliaca block or femoral nerve block for preoperative pain (reduces opioid requirements by 40-60%)
- DVT prophylaxis initiated preoperatively if surgery delayed >12 hrs

POST-OPERATIVE DAY 1:

- Surgical wound: clean/dry, no excessive drainage, Hgb checked (transfuse if Hgb <8 or <10 with symptoms/ACS)
- Pain controlled on oral multimodal regimen (acetaminophen 1g q6h + PO opioid PRN)
- PT: sit-to-stand, transfer training, ambulation with assistive device per WB protocol
- OT: ADL assessment, adaptive equipment, safety evaluation
- Delirium screening: CAM assessment (35% incidence in elderly hip fracture)
- Foley catheter removed (if placed; target within 24 hrs post-op)
- DVT prophylaxis: enoxaparin 40mg SQ daily or rivaroxaban 10mg daily (continue for 28-35 days total per AAOS/ACCP)

- Nutrition: high-protein diet, vitamin D 800-1000 IU/day, calcium 1200mg/day
- Osteoporosis workup ordered: DEXA scan, 25-OH vitamin D, consider zoledronic acid infusion (not until fracture healing confirmed)

POST-OPERATIVE DAY 2-3:

- Increasing mobility: ambulate in hallway with PT, stair training if applicable to discharge setting
- Rehabilitation disposition determined: SNF vs IRF vs home (based on functional assessment, home environment, caregiver availability)
- Social work: insurance authorization for rehab facility, DME (walker, elevated toilet seat, shower chair)

CONTINUED STAY >4 DAYS JUSTIFIED IF:

- Surgical complication (wound infection, hematoma, hardware failure, DVT/PE)
- Medical complication (MI, pneumonia, UTI, delirium not resolving)
- Unable to transfer or ambulate with PT (functional failure requiring optimization)
- Anemia requiring multiple transfusions
- Awaiting rehab facility bed placement

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ALL of the following met:

- Surgery completed without complication
- Pain controlled on oral analgesics (NRS <4 with activity)
- Ambulating with assistive device per WB protocol (even if limited distance)
- Transfer with minimal assist or standby assist
- Afebrile, WBC normal or trending normal
- Hgb stable (≥7 and not dropping, or ≥8 if cardiac history)
- Wound clean, dry, intact, no signs of infection
- No DVT/PE symptoms (if present: duplex US and treatment before discharge)
- Bowel function returned (opioid-related ileus resolved)
- Voiding spontaneously (Foley removed)
- VTE prophylaxis plan for remaining 28-35 days post-op documented
- Rehabilitation disposition confirmed (SNF or IRF bed available, or home with home PT scheduled)
- Surgeon follow-up 2 weeks (wound check) and 6 weeks (X-ray)
- Fall prevention plan documented (cause of fall evaluated, home safety assessment, medication review)
- Osteoporosis management plan initiated (DEXA, vitamin D, bisphosphonate timing per surgeon)

TRANSITION TO:

- SNF: most common (65-70%) — daily PT/OT, skilled nursing for wound/medication management
- IRF: if BMI ≥50, age ≥85, or bilateral per CMS 60% Rule
- Home with Home PT: if independent in transfers, ambulatory with device, adequate caregiver, safe home (no stairs or stairs manageable)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AAOS Clinical Practice Guideline: Hip Fractures in the Elderly. AAOS. 2021. 2. ACS NSQIP/AGS Best Practices Guideline: Geriatric Hip Fracture. Moja L, et al. JAMA. 2012;308:1357. 3. Hip Fracture Timing Meta-Analysis. Shiga T, et al. CMAJ. 2008;179:1015-1019. 4. ACCP Antithrombotic Therapy for VTE Prevention in Orthopedic Surgery. Falck-Ytter Y, et al. Chest. 2012;141:e278S-e325S. 5. AHA Science Advisory: Hip Fracture and Cardiovascular Disease. Rade DB, et al. Circulation. 2023;147:e1070-e1082. 6. NICE Guideline: Hip Fracture Management. NG124. 2017 (2023 update). 7. Cochrane Review: Nerve Blocks for Hip Fracture. Guay J, et al. Cochrane Database. 2017;5:CD001159.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 480: Hip & Femur Procedures Except Major Joint w MCC (RW ~2.84)
- DRG 481: Hip & Femur Procedures Except Major Joint w CC (RW ~1.89)
- DRG 482: Hip & Femur Procedures Except Major Joint w/o CC/MCC (RW ~1.47)
- DRG 469-470: Major Hip/Knee Joint Replacement (if THA performed) (RW ~2.15 / 1.54)

REVENUE CODES:

- 0120: Room & Board | 0360: Operating Room | 0710: Recovery Room | 0270: Med/Surg Supplies (implants)
- 0250: Pharmacy (DVT prophylaxis, analgesics) | 0300: Lab | 0320: Radiology (X-ray)
- 0420-0429: Physical Therapy | 0430-0439: Occupational Therapy

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: Curative Appendix A; AAOS 2021 Hip Fracture Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Polytrauma with hemodynamic instability, fat embolism syndrome, compartment syndrome with rhabdomyolysis and AKI, ventilator support, vasoactive requirement.
- Stepdown (Telemetry/PCU): Post-spinal cord injury with autonomic instability, post-pelvic angiography with hemodynamic concern, polytrauma stabilizing.
- Med-Surg: Pain controlled on transitioning PCA → PO, weight-bearing per protocol, VTE prophylaxis active, drains low output, PT/OT engaged.
- Observation: Uncomplicated arthroplasty with rapid recovery may discharge POD 0–1 per CMS removal from inpatient-only list.
- Post-Acute (SNF/IRF/LTAC): IRF when ≥3 hours/day multidisciplinary therapy tolerated; SNF for skilled nursing with lower therapy intensity; spinal cord injury → specialized IRF.
- Home (with/without HHA): Ambulating with assistive device, weight-bearing per protocol, pain controlled on PO, follow-up ortho in 1–2 weeks; HHA for PT/OT and skilled nursing.

LOC Grid Sources: AAOS Clinical Practice Guidelines; OTA Polytrauma Consensus; AAOS Joint Replacement Registry; AAOS Hip Fracture Guideline 2021.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Post-op complication: DVT/PE, surgical site infection, dislocation, periprosthetic fracture
- Inadequate pain control preventing rehab participation
- Non-weight-bearing status with no safe home environment
- Polytrauma with multiple injuries requiring staged repair
- Rehab placement (IRF/SNF) not yet finalized despite medical readiness

Extended Stay Sources: Sources: AAOS Clinical Practice Guidelines; OTA Practice Parameters.

TRAUMATIC BRAIN INJURY (TBI)

ICD-10-CM: S06.0X0A-S06.9X9A (intracranial injury codes)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Classify by GCS: Mild TBI (GCS 13-15): normal CT may observe; abnormal CT = admit Moderate TBI (GCS 9-12): ALL require admission + ICU consideration Severe TBI (GCS 3-8): ALL require ICU, intubation, ICP monitoring consideration

- CT findings: epidural hematoma (lens-shaped, temporal), subdural hematoma (crescent), subarachnoid blood, contusion/hemorrhage, cerebral edema, midline shift >5mm, skull fracture (depressed,

basilar)

- Neurological deficit: pupil asymmetry, focal weakness, posturing
- Coagulopathy: INR >1.5, on anticoagulant (risk of hematoma expansion)
- Seizure (early post-traumatic seizure within 7 days)
- Penetrating injury
- Persistent altered mental status, GCS decline, repeated vomiting
- Age >65 (higher risk of delayed hemorrhage, especially SDH on anticoagulation)

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Neurosurgical consultation for ALL intracranial hemorrhage
- ICU with neuro checks q1h for moderate-severe
- ICP monitoring (EVD or bolt) if: GCS ≤8 with abnormal CT (BTF Guidelines Level IIB recommendation); target ICP <22 mmHg and CPP 60-70 mmHg
- Surgical evacuation: epidural with >15mm thickness or midline shift >5mm; SDH with >10mm thickness or midline shift >5mm or GCS decline ≥2 points; depressed skull fracture >table width
- Anticoagulation reversal (4-factor PCC, idarucizumab, andexanet per agent)
- Seizure prophylaxis: levetiracetam or phenytoin x 7 days (BTF/AAN recommendation for early post-traumatic seizure prevention)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: All moderate-severe TBI (GCS ≤12), mild TBI with intracranial hemorrhage on CT, mild TBI on anticoagulation, mild TBI

with GCS decline or persistent symptoms, penetrating TBI OBSERVATION: Mild TBI (GCS 15) with normal CT but risk factors (age >65, anticoagulation, mechanism), requiring serial neuro checks x 24 hrs, repeat CT at 6-8 hrs if on anticoagulant DISCHARGE FROM ED: GCS 15, normal CT, no risk factors, reliable companion for 24-hr monitoring, return precautions given, no alcohol/drug confounders

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: Neuro checks q1h (ICU); q2-4h (floor); Every 24 hours (medical team) DAY 1: CT head at presentation and repeat at 6-8 hrs if: on anticoagulation, worsening exam, initial CT with hemorrhage. GCS trend documented. Anticoagulation reversal confirmed. Seizure prophylaxis started. DAY 2-3: Mild TBI: if GCS 15, neuro intact, CT stable → discharge. Moderate-severe: ICP management, CPP optimization, nutrition within 72 hrs (enteral preferred), DVT prophylaxis (pharmacologic at 24-48 hrs if hemorrhage stable per BTF), PT/OT when patient able to participate. DAY 7+: Severe TBI: tracheostomy/PEG evaluation if prolonged intubation/NPO expected, rehabilitation planning, family meetings regarding prognosis and goals of care CONTINUED STAY IF: GCS not improving, ICP refractory to medical management (surgical decompression evaluation), post-operative monitoring, medical complications (DVT/PE, pneumonia, seizures)

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

Mild TBI: ✓ GCS 15, neuro intact, CT stable on repeat, headache manageable with oral analgesics, concussion discharge instructions provided (physical + cognitive rest, gradual return to activity, return precautions) Moderate-Severe TBI: ✓ Neurologically stable ≥48 hrs, ICP monitor removed, off mechanical ventilation (or tracheostomy with stable settings for rehab), swallowing evaluated, rehabilitation disposition determined

- Seizure prophylaxis: complete 7-day course then discontinue (unless seizure occurred, then long-term AED)
- Anticoagulation resumption plan documented (risk-benefit individualized; typically resume 7-14 days after stable hemorrhage)
- Neurosurgery follow-up 2-4 weeks with imaging

TRANSITION TO: IRF (moderate-severe with rehab potential); LTAC (ventilator-dependent); SNF (mild-moderate with skilled needs); Home (mild TBI majority)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. Brain Trauma Foundation (BTF) Guidelines, 4th Edition. Carney N, et al. Neurosurgery. 2017;80:6-15. 2. ACS TQIP Best Practice Guideline: TBI. ACS Committee on Trauma. 2015. 3. AAN Guideline: Early Seizure Prophylaxis in TBI. Temkin NR, et al. Neurology. 2014;80:2193-2200. 4. CENTER-TBI Study. Maas AIR, et al. Lancet Neurol. 2017;16:987-998.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 082-084: Traumatic Stupor & Coma >1hr w MCC/CC/w/o (RW ~2.52 / 1.39 / 0.93)
- DRG 085-087: Traumatic Stupor & Coma <1hr w MCC/CC/w/o (RW ~1.67 / 0.95 / 0.70)
- DRG 023-027: Craniotomy (if hematoma evacuation, ICP monitor) (RW ~5.75+)

REVENUE CODES:

- 0200: ICU/Neuro-ICU | 0350: CT Head (serial) | 0360: OR (if craniotomy)
- 0250: Pharmacy (levetiracetam, mannitol/hypertonic saline) | 0300: Lab

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-14 days Source: Curative Appendix A; Brain Trauma Foundation 2017 Severe TBI Guidelines (4th ed.)

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.
- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per $ABCD^2$ <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)
- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

BURNS — MAJOR

ICD-10-CM: T31.10-T31.99 (burns by TBSA percentage), T20-T28 (burns by site)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI — ABA Burn Center Referral Criteria (≥1): Partial thickness >10% TBSA, full thickness any %, face/hands/feet/genitalia/perineum/major joints, circumferential burns, electrical/chemical burns, inhalation injury, significant comorbidities, associated trauma (fractures), burns in children with special social/emotional/rehabilitative needs.

- Rule of Nines (adults): Head 9%, each arm 9%, anterior trunk 18%, posterior trunk 18%, each leg 18%, perineum 1%
- Parkland Formula for fluid resuscitation: 4mL x kg x %TBSA (give 50% in first 8 hrs, 50% in next 16 hrs; titrate to UOP 0.5-1mL/kg/hr)

INTENSITY OF SERVICE (IS) — Must require ≥1: Burn center ICU, fluid resuscitation per Parkland, intubation for inhalation injury (singed nasal hairs, carbonaceous sputum, stridor, facial burns, enclosed-space fire), wound care (silver sulfadiazine, Aquacel Ag, Mepilex), escharotomy for circumferential full-thickness (compromised perfusion), tetanus prophylaxis, pain management (IV opioids + anxiolytics for wound care), nutritional support (Curreri formula: 25 kcal/kg + 40 kcal/%TBSA burned)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for any burn meeting ABA referral criteria OBSERVATION: Small partial thickness burn (<5% TBSA) in non-critical area, wound care education, follow-up 24-48 hrs OUTPATIENT: Minor burns (<5% TBSA, superficial partial thickness, non-critical area)

C. CONTINUED STAY / CONCURRENT REVIEW

q12h ICU; q24h for stable floor patients. HOURS 0-48: Parkland resuscitation, hourly UOP (target 0.5-1mL/kg/hr, if not meeting target: bolus 500mL LR), wound assessment by burn team, inhalation injury: bronchoscopy if suspected, serial ABGs. DAY 2-5: Wound debridement and grafting assessment (full thickness >2cm needs grafting), PT/OT early (contracture prevention, splinting, ROM exercises). WEEK 1-4+: Serial grafting procedures, wound care BID-TID, nutrition optimization. CONTINUED STAY: Until all grafts taken, wounds epithelialized or manageable with outpatient wound care, pain controlled on PO, rehab disposition determined

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- All grafts viable, wounds epithelialized or healing well with manageable wound care
- Pain controlled on oral medications
- Tolerating adequate oral nutrition
- PT/OT: functional ROM maintained, splinting/pressure garment program established
- Wound care regimen teachable to patient/caregiver or home health arranged
- Burn clinic follow-up 1 week
- Psychological support referral (PTSD, body image, depression common post-burn)

TRANSITION TO: Home with Home Health (wound care, PT/OT); SNF (large burns, deconditioning, wound care complexity); Burn rehab (specialized programs)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ABA Practice Guidelines for Burn Care. Pham TN, et al. J Burn Care Res. 2009;30:S23-S51. 2. ISBI Practice Guidelines for Burn Care. ISBI. Burns. 2018;44:1427-1442. 3. Parkland Formula. Baxter CR, Shires GT. Surg Clin NA. 1968;48:1321-1333. 4. ABA Burn Center Referral Criteria. ABA. J Burn Care Rehabil. 2006;27:439-447.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 927: Extensive Burns or Full Thickness Burns w MV >96 hrs w Skin Graft (RW ~18.55)
- DRG 928: Full Thickness Burn w Skin Graft or Inhalation Injury w CC/MCC (RW ~5.90)
- DRG 929: Full Thickness Burn w Skin Graft or Inhalation Injury w/o CC/MCC (RW ~3.03)
- DRG 933-935: Extensive 3rd Degree Burns (RW ~9.84 / 3.33 / 1.72)

REVENUE CODES:

- 0200: ICU/Burn ICU | 0360: OR (serial debridements, skin grafting) | 0710: Recovery Room
- 0250: Pharmacy (IV fluids per Parkland, analgesics, topical agents) | 0270: Wound care supplies
- 0300: Lab | 0390: Blood Products | 0420: PT | 0430: OT | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: Variable; 1 day per %TBSA rough estimate (ABA) Source: American Burn Association Burn Care Quality Platform

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Major burns >20% TBSA, inhalation injury, hemodynamic instability, mechanical ventilation, fasciotomies pending or completed, vasoactive requirement, ongoing transfusion.
- Stepdown (Telemetry/PCU): Stable burns with frequent dressing changes, fluid resuscitation per Parkland or modified, post-fasciotomy with limb monitoring, large-volume wound care.
- Med-Surg: Stable fluid balance, transitioning to enteral nutrition, wound care q12–24h, transitioning to PO analgesia.
- Observation: Small burns not meeting ABA inpatient criteria; soft tissue injuries with rapid stabilization.
- Post-Acute (SNF/IRF/LTAC): Burn IRF for ≥3 hours/day rehab; LTAC for vent weaning or extensive wound care; SNF for skilled wound management.
- Home (with/without HHA): Wounds healing, pain on PO, ambulating, ADLs achievable, follow-up burn/plastics weekly; HHA for wound care, PT/OT.

LOC Grid Sources: American Burn Association Burn Care Quality Platform; ABA Practice Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Burn-related fluid resuscitation ongoing per Parkland with diuretic phase not reached
- Wound care requiring serial debridements or VAC changes
- Infection (cellulitis, sepsis, fungal) requiring escalation
- Inhalation injury with prolonged ventilator wean
- Compartment syndrome with persistent rhabdomyolysis
- Failure to engage in rehab for IRF placement

Extended Stay Sources: Sources: American Burn Association Burn Care Quality Platform; OTA Compartment Syndrome Consensus.

COMPARTMENT SYNDROME

ICD-10-CM: T79.A0XA-T79.A9XA (traumatic compartment syndrome), M79.A11-M79.A29 (nontraumatic)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Pain out of proportion to injury (hallmark — especially with passive stretch of involved compartment muscles), tense/swollen compartment on palpation, paresthesia (early nerve ischemia), pulselessness and paralysis (LATE findings — do not wait for these), intracompartmental pressure >30 mmHg (Stryker needle measurement) or delta pressure <30 mmHg (diastolic BP minus compartment pressure <30 = surgical indication per McQueen criteria), history of: fracture (tibial shaft most common), crush injury, reperfusion after vascular repair, tight cast/dressing, coagulopathy, prolonged limb compression

INTENSITY OF SERVICE (IS) — Must require ≥1: EMERGENT fasciotomy — within 6 hours of symptom onset for best outcomes (delay >8 hrs: irreversible muscle necrosis, Volkmann contracture, amputation risk), removal of constrictive dressings/casts immediately, surgical consultation on first suspicion (clinical diagnosis — do not delay for pressure measurement if clinical picture clear), post-fasciotomy: open wounds managed with wound VAC, serial debridements, delayed primary closure or skin grafting at 48-72 hrs

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT — surgical emergency ICU if: bilateral compartment syndrome, massive crush injury, rhabdomyolysis with AKI (see Rhabdomyolysis criteria)

C. CONTINUED STAY / CONCURRENT REVIEW

q4-6h post-fasciotomy limb checks (pulses, sensation, motor, compartment tension, wound). DAY 1-2: Return to OR at 48 hrs for second look, debridement of necrotic muscle, assess for delayed primary closure. Rhabdomyolysis management: aggressive IV

fluids (target UOP 200-300 mL/hr), CK trend q12h, BMP for hyperkalemia and AKI. DAY 3-5: Wound closure or skin grafting. CONTINUED STAY IF: Serial debridements needed, rhabdomyolysis with AKI, wound VAC management, associated fracture fixation, skin grafting planned

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Fasciotomy wounds: closed (primary or graft) or wound VAC stable for outpatient management
- Limb viable: pulses present, sensation improving, no ongoing muscle necrosis
- CK trending down, AKI resolving (if rhabdomyolysis)
- K+ stable, Cr improving
- Pain controlled on oral medications
- PT/OT initiated, functional assessment documented
- Orthopedic/trauma surgery follow-up 1-2 weeks

TRANSITION TO: Home with wound care instructions; SNF if wound VAC, functional limitations; IRF if significant extremity impairment

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. McQueen MM, et al. Acute Compartment Syndrome. JBJS Br. 1996;78:99-104. 2. AAOS Appropriate Use Criteria: Acute Compartment Syndrome. 2020. 3. Garner MR, et al. Compartment Syndrome: Diagnosis, Management, and Outcomes. JAAOS. 2014;22:32-43.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 485: Knee Procedures w/o PDx of Infection w MCC (RW ~2.63) — if LE fasciotomy
- DRG 492-494: Lower Extrem & Humer Proc Except Hip/Femur (RW ~2.42 / 1.43 / 0.98)
- DRG assignment varies by fasciotomy site (upper vs lower extremity)

REVENUE CODES:

- 0360: OR (emergent fasciotomy, serial debridements, delayed closure/skin graft)
- 0200: ICU (if rhabdomyolysis/multi-compartment) | 0270: Wound care supplies (VAC)
- 0300: Lab (CK, BMP) | 0250: Pharmacy

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: OTA Compartment Syndrome Consensus

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Major burns >20% TBSA, inhalation injury, hemodynamic instability, mechanical ventilation, fasciotomies pending or completed, vasoactive requirement, ongoing transfusion.
- Stepdown (Telemetry/PCU): Stable burns with frequent dressing changes, fluid resuscitation per Parkland or modified, post-fasciotomy with limb monitoring, large-volume wound care.
- Med-Surg: Stable fluid balance, transitioning to enteral nutrition, wound care q12–24h, transitioning to PO analgesia.
- Observation: Small burns not meeting ABA inpatient criteria; soft tissue injuries with rapid stabilization.
- Post-Acute (SNF/IRF/LTAC): Burn IRF for ≥3 hours/day rehab; LTAC for vent weaning or extensive wound care; SNF for skilled wound management.
- Home (with/without HHA): Wounds healing, pain on PO, ambulating, ADLs achievable, follow-up burn/plastics weekly; HHA for wound care, PT/OT.

LOC Grid Sources: American Burn Association Burn Care Quality Platform; ABA Practice Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Burn-related fluid resuscitation ongoing per Parkland with diuretic phase not reached
- Wound care requiring serial debridements or VAC changes
- Infection (cellulitis, sepsis, fungal) requiring escalation
- Inhalation injury with prolonged ventilator wean
- Compartment syndrome with persistent rhabdomyolysis
- Failure to engage in rehab for IRF placement

Extended Stay Sources: Sources: American Burn Association Burn Care Quality Platform; OTA Compartment Syndrome Consensus.

OPEN FRACTURE

ICD-10-CM: S42-S92 series with 7th character B or C (open fracture designators by site)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Fracture with overlying skin breach and communication with fracture site, Gustilo-Anderson Classification: Type I (<1cm wound, minimal contamination), Type II (1-10cm wound, moderate soft tissue damage), Type IIIA (>10cm, adequate soft tissue coverage), Type IIIB (extensive soft tissue loss requiring flap), Type IIIC (arterial injury requiring repair). Bone visible or protruding. Wound contamination (soil, debris, barnyard — tetanus/Clostridium risk).

INTENSITY OF SERVICE (IS) — Must require ≥1: Emergent OR for irrigation and debridement (within 6-24 hrs per FLOW/BOA-BAPRAS guidelines — 6 hrs traditional teaching, but recent evidence supports 24 hrs for Types I-II if antibiotics given early), IV antibiotics IMMEDIATELY: Type I-II: cefazolin 2g IV; Type III: cefazolin + gentamicin; add penicillin for barnyard/soil contamination (Clostridium), tetanus prophylaxis, fracture stabilization (external fixation for Type III, definitive fixation when soft tissue allows), wound management (leave open, serial debridements q48-72h, wound VAC)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for open fractures

C. CONTINUED STAY / CONCURRENT REVIEW

q24h. DAY 1: I&D completed within 24 hrs, antibiotics started in ED, fracture stabilized. DAY 2-3: Return to OR for repeat I&D if Type II-III (48-72 hr intervals). Wound assessment: viable tissue? Necrosis requiring debridement? DAY 5-7: Definitive fixation (intramedullary nail, ORIF) when soft tissue allows. Type IIIB: plastic surgery for flap coverage (within 72 hrs per Godina principle for best outcomes). Type IIIC: vascular repair within 6 hrs (limb-threatening). CONTINUED STAY IF: Serial debridements needed, flap coverage planned, vascular repair monitoring, compartment syndrome surveillance, infection

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Wound clean after final debridement, no ongoing necrosis
- Definitive fracture fixation completed (or external fixator stable for outpatient conversion)
- Wound closed, grafted, or wound VAC stable for outpatient management
- Afebrile, WBC normal, no wound infection
- IV antibiotic course completed (Type I: 24 hrs; Type II: 24-48 hrs; Type III: 72 hrs post-wound closure)
- Pain controlled, ambulatory per weight-bearing protocol
- Orthopedic follow-up 1-2 weeks

TRANSITION TO: Home (Type I-II majority); SNF (Type III with wound care complexity); Home Health (wound VAC management)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. FLOW Trial (Irrigation of Open Fractures). FLOW Investigators. NEJM. 2015;373:2629-2641. 2. BOA-BAPRAS Standards for Open Fractures. Nanchahal J, et al. 2009 (2020 update). 3. Gustilo-Anderson Classification. Gustilo RB, Anderson JT. JBJS. 1976;58:453-458. 4. Godina Principle (Early Flap Coverage). Godina M. Plast Reconstr Surg. 1986;78:285-292.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG varies by fracture location:
- DRG 480-482: Hip & Femur Procedures (RW ~2.84 / 1.89 / 1.47)
- DRG 492-494: Lower Extrem & Humer Proc (RW ~2.42 / 1.43 / 0.98)
- DRG 495-497: Local Excision & Removal Internal Fix (RW ~2.10 / 1.16 / 0.83)
- Gustilo classification drives complexity: Type I (simple) to Type IIIC (vascular injury)

REVENUE CODES:

- 0360: OR (I&D, ORIF, external fixation — often serial OR visits) | 0200: ICU (if polytrauma)
- 0250: Pharmacy (IV antibiotics per Gustilo type) | 0270: Supplies (hardware, fixators, VAC)
- 0300: Lab | 0390: Blood Products (if hemorrhage) | 0270: Wound care

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: OTA/AAOS Open Fracture Guidelines; Gustilo-Anderson

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Polytrauma with hemodynamic instability, fat embolism syndrome, compartment syndrome with rhabdomyolysis and AKI, ventilator support, vasoactive requirement.
- Stepdown (Telemetry/PCU): Post-spinal cord injury with autonomic instability, post-pelvic angiography with hemodynamic

concern, polytrauma stabilizing.

- Med-Surg: Pain controlled on transitioning PCA → PO, weight-bearing per protocol, VTE prophylaxis active, drains low output, PT/OT engaged.
- Observation: Uncomplicated arthroplasty with rapid recovery may discharge POD 0–1 per CMS removal from inpatient-only list.
- Post-Acute (SNF/IRF/LTAC): IRF when ≥3 hours/day multidisciplinary therapy tolerated; SNF for skilled nursing with lower therapy intensity; spinal cord injury → specialized IRF.
- Home (with/without HHA): Ambulating with assistive device, weight-bearing per protocol, pain controlled on PO, follow-up ortho in 1–2 weeks; HHA for PT/OT and skilled nursing.

LOC Grid Sources: AAOS Clinical Practice Guidelines; OTA Polytrauma Consensus; AAOS Joint Replacement Registry; AAOS Hip Fracture Guideline 2021.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Post-op complication: DVT/PE, surgical site infection, dislocation, periprosthetic fracture
- Inadequate pain control preventing rehab participation
- Non-weight-bearing status with no safe home environment
- Polytrauma with multiple injuries requiring staged repair
- Rehab placement (IRF/SNF) not yet finalized despite medical readiness

Extended Stay Sources: Sources: AAOS Clinical Practice Guidelines; OTA Practice Parameters.

NECROTIZING FASCIITIS

ICD-10-CM: M72.6 (necrotizing fasciitis)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Pain disproportionate to exam, rapidly progressive erythema/edema, dusky/violaceous skin, crepitus, systemic toxicity (fever, tachycardia, hypotension, AMS), LRINEC ≥8 (WBC >15, Hgb <13.5, Na <135, glucose >180, Cr >1.6, CRP >150). CT: fascial gas tracking. Surgical finding: dishwater gray necrotic fascia, lack of tissue resistance (positive finger test).

INTENSITY OF SERVICE (IS) — Must require ≥1: EMERGENT surgical debridement within 1-2 hours, ICU, broad-spectrum IV antibiotics (vancomycin + pip-tazo + clindamycin for toxin suppression), serial debridements q24-48h until margins clean, IVIG for streptococcal TSS, massive fluid resuscitation

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT/ICU — surgical emergency. Mortality 25-35% even with treatment; doubles with each hour of surgical delay.

C. CONTINUED STAY / CONCURRENT REVIEW

q12h ICU. Serial OR q24-48h until clean margins. Wound VAC after final debridement. High calorie/protein nutrition. Average LOS 2-4 weeks. CONTINUED STAY: Until debridements complete, wound VAC stable, sepsis resolved, reconstructive planning initiated

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- No further debridement needed, wound granulating
- Sepsis resolved, afebrile, hemodynamically stable
- Wound VAC stable or wound care regimen teachable
- Tolerating oral diet and medications
- Reconstructive surgery planned (skin graft, flap, staged closure)
- Surgical/ID follow-up 1-2 weeks

TRANSITION TO: SNF (most common for wound care/deconditioning); Home with Home Health; LTAC if prolonged ICU

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. WSES Guidelines: NSTIs. Sartelli M, et al. World J Emerg Surg. 2018;13:58. 2. LRINEC Score. Wong CH, et al. Crit Care Med. 2004;32:1535-1541. 3. IDSA SSTIs Guideline. Stevens DL, et al. Clin Infect Dis. 2014;59:e10-e52.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 856: Postop/Post-Traumatic Infections w OR Procedure w MCC (RW ~3.82)
- DRG 857: w CC (RW ~2.02) | DRG 858: w/o CC/MCC (RW ~1.32)

- DRG 602-604: Cellulitis (if debridement not coded as OR procedure)
- NOTE: High-cost outlier common due to serial debridements and extended ICU stay

REVENUE CODES:

- 0200: ICU (extended) | 0360: OR (serial debridements q24-48h, skin grafting, flaps)
- 0250: Pharmacy (vancomycin, pip-tazo, clindamycin, IVIG) | 0270: Wound VAC supplies
- 0300: Lab | 0390: Blood Products | 0636: Drugs (IVIG — high-cost)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 14-28 days Source: Curative Appendix A; IDSA 2014 SSTI Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Septic shock requiring vasopressors, MAP <65 despite 30 mL/kg crystalloid, lactate ≥4 mmol/L, mechanical ventilation, multi-organ dysfunction.
- Stepdown (Telemetry/PCU): Source control completed but ongoing IV vasopressor wean, BiPAP, escalating organ dysfunction without intubation criteria, infectious disease consult active.
- Med-Surg: Source controlled, off vasopressors ≥24h, transitioning IV → PO antibiotics, afebrile trending, mobilizing.
- Observation: Uncomplicated cellulitis/UTI with rapid clinical response, expected discharge within 1–2 midnights; falls under CMS 2-Midnight Rule.
- Post-Acute (SNF/IRF/LTAC): OPAT not feasible at home → SNF for IV antibiotic completion (e.g., 4–6 weeks for osteomyelitis/IE); LTAC for vent weaning.
- Home (with/without HHA): Hemodynamically stable, tolerating PO antibiotics or established OPAT line, follow-up ID in 1–2 weeks; HHA for IV antibiotic infusion when applicable.

LOC Grid Sources: SCCM Surviving Sepsis Campaign 2021; IDSA 2014 SSTI; IDSA 2015 Vertebral Osteomyelitis; IDSA 2010 UTI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent fever or rising inflammatory markers despite source control
- Lack of source control (undrained abscess, retained hardware, persistent bacteremia)
- New positive culture requiring antibiotic escalation
- Drug reaction (rash, DRESS, AIN, transaminitis) requiring rotation
- OPAT not feasible (no IV access, social, payer constraints) → SNF placement coordination
- Surgical intervention required and not yet performed (e.g., valve replacement for IE)

Extended Stay Sources: Sources: SCCM Surviving Sepsis Campaign 2021; IDSA Treatment Guidelines.

SPINAL FRACTURE — CERVICAL / THORACOLUMBAR

ICD-10-CM: S12.000A-S12.9XXA (cervical vertebra fracture), S22.000A-S22.089A (thoracic vertebra), S32.000A-S32.059A (lumbar vertebra), S14.0XXA (cervical spinal cord injury), S24.0XXA (thoracic SCI), S34.01XA (lumbar SCI)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Imaging-confirmed vertebral fracture (CT or MRI) with: neurologic deficit (motor weakness, sensory loss, bowel/bladder dysfunction = spinal cord injury), unstable fracture pattern (burst fracture with posterior ligament complex disruption, fracture-dislocation, bilateral facet dislocation), cervical fracture with any neurologic concern, TLICS (Thoracolumbar Injury Classification and Severity) score ≥5 (surgical), SLIC (Subaxial Cervical) score ≥5 (surgical), multilevel fractures, polytrauma

- Spinal cord injury (SCI): ASIA Impairment Scale classification (A=complete, B-D=incomplete, E=normal). SCI present = always inpatient.
- Vertebral body compression >50% height loss, canal compromise >50%, kyphotic angulation >30°

INTENSITY OF SERVICE (IS) — Must require ≥1: Spinal immobilization maintained until cleared, neurosurgery/orthopedic spine consultation, MRI for ligamentous injury assessment and cord compression, surgical stabilization per TLICS/SLIC (fusion, decompression, instrumentation), cervical traction for bilateral facet dislocation (Gardner-Wells tongs), methylprednisolone NO LONGER routinely recommended for acute SCI (AANS/CNS 2013: recommend against), DVT prophylaxis (SCI patients: LMWH as soon as hemostasis achieved, IPC boots), Foley catheter for SCI (neurogenic bladder management)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for: unstable spinal fracture, any fracture with neurologic deficit (SCI), fractures requiring surgical stabilization, cervical fractures requiring traction/halo OBSERVATION: Stable compression fracture without neurologic deficit, pain management,

bracing, expected DC <48 hrs OUTPATIENT: Stable compression fracture with minimal height loss (<25%), no neurologic deficit, pain controlled, TLSO brace fitted

C. CONTINUED STAY / CONCURRENT REVIEW

q24h (q6-12h ICU for SCI). PRE-OP: Imaging complete, ASIA scale documented, surgical plan determined, medical clearance. POST-OP DAY 1: Neurologic exam (compare pre-op), wound assessment, Foley management, DVT prophylaxis. DAY 2-5: PT/OT (mobility per spinal precautions), brace/orthosis fitted if applicable, SCI: bowel/bladder program initiated, skin integrity assessment (pressure injury prevention), rehabilitation evaluation. CONTINUED STAY IF: Neurologic decline (repeat MRI), surgical complication, medical complications (DVT/PE, pneumonia, UTI, pressure injury), awaiting rehab placement for SCI

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Neurologic exam stable or improved
- Surgical wound clean and dry
- Pain controlled on oral medications
- Mobilizing per spinal precautions with brace/orthosis
- DVT prophylaxis plan documented (SCI: 3 months prophylaxis per ACCP)
- SCI: bowel/bladder program established, skin care protocol in place
- Rehabilitation disposition confirmed (SCI → SCI-specialized IRF; non-SCI → IRF, SNF, or home)
- Spine surgeon follow-up 2-4 weeks with imaging

TRANSITION TO: IRF (SCI or significant functional limitation), SNF (stable fracture with pain/deconditioning), Home with brace (stable compression fracture, ambulatory)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AANS/CNS Guidelines for Management of Acute Cervical Spine and Spinal Cord Injuries. Walters BC, et al. Neurosurgery. 2013;72(Suppl 2):1-259. 2. TLICS System. Vaccaro AR, et al. Spine. 2005;30:2325-2333. 3. SLIC System. Vaccaro AR, et al. Spine. 2007;32:2365-2374. 4. AOSpine Classification. Vaccaro AR, et al. Eur Spine J. 2014;23:491-497. 5. NASCIS III (Methylprednisolone — no longer recommended). Bracken MB, et al. JAMA. 1997;277:1597-1604.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 028-030: Spinal Procedures w MCC/CC/w/o (RW ~4.19 / 2.56 / 1.89) — if surgical fixation
- DRG 515-517: Other Musculoskeletal System & Connective Tissue OR Proc (if kyphoplasty/vertebroplasty)
- DRG 052-054: Spinal Disorders & Injuries (if non-surgical) (RW ~1.86 / 1.11 / 0.85)

REVENUE CODES:

- 0360: OR (posterior fusion, decompression, ACDF) | 0610: MRI Spine
- 0270: Supplies (hardware, cages, TLSO brace) | 0200: ICU (if SCI)
- 0250: Pharmacy (DVT prophylaxis) | 0300: Lab | 0420: PT | 0430: OT

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-7 days Source: Curative Appendix A (SCI: 14-28); AANS/CNS 2013 Guidelines

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Polytrauma with hemodynamic instability, fat embolism syndrome, compartment syndrome with rhabdomyolysis and AKI, ventilator support, vasoactive requirement.
- Stepdown (Telemetry/PCU): Post-spinal cord injury with autonomic instability, post-pelvic angiography with hemodynamic concern, polytrauma stabilizing.
- Med-Surg: Pain controlled on transitioning PCA → PO, weight-bearing per protocol, VTE prophylaxis active, drains low output, PT/OT engaged.
- Observation: Uncomplicated arthroplasty with rapid recovery may discharge POD 0–1 per CMS removal from inpatient-only list.
- Post-Acute (SNF/IRF/LTAC): IRF when ≥3 hours/day multidisciplinary therapy tolerated; SNF for skilled nursing with lower therapy intensity; spinal cord injury → specialized IRF.
- Home (with/without HHA): Ambulating with assistive device, weight-bearing per protocol, pain controlled on PO, follow-up ortho in 1–2 weeks; HHA for PT/OT and skilled nursing.

LOC Grid Sources: AAOS Clinical Practice Guidelines; OTA Polytrauma Consensus; AAOS Joint Replacement Registry; AAOS Hip Fracture Guideline 2021.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Post-op complication: DVT/PE, surgical site infection, dislocation, periprosthetic fracture
- Inadequate pain control preventing rehab participation
- Non-weight-bearing status with no safe home environment
- Polytrauma with multiple injuries requiring staged repair
- Rehab placement (IRF/SNF) not yet finalized despite medical readiness

Extended Stay Sources: Sources: AAOS Clinical Practice Guidelines; OTA Practice Parameters.

FEMORAL SHAFT FRACTURE

ICD-10-CM: S72.301A (unspecified fracture of shaft right femur initial), S72.302A (left), S72.309A (unspecified side), S72.321A (displaced transverse fracture shaft right femur), S72.322A (left), S72.331A (displaced oblique fracture shaft right femur), S72.332A (left), S72.341A (displaced spiral fracture shaft right femur), S72.342A (left), S72.351A (displaced comminuted fracture shaft right femur), S72.352A (left), S72.361A (displaced segmental fracture shaft right femur), S72.362A (left), S72.391A (other fracture shaft right femur), S72.392A (left), S72.399A (unspecified) (femoral shaft fracture), S72.90XA (unspecified part of femur)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Radiographic femoral shaft fracture (mid-diaphysis), inability to bear weight, significant thigh swelling/deformity, associated blood loss (femoral shaft fracture can lose 1-1.5L into thigh), open fracture (exposed bone/significant soft tissue injury), vascular injury (diminished distal pulses, expanding hematoma), fat embolism syndrome (petechial rash, hypoxemia, AMS 24-72 hrs post-injury), ipsilateral femoral neck fracture (10-15% incidence — MUST image hip with every femoral shaft fracture)

INTENSITY OF SERVICE (IS) — Must require ≥1: Surgical stabilization: intramedullary nailing (IMN — gold standard for most femoral shaft fractures), IV fluid resuscitation and blood transfusion (type and crossmatch 2 units), pain management (femoral nerve block preferred, IV opioids), traction (temporary skeletal traction with tibial pin if delayed surgery), DVT prophylaxis (LMWH post-op), post-operative monitoring (neurovascular checks, compartment assessment)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for femoral shaft fracture (surgical fixation required)

- ICU if: polytrauma, massive transfusion, fat embolism syndrome, bilateral femoral fractures

C. CONTINUED STAY / CONCURRENT REVIEW

q24h. PRE-OP: Traction applied, pain controlled, resuscitation (Hgb >7-8, coagulopathy corrected), imaging complete (MUST include hip views for occult femoral neck fracture). Surgical timing: within 24 hrs for isolated fracture, damage control external fixation if polytrauma then definitive IMN when stable. POST-OP DAY 1: Neurovascular exam of limb, Hgb check (transfuse if <7 or <8 with symptoms), pain management (multimodal: nerve block + PO), PT: bed mobility, transfer training, weight-bearing per surgeon (most modern IMN allows WBAT). POST-OP DAY 2-4: Advancing ambulation with PT, knee ROM exercises, DVT prophylaxis (LMWH x 28-35 days per ACCP), monitoring for fat embolism syndrome (day 1-3 post-injury). CONTINUED STAY IF: Vascular injury requiring repair, compartment syndrome (fasciotomy), bilateral fractures, open fracture with wound management, fat embolism syndrome, polytrauma management

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Wound clean and dry, no signs of infection
- Neurovascular exam intact (distal pulses, sensation, motor)
- Hgb stable without transfusion
- Pain controlled on oral analgesics
- Ambulating with assistive device per surgeon WB protocol
- Knee ROM initiated
- DVT prophylaxis prescribed for 28-35 days
- Orthopedic follow-up 2 weeks (wound) and 6 weeks (X-ray)
- If open fracture: antibiotic course completed or prescribed, wound care plan

TRANSITION TO: Home (majority if ambulatory WBAT); SNF/IRF if bilateral, significant deconditioning, open fracture with complex wound care

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AAOS Clinical Practice Guideline: Treatment of Femoral Shaft Fractures. AAOS. 2019. 2. OTA Classification. Meinberg EG, et al. J Orthop Trauma. 2018;32:S71-S76. 3. ACCP VTE Prevention in Orthopedic Surgery. Falck-Ytter Y, et al. Chest. 2012;141:e278S-e325S. 4. EAST Practice Guideline: Fat Embolism. Akhtar S. Anesthesiology. 2009;110:443-449. 5. Damage Control Orthopedics. Pape HC, et al. J Am Acad Orthop Surg. 2009;17:541-549.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 480: Hip & Femur Procedures Except Major Joint w MCC (RW ~2.84)
- DRG 481: w CC (RW ~1.89)
- DRG 482: w/o CC/MCC (RW ~1.47)

REVENUE CODES:

- 0360: OR (intramedullary nailing) | 0710: Recovery Room
- 0270: Supplies (IM nail hardware) | 0250: Pharmacy (DVT prophylaxis, analgesics)
- 0300: Lab (CBC for blood loss) | 0320: Radiology (X-ray) | 0390: Blood Products (if transfusion)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-4 days Source: Curative Appendix A; AAOS Femoral Shaft Fracture Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Polytrauma with hemodynamic instability, fat embolism syndrome, compartment syndrome with rhabdomyolysis and AKI, ventilator support, vasoactive requirement.
- Stepdown (Telemetry/PCU): Post-spinal cord injury with autonomic instability, post-pelvic angiography with hemodynamic concern, polytrauma stabilizing.
- Med-Surg: Pain controlled on transitioning PCA → PO, weight-bearing per protocol, VTE prophylaxis active, drains low output, PT/OT engaged.
- Observation: Uncomplicated arthroplasty with rapid recovery may discharge POD 0–1 per CMS removal from inpatient-only list.
- Post-Acute (SNF/IRF/LTAC): IRF when ≥3 hours/day multidisciplinary therapy tolerated; SNF for skilled nursing with lower therapy intensity; spinal cord injury → specialized IRF.
- Home (with/without HHA): Ambulating with assistive device, weight-bearing per protocol, pain controlled on PO, follow-up ortho in 1–2 weeks; HHA for PT/OT and skilled nursing.

LOC Grid Sources: AAOS Clinical Practice Guidelines; OTA Polytrauma Consensus; AAOS Joint Replacement Registry; AAOS Hip Fracture Guideline 2021.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Post-op complication: DVT/PE, surgical site infection, dislocation, periprosthetic fracture
- Inadequate pain control preventing rehab participation
- Non-weight-bearing status with no safe home environment
- Polytrauma with multiple injuries requiring staged repair
- Rehab placement (IRF/SNF) not yet finalized despite medical readiness

Extended Stay Sources: Sources: AAOS Clinical Practice Guidelines; OTA Practice Parameters.

PSYCHIATRIC EMERGENCIES (Medical Admission)

ALCOHOL WITHDRAWAL / DELIRIUM TREMENS

ICD-10-CM: F10.230 (alcohol dependence with withdrawal, uncomplicated), F10.231 (with delirium), F10.232 (with perceptual disturbance), F10.239 (unspecified withdrawal)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Classify by CIWA-Ar Score: CIWA-Ar Score: Nausea/vomiting (0-7), Tremor (0-7), Paroxysmal sweats (0-7), Anxiety (0-7), Agitation (0-7), Tactile disturbances (0-7), Auditory disturbances (0-7), Visual disturbances (0-7), Headache (0-7), Orientation/clouding (0-4). Max score: 67 Mild: CIWA <10. Moderate: CIWA 10-18. Severe: CIWA >20.

- CIWA-Ar >20 (severe withdrawal)
- Seizure (witnessed or reported) — withdrawal seizures typically 12-48 hrs after last drink, brief, generalized tonic-clonic
- Delirium tremens: confusion, hallucinations (visual most common), severe autonomic instability (HR >120, SBP >180, fever >38.5°C, diaphoresis), agitation. Onset typically 48-96 hrs after last drink.

Mortality 5-15% without treatment.

- HR >110 or SBP >180 or temperature >38.3°C
- Hallucinations (visual, tactile, or auditory) — alcoholic hallucinosis: clear sensorium with hallucinations
- Significant comorbidity: cirrhosis, GI bleeding, pancreatitis, pneumonia, traumatic injury
- History of complicated withdrawal (prior DTs, prior withdrawal seizures, prior ICU admission for withdrawal)
- Last drink >24 hours ago with worsening trajectory

INTENSITY OF SERVICE (IS) — Must meet ≥1:

- CIWA-Ar protocol with symptom-triggered benzodiazepine dosing (preferred over fixed-schedule)
- IV benzodiazepine: diazepam 10-20mg IV q5-15min PRN or lorazepam 2-4mg IV q15-30min PRN (for CIWA >20)
- Continuous cardiac monitoring
- Frequent vital signs (q1-4h per protocol)
- IV thiamine 500mg IV x 3 days (before glucose to prevent Wernicke encephalopathy)
- IV fluids for dehydration
- ICU for DTs: may require benzodiazepine drip (midazolam or diazepam continuous infusion), phenobarbital loading, or propofol/dexmedetomidine for refractory cases
- Electrolyte replacement: Mg2+ (commonly depleted), phosphate, potassium

B. OBSERVATION vs INPATIENT DECISION MATRIX

ICU if ≥1:

- Delirium tremens (confusion + autonomic instability + hallucinations)
- Withdrawal seizure with recurrence or post-ictal >30 min
- CIWA persistently >25 despite adequate benzodiazepine dosing
- Requiring continuous benzodiazepine infusion
- Respiratory depression from benzodiazepine treatment
- Severe comorbidity (GI bleed, hepatic failure, acute pancreatitis)

INPATIENT (Med/Surg) if ≥1:

- CIWA 10-25 requiring IV or escalating oral benzodiazepine
- History of complicated withdrawal (DTs, seizures) with current withdrawal
- Unable to tolerate oral medications
- Significant comorbidity requiring inpatient management
- Single witnessed or reported withdrawal seizure (monitor for recurrence x 24 hrs)

OBSERVATION if ALL:

- CIWA <10, mild symptoms only
- No history of DTs or withdrawal seizures
- Tolerating oral benzodiazepines (chlordiazepoxide or lorazepam PO)
- Hemodynamically stable, no significant comorbidity
- Expected to peak and improve within 24-48 hrs
- Detox facility bed available or safe discharge plan

C. CONTINUED STAY / CONCURRENT REVIEW

REVIEW INTERVAL: CIWA-Ar scoring q1-2h (active withdrawal); q4h (improving); Every 24 hours (medical team review)

DAY 1-2 (Active Withdrawal Period):

- CIWA-Ar scoring q1h if >20, q2h if 10-20, q4h if <10
- Benzodiazepine taper tracking: total benzodiazepine administered per 24 hrs
- Seizure precautions (padded rails, suction at bedside, IV access maintained)
- Labs: CBC, CMP, Mg2+, phosphate, lipase, LFTs (AST:ALT ratio >2:1 suggests alcoholic liver disease)
- Thiamine, folate, multivitamin daily
- If DTs: benzodiazepine dose escalation protocol. If refractory to >50mg diazepam equivalent in 1 hr: add phenobarbital 130-260mg IV or consider propofol/dexmedetomidine with ICU monitoring
- Assess for concurrent diagnoses: subdural hematoma (CT head if fall or AMS), pancreatitis (lipase), GI bleed (stool guaiac), infection (fever workup)

DAY 3-5:

- CIWA trending down? Benzodiazepine requirement decreasing?
- DTs resolving? Orientation improving? Hallucinations resolving?
- Transition from IV to oral benzodiazepine taper
- Nutritional status: is patient eating? Calorie/protein needs met?
- Addiction medicine or psychiatry consultation for: medication-assisted treatment (MAT), discharge planning, motivation assessment
- Naltrexone, acamprosate, or gabapentin discussed for relapse prevention (do not start naltrexone until opioid-free x 7-10 days)

CONTINUED STAY >5 DAYS JUSTIFIED IF:

- Refractory DTs requiring ongoing ICU-level sedation

- Complications: aspiration pneumonia, rhabdomyolysis, hepatic decompensation, pancreatitis
- Persistent delirium beyond expected timeframe (evaluate for Wernicke encephalopathy, hepatic encephalopathy, subdural hematoma)
- Benzodiazepine-associated respiratory depression requiring monitoring

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

ICU → STEP-DOWN:

- Off continuous benzodiazepine infusion ≥24 hours
- CIWA <15 on oral benzodiazepine taper
- Oriented, following commands, no hallucinations
- Hemodynamically stable (HR <100, SBP <160)

STEP-DOWN → DISCHARGE:

- CIWA <8 for ≥24 hours
- Off benzodiazepines or on stable oral taper dose (diazepam ≤10mg/day equivalent)
- Oriented x3, no hallucinations, no tremor at rest
- HR <100, SBP <160, afebrile
- Tolerating oral diet and medications
- Ambulatory without significant gait disturbance (if gait ataxia persists: evaluate for Wernicke/cerebellar degeneration)
- Electrolytes normalized (Mg2+, K+, phosphate)
- Relapse prevention medication prescribed or plan documented (naltrexone, acamprosate, gabapentin, or disulfiram)
- Substance use treatment plan: residential treatment, IOP, PHP, outpatient, AA/SMART Recovery, or patient-preferred program
- Follow-up: addiction medicine/psychiatry within 1-2 weeks; PCP within 1 week
- If cirrhosis/liver disease: hepatology referral, hepatic function panel, imaging

TRANSITION TO:

- Residential treatment (ASAM Level 3.5-3.7): if high relapse risk, no stable housing, co-occurring disorders
- Home with IOP/PHP: if stable housing, motivated, support system
- Home with outpatient follow-up: if mild withdrawal, first episode, strong support
- SNF: if significant deconditioning, Wernicke encephalopathy recovery, medical complexity

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ASAM Clinical Practice Guideline on Alcohol Withdrawal Management. ASAM. J Addict Med. 2020;14:1-72. 2. CIWA-Ar Scale. Sullivan JT, et al. Br J Addict. 1989;84:1353-1357. 3. APA Practice Guideline for Treatment of AUD. Reus VI, et al. Am J Psychiatry. 2018;175:86-90. 4. Phenobarbital for Alcohol Withdrawal. Nisavic M, et al. Ann Emerg Med. 2019;73:657-664. 5. NICE Guideline: Alcohol-Use Disorders: Diagnosis and Management. CG115. 2011 (2024 update). 6. Wernicke Encephalopathy Prevention. Thomson AD, et al. Alcohol Alcohol. 2002;37:513-521.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 896: Alcohol/Drug Abuse or Dependence w/o Rehabilitation Therapy w MCC (RW ~1.41)
- DRG 897: w/o Rehabilitation Therapy w/o MCC (RW ~0.82)
- DRG 894-895: w Rehabilitation Therapy w/wo MCC (RW ~1.81 / 1.10)

REVENUE CODES:

- 0120: Room & Board | 0200: ICU (if DTs) | 0250: Pharmacy (benzodiazepines, thiamine)
- 0300: Lab (BMP, Mg, LFTs, BAL) | 0730: EKG | 0636: Drugs

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-5 days Source: Curative Appendix A (DTs 5-10d); ASAM 2020 Alcohol Withdrawal Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe DTs with refractory delirium and autonomic storming, severe overdose with mechanical ventilation, NMS with hyperthermia >40°C, SJS/TEN with >30% BSA, anaphylaxis with refractory shock, malignant hyperthermia with metabolic crisis.
- Stepdown (Telemetry/PCU): CIWA q1–2h with frequent benzo titration, naloxone drip, IV antidote administration (NAC/octreotide/digibind), SJS/TEN with <30% BSA, BiPAP-eligible without intubation criteria.
- Med-Surg: CIWA <8, off drip, transitioning to PO, tolerating diet, completing antibiotics/antivirals, wound care for SJS/TEN healing phase.
- Observation: Anaphylaxis with rapid response and no biphasic concerns may discharge within 4–8 hours; uncomplicated acetaminophen overdose with completed NAC course.

- Post-Acute (SNF/IRF/LTAC): SJS/TEN patients may need IRF or specialized burn unit; substance use disorder patients may need residential addiction treatment (not covered under skilled level).
- Home (with/without HHA): Stable VS, tolerating PO, no withdrawal, addiction medicine follow-up arranged, follow-up PCP in 1–2 weeks; HHA for wound care (SJS/TEN).

LOC Grid Sources: ASAM National Practice Guideline 2020; AACT/EAPCCT Position Statements; AAAAI/ACAAI 2020 Anaphylaxis Practice Parameter; ABA SJS/TEN Consensus.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent withdrawal symptoms (CIWA >8, COWS >12) despite taper
- Aspiration pneumonia or new infection requiring antibiotics
- Refractory autonomic instability (DTs, NMS, serotonin syndrome)
- Continued SJS/TEN BSA progression requiring burn-level care
- Biphasic anaphylaxis recurrence

Extended Stay Sources: Sources: ASAM National Practice Guideline 2020; AACT Position Statements; AAAAI/ACAAI 2020.

DELIRIUM / ACUTE ALTERED MENTAL STATUS

ICD-10-CM: R41.0 (disorientation), R41.82 (altered mental status), F05 (delirium due to known physiological condition), R40.20 (unspecified coma)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): Acute onset fluctuating confusion (hours to days, not chronic dementia), inattention (CAM criteria: Feature 1: acute onset/fluctuating, Feature 2: inattention, Feature 3: disorganized thinking, Feature 4: altered consciousness — CAM positive = F1 + F2 + (F3 or F4))

- New AMS in elderly (age >65): delirium until proven otherwise
- Underlying medical cause identified or suspected: infection (UTI, pneumonia), metabolic (hyponatremia, hypercalcemia, hepatic encephalopathy, uremia), medication (anticholinergics, opioids,

benzodiazepines, steroids), substance withdrawal (alcohol, benzodiazepines), structural (stroke, SDH, mass), hypoxia, pain, urinary retention, fecal impaction

INTENSITY OF SERVICE (IS) — Must require ≥1: Comprehensive workup: CBC, CMP, UA/UCx, TSH, ammonia (if liver disease), blood cultures (if febrile), CXR, CT head (if focal deficit, fall, anticoagulated, no clear cause), ECG, medication review (stop offending agents), continuous monitoring for safety, 1:1 sitter if severely agitated, reorientation protocol (clock, calendar, familiar objects, sleep-wake cycle preservation), avoid physical restraints (use alternatives first: bed alarm, low bed, sitter), avoid benzodiazepines (worsen delirium — exception: alcohol/benzo withdrawal), if pharmacotherapy needed: haloperidol 0.5-1mg PO/IV or quetiapine 25mg PO (lowest effective dose, shortest duration)

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT: New delirium requiring medical workup and treatment of underlying cause, unable to maintain safety (falls, wandering, pulling lines), sepsis or other serious underlying etiology OBSERVATION: Mild confusion with easily identifiable cause (UTI + antibiotics, medication adjustment), expected resolution <48 hrs NOT INPATIENT: Chronic stable cognitive impairment (dementia) without acute change

C. CONTINUED STAY / CONCURRENT REVIEW

q24h. DAY 1: Delirium workup completed, precipitant identified and treated. Non-pharmacologic interventions initiated: reorientation, sleep hygiene (no unnecessary nighttime vitals/meds), mobilize early, correct sensory deficits (glasses, hearing aids), adequate hydration/nutrition. DAY 2-3: Delirium improving (CAM negative or trending)? Underlying cause resolving? CONTINUED STAY IF: Delirium not improving despite treatment, underlying cause not identified (expanded workup: MRI brain, EEG for non-convulsive status, LP if meningitis/encephalitis suspected), ongoing safety concerns, unable to participate in ADLs/discharge planning

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- CAM negative or at patient's cognitive baseline (may take days-weeks for full resolution in elderly)
- Underlying cause treated and resolving
- Able to maintain safety (no falls, cooperative with care)
- Tolerating oral medications and nutrition
- Offending medications discontinued or dose-reduced
- If ongoing mild confusion: safe discharge environment with caregiver supervision confirmed

- Cognitive baseline documented for future comparison
- PCP follow-up 1-2 weeks (reassess cognition — delirium may unmask underlying dementia)

TRANSITION TO: Home with caregiver (if safe); SNF if persistent cognitive impairment requiring supervision; Home Health for medication management

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. AGS Clinical Practice Guideline: Postoperative Delirium in Older Adults. AGS. JAGS. 2015;63:142-150. 2. CAM (Confusion Assessment Method). Inouye SK, et al. Ann Intern Med. 1990;113:941-948. 3. NICE Guideline: Delirium Prevention and Management. CG103. 2010 (2023 update). 4. APA Practice Guideline: Delirium. Trzepacz PT, et al. Am J Psychiatry. 1999;156:1-20.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK (FY2024, v41):

- DRG 080: Nontraumatic Stupor & Coma w MCC (RW ~1.47)
- DRG 081: Nontraumatic Stupor & Coma w/o MCC (RW ~0.78)
- NOTE: DRG often determined by underlying cause (sepsis, metabolic, stroke) rather than delirium code

REVENUE CODES:

- 0120: Room & Board | 0250: Pharmacy (haloperidol, quetiapine if needed) | 0300: Lab (BMP, UA, TSH, ammonia)
- 0350: CT Head | 0610: MRI | 0920: EEG (if non-convulsive status suspected)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: AGS 2014 Delirium Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: NIHSS ≥20, large vessel occlusion post-tPA/thrombectomy, hemorrhagic conversion, ICP monitoring/EVD, status epilepticus on continuous infusion, refractory autonomic instability (GBS, autonomic storming in TBI), GCS ≤8, mechanical ventilation.
- Stepdown (Telemetry/PCU): Continuous neuro checks q2h, BP titration IV → PO, post-tPA monitoring window (≥24h), plasmapheresis/IVIG for GBS/MG, vasospasm window for SAH on triple-H.
- Med-Surg: Neuro exam stable, transitioning to oral medications, swallow evaluation cleared, PT/OT engaged, secondary prevention initiated.
- Observation: TIA work-up with negative imaging and resolved deficit per ABCD² <4; first uncomplicated seizure with normal imaging and EEG planned outpatient.
- Post-Acute (SNF/IRF/LTAC): IRF for ≥3 hours/day of multidisciplinary therapy when patient can tolerate; SNF for skilled care with lower therapy intensity; LTAC for vent/trach.
- Home (with/without HHA): Ambulating with or without assist, safe swallow, caregiver competent in medications, follow-up neurology in 1–2 weeks; HHA for PT/OT/ST and skilled nursing.

LOC Grid Sources: AHA/ASA 2019 AIS Guideline; AHA/ASA 2022 ICH and 2023 aSAH Guidelines; AAN 2020 MG; NCS Status Epilepticus Guidelines 2016; Brain Trauma Foundation 2017 TBI Guidelines.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Worsening neurologic exam (new deficit, declining GCS, increased ICP)
- Hemorrhagic conversion or expansion of intracranial bleed
- Vasospasm with ischemia requiring HHT or intra-arterial intervention (SAH window through day 14)
- Refractory seizures requiring continuous EEG and second-line antiepileptics
- Aspiration pneumonia or new infection requiring IV antibiotics
- Failure to swallow (NPO) requiring NG or PEG before disposition
- Inability to safely discharge: rehab placement not yet finalized

Extended Stay Sources: Sources: AHA/ASA AIS 2019 / ICH 2022 / aSAH 2023 Guidelines; NCS Status Epilepticus 2016.

DRUG OVERDOSE / POISONING — ACCIDENTAL OR INTENTIONAL

ICD-10-CM: T36-T65 (poisoning series), X71-X83 (intentional self-harm), T14.91XA (suicide attempt)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1): AMS (GCS <15), respiratory depression (RR <12, SpO2 <92%), hemodynamic instability, seizure, cardiac arrhythmia (QTc

>500, QRS >100, bradycardia), metabolic acidosis (pH <7.30), hypoglycemia, specific toxidrome requiring antidote monitoring

- Common high-risk ingestions: acetaminophen (Rumack-Matthew nomogram → NAC), aspirin (salicylate >30), opioid (naloxone requirement), TCA (QRS >100, hypotension), calcium channel/beta

blocker (bradycardia, hypotension requiring high-dose insulin euglycemic therapy), lithium (>2.5), methanol/ethylene glycol (fomepizole + dialysis)

INTENSITY OF SERVICE (IS) — Must require ≥1: ICU for hemodynamic instability/intubation/antidote requiring monitoring, activated charcoal within 1-2 hrs (if airway protected), specific antidotes (NAC, fomepizole, DigiFab, glucagon, lipid emulsion), hemodialysis for toxic alcohols/lithium/aspirin (EXTRIP guidelines), continuous cardiac monitoring

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT/ICU: Any overdose with hemodynamic instability/AMS/arrhythmia/antidote requirement INPATIENT: Acetaminophen NAC protocol, intentional overdose requiring medical clearance then psychiatric evaluation OBSERVATION: Known single-agent with mild symptoms expected to clear <24 hrs NOTE: ALL intentional overdoses require psychiatric evaluation before discharge regardless of medical severity

C. CONTINUED STAY / CONCURRENT REVIEW

Toxicology-specific: Acetaminophen: ALT/AST q12h, INR (hepatotoxicity peaks day 3-4). Aspirin: serial levels q2h until declining. Lithium: levels q4h until <1.5. TCA: continuous ECG x 24h after QRS normalizes. Poison Control (1-800-222-1222) for all complex ingestions. CONTINUED STAY IF: Ongoing antidote, persistent metabolic derangements, hepatotoxicity developing, psychiatric evaluation pending

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Medically cleared: vital signs stable, GCS 15, metabolic derangements resolved, ECG normalized
- Antidote course completed, drug levels therapeutic or undetectable
- Liver function stable (if acetaminophen)
- INTENTIONAL: psychiatric evaluation completed, safety plan documented, disposition per psychiatry
- ACCIDENTAL: medication reconciliation, education, prescriber follow-up

TRANSITION TO: Inpatient psychiatry (if unsafe), Home with safety plan, Residential treatment

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. Rumack-Matthew Nomogram. Rumack BH. Pediatrics. 1975;55:871. 2. EXTRIP Guidelines. Various publications 2014-2023. 3. APA Practice Guideline: Suicidal Behaviors. Jacobs DG. Am J Psychiatry. 2010;167:1-99. 4. AACT/ACMT Position Statements on specific antidotes and decontamination.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 917: Poisoning & Toxic Effects of Drugs w MCC (RW ~1.36)
- DRG 918: Poisoning & Toxic Effects of Drugs w/o MCC (RW ~0.67)
- DRG 207-208: If ventilator support required

REVENUE CODES:

- 0200: ICU (if intubated, antidote monitoring) | 0120: Room & Board
- 0250: Pharmacy (NAC, fomepizole, DigiFab, naloxone, activated charcoal)
- 0300: Lab (tox screen, acetaminophen level, salicylate, serial BMP, LFTs) | 0730: EKG
- 0636: Drugs (antidotes — high-cost: DigiFab, fomepizole, CroFab)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 1-3 days Source: AACT/EAPCCT Position Statements

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe DTs with refractory delirium and autonomic storming, severe overdose with mechanical ventilation, NMS with hyperthermia >40°C, SJS/TEN with >30% BSA, anaphylaxis with refractory shock, malignant hyperthermia with metabolic crisis.
- Stepdown (Telemetry/PCU): CIWA q1–2h with frequent benzo titration, naloxone drip, IV antidote administration (NAC/octreotide/digibind), SJS/TEN with <30% BSA, BiPAP-eligible without intubation criteria.
- Med-Surg: CIWA <8, off drip, transitioning to PO, tolerating diet, completing antibiotics/antivirals, wound care for SJS/TEN healing phase.
- Observation: Anaphylaxis with rapid response and no biphasic concerns may discharge within 4–8 hours; uncomplicated acetaminophen overdose with completed NAC course.
- Post-Acute (SNF/IRF/LTAC): SJS/TEN patients may need IRF or specialized burn unit; substance use disorder patients may need

residential addiction treatment (not covered under skilled level).
- Home (with/without HHA): Stable VS, tolerating PO, no withdrawal, addiction medicine follow-up arranged, follow-up PCP in 1–2 weeks; HHA for wound care (SJS/TEN).

LOC Grid Sources: ASAM National Practice Guideline 2020; AACT/EAPCCT Position Statements; AAAAI/ACAAI 2020 Anaphylaxis Practice Parameter; ABA SJS/TEN Consensus.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent withdrawal symptoms (CIWA >8, COWS >12) despite taper
- Aspiration pneumonia or new infection requiring antibiotics
- Refractory autonomic instability (DTs, NMS, serotonin syndrome)
- Continued SJS/TEN BSA progression requiring burn-level care
- Biphasic anaphylaxis recurrence

Extended Stay Sources: Sources: ASAM National Practice Guideline 2020; AACT Position Statements; AAAAI/ACAAI 2020.

OPIOID WITHDRAWAL — COMPLICATED

ICD-10-CM: F11.23 (opioid dependence with withdrawal), F11.93 (opioid use unspecified with withdrawal)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI (≥1 complicating feature): COWS Score >24 (severe: lacrimation, rhinorrhea, yawning, piloerection, myalgia, diarrhea, nausea/vomiting, pupil dilation, tachycardia, HTN, restlessness, anxiety), severe dehydration from persistent vomiting/diarrhea (unable to maintain oral hydration), pregnant (opioid withdrawal can cause fetal distress/stillbirth — do NOT abruptly discontinue opioids in pregnancy; initiate buprenorphine or methadone), significant comorbidity (cardiovascular disease with severe HTN/tachycardia, decompensated liver disease), concurrent alcohol/benzodiazepine withdrawal (cross-dependence management), psychiatric crisis (active SI with opioid use context)

INTENSITY OF SERVICE (IS) — Must require ≥1: Buprenorphine induction (per X-waiver removal 2023: any provider can prescribe): COWS ≥12 before first dose, start 2-4mg SL, observe 1-2 hrs, additional 2-4mg if still symptomatic, day 1 total 8-16mg; stabilize at 16-24mg/day by day 2-3. Methadone for pregnancy (or buprenorphine per MOTHER trial). Symptom management: clonidine 0.1-0.3mg q8h for autonomic symptoms, ondansetron for nausea, loperamide for diarrhea, dicyclomine for cramps, trazodone for insomnia, IV fluids for dehydration.

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if: severe dehydration (BUN >30, Cr elevated, orthostasis), pregnant, concurrent alcohol/benzo withdrawal requiring monitoring, significant cardiovascular compromise (HR >120, SBP >180), suicidal ideation, failed multiple outpatient detox attempts with high relapse risk OBSERVATION: Moderate withdrawal (COWS 13-24) with expected stabilization on buprenorphine <48 hrs, able to tolerate oral fluids OUTPATIENT: Mild-moderate withdrawal in motivated patient with same-day buprenorphine initiation (office-based opioid treatment — standard of care per ASAM)

C. CONTINUED STAY / CONCURRENT REVIEW

COWS scoring q4-8h. DAY 1: Buprenorphine induction (must be in withdrawal, COWS ≥12), IV fluids if dehydrated, symptom adjuncts. DAY 2: Buprenorphine dose stabilization (16-24mg), tolerating oral? COWS declining? DAY 3: Stable on buprenorphine maintenance dose, eating, sleeping, ambulatory. CONTINUED STAY IF: Unable to tolerate buprenorphine (precipitated withdrawal from recent fentanyl use — consider low-dose/micro-dosing protocol or methadone), persistent vomiting/dehydration, concurrent withdrawal syndromes, psychiatric crisis, AMA risk requiring motivational support

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- COWS <8 on stable buprenorphine or methadone dose for ≥24 hrs
- Tolerating oral fluids and medications
- Vital signs stable (HR <100, SBP <160)
- No significant vomiting, diarrhea, or dehydration
- MAT prescribed: buprenorphine-naloxone (Suboxone) or methadone (OTP enrollment confirmed)
- Naloxone rescue kit prescribed
- Treatment plan: residential, PHP/IOP, or outpatient MAT with counseling
- Addiction medicine/PCP follow-up within 1 week
- Harm reduction counseling: naloxone use, fentanyl test strips, safe injection practices if not ready for abstinence

TRANSITION TO: Residential treatment (ASAM Level 3.5-3.7 if high relapse risk), Home with outpatient MAT (preferred for most), PHP/IOP

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ASAM National Practice Guideline for Treatment of OUD. ASAM. J Addict Med. 2020;14:1-91. 2024 update. 2. COWS (Clinical Opiate Withdrawal Scale). Wesson DR, Ling W. J Psychoactive Drugs. 2003;35:253-259. 3. MOTHER Trial (Buprenorphine in Pregnancy). Jones HE, et al. NEJM. 2010;363:2320-2331. 4. DEA X-Waiver Elimination: Consolidated Appropriations Act 2023, Section 1262. 5. Micro-dosing Buprenorphine Protocol. Hser YI, et al. JAMA Intern Med. 2021;181:1229.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 896: Alcohol/Drug Abuse or Dependence w/o Rehab Therapy w MCC (RW ~1.41)
- DRG 897: w/o Rehab Therapy w/o MCC (RW ~0.82)

REVENUE CODES:

- 0120: Room & Board | 0250: Pharmacy (buprenorphine, methadone, clonidine, loperamide)
- 0300: Lab (UDS, BMP, LFTs, hepatitis panel) | 0636: Drugs (buprenorphine)

OBSTETRIC EMERGENCIES (Non-Delivery Medical Admission)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 3-5 days Source: ASAM National Practice Guideline 2020

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe DTs with refractory delirium and autonomic storming, severe overdose with mechanical ventilation, NMS with hyperthermia >40°C, SJS/TEN with >30% BSA, anaphylaxis with refractory shock, malignant hyperthermia with metabolic crisis.
- Stepdown (Telemetry/PCU): CIWA q1–2h with frequent benzo titration, naloxone drip, IV antidote administration (NAC/octreotide/digibind), SJS/TEN with <30% BSA, BiPAP-eligible without intubation criteria.
- Med-Surg: CIWA <8, off drip, transitioning to PO, tolerating diet, completing antibiotics/antivirals, wound care for SJS/TEN healing phase.
- Observation: Anaphylaxis with rapid response and no biphasic concerns may discharge within 4–8 hours; uncomplicated acetaminophen overdose with completed NAC course.
- Post-Acute (SNF/IRF/LTAC): SJS/TEN patients may need IRF or specialized burn unit; substance use disorder patients may need residential addiction treatment (not covered under skilled level).
- Home (with/without HHA): Stable VS, tolerating PO, no withdrawal, addiction medicine follow-up arranged, follow-up PCP in 1–2 weeks; HHA for wound care (SJS/TEN).

LOC Grid Sources: ASAM National Practice Guideline 2020; AACT/EAPCCT Position Statements; AAAAI/ACAAI 2020 Anaphylaxis Practice Parameter; ABA SJS/TEN Consensus.

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Persistent withdrawal symptoms (CIWA >8, COWS >12) despite taper
- Aspiration pneumonia or new infection requiring antibiotics
- Refractory autonomic instability (DTs, NMS, serotonin syndrome)
- Continued SJS/TEN BSA progression requiring burn-level care
- Biphasic anaphylaxis recurrence

Extended Stay Sources: Sources: ASAM National Practice Guideline 2020; AACT Position Statements; AAAAI/ACAAI 2020.

SEVERE PREECLAMPSIA / ECLAMPSIA / HELLP

ICD-10-CM: O14.10-O14.15 (severe preeclampsia), O14.20-O14.25 (HELLP), O15.0-O15.9 (eclampsia)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SI — SEVERE PREECLAMPSIA (≥1): SBP ≥160 OR DBP ≥110 on 2 occasions 4 hrs apart (or once if treated), platelets <100K, liver transaminases >2x ULN, Cr >1.1 or doubling, pulmonary edema, new-onset headache unresponsive to medication, visual disturbances (scotomata, blurred vision, blindness), RUQ/epigastric pain. HELLP: Hemolysis (elevated LDH >600, schistocytes, indirect bili >1.2) + Elevated Liver enzymes (AST/ALT >2x) + Low Platelets (<100K). ECLAMPSIA: seizure in preeclamptic patient without other cause.

INTENSITY OF SERVICE (IS) — Must require ≥1: ICU/L&D high-acuity, IV magnesium sulfate (4g loading then 1-2g/hr maintenance for seizure prophylaxis — continue 24-48 hrs postpartum), IV antihypertensives: labetalol 20mg IV then 40mg then 80mg q10min OR hydralazine 5-10mg IV q20min OR nicardipine drip (target SBP <160, DBP <110 within 30-60 min per ACOG), continuous fetal

monitoring, delivery planning (definitive treatment = delivery; timing based on GA, severity, maternal/fetal status), betamethasone for fetal lung maturity if 24-33+6 weeks GA and delivery expected within 7 days

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for severe preeclampsia, HELLP, and eclampsia

- ICU if: eclampsia, refractory HTN, DIC, liver rupture, pulmonary edema, HELLP with platelets <50K

NOTE: Mild preeclampsia/gestational HTN may be managed as outpatient with close surveillance per ACOG if meeting specific criteria (compliant patient, reliable BP monitoring, twice-weekly visits)

C. CONTINUED STAY / CONCURRENT REVIEW

q12h. L&D: Continuous fetal monitoring, BP q15min during acute treatment then q1-4h, magnesium level q6h (therapeutic 4-7 mEq/L; monitor for toxicity: loss of reflexes >7, respiratory depression >10, cardiac arrest >12), labs q6-12h (CBC with platelets, CMP, LDH, uric acid), I&O (UOP ≥0.5mL/kg/hr). Delivery timing: ≥34 weeks with severe features → delivery after stabilization; <34 weeks → expectant management IF stable on meds (betamethasone completion), but deliver immediately if: eclampsia, uncontrollable HTN, DIC, non-reassuring fetal status, placental abruption. POSTPARTUM: Magnesium x 24-48 hrs after delivery, BP monitoring q4h, antihypertensive taper plan CONTINUED STAY IF: BP not controlled, magnesium ongoing, platelet/liver function not recovering (HELLP can worsen postpartum before improving at 48-72 hrs), eclampsia, postpartum hemorrhage

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- BP <150/100 on oral medications for ≥24 hrs (labetalol PO, nifedipine XL)
- Off magnesium sulfate ≥24 hrs without seizure
- Platelets rising (>100K or trending upward)
- Liver enzymes trending down
- Cr stable or improving
- No headache, visual changes, or RUQ pain
- Tolerating oral medications and diet
- Antihypertensive plan for postpartum: most need medication for weeks-months; BP peaks postpartum days 3-6
- OB follow-up 72 hrs and 1-2 weeks postpartum (BP check, labs)
- Patient educated: signs of postpartum preeclampsia (headache, visual changes, RUQ pain, edema → return to ED)
- Long-term cardiovascular risk counseling: preeclampsia doubles lifetime CVD risk; annual BP/metabolic screening recommended

TRANSITION TO: Home (majority); SNF if severe deconditioning from prolonged antepartum admission

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACOG Practice Bulletin #222: Gestational Hypertension and Preeclampsia. Obstet Gynecol. 2020;135:e237-e260. 2023 update. 2. ACOG Committee Opinion #767: Emergent Therapy for Acute-Onset, Severe Hypertension During Pregnancy and Postpartum. 2019. 3. Magpie Trial (Magnesium for Eclampsia Prevention). Lancet. 2002;359:1877-1890. 4. SMFM: Expectant Management of Preeclampsia with Severe Features. Am J Obstet Gynecol. 2022;227:B2-B7. 5. ISSHP Classification of Hypertensive Disorders of Pregnancy. Brown MA, et al. Pregnancy Hypertens. 2018;13:291-310.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 765: Cesarean Section w CC/MCC (RW ~1.76) — if C-section delivery
- DRG 766: Cesarean Section w/o CC/MCC (RW ~1.20)
- DRG 774: Vaginal Delivery w Complicating Diagnoses (RW ~0.92)
- DRG 817: Other Antepartum Diagnoses w O.R. Procedure (RW ~1.89)
- DRG 831: Other Antepartum Diagnoses w/o O.R. Procedure w MCC (RW ~1.12)

REVENUE CODES:

- 0120/0720: L&D Room & Board | 0200: ICU (if eclampsia/HELLP) | 0250: Pharmacy (magnesium, labetalol, hydralazine)
- 0300: Lab (CBC w platelets, CMP, LDH, uric acid, LFTs q6-12h) | 0360: OR (if C-section)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-7 days Source: Curative Appendix A (includes postpartum); ACOG Practice Bulletin 222 (2020)

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe preeclampsia/eclampsia with seizures, HELLP with multi-organ dysfunction, postpartum hemorrhage requiring massive transfusion, amniotic fluid embolism, septic shock.
- Stepdown (Telemetry/PCU): Magnesium infusion with continuous monitoring, severe-range BP on IV titration, post-hemorrhage with ongoing transfusion, antepartum monitoring with serious comorbidity.

- Med-Surg: Mag completed, BP controlled on PO, hemoglobin stable, lochia normal, postpartum recovery.
- Observation: Mild-range preeclampsia with stable BPs and reassuring labs/fetal status for inpatient triage; uncomplicated ectopic medical management.
- Post-Acute: Rarely needed in OB; SNF for severe maternal morbidity with deconditioning.
- Home (with/without HHA): BP controlled on PO, mag completed, hemoglobin stable, follow-up OB in 1 week; HHA for IV antibiotics, BP monitoring.

LOC Grid Sources: ACOG Practice Bulletin 222 (Hypertension in Pregnancy 2020); ACOG PB 183 (PPH 2017); ACOG PB 193 (Ectopic 2018); ACOG PB 209 (Abruption 2019).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Severe-range BPs not controlled on oral antihypertensives
- HELLP labs not improving (platelets <100, LDH rising, AST/ALT rising)
- Magnesium toxicity requiring monitoring beyond standard taper
- Postpartum hemorrhage with continued bleeding or anemia requiring transfusion
- Endometritis or wound infection requiring continued IV antibiotics
- Eclamptic seizure during admission with extended mag course

Extended Stay Sources: Sources: ACOG Practice Bulletins 222 (Hypertension) and 183 (PPH).

POSTPARTUM HEMORRHAGE

ICD-10-CM: O72.0 (third-stage hemorrhage), O72.1 (other immediate), O72.2 (delayed/secondary), O72.3 (postpartum coagulation defects)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Cumulative blood loss ≥1000 mL OR blood loss with signs of hypovolemia (tachycardia >110, hypotension SBP <90, dizziness, oliguria, AMS) regardless of mode of delivery (ACOG 2017 redefinition). Quantitative blood loss measurement (QBL) preferred over visual estimation.

- Uterine atony (most common cause, 70-80%): boggy uterus on palpation
- Retained products of conception (placental fragments on US)
- Genital tract lacerations (cervical, vaginal, perineal)
- Coagulopathy: DIC, von Willebrand disease, platelet disorders
- Uterine inversion, rupture

INTENSITY OF SERVICE (IS) — Must require ≥1: Bimanual uterine massage, uterotonics (oxytocin 10-40 units IV, methylergonovine 0.2mg IM (avoid if HTN), carboprost 0.25mg IM q15min (avoid if asthma), misoprostol 800-1000mcg SL/PR), tranexamic acid 1g IV within 3 hrs of delivery (WOMAN trial), intrauterine balloon tamponade (Bakri balloon), uterine compression sutures (B-Lynch), uterine artery embolization (IR), hysterectomy (last resort for life-threatening hemorrhage), massive transfusion protocol if indicated (1:1:1 PRBC:FFP:platelets)

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT — PPH is managed on L&D/postpartum unit

- ICU if: massive transfusion (≥4 units pRBC), hemodynamic instability requiring vasopressors, DIC, hysterectomy, uterine artery embolization

C. CONTINUED STAY / CONCURRENT REVIEW

q1-4h depending on severity. ACTIVE PPH: QBL tracked continuously, vital signs q5-15min, H&H q2-4h, coagulation panel if >1500mL or ongoing. POST-STABILIZATION: Hgb stable x 12 hrs, vital signs stable, UOP adequate, uterus firm. CONTINUED STAY IF: Ongoing bleeding, hemodynamic instability, transfusion requirement, DIC management, surgical intervention recovery, fever suggesting endometritis

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Bleeding stopped: minimal lochia, uterus firm, no active hemorrhage for ≥12 hrs
- Hemodynamically stable: SBP >100, HR <100, UOP adequate
- Hgb stable (≥7, or patient asymptomatic with Hgb 7-8) and not requiring further transfusion
- Coagulation panel normalizing (if DIC): fibrinogen >200, platelets >100K, INR <1.5
- Tolerating oral iron supplementation (ferrous sulfate 325mg BID) and diet
- If hysterectomy: wound stable, ambulating, diet tolerated

- Cause identified and addressed: atony (uterotonics complete), retained products (removed), laceration (repaired)
- OB follow-up 1-2 weeks (earlier if Hgb <8)
- IV iron infusion considered for symptomatic anemia (ferric carboxymaltose 750mg IV x 2 per ACOG)

TRANSITION TO: Home (majority); SNF rare unless hysterectomy with significant deconditioning

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACOG Practice Bulletin #183: Postpartum Hemorrhage. Obstet Gynecol. 2017;130:e168-e186. 2023 reaffirmed. 2. WOMAN Trial (Tranexamic Acid for PPH). Shakur H, et al. Lancet. 2017;389:2105-2116. 3. California Maternal Quality Care Collaborative (CMQCC): OB Hemorrhage Toolkit. 2022. 4. ACOG Committee Opinion #794: Quantitative Blood Loss. 2019.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 769: Postpartum & Post Abortion Diagnoses w O.R. Procedure (RW ~2.18) — if hysterectomy/uterine artery embolization
- DRG 776: Postpartum & Post Abortion Diagnoses w/o O.R. Procedure (RW ~0.72)

REVENUE CODES:

- 0720: L&D | 0360: OR (if hysterectomy, B-Lynch sutures) | 0481: IR (uterine artery embolization)
- 0390: Blood Products (pRBC, FFP, platelets, cryoprecipitate — massive transfusion protocol)
- 0250: Pharmacy (uterotonics, TXA) | 0270: Supplies (Bakri balloon) | 0300: Lab (CBC, coags q2-4h)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 1-3 days Source: Curative Appendix A (beyond delivery stay); ACOG PB 183 (2017)

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe preeclampsia/eclampsia with seizures, HELLP with multi-organ dysfunction, postpartum hemorrhage requiring massive transfusion, amniotic fluid embolism, septic shock.
- Stepdown (Telemetry/PCU): Magnesium infusion with continuous monitoring, severe-range BP on IV titration, post-hemorrhage with ongoing transfusion, antepartum monitoring with serious comorbidity.
- Med-Surg: Mag completed, BP controlled on PO, hemoglobin stable, lochia normal, postpartum recovery.
- Observation: Mild-range preeclampsia with stable BPs and reassuring labs/fetal status for inpatient triage; uncomplicated ectopic medical management.
- Post-Acute: Rarely needed in OB; SNF for severe maternal morbidity with deconditioning.
- Home (with/without HHA): BP controlled on PO, mag completed, hemoglobin stable, follow-up OB in 1 week; HHA for IV antibiotics, BP monitoring.

LOC Grid Sources: ACOG Practice Bulletin 222 (Hypertension in Pregnancy 2020); ACOG PB 183 (PPH 2017); ACOG PB 193 (Ectopic 2018); ACOG PB 209 (Abruption 2019).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Severe-range BPs not controlled on oral antihypertensives
- HELLP labs not improving (platelets <100, LDH rising, AST/ALT rising)
- Magnesium toxicity requiring monitoring beyond standard taper
- Postpartum hemorrhage with continued bleeding or anemia requiring transfusion
- Endometritis or wound infection requiring continued IV antibiotics
- Eclamptic seizure during admission with extended mag course

Extended Stay Sources: Sources: ACOG Practice Bulletins 222 (Hypertension) and 183 (PPH).

ECTOPIC PREGNANCY — RUPTURED

ICD-10-CM: O00.10-O00.219 (tubal ectopic), O00.80-O00.91 (other ectopic)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Abdominal/pelvic pain (often sudden, severe, lateralized) with positive pregnancy test, hemodynamic instability (hypotension, tachycardia, orthostasis from hemoperitoneum), peritoneal signs (rebound, guarding, referred shoulder pain from diaphragmatic irritation by blood), US showing: empty uterus with positive β-hCG >3000-3500 (discriminatory zone for TVS), adnexal mass, free fluid in pelvis/abdomen (hemoperitoneum), β-hCG plateauing or declining abnormally (not doubling q48h)

INTENSITY OF SERVICE (IS) — Must require ≥1: EMERGENT surgery for ruptured ectopic: laparoscopic salpingectomy (preferred) or salpingostomy, type and screen with crossmatch ≥4 units pRBC, large-bore IV access x2, aggressive fluid resuscitation, Rh status (RhoGAM if Rh-negative), ICU if massive hemorrhage requiring massive transfusion protocol

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for ruptured ectopic pregnancy (surgical emergency) OBSERVATION: Unruptured ectopic being managed with methotrexate (50mg/m² IM) may be outpatient IF: hemodynamically stable, β-hCG <5000, no fetal cardiac activity, reliable follow-up for serial β-hCG (day 4 and 7: expect ≥15% decline from day 4 to day 7)

C. CONTINUED STAY / CONCURRENT REVIEW

q4-6h post-op. DAY 1: Hemodynamically stable post-surgery? Hgb check (transfuse if <7 or symptomatic). Rh status confirmed, RhoGAM given if Rh-negative. β-hCG drawn (baseline for post-op monitoring). DAY 2: Tolerating diet, ambulating, pain controlled. CONTINUED STAY IF: Hemodynamic instability, massive hemorrhage, post-operative bleeding, DIC, bilateral salpingectomy requiring fertility counseling

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Hemodynamically stable post-surgery ≥24 hrs
- Pain controlled on oral analgesics
- Tolerating diet and ambulating
- Hgb stable, no ongoing bleeding
- RhoGAM given if Rh-negative
- β-hCG baseline drawn, serial monitoring plan: weekly β-hCG until undetectable (<5)
- OB/GYN follow-up 1-2 weeks
- Future fertility discussed: salpingectomy → IVF referral if bilateral or desired; salpingostomy → 15-20% persistent ectopic risk, monitor β-hCG closely
- Contraception counseling if desired (safe to conceive after 3 months per most guidelines)

TRANSITION TO: Home (majority, day 1 post-lap)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACOG Practice Bulletin #193: Tubal Ectopic Pregnancy. Obstet Gynecol. 2018;131:e91-e103. 2. NICE Guideline: Ectopic Pregnancy and Miscarriage (NG126). 2019 (2023 update). 3. RCOG Green-Top Guideline: Ectopic Pregnancy. 2016.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 777: Ectopic Pregnancy (RW ~1.16)

REVENUE CODES:

- 0360: OR (laparoscopic salpingectomy/salpingostomy) | 0710: Recovery Room
- 0402: Ultrasound (transvaginal US) | 0300: Lab (beta-hCG serial, CBC, T&S)
- 0250: Pharmacy (methotrexate if medical management) | 0390: Blood (if ruptured with hemorrhage)

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 1-2 days Source: ACOG Practice Bulletin 193 (2018)

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe preeclampsia/eclampsia with seizures, HELLP with multi-organ dysfunction, postpartum hemorrhage requiring massive transfusion, amniotic fluid embolism, septic shock.
- Stepdown (Telemetry/PCU): Magnesium infusion with continuous monitoring, severe-range BP on IV titration, post-hemorrhage with ongoing transfusion, antepartum monitoring with serious comorbidity.
- Med-Surg: Mag completed, BP controlled on PO, hemoglobin stable, lochia normal, postpartum recovery.
- Observation: Mild-range preeclampsia with stable BPs and reassuring labs/fetal status for inpatient triage; uncomplicated ectopic medical management.
- Post-Acute: Rarely needed in OB; SNF for severe maternal morbidity with deconditioning.
- Home (with/without HHA): BP controlled on PO, mag completed, hemoglobin stable, follow-up OB in 1 week; HHA for IV antibiotics, BP monitoring.

LOC Grid Sources: ACOG Practice Bulletin 222 (Hypertension in Pregnancy 2020); ACOG PB 183 (PPH 2017); ACOG PB 193 (Ectopic 2018); ACOG PB 209 (Abruption 2019).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity

triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Severe-range BPs not controlled on oral antihypertensives
- HELLP labs not improving (platelets <100, LDH rising, AST/ALT rising)
- Magnesium toxicity requiring monitoring beyond standard taper
- Postpartum hemorrhage with continued bleeding or anemia requiring transfusion
- Endometritis or wound infection requiring continued IV antibiotics
- Eclamptic seizure during admission with extended mag course

Extended Stay Sources: Sources: ACOG Practice Bulletins 222 (Hypertension) and 183 (PPH).

PLACENTAL ABRUPTION

ICD-10-CM: O45.001-O45.93 (premature separation of placenta)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — Must meet ≥1: Vaginal bleeding (painful — distinguishes from placenta previa which is painless) in 2nd/3rd trimester, uterine tenderness/rigidity (woody/board-like uterus = severe abruption), fetal distress (non-reassuring fetal heart rate tracing: recurrent late decelerations, bradycardia, sinusoidal pattern), maternal hemodynamic instability (hemorrhage may be concealed — concealed abruption can be massive before external bleeding), DIC (abruption is leading cause of obstetric DIC), preterm labor/contractions, US may show retroplacental hematoma (but US sensitivity only 25-50% — clinical diagnosis)

INTENSITY OF SERVICE (IS) — Must require ≥1: L&D admission with continuous fetal monitoring, large-bore IV x2 with type and crossmatch (4-6 units), CBC/coagulation panel q4-6h (platelets, fibrinogen, PT/INR, D-dimer), IV fluid resuscitation, blood product replacement (pRBC, FFP, cryoprecipitate — target fibrinogen >200), RhoGAM if Rh-negative, Kleihauer-Betke test (quantify fetomaternal hemorrhage), EMERGENT cesarean delivery if: fetal distress, maternal hemodynamic instability, severe abruption, intrauterine fetal demise with DIC → vaginal delivery attempted if maternal status stable

B. OBSERVATION vs INPATIENT DECISION MATRIX

ALWAYS INPATIENT for confirmed or suspected placental abruption IMMEDIATE DELIVERY for: non-reassuring fetal status, massive hemorrhage, DIC, maternal instability

C. CONTINUED STAY / CONCURRENT REVIEW

Continuous fetal monitoring, q4-6h coagulation panel and Hgb. MILD ABRUPTION (maternal/fetal stable, minimal bleeding): expectant management if preterm — betamethasone for fetal lung maturity (24-33+6 weeks), close monitoring, delivery at 34-37 weeks depending on stability. MODERATE-SEVERE: delivery. Post-delivery: DIC monitoring, hemorrhage control, uterotonic agents. CONTINUED STAY IF: DIC management, ongoing hemorrhage, preterm with expectant management, post-cesarean recovery with complications

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- Delivered with hemostasis achieved
- Hemodynamically stable, no active bleeding ≥12 hrs
- Hgb stable, coagulation panel normalizing (fibrinogen >200, platelets >100K)
- If expectant management: abruption stable on imaging, no worsening bleeding, fetal status reassuring, steroids completed
- Standard postpartum or post-cesarean discharge criteria met
- OB follow-up 1-2 weeks (earlier if complicated)
- Future pregnancy counseling: 5-17% recurrence risk, aspirin 81mg starting at 12 weeks in future pregnancies per ACOG

TRANSITION TO: Home (majority after delivery)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACOG Practice Bulletin #227: Placental Abruption. Obstet Gynecol. 2021;137:e46-e57. 2. Oyelese Y, Ananth CV. Placental Abruption. Obstet Gynecol. 2006;108:1005-1016. 3. ACOG Practice Bulletin: Prediction and Prevention of Spontaneous Preterm Birth (Aspirin for recurrence prevention).

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 765-766: Cesarean Section w/wo CC/MCC (RW ~1.76 / 1.20) — most abruptions lead to emergent C-section
- DRG 774: Vaginal Delivery w Complicating Diagnoses (RW ~0.92)
- DRG 831: Other Antepartum Diagnoses w MCC (RW ~1.12) — if undelivered

REVENUE CODES:

- 0720: L&D | 0360: OR (emergent C-section) | 0200: ICU (if DIC, massive hemorrhage)

- 0390: Blood Products (massive transfusion protocol) | 0300: Lab (CBC, coags, Kleihauer-Betke)
- 0250: Pharmacy | 0402: Ultrasound

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 2-5 days antepartum admission Source: ACOG Practice Bulletin 209 (2019)

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Severe preeclampsia/eclampsia with seizures, HELLP with multi-organ dysfunction, postpartum hemorrhage requiring massive transfusion, amniotic fluid embolism, septic shock.
- Stepdown (Telemetry/PCU): Magnesium infusion with continuous monitoring, severe-range BP on IV titration, post-hemorrhage with ongoing transfusion, antepartum monitoring with serious comorbidity.
- Med-Surg: Mag completed, BP controlled on PO, hemoglobin stable, lochia normal, postpartum recovery.
- Observation: Mild-range preeclampsia with stable BPs and reassuring labs/fetal status for inpatient triage; uncomplicated ectopic medical management.
- Post-Acute: Rarely needed in OB; SNF for severe maternal morbidity with deconditioning.
- Home (with/without HHA): BP controlled on PO, mag completed, hemoglobin stable, follow-up OB in 1 week; HHA for IV antibiotics, BP monitoring.

LOC Grid Sources: ACOG Practice Bulletin 222 (Hypertension in Pregnancy 2020); ACOG PB 183 (PPH 2017); ACOG PB 193 (Ectopic 2018); ACOG PB 209 (Abruption 2019).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Severe-range BPs not controlled on oral antihypertensives
- HELLP labs not improving (platelets <100, LDH rising, AST/ALT rising)
- Magnesium toxicity requiring monitoring beyond standard taper
- Postpartum hemorrhage with continued bleeding or anemia requiring transfusion
- Endometritis or wound infection requiring continued IV antibiotics
- Eclamptic seizure during admission with extended mag course

Extended Stay Sources: Sources: ACOG Practice Bulletins 222 (Hypertension) and 183 (PPH).

SYNCOPE — HIGH-RISK

ICD-10-CM: R55 (syncope and collapse), I49.9 (cardiac arrhythmia NOS), I42.0 (dilated cardiomyopathy), I42.1 (obstructive hypertrophic cardiomyopathy), I42.2 (other hypertrophic cardiomyopathy), I42.3 (endomyocardial eosinophilic disease), I42.4 (endocardial fibroelastosis), I42.5 (other restrictive cardiomyopathy), I42.6 (alcoholic cardiomyopathy), I42.7 (cardiomyopathy due to drug and external agent), I42.8 (other cardiomyopathies), I42.9 (cardiomyopathy unspecified) (cardiomyopathy), I45.9 (conduction disorder NOS)

A. ADMISSION CRITERIA — Severity of Illness (SI) / Intensity of Service (IS)

SEVERITY OF ILLNESS (SI) — HIGH-RISK FEATURES (≥1 = inpatient evaluation):

- ECG abnormalities: new bundle branch block, QTc >500, Brugada pattern, WPW, bifascicular block, non-sustained VT, sinus pause >3 sec, pacemaker malfunction, ST-segment changes
- Structural heart disease: known HF (EF <35%), valvular disease (severe aortic stenosis — syncope with AS is surgical emergency), HOCM, prior MI
- History suggesting cardiac cause: exertional syncope, supine syncope, palpitations preceding syncope, family history sudden cardiac death <50, personal history arrhythmia
- Cardiac biomarkers elevated: troponin positive, BNP >300
- Associated injury from syncope (head trauma, fracture)
- Vital sign abnormalities: SBP <90 persistent, new bradycardia <40 or heart block
- Risk scores: Canadian Syncope Risk Score or San Francisco Syncope Rule suggesting high risk
- LOW-RISK features (suggests vasovagal/situational → outpatient): preceded by prodrome (warmth, nausea, diaphoresis), triggered by prolonged standing/pain/emotional stress, young age, normal

ECG, no cardiac history

INTENSITY OF SERVICE (IS) — Patient must require ≥1 of the following services that can ONLY be provided in an inpatient setting:

- Continuous cardiac monitoring/telemetry (≥24 hrs)
- Echocardiogram (if structural heart disease suspected or unknown cardiac history)
- Orthostatic vital signs

- EP study or ILR (implantable loop recorder) if recurrent unexplained syncope

B. OBSERVATION vs INPATIENT DECISION MATRIX

INPATIENT if ≥1 high-risk feature listed above OBSERVATION if: intermediate risk (age >60 without high-risk features), single episode with equivocal ECG, adequate monitoring available in obs unit OUTPATIENT if: clearly vasovagal/situational, normal ECG, no structural heart disease, age <60, no injury. Canadian Syncope Risk Score very low risk.

C. CONTINUED STAY / CONCURRENT REVIEW

q24h. DAY 1: Telemetry monitoring minimum 24 hrs, ECG reviewed by cardiology if abnormal, echo if indicated, troponin serial x2 (0 and 3-6 hrs if ACS concern), orthostatic vitals (lying→standing: SBP drop >20 or DBP drop >10 = orthostatic hypotension). Medication review (antihypertensives, diuretics, alpha-blockers, QTc-prolonging drugs). If arrhythmia captured: treat per arrhythmia-specific criteria. DAY 2: If telemetry unrevealing and echo normal: likely low-risk etiology. Consider tilt-table test or outpatient ILR. If arrhythmia identified: EP consultation for pacemaker/ICD evaluation. CONTINUED STAY IF: Arrhythmia captured requiring treatment (PPM, ICD, ablation, medication), severe aortic stenosis identified (surgical/TAVR evaluation), recurrent syncope while monitored, significant injury from syncope requiring treatment

D. DISCHARGE CRITERIA — Safe Transition to Next Level of Care

- No arrhythmia captured on telemetry ≥24 hrs (or arrhythmia identified and treated/planned)
- ECG unchanged or abnormality addressed
- Echo: no critical valvular disease (if severe AS: kept for surgical evaluation)
- Orthostatic hypotension: if present, addressed (fluid status, medication adjustment)
- Cardiac biomarkers negative
- No recurrence of syncope while monitored
- If unexplained with intermediate-high risk: ILR discussion documented, cardiology follow-up for outpatient workup
- Driving restrictions counseled (state-specific; typically no driving until cause identified and treated per ACC/AHA/HRS)
- Cardiology follow-up 2-4 weeks

TRANSITION TO: Home (majority); SNF if significant injury (hip fracture — use Hip Fracture criteria concurrently)

E. EVIDENCE SOURCES — Clinical Guidelines Used for Criteria Development

1. ACC/AHA/HRS Guideline for Evaluation and Management of Syncope. Shen WK, et al. JACC. 2017;70:e39-e110. 2. ESC Guidelines for Diagnosis and Management of Syncope. Brignole M, et al. Eur Heart J. 2018;39:1883-1948. 3. Canadian Syncope Risk Score. Thiruganasambandamoorthy V, et al. CMAJ. 2016;188:E289-E298. 4. San Francisco Syncope Rule. Quinn JV, et al. Ann Emerg Med. 2004;43:224-232.

F. MS-DRG CROSSWALK & REVENUE CODES

MS-DRG CROSSWALK:

- DRG 312: Syncope & Collapse w MCC (RW ~1.15)
- DRG 313: Syncope & Collapse w/o MCC (RW ~0.66)
- DRG 222-224: Cardiac Defib Implant (if ICD placed for identified arrhythmia) (RW ~5.83 / 4.19 / 3.44)

REVENUE CODES:

- 0120: Room & Board/Telemetry | 0730: EKG | 0402: Echo (TTE)
- 0300: Lab (troponin, BNP, CBC, BMP) | 0250: Pharmacy | 0350: CT Head (if head trauma from fall)

APPENDIX A — Concurrent Review Quick Reference Condition Review Interval Day 1-2 Key Milestones Expected LOS (Uncomplicated)

STEMI q24h PCI done, troponin trending, echo done, 2-3 days GDMT started NSTEMI/UA q24h Risk stratification, cath done or planned, 1-3 days GDMT started Acute HF q24h (ICU q12h) Net negative 1-2L/day, BNP trending, IV→PO 3-5 days diuretic transition Pulmonary Embolism q24h (ICU q12h) Hemodynamics stable, RV function, oral 2-4 days anticoag started Atrial Fibrillation q24h Rate controlled on PO, anticoagulation plan, 1-2 days trigger identified Aortic Dissection q12h ICU, q24h floor BP <120, pain controlled, imaging stable, PO 5-14 days (Type A post-surgical) antihypertensives CAP (Pneumonia) q24h (ICU q12h) IV→PO switch criteria, improving SpO2, 3-5 days afebrile COPD Exacerbation q24h (ICU q12h) Nebulizer spacing, SpO2 stable on ≤3L, off 3-5 days BiPAP Respiratory Failure q12h ICU Ventilator weaning, daily SBT, extubation Variable (3-21+ days) readiness Acute Ischemic Stroke q24h NIHSS stable, secondary prevention started, 3-7 days rehab disposition Sepsis/Septic Shock q12h ICU, q24h floor Source controlled, antibiotics narrowed, 4-7 days vasopressors off, lactate normal GI Hemorrhage q12-24h EGD done, hemostasis achieved, Hgb stable x 2-4 days 24h, tolerating PO DKA q2-4h until gap closed Anion gap closed, SQ insulin transition, 1-3 days tolerating PO AKI q12-24h Cr trend, K+ safe, UOP adequate, etiology 2-5 days identified Febrile Neutropenia q24h Cultures finalized, ANC recovering, afebrile 3-7 days 24h Sickle Cell Crisis q24h Pain PCA→PO, IS q2h, SpO2 ≥95%, CXR 2-5 days clear Acute Appendicitis q24h Post-op: tolerating diet, afebrile, ambulatory 1-2 (uncomplicated) Hip Fracture q24h Surgery <48h, POD1 PT/OT, pain on PO, VTE 3-5 days ppx Alcohol Withdrawal/DTs CIWA q1-4h, MD q24h CIWA trending down, benzo taper, oriented, 2-5 days (DTs 5-10) stable VS Hypertensive Emergency q6-12h ICU BP controlled IV→PO, end-organ stabilized 2-4 days Infective Endocarditis q24h Cultures cleared, echo done, OPAT feasibility, 14-28 days (inpatient portion) surgery decision Asthma Exacerbation q12-24h Nebulizer q4h,

PEF >70%, SpO2 >94% on RA 1-3 days Acute Pancreatitis q12-24h Tolerating oral, pain on PO, CCY planned if 3-7 days (mild), 14+ (severe) gallstone ICH/SAH q6-12h ICU BP controlled, hematoma stable, vasospasm 7-14+ days window (SAH) Meningitis/Encephalitis q12-24h Cultures finalized, antibiotics narrowed, AMS 7-14 days (bacterial) improving Bowel Obstruction q12-24h NG output decreasing, flatus, tolerating oral 2-5 days (3-7 if surgical) Cholecystitis/Cholangitis q24h Cholecystectomy/ERCP done, tolerating diet, 2-4 days afebrile Hepatic Encephalopathy q12-24h Lactulose titrated, encephalopathy improving, 3-7 days precipitant treated HHS q1-2h until resolved Glucose <300, osmolality <315, mentation 2-5 days clear, SQ insulin TTP/HUS q12h TPE daily, platelets rising, LDH trending down 7-14 days TBI q1h neuro (ICU) GCS stable/improving, hemorrhage stable, 3-14 days ICP controlled Severe Preeclampsia/HELLP q12h BP controlled, mag ongoing, delivery timing, 2-7 days (includes postpartum) labs improving PPH q1-4h active Bleeding stopped, Hgb stable, coags 1-3 days beyond delivery stay normalizing Acute Limb Ischemia q6-12h Limb viable, pulse present, CK/Cr trending 3-5 days down, anticoag therapeutic Cauda Equina Syndrome q12-24h Post-decompression: neuro stable, voiding, 2-5 days ambulatory HIV with OI q24h OI treatment response, afebrile, tolerating PO, 5-14 days ART plan Obstructive Pyonephrosis q12-24h Decompressed, sepsis resolving, Cr 2-4 days improving, afebrile Necrotizing Fasciitis q12h ICU Serial debridements complete, wound VAC 14-28 days stable, sepsis resolved Spinal Fracture q24h Neuro stable, surgical wound clean, mobilizing 3-7 days (SCI: 14-28) with brace

Femoral Shaft Fracture q24h IMN done, ambulating WBAT, Hgb stable, pain 2-4 days on PO Syncope (High-Risk) q24h Telemetry 24h clear, echo done, no 1-2 days recurrence, cause addressed

APPENDIX B — Observation vs Inpatient Quick Decision Tool ALWAYS INPATIENT (No Observation Option)

- STEMI / Acute aortic dissection / Cardiac arrest / Ruptured aneurysm
- Acute ischemic stroke (all)
- Subarachnoid hemorrhage / Intracerebral hemorrhage
- Status epilepticus
- Sepsis (all, including sepsis without shock)
- DKA (all severity levels)
- Respiratory failure requiring ventilator or BiPAP
- Bowel obstruction / Peritonitis / Acute appendicitis
- Necrotizing fasciitis
- Active variceal hemorrhage
- Massive/submassive PE with RV strain
- All conditions requiring emergent surgery

OBSERVATION APPROPRIATE (When Criteria Met)

- Chest pain: HEART score ≤3, troponin negative x2, ECG non-ischemic
- Atrial fibrillation: RVR controlled with 1-2 IV doses, stable, no concurrent ACS/PE/HF
- Heart failure: mild exacerbation, SpO2 >92%, responding to single IV diuretic dose
- Pneumonia: CURB-65 = 2, PSI III, SpO2 90-94% on ≤2L, tolerating oral
- COPD: moderate exacerbation responding to nebulizers, pH >7.35
- PE (low-risk): sPESI = 0, Hestia negative, no RV strain, SpO2 ≥95%
- Syncope: low-risk, cardiac monitoring for 12-24 hrs
- Cellulitis: moderate, IV antibiotics with expected DC <48 hrs
- GI bleed: GBS 1-6, stable Hgb, awaiting EGD
- TIA: ABCD2 ≤3 with rapid workup available
- Seizure: single seizure, back to baseline, outpatient workup planned

OUTPATIENT (Not Observation or Inpatient)

- Chest pain: HEART score 0-3, troponin negative, ECG normal, symptoms resolved → stress test 72 hrs
- AF: rate controlled on PO, stable, follow-up confirmed
- COPD: mild exacerbation, SpO2 ≥92%, PO steroids + bronchodilators
- Pneumonia: CURB-65 0-1, PSI I-II, SpO2 ≥94%, tolerating PO
- PE: GBS 0 very low risk → outpatient EGD (this is for GI bleed; PE see low-risk criteria above)
- UTI: uncomplicated, tolerating PO antibiotics
- Cellulitis: mild-moderate, PO antibiotics, reliable follow-up

G. GOAL LENGTH OF STAY (UNCOMPLICATED CASE)

Goal LOS: 1-2 days Source: Curative Appendix A; ACC/AHA/HRS 2017 Syncope Guideline

H. LEVEL OF CARE (LOC) GRID — PUBLIC-SOURCE STANDARDIZED CRITERIA

- ICU: Syncope with sustained VT/VF, severe bradycardia requiring temporary pacing, cardiogenic syncope with hemodynamic compromise.
- Stepdown (Telemetry/PCU): Continuous telemetry for arrhythmia surveillance, post-tilt-table, scheduled EP study, syncope with intermediate-risk features.

- Med-Surg: Telemetry off, low-risk syncope being worked up as outpatient.
- Observation: Low-risk syncope per ACC/AHA/HRS 2017 criteria (San Francisco Syncope Rule/CSRS low-risk): no high-risk ECG features, normal exam, no comorbid heart disease — discharge within 24 hours.
- Post-Acute: Rarely required.
- Home (with/without HHA): Discharged with outpatient cardiology and possible ambulatory monitor (Holter/event/ILR), follow-up in 1–2 weeks.

LOC Grid Sources: 2017 ACC/AHA/HRS Syncope Guideline; San Francisco Syncope Rule; Canadian Syncope Risk Score (CSRS).

I. EXTENDED STAY CRITERIA & GUIDANCE

When Goal LOS is exceeded, continued inpatient stay requires documentation of ONE OR MORE of the following medical-necessity triggers. Document the specific trigger, the clinical evidence supporting it, and the targeted intervention plan.

- Sustained or recurrent syncope during monitoring
- Telemetry capture of high-risk arrhythmia (VT, AV block)
- New positive biomarker or echo finding

Extended Stay Sources: Sources: 2017 ACC/AHA/HRS Syncope Guideline.