

CRITICAL CARE ORDER SET

Septic shock

ICU management of adult septic shock. Execute the Hour-1 bundle on recognition — lactate, cultures, antibiotics, fluids, and early vasopressors — then resuscitate to perfusion targets and control the source. Adapt every dose to your institutional protocol and the patient in front of you.

PATIENT -----	MRN -----	WEIGHT (KG) -----	DATE / TIME -----
ALLERGIES -----	ATTENDING -----	ORDERING CLINICIAN -----	CODE STATUS -----

01 General orders, monitoring & nursing

HOOR-1 Measure lactate, draw blood cultures, give broad-spectrum antibiotics, begin **30 mL/kg** crystalloid for hypotension or lactate ≥ 4 , and start vasopressors for MAP < 65 during / after fluids.

ADMISSION

- ☐ Admit / transfer to **ICU**
- ☐ Diagnosis: **septic shock** due to presumed [source]

MONITORING

- ☐ Continuous cardiac monitoring
- ☐ Continuous pulse oximetry
- ☐ Noninvasive BP **q5 min** until arterial line placed, then via A-line **q1–2 min**
- ☐ Temperature **q4 h** (continuous if available)

- ☐ Strict I&O with hourly urine output
- ☐ Daily weight

NURSING

- ☐ Vital signs per ICU protocol
- ☐ Head of bed **30–45°**
- ☐ Ensure antibiotics and initial fluids are given within **1 hour** of recognition

NOTIFY MD / APP IF ANY

- ☐ MAP < **65 mmHg** despite vasopressors
- ☐ Urine output < **0.5 mL/kg/h** for > 2 h
- ☐ New / worsening altered mental status
- ☐ RR > **35/min**
- ☐ SpO₂ < **90%** on ≥ 60% FiO₂

02 Hemodynamic resuscitation

TARGETS MAP ≥ 65 mmHg (individualize for chronic HTN) · Urine output ≥ 0.5 mL/kg/h · Lactate down-trending toward normal.

IV ACCESS & LINES

- ☐ Two large-bore peripheral IVs
- ☐ Central venous catheter for vasopressors
- ☐ Arterial line for continuous BP and sampling
- ☐ Additional central access if multiple infusions required

INITIAL FLUID RESUSCITATION

- ☐ Balanced crystalloid — **LR / Plasma-Lyte** preferred if no contraindication
- ☐ **30 mL/kg IV bolus** as rapidly as feasible (adjust for major cardiac / renal limitation)
- ☐ Reassess after each **500–1000 mL** — MAP, lactate, urine output, dynamic measures (PLR, SVV / PPV, IVC / echo)
- ☐ Additional **500–1000 mL** boluses **q15–30 min** as needed

CAUTION Hold / slow fluids if signs of overload — worsening oxygenation, JVD, B-lines, tense edema.

03 Vasopressors & inotropes

INDICATION TO START VASOPRESSOR

- ☐ MAP < 65 mmHg after ~30 mL/kg fluids
- ☐ OR profound hypotension → start vasopressors in parallel with fluids

FIRST-LINE — NOREPINEPHRINE

- ☐ **Norepinephrine IV infusion** — start 0.01–0.1 mcg/kg/min or per unit protocol
- ☐ Titrate q2–5 min to MAP 65–75 mmHg
- ☐ Peripheral route initially acceptable with close site monitoring; central line as soon as feasible
- ☐ Do not exceed unit maximum dose (e.g., 1–3 mcg/kg/min or local policy)

NURSING Titrate per protocol to MAP goal. Notify MD / APP if NE ≥ [unit threshold, e.g., 0.3–0.5 mcg/kg/min] and MAP < 65.

SECOND-LINE — VASOPRESSIN

- ☐ Add **vasopressin 0.03 units/min IV** (fixed dose, not titrated) when NE ≥ 0.1–0.2 mcg/kg/min or as catecholamine-sparing

ADDITIONAL AGENTS — IF NEEDED

- ☐ **Epinephrine IV infusion 0.01–0.5 mcg/kg/min** for refractory hypotension despite NE ± vasopressin
- ☐ **Dobutamine IV infusion** — start 2.5–5 mcg/kg/min; titrate for low cardiac-output state with persistent hypoperfusion despite adequate MAP
- ☐ Bedside or formal echocardiography to guide inotrope use

04 Antibiotics

TIMING & CULTURES

- ☐ Administer broad-spectrum IV antibiotics **STAT, within 1 hour**
- ☐ Obtain cultures before antibiotics if no significant delay:
 - ☐ Blood cultures × 2 (at least one peripheral; one from line if line suspected)
 - ☐ Urine culture if urinary source suspected
 - ☐ Sputum / endotracheal aspirate if pulmonary source
 - ☐ Wound / drainage / CSF / other as indicated

EMPIRIC REGIMENS – CHOOSE BY SUSPECTED SOURCE

NOTE Examples only – adjust to local antibiogram and risk factors.

Unknown / intra-abdominal / severe sepsis (no high MDR risk)

- ☐ **Piperacillin–tazobactam 4.5 g IV q6h**
- ☐ Add **vancomycin** (pharmacy to dose) if MRSA risk

Suspected pneumonia (HAP / VAP / severe CAP)

CHOOSE 1 ANTIPSEUDOMONAL B-LACTAM

- ☐ Piperacillin–tazobactam 4.5 g IV q6h
- ☐ Cefepime 2 g IV q8h
- ☐ Meropenem 1 g IV q8h (reserve for ESBL / high MDR risk)

ADD MRSA COVERAGE IF INDICATED

- ☐ Vancomycin IV (pharmacy to manage dosing / levels)

OR

- ☐ Linezolid 600 mg IV q12h

Suspected urinary source

- ☐ Cefepime 2 g IV q8–12h **or** piperacillin–tazobactam 4.5 g IV q6h
- ☐ MRSA coverage only if specific concern

Neutropenic sepsis / high MDR risk

- ☐ **Meropenem 1 g IV q8h**
- ☐ Add vancomycin if MRSA risk / catheter-related / skin–soft tissue source

- ☐ Pharmacy to adjust all antibiotics for renal / hepatic function
- ☐ Monitor vancomycin levels / AUC if used
- ☐ De-escalate based on culture results and clinical response

05

Source control

- ☐ CT chest / abdomen / pelvis with contrast if indicated and hemodynamically feasible
- ☐ Ultrasound (RUQ, biliary, pelvic, soft tissue) as indicated
- ☐ IR consult for drainage of abscess / collections
- ☐ Surgery consult for suspected perforation, necrotizing infection, or operable focus
- ☐ Remove or exchange suspected infected lines, urinary catheters, hardware when feasible

06

Laboratory & diagnostic studies

INITIAL STAT LABS

- | | |
|---|---|
| ☐ CBC with differential | ☐ CMP |
| ☐ Magnesium, phosphate | ☐ Serum lactate (STAT) |
| ☐ Coagulation — PT / INR, aPTT ± fibrinogen, D-dimer | ☐ ABG or VBG |
| ☐ Type & screen / crossmatch if indicated | ☐ Troponin ± BNP if cardiopulmonary concern |
| ☐ UA and urine culture | ☐ Respiratory cultures if pulmonary source |
| ☐ Other cultures based on suspected source | ☐ Viral PCR panel / COVID / influenza as indicated |

FOLLOW-UP LABS

- ☐ Lactate **q2–4 h** until normalizing or clearly down-trending
- ☐ Daily (or more often if unstable) — CBC, CMP, magnesium, phosphate; ABG / VBG as indicated

07 Corticosteroids

WHEN Consider if vasopressor-dependent shock despite fluids and adequate NE, or suspected adrenal insufficiency.

- ☐ Hydrocortisone 50 mg IV q6h
- OR
- ☐ Hydrocortisone 200 mg IV/day continuous infusion
- ☐ Reassess need once shock resolves; plan taper or stop based on duration and response

08 Glucose management

- ☐ Blood glucose target 140–180 mg/dL
- ☐ POC blood glucose q1–2 h while on insulin infusion, then q4 h when stable
- ☐ IV insulin infusion per ICU insulin protocol
- ☐ Consider scheduled SC insulin only when stable and not on significant vasopressors

09 Renal & electrolyte management

- ☐ Strict I&O and hourly urine output; daily weight
- ☐ Maintain $K^+ > 4.0$ mEq/L and $Mg^{2+} > 2.0$ mg/dL
- ☐ Use ICU electrolyte replacement protocols (K / Mg / Phos)

NEPHROLOGY CONSULT IF

- ☐ Oliguria / anuria despite resuscitation
- ☐ Worsening creatinine with fluid overload
- ☐ Indications for RRT — refractory hyperkalemia, acidosis, volume overload, uremic complications

10 Respiratory support

- ☐ Supplemental O₂ to maintain SpO₂ 92–96% (modify for chronic hypercapnia)
- ☐ Consider HFNC or NIV if appropriate and no contraindications

INTUBATE FOR ANY

- ☐ Refractory hypoxemia
- ☐ Increasing work of breathing
- ☐ Hypercapnia with acidosis
- ☐ Inability to protect airway / altered mentation
- ☐ Need for procedures

POST-INTUBATION ORDERS

- ☐ Lung-protective tidal volume 6 mL/kg predicted body weight
- ☐ Set PEEP / FiO₂ per ARDSNet-style protocol if ARDS present / suspected
- ☐ Target PaO₂ 55–80 mmHg, SpO₂ 88–95% in ARDS

11 Sedation, analgesia & delirium

ANALGESIA

- ☐ Fentanyl infusion or intermittent IV opioid per protocol

SEDATION

- ☐ Propofol infusion and/or dexmedetomidine per RASS target (e.g., –2 to 0)
- ☐ Add midazolam only if deep sedation required or other agents inadequate
- ☐ Daily sedation interruption when feasible

DELIRIUM

- ☐ Early mobilization when possible; minimize deliriogenic medications
- ☐ Antipsychotics PRN for severe agitation compromising safety (e.g., haloperidol or quetiapine per protocol)

12 Prophylaxis & supportive care

DVT PROPHYLAXIS

- ☐ Enoxaparin 40 mg SC daily
- ☐ Or heparin 5,000 units SC q8–12 h (adjust for renal failure / bleeding risk)

STRESS ULCER PROPHYLAXIS

- ☐ PPI (e.g., pantoprazole) or H2 blocker IV / PO per protocol

NUTRITION

- ☐ Start enteral nutrition within 24–48 h if hemodynamically stable
- ☐ Dietitian consult

LINES / TUBES

- ☐ Foley catheter for strict I&O; reassess daily for removal
- ☐ NG / OG tube if intubated or for decompression / feeding

CODE STATUS & COMMUNICATION

- ☐ Document code status on ICU admission
- ☐ Notify primary team
- ☐ Family communication and goals-of-care discussion, especially in older or highly comorbid patients

13 Reassessment & escalation

- ☐ Frequent bedside perfusion checks — mental status, cap refill, skin temp, urine output
- ☐ Serial lactate and hemodynamic reassessment
- ☐ Consider advanced monitoring (echo, ScvO₂, dynamic indices) for refractory shock

CONSULTS

☐ Infectious Diseases — complex /
resistant organisms or unclear source

☐ Surgery / IR — source control

☐ Nephrology — AKI / RRT decisions

☐ Palliative care — complex goals-of-care
discussions



EDUCATIONAL USE ONLY

Not a substitute for clinical judgement. Verify doses, allergies, renal function, and contraindications.
Adapt all agents and thresholds to your institutional protocols, formulary, and the individual patient.

Spreading knowledge
Improving outcomes