Prehospital Sepsis

Field screening, sepsis alert, fluids, pressors and antibiotics en route under SSC 2026, for EMT, paramedic and critical care transport

Medic Basics
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RECOGNIZE IT

Sepsis-3: infection plus life-threatening organ dysfunction from a dysregulated host response. Septic shock: sepsis needing a vasopressor to keep MAP ≥65 mmHg, with lactate >2 mmol/L, despite adequate fluid.

- Source: lungs, urine, skin, abdomen, lines or devices
- New confusion, often the only sign in older adults
- Temp >38 °C or <36 °C; no fever does not rule it out
- HR >90, RR ≥22, SBP ≤100 or MAP <65
- Mottled skin, delayed or flash capillary refill, falling SpO_2
- High risk: older, immunocompromised, recent surgery

SSC 2026, in hospital: NEWS/NEWS2, MEWS or SIRS over qSOFA as a single screening tool

TOOL	USES	EXAM POINT
qSOFA	RR ≥22, altered mentation, SBP ≤100	Flags death risk; misses many cases
SIRS	Temp, HR >90, RR >20, WBC	Sensitive, not specific
NEWS2	Seven vitals, incl. O_2 use and new confusion	Track-and-trigger score

EXAM TIP New in SSC 2026: use a standard screening tool en route (NEWS2 did best, but none is named). Exam point: qSOFA alone is not a screening tool.

Supporting findings: $ETCO_2$ ≤25 mmHg suggests metabolic acidosis and poor perfusion; it falls as lactate rises. Point-of-care lactate >2 mmol/L is abnormal.

SEPSIS ALERT AND ANTIBIOTICS

- Pre-notify early: screen result, vitals, source, fluid given, ETA
- Hospital goal: antibiotics within 1 hr of recognizing shock or probable sepsis
- SSC 2026 (new, conditional): antibiotics in the ambulance or aircraft for probable or definite sepsis with hypotension when hospital evaluation is over 60 min away
- Only with a structured en route screening process (SSC); agent chosen with receiving hospitals (NASEMSO)
- Draw blood cultures first when it does not delay the dose

EXAM TIP Exam check: all three are needed (probable sepsis, hypotension, over 60 min). Mostly a critical care transport and protocol topic.

FLUIDS

- Balanced crystalloid (lactated Ringer's, Plasma-Lyte) over 0.9% saline
- Hypotension or lactate ≥4 mmol/L: at least 30 mL/kg in the first 3 hr (80 kg ≈ 2.4 L)
- Field: rapid boluses (e.g., 500 mL); after each, recheck MAP, mentation, capillary refill, lungs, SpO_2
- Albumin: SSC 2026 suggests crystalloid alone; case by case after large volumes or in cirrhosis; avoid in TBI

SAFETY New crackles, falling SpO_2 or harder breathing after a bolus: stop fluid, support breathing, and consider a cardiogenic cause and a vasopressor.

VASOPRESSORS IN TRANSPORT

MAP = (SBP + 2 × DBP) ÷ 3. Typical adult ranges for exam study; follow your agency's protocols.

POINT	EXAM ANSWER
First line	Norepinephrine
Start when	After initial fluid, or with fluid if hypoperfusion is life-threatening
MAP target	65 mmHg
Age 65 or older	60–65 mmHg (new 2026)
Second agent	Vasopressin 0.03 units/min, fixed, as norepinephrine climbs
Model EMS range	Norepinephrine 0.05–0.5 mcg/kg/min

- SSC 2026: start peripherally rather than delay for a central line
- Large vein, ideally at or above the antecubital fossa and short term (SSC 2021); avoid leg veins; check the site often
- Extravasation: stop the infusion and treat per protocol (phentolamine)
- Dopamine only if norepinephrine and epinephrine are unavailable; push-dose epinephrine per protocol

SAFETY Pressor-dependent shock, adrenal insufficiency or long-term steroid use: hydrocortisone per protocol (NASEMSO model: 2 mg/kg, max 100 mg IV/IM). SSC 2026 suggests IV corticosteroids in septic shock, commonly hydrocortisone 200 mg/day.

CHILDREN

Phoenix (2024): suspected infection plus a Phoenix Sepsis Score ≥2 (respiratory, cardiovascular, coagulation or neurologic); SIRS is retired. Septic shock adds ≥1 cardiovascular point: severe hypotension for age, lactate ≥5 mmol/L, or a vasoactive drug. The score needs labs, so field recognition rests on perfusion and mental status.

- Tachycardia, tachypnea, abnormal capillary refill, cool or mottled skin, lethargy; infants may be hypothermic
- Hypotension is late (decompensated shock): SBP <60 in neonates, <70 in infants, <70 + (2 × age) at 1–10 yr, <90 over 10 yr
- Septic shock: 10–20 mL/kg boluses of balanced crystalloid, up to 40–60 mL/kg in hour 1 where ICU care is available
- Reassess after every bolus; stop for crackles, hepatomegaly or worse breathing
- Vasoactive drug peripherally rather than waiting; no epinephrine vs norepinephrine preference
- Antibiotics within 1 hr for septic shock, ideally within 3 hr for sepsis without shock

WHO DOES WHAT

Scope varies by state and agency; follow your agency's protocols.

LEVEL	ASSESS	TREAT
EMT	Vitals with temp, SpO_2, glucose, mental status, screen; 12-lead acquisition where equipped	O_2 to 94–98%, keep warm, sepsis alert, request ALS, rapid transport
Paramedic	Adds $ETCO_2$, 12-lead interpretation, lactate where carried	IV/IO fluid boluses; pressors and antibiotics per protocol
Critical care	Adds arterial line, labs, ventilator	Titrate pressors, add vasopressin, cultures and antibiotics

Sources (24) are listed with links at medicbasics.com/sheets/prehospital-sepsis.html. For education and exam preparation only. Not medical advice; follow current guidelines and your institution's protocols. Medic Basics is an independent study aid not affiliated with any certifying body.