



BUNDLE

Sepsis — hour-1 bundle

Recognise, culture, treat, resuscitate, reassess — the clock starts at recognition



EM Orbit

Patient reference

Date

Time zero

Completed by

Start the clock at the moment sepsis is recognised (triage, or the first note that raises it). The bundle is a set of tasks to complete in the first hour, not a single order set.

Recognise

☐ Suspected or confirmed infection PLUS new organ dysfunction

Altered mentation, RR ≥ 22 , SBP ≤ 100 , SpO₂ fall, oliguria, lactate rise, new coagulopathy or jaundice. SSC 2021 recommends against qSOFA as the only screen — use NEWS/MEWS or SIRS alongside clinical judgement.

☐ Septic shock = vasopressor needed for MAP ≥ 65 mmHg AND lactate > 2 mmol/L after adequate fluid

Mortality roughly doubles. Escalate early and inform the senior at once.

☐ Screen the fragile: elderly, immunosuppressed, post-chemotherapy, indwelling devices, recent surgery

Fever may be absent. Hypothermia is a worse sign than fever.

Measure

☐ Lactate now

Venous is fine. If > 2 mmol/L, repeat within 2–4 hours to guide resuscitation.

☐ Two sets of blood cultures BEFORE antibiotics

Do not let cultures delay antibiotics by more than 45 minutes. Add urine, sputum, wound, line and CSF cultures as indicated.

☐ FBC, U&E, LFT, coagulation, glucose, CRP/procalcitonin, blood gas

Procalcitonin does not decide whether to start antibiotics in sepsis.

☐ Source hunt: examination top to toe, chest X-ray, urinalysis, targeted imaging

Identify or exclude a source needing control (abscess, obstructed urinary tract, necrotising infection, ischaemic bowel, infected device).

Treat

☐ Broad-spectrum IV antimicrobials immediately — within 1 hour when septic shock is present or sepsis is likely

Sepsis possible but not confirmed and no shock: rapid assessment, then antimicrobials within 3 hours of recognition if the concern persists (SSC 2021). Follow the local antibiogram and empiric protocol.

☐ Cover MRSA only with risk factors; add antifungal only with high fungal risk

Dose for weight and renal function; give the first dose at full loading dose.

☐ Source control as soon as practicable, ideally within 6–12 hours

Remove infected intravascular devices promptly once alternative access is in place.

Resuscitate

☐ Hypotension or lactate ≥ 4 mmol/L: 30 mL/kg balanced crystalloid within the first 3 hours

Start at once; give it in boluses with reassessment after each. Balanced crystalloid preferred to saline. No starches, no gelatins.

☐ Vasopressor if MAP < 65 mmHg during or after fluid — noradrenaline first line

Start peripherally through a good cannula rather than delay for central access. Target MAP ≥ 65 mmHg.

☐ Add vasopressin when noradrenaline reaches about 0.25–0.5 mcg/kg/min

Adrenaline is the next addition. Dobutamine or adrenaline if cardiac dysfunction with persistent hypoperfusion.

☐ Hydrocortisone 200 mg/day IV if vasopressor requirement is ongoing

SSC 2021: suggested once noradrenaline or adrenaline ≥ 0.25 mcg/kg/min for at least 4 hours.

☐ Oxygen to normal saturations; consider early invasive ventilation if work of breathing is failing

Avoid hyperoxia.

Reassess

☐ Reassess after every bolus: dynamic measures, capillary refill, mentation, urine output

Passive leg raise with cardiac output or pulse-pressure variation where available; capillary refill time is a validated bedside target.

☐ Repeat lactate if the first was > 2 mmol/L

Falling lactate is reassuring; a rising lactate on vasopressors means the source or the resuscitation is wrong.

☐ Arterial line and urinary catheter once on vasopressors

Hourly urine output target ≥ 0.5 mL/kg/h.

☐ Decide disposition early — ICU referral for shock, rising lactate, or organ support

Document the time of recognition, antibiotic time and total fluid given.

Children: use the paediatric calculator for fluid boluses (10–20 mL/kg) and first-dose antibiotics; the SSC paediatric guideline (2020) applies. · Pregnancy, neutropenia and prosthetic devices change the empiric regimen — check the local protocol. · Give antibiotics before transfer from any area that cannot give them within the hour.



A drafted aid to memory, awaiting senior review. It does not replace your local protocol or your clinical judgement. Source: Surviving Sepsis Campaign 2021.

EM Orbit · Emergency medicine, in one orbit · sepsis · red rows are the steps that must not be missed