

Microbiology Specimen Collection for AMR Surveillance in Adults

When should I send a blood culture?

Always send a blood culture when clinical suspicion of severe bacterial infection / sepsis
Take a blood culture before the first dose of parenteral / IV antibiotic

Sepsis or Septic shock

*Dysregulated host response to infection
No consensus about gold standard of diagnosis of sepsis:*

- Systemic Inflammatory Response Syndrome (SIRS, below) is non-specific
- Two points in qSOFA (below) is predictive of outcome

Meningitis

Sudden onset fever and signs of meningism:

- Classical signs: Headache, stiff neck, fever and chills, vomiting, photophobia, confusion, seizures, drowsiness
- Less common: Focal neuro signs

Severe pneumonia

Cough and ≥ 1 other respiratory symptom:

- New focal chest signs
- One systemic feature: sweating, fever, shivers, body aches, fever

SIRS criteria

- 2 or more of:
- Body temperature $>38^{\circ}\text{C}$ or $<36^{\circ}\text{C}$
 - Heart rate >90 /min
 - Respiratory rate >20 /min or $\text{PaCO}_2 < 32$ mmHg (4.3 kPa)
 - WBC $>12,000$ or $<4,000$ /mm³ or $>10\%$ band forms

qSOFA score

- 2 or more of:
- Respiratory rate ≥ 22 /min
 - Altered mentation, GCS <15
 - Systolic blood pressure ≤ 100 mmHg

Pyelonephritis / Upper UTI

Supra-pubic / renal angle tenderness plus ≥ 1 of:

- Systemically unwell
- Fever (temperature $\geq 38.0^{\circ}\text{C}$)
- Dysuria
- Frequency
- Haematuria

Skin / Soft tissue infection

Ill-defined diffuse swelling of the skin and subcutaneous tissues with redness, tenderness, and warmth plus ≥ 1 of:

- Systemically unwell
- Fever (temperature $\geq 38.0^{\circ}\text{C}$)
- Red streaks or tender lymph nodes
- Spread to involve significant body surface area

Which other samples should I send?

Sepsis or Severe febrile illness

For all patients:

Blood culture

Urine

Other relevant cultures, e.g.

- Ascitic fluid, Joint fluid
- Cerebrospinal fluid (CSF)
- Pleural fluid, Sputum
- Pus, Wound swabs
- Stool
- Throat swab

For selected patients:

Malaria film
Viral workup (e.g. dengue)

Meningitis

For all patients:

Blood culture

CSF if no contra-indications

For selected patients:

Malaria film
TB microscopy / culture
Viral workup (e.g. JEV)
Fungal workup

Pneumonia

For all patients:

Blood culture

For selected patients:

Sputum sample

- If productive cough

Broncho-alveolar lavage

- If severe or intubated

Tracheal aspirate

- If intubated

Pyelonephritis / Upper UTI

For all patients:

Blood culture

Urine culture

Skin / Soft tissue infection

For all patients:

Blood culture

Pus from abscess / swab from wound

How should I send my sample?

Blood culture

Insert photo

Xml minimum volume
Xml maximum volume

CSF

Insert photo

Send 3 tubes
Xml CSF in each tube

NB: sufficient volume is critical

General specimen pot

Insert photo

BAL / ETA
Pus
Sputum
Other sterile fluids (e.g. ascites, joint fluid)
Stool
Tissue / Biopsy
Urine

General swab

Insert photo

Ear, Eye, Throat
Urethra, Skin, Wound

NB: clean wound before taking the swab

HOSPITAL LOGO

Microbiology contact details