easternhealth
GREAT HEALTH AND WELLBEING

Blood cultures – Clinical information

Indications

- Before starting antimicrobial therapy in a patient with suspected bacteraemia
- Systemic or localised infection: suspected severe infections (rigors, high fever, altered mental state, hypotension, new presentation of renal insufficiency), meningitis, osteomyelitis, septic arthritis, acute untreated bacterial pneumonia, or fever of unknown origin in which abscess or bacterial infection is suspected or possible.

Patterns of bacteraemia

- 'Physiological' – duration < 15-20 minutes (oral flora eg. viridans streptococci)
- Transient – minutes to hours (manipulation of infected tissue, instrumentation of mucosal surfaces, at the onset of bacterial pneumonia, arthritis, osteomyelitis and meningitis)
- Intermittent – undrained abscess
- Continuous – endovascular infection (endocarditis, infected aneurysm, suppurative thrombophlebitis), first two weeks of typhoid fever and brucellosis (but low yield from blood cultures)

Number and timing of blood cultures

- Never collect a single set (difficult to assess contaminants vs. pathogens)
- At least 2 sets (detects 90% of bacteraemias)
- 3 sets if continuous bacteraemia is suspected eg. endocarditis
- *At* least 20 minutes apart if patient not critically ill (no delay if patient critically ill)

Site of collection

- Collect each set from a separate peripheral venipuncture.
- AVOID drawing blood cultures through an intravenous line as contaminating organisms make interpretation difficult and may lead to unnecessary treatment.
- There is no scientific basis for drawing samples from different ports of central venous catheters.

Clinical notes

- If endocarditis is suspected, cultures will be kept for 21 days rather than the standard 5 days. The diagnosis must be noted in the clinical notes.