

Date: December 22, 2010
To: North Zone and Central Zone
Physicians Ordering Blood Cultures
From: AHS Laboratory Services
Re: Standardization of Blood Culture Reporting – Effective January 11, 2011

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Key Messages:

- Blood Culture collection and reporting practices in all AHS Laboratories will be modified to conform to international standards for identification of those cultures considered contaminated with low-virulence producing bacterial species. These commonly include gram positive organisms like coagulase-negative staphylococci, *Micrococcus* species, *Propionibacterium* species, *Corynebacterium* species, and *Bacillus* species (not *B. anthracis*).
- This change will impact the appearance of Blood Culture reports from the following laboratories:
 - Queen Elizabeth II Hospital, Grande Prairie
 - Red Deer Regional Hospital
 - St. Mary's Hospital, Camrose
 - Wainright Health Centre
 - Bonnyville Healthcare Centre
 - Westlock Healthcare Centre
- Two Blood Culture results (one result for each collection site) will be reported.
- Treating physicians should consider the results in combination when making diagnosis and treatment decisions.

Why this is important:

- A positive Blood Culture can support a definitive diagnosis of bacteremia, and enable targeting of therapy against the isolate in question. Contamination with low-virulence bacterial species may occur during the collection process that is not related to an infectious process. These results may lead to unnecessary treatment and increased laboratory identification and susceptibility testing.
- In adults, **typically**, three vials are collected when Blood Cultures are ordered – two vials (one aerobic and one anaerobic) from one venipuncture site and another vial (aerobic) from a different site. To calculate Blood Culture contamination rates, each laboratory will use the same criteria:
 - If a low virulence gram positive organism is isolated from one vial only, the collection is considered potentially contaminated.
Note: This also applies to infants and pediatrics where only one vial per episode is usually collected.
 - If a low virulence gram positive organism is isolated from two vials from the same collection site, the collection is considered potentially contaminated.
 - If a low virulence gram positive organism is recovered from two vials from different collection sites, the collection is NOT considered to be contaminated.

- These definitions are used to calculate Blood Culture contamination rates, but may not be appropriate for clinical decision making. Clinical correlation is still required to establish whether isolates classified as “contaminants” represent a true bacteremia, and underlying or associated clinical condition (immunosuppression, presence of intravascular lines, etc) must be considered.
- Reporting of results from each collection site will provide physicians with additional information to aid diagnostic and treatment decisions.
- Laboratories will report the bacterial species isolated. If physicians require additional information or testing on those isolates they should contact the testing laboratory.
- By standardizing Blood Culture reporting, AHS laboratories will be able to monitor Blood Culture contamination rates in the same manner. This will facilitate the implementation of corrective action and improvement strategies when blood collection issues are identified.

For additional questions or information contact:

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This bulletin has been reviewed and approved by:

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