

DATE:	18 March 2024
TO:	All Health Care Providers
FROM:	Section of Microbiology, Alberta Precision Laboratories
RE:	Blood Culture Ordering and Best Practice Advisory

PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

Key Message

- In adult patients, or pediatric patients weighing more than 30 kg, with suspect bacteremia, 2 sets of blood cultures should be collected (2 bottles from 2 sites, 8-10mL per bottle).
- Due to high rates of single blood culture orders (especially for pediatric patients weighing more than 30 kg), a best practice advisory alert has been built in Connect Care.
- If only one blood culture order is placed, the alert will prompt and assist the user to place a second blood culture order.

Background

- The **volume of blood drawn** is the **most important factor** to improve blood culture sensitivity.
- Drawing from 2 different venipuncture sites (2 bottles with 20 mL from each site) helps to differentiate contamination from true bacteremia and to diagnose line infections.
- APL estimates that only one blood culture set is ordered in 24% of all blood cultures collected. In pediatric patients 12-17 years old (most weigh >30kg), 45-65% have only one blood culture set ordered.
- There are few indications for collection of only one set of blood cultures in adults (e.g., poor venous access, 'make-up set' when only one set was collected previously in the last 24 hours).
- Determine clearance of bacteremia by collecting blood cultures 48 hours apart, not sooner.
 - Repeat blood cultures are not recommended in most cases of gram-negative bacteremia when there is clinical improvement.

Action Required

- In Connect Care, order blood cultures using the following smart groups (and also review your preference lists and replace any single "Blood Culture, Routine" orders with the following):
 - Blood culture, Routine x 2
 - Blood culture Panel Adult x3 (Endocarditis)
 - Blood culture Panel – Pediatric (weight based)
- If a best practice advisory appears while ordering blood cultures, proceed as clinically appropriate (see screen shot on next page).
 - Click "Accept" to place another blood culture order. A new blood culture order screen will appear. Indicate the source and any other pertinent information, click "Accept", and then sign both blood culture orders.
 - If a second order/set is not required, click "Do not order" and "Accept". This will complete signing for the single order/set.
- If a patient has central lines, order using one of the smart groups above, indicate one site as peripheral and the other(s) from the central line(s). If collection from 2 lines and a peripheral site is needed, use the "Blood culture Panel Adult x3 (Endocarditis)", regardless if endocarditis is in the differential.
- Refer to the APL Test Directory and Blood Culture Collection Guideline for further information about blood culture collection: <https://www.albertahealthservices.ca/assets/wf/lab/if-lab-tc-blood-culture-collection-guideline-mic32-001.pdf>



Effective **March 18, 2024**

Questions/Concerns

- Dr. Byron Berenger, Provincial Microbiology Section Chief: byron.berenger@aplabs.ca
- Dr. Mao-Cheng Lee, Medical Microbiologist, Edmonton Base Laboratory: mao-cheng.lee@aplabs.ca

Approved by

- Dr. Carolyn O'Hara, Interim Chief Medical Laboratory Officer, Alberta Precision Laboratories

Blood Culture Best Practice Advisory

BestPractice Advisory - Chilled, Espresso

Important (1)

WARNING: Only a single set of blood cultures is being ordered. Two sets are recommended for all adult and pediatric patients over 30kg.

Click **Accept** to add the second order.

In the future use the "Blood Culture Panel Adult x2" order set or the "Blood Culture Panel-Pediatric Weight Based" as indicated.

Scheduled or in process; contact performing department to modify

10:08 AM
1/10/2024

Effective September 1, 2023, APL has become the sole provider of all public lab services in Alberta. As a result, community lab services formally provided by DynaLIFE Medical Labs will become the responsibility of Alberta Precision Labs (APL). This change impacts all zones.