

**MEMORANDUM**

Date: 5/21/2018

RE: **Biannual Blood Culture Draw Volume Monitoring & Feedback to Clinical Staff drawing Blood Cultures**

**Date of Study: April 18-25, 2018**

Blood culture results are extremely important to clinicians in the management of patients with suspected septicemia (micro-organisms in the blood stream), a life-threatening illness.

In order to provide feedback to those drawing blood cultures, the Boyce and Bynum Pathology Laboratory Microbiology Department conducts a study of the volume of blood that is drawn into each Blood Culture bottle received in the central laboratory for one week. This study is performed on a bi-annual basis.

The amount of blood placed into a blood culture bottle is the most important factor affecting the sensitivity of blood cultures. The volume of blood drawn for culture directly affects the ability to recover micro-organisms from a patient's blood.

**Low volumes of blood may result in false negative blood cultures. Percentage of Low Volume Blood Cultures submitted during this study period was 10.0%; down from 19.7% in the October 2017 study.**

**For best results, the recommended blood culture draw volume for adults is 2 bottles (one SA and one SN) with 10ml of blood in each.**

**Overfilling a bottle may also result in a false negative blood culture. Percentage of Overfilled Blood Cultures submitted during this study period was 8%; this is down from 23% in the October 2017 study.** When the volume of nutrient broth and anticoagulant in the bottle is overwhelmed by the volume of blood, micro-organisms may not be able to grow properly and a false negative may result.

**Do not place more than 10ml blood in the SN (purple cap) bottle or SA (blue cap) bottle, or more than 4ml in the PF (yellow cap) bottle.**

Significant improvement has occurred since the prior study, so no action is required at this time.

Respectfully,

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Data for Blood Cultures Collected: April 18-April 25, 2018

Overfilled Blood Cultures (too much blood in bottles)	Low Volume Blood Cultures (not enough blood in bottles)	Total Blood Cultures submitted w/only 1 Bottle	Total Blood Culture Bottles submitted
<p>Total overfilled bottles (more blood added than the manufacturer designed the system to hold and produce reliable results) *</p> <p><b>6 (8%)</b></p>	<p>Total low volume Cultures with bottles having less blood than the minimum volume: 5ml in SA bottle and 5ml in SN bottle or 1ml in PF bottle required by the bottle manufacturer to produce reliable results *</p> <p><b>8 (10%)</b></p>	<p><b>8 (18%)</b></p>	<p><b>77</b></p>

\* Note: Blood Culture manufacturer volume limits for reliable results:

- SA(Blue Cap) Aerobic Bottle: 5-10ml
- SN(Purple Cap) Anaerobic Bottle: 5-10 ml
- PF(Yellow Cap) Pediatric Bottle: 1-4ml