2015

Decreasing Blood Culture Contamination in the ED

Bettina Laier
Baptist Health South Florida, BettinaL@baptisthealth.net

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**INTRODUCTION**

Blood cultures are needed to diagnose bloodstream infections and determine the susceptibility of bacteria to antibiotics. Blood cultures are an important part of the protocols for sepsis. When organisms from a site other than the bloodstream enter into the culture bottles and result in a false positive, this is referred to as a contamination of the blood culture. Contaminated cultures can be costly in terms of patient safety as well as financially for the organization. The Emergency Department (ED) has seen their blood culture contamination rates slowly increase this year and found the need to create an initiative to bring them back down below the national goal of 3%.

**PURPOSE & OBJECTIVES**

The purpose of this performance improvement initiative is to create a training module & protocol that will decrease the blood culture contamination rate to below the BHSF goal of 2% using the following objectives:

- Describe the purpose of blood culture collection
- State the rationale for adhering to proper technique when drawing blood cultures
- Draw blood cultures following proper technique as outlined in the Blood Culture Competency online course and hospital policy
- Document the BC draw using key phrases for uniformity

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**METHODS & MATERIALS**

- A meeting was held with the Patient Care Supervisor (PCS), the clinical educator and lead techs in the ED representing all shifts.
- In the literature, evidence-based practice shows creating a blood culture task force (BCTF) decreases blood culture contamination rates.
- A plan was designed to change the process of drawing blood cultures (BCs) currently used in the ED.
- A task force has been created that includes the lead techs. They will be trained first, & will then validate other techs that are members of the task force.
- A specific location has been designated for the draw of the cultures and strict guidelines are to be followed: only task force members are to draw the BCs.
- Pre and post data will be examined to see if the BCTF in our ED has assisted with the decrease in blood culture contamination rates.
- Initial training of the BCFT will require all staff to complete the online tutorial on BC contamination.
- Lead techs will be validated by the ED clinician using a designated validation too.
- Lead techs will train and validate staff interested in being part of the BCFT.
- Only BCTF members will draw blood cultures

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**RESULTS**

Pre-BCTF data show contamination rates consistently about 2%.

After the BCTF has been active for three months, data will be examined. It is suspected that the contamination rates will have decreased, and be less than the 2% goal.

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**CONCLUSION**

Contaminated blood cultures can increase patient’s length of stay, cause unnecessary treatments and be costly to an organization. The formation of a blood culture task force, the designation of a specific location for drawing cultures and following a specific protocol reduces the risk of contamination by streamlining the process.

It is important to draw AND obtain contamination-free Blood Cultures Because it...

- Prevents overuse of antibiotics by treating the contaminant unnecessarily
- Prevents potential patient injury from unnecessary exposure or allergic reaction to antibiotics
- BC drawn prior to antibiotics increases the opportunity to identify organism & improve outcome
- Allows effective treatment of organism with appropriate antibiotics
- Proper technique is cost effective. No wasted draws, extra LOS for patient

**REFERENCES**


**ACKNOWLEDGEMENTS & CONTACT INFO**

HOMESTEAD HOSPITAL - PEDIATRIC EMERGENCY DEPARTMENT

BLOOD CULTURE CONTAMINATION RATES

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