**Background**

In 2015, Houston Methodist Willowbrook Emergency Department blood culture contamination rate was 6.23% due to lack of training and inconsistent technique. The College of American Pathologists set a national benchmark for blood culture contamination rate at 3%. Blood culture contamination can lead to overuse of broad spectrum antibiotics, which is key to our antimicrobial stewardship program. Physicians rely on timely microbiology results to make appropriate antibiotic selections. Literature also indicates that blood culture contamination leads to additional patient cost, increased length of stay, and unnecessary physician consults.

**Methods**

The plan to reduce the blood culture contamination rate began by creating a core group that was trained to draw blood cultures. Emergency Medical Technicians (EMTs) and Patient Care Assistants (PCAs) were selected for training. Their technique was observed by using a check-off competency list. The minimum requirement was set at two successful patient collections. The training period began April 2015 and the pilot data collection began May 2015. The contamination rate dropped to 4% and continued to fluctuate between 2-4% throughout 2015. However, in 2016 we sustained our blood culture contamination rate between 2-3%.

Competency is validated annually using a simulation arm to draw blood.

**Methods: Additional Education**

In addition to teaching the Emergency Medical Technicians and Patient Care Assistants on the proper techniques of blood culture contamination, there was a focused education on Sepsis. The course objectives were:

1. Understanding what is Sepsis
2. How to recognize early signs of sepsis
3. The key role the EMT/PCA plays in the diagnosis and treatment of patients with early signs of sepsis

This course emphasized the importance of how proper technique affects effective treatment and diagnosis.

**Methods: Blood Culture Feedback Form**

**Method: Blood Culture Feedback Form**

**Method: Competency Form**

**Summary**

Best practice to reduce blood culture contamination is:

1. Limit the number of persons who collect blood cultures.
2. Yearly training on a simulation arm is needed to validate competency. Variation in technique was seen, therefore yearly competency and return demonstration check-offs are vital to ensure best practice.
3. Re-educate those on the process who experienced a culture contamination.

We successfully reduced our blood culture contamination rate from 6.23% in January 2015 to below the national benchmark of 3% ranging between 2-3% throughout 2016.

**References**


