Reducing Blood Culture Contamination

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Patients with positive blood cultures require treatment that is effective and expedient. These critically ill patients are treated empirically with broad-spectrum antibiotics until sepsis is ruled in. Contaminated blood cultures cause delay of positive clinical outcomes; increase mortality rates, length of stay, and use of resources. Reducing contamination can decrease cost and improve the overall quality of patient care. To achieve our standard of quality for all patients, the laboratory monitors blood culture reports closely for contaminated cultures. Based on the staff time and supplies used to recollect a contaminated blood culture, the estimate cost of one contaminated blood culture is $7,252. The first step to reduce contamination rates was to work with frontline staff and evaluate products used for collection. In the fiscal year of 2010, the laboratory collected 3,542 cultures with 94 contaminates for a rate of 2.65%. In 2011, 4,062 cultures with 82 contaminates was recorded for a rate of 2.02%. In 2012, 4,606 cultures with 56 contaminates for a rate of 1.22%. For 2013, phlebotomy is maintaining a rate below the target of 1.5%. In order for staff to achieve the set target of <1.5%, each member has an individual performance goal to maintain a low blood culture contamination rate. To sustain successes, weekly audits are performed to review for contaminates. When a staff member collects a contaminated blood culture, they review proper collection techniques with a senior phlebotomist and watch an instructional video. Newly hired staff goes through an in-depth training session that includes review of the blood culture procedure and watching a collection video followed by a quiz on the blood culture collection procedure. At least ten observed successful collections by the new hire are required to achieve competency prior to the completion of training.