

A quality control approach to monitoring bacterial contamination in minimally manipulated hematopoietic stem cell products which utilizes less frequent routine culturing. DM Regan, CE Johnson, JM Alonso III, DA Wall. Dept. of Pediatrics, Cardinal Glennon Children's Hospital/Saint Louis University, St. Louis, MO

Current practice in stem cell laboratories/cord blood banking utilize culturing of the stem cell product both pre and post processing. The current cost of blood culturing is \$15/product (\$18000/year). This approach quickly became a significant financial burden with the development of the St. Louis Cord Blood Bank and the processing of several thousand units. At inception, the first 275 units were cultured pre and post processing. There was 100% concordance between pre and post processing culturing. The bacterial contamination rate was 5% with organisms isolated being consistent with maternal vaginal flora. In July 96, SOP was modified to obtain culture only at completion of processing and prior to freezing. Bacterial contamination was tracked monthly, demonstrating an overall positivity rate of <2.2% through 03/98. An increase in positive culture rate was observed from Apr thru Aug 98, with common skin microorganisms contributing to over half of the overall 3.6% culture positivity rate (n=719). Implementation of a quality improvement activity, including pre and post processing cultures and tracking of laboratory technologist(s) involved in prior processing was initiated 08/98. The increase in contamination was tracked to laboratory technique. Reinforcement of sterile technique was emphasized, resulting in a decreased positive culture rate. The baseline rate of 2% reflects organisms related to collection or infection. With careful attention to sterile technique, routine bacterial culturing of minimally manipulated stem cell products can be performed post processing, at a significant cost savings.