Best Practice for Collection of Peritoneal Dialysis Fluid Cultures
Lilian A. Kawas, BS, RN, CNN
Methodist Hospital, Houston, TX
Maria Mwamuka, Janet Andries, Pat Cernoch, Gail Messner

Problem: Peritoneal dialysis is the treatment modality of 26,000 patients in the USA with end stage renal disease. A common complication of this modality is the frequent occurrence of peritonitis. Different culture collection methods can have a major impact on results causing delayed treatment and longer patient stays. Common factors affecting culture results are culture media, lack of media, and the timeliness and frequency of test result monitoring. Different areas in the hospital were using different culture collection methods.

Evidence: The two collection methods reviewed were the Bactec blood culture bottles and the sterile sample container. Literature reviewed demonstrated the Bactec blood culture aerobic/anaerobic collection to be the most accurate and timely method over the sterile container. Using the Bactec culture media, which contain reagents to inhibit phagocytic activity, significantly reduces the incidence of culture negative peritonitis and provides closely monitored and timely results.

Strategy: Areas responsible for PD fluid culture collection were identified as well as ancillary departments, such as the microbiology lab and transportation/courier service, and a multidisciplinary planning group was formed. The microbiology lab collected data to show the number of cultures, the method used for culture collection and the department of origin. Hospital protocol for PD fluid culture was reviewed and updated. Education to the ED, dialysis, lab, courier staff is to be implemented. Follow up is planned for 3 months after staff inservice is completed.

Practice Change: Departments responsible for PD fluid culture collection will collect all PD cultures in the BacTec blood culture bottles.

Evaluation: Education is scheduled to begin March/April, 2009. The evaluation process will be 3 months after education completed to determine that all identified area personnel are collecting PD cultures appropriately.

Results: Pending data collection after education completed.

Recommendations:
1. Add PD fluid collection to the annual skill set for areas affected.
2. Add PD fluid collection to the new employee skill set in the areas affected.
3. Present project to all hospital personnel in a Grand Rounds format to raise awareness hospital-wide, and to demonstrate an interdisciplinary approach for solving problems.

Lesson learned: The team approach is vital in facilitating change on a large scale.

Bibliography:
