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Improving Outcomes in Surgical Placement of Peritoneal Dialysis Catheters by Educating Nurses

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Objective: To improve patient outcomes by educating the operating room (OR) nursing staff of the proper steps that should be followed in the peritoneal dialysis (PD) catheter placement procedure.

Background: A quality assessment showed an increasing number of PD patients developed complications after surgical placement of a PD catheter. A review of cases from January to April 2013 revealed that several important steps had been omitted. Prophylactic IV antibiotic was not always administered prior to surgery. Orders for irrigation fluids used post placement were unclear. Higher than maximum irrigation volumes used led to leaking from the PD exit sites. Proper bandaging and immobilization of the catheter was not followed.

Method: A simplified OR checklist was developed for the nurses to use as a guide to ensure all vital steps were followed. A preoperative IV antibiotic was put on the checklist as a reminder that antibiotics be given within 60 minutes prior to incision to prevent infection. The current irrigation order set was revised using our PD catheter insertion protocol and International Society for Peritoneal Dialysis guidelines. We emphasized maximum fill volume based on patient weight to prevent leaking at the exit site. Exit site care with immobilization of the PD catheter was also reinforced by providing specific instructions for bandaging and immobilization to prevent trauma to the exit site and optimize early healing. A poster that displayed the protocol, checklist and order set was displayed where easily accessible for OR nurses to read. They signed that they understood the information. During each PD catheter placement procedure, the new checklist should be completed, signed by the OR nurses assisting, and returned to the PD nurse.

Results: We had 2 PD catheters placed and 1 PD catheter revision since implementing the checklist in June 2013. The checklist was returned to the PD nurse completed and signed by attending OR nurses. The PD nurse keeps a copy of each checklist and reviews case results to make sure the steps are followed. In these 3 cases, PD catheters have healed adequately with no functional issues. None developed infection or leaking from the exit site within the initial 4 week healing phase.

Conclusion: The nurses were better able to assist the surgeon by following the checklist to insure that no steps were missed during surgical placement of the PD catheter. We concluded that following these steps resulted in no leaking and less functional issues during the initial 4 week healing phase in our pediatric patients. We will continue to follow results as more catheters are placed.

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