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Post-pyloric feeding tube placement by critical care nurses: A performance improvement target

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Abstract

Introduction: While there are abundant options for post-pyloric feeding tubes, the bedside electromagnetic-guided tubes have been well-received by nurses for their ease of insertion and safety profile. Nurse-driven enteral feeding protocols can decrease the time to initiation of feeding which is an important part of the best practice model for critically ill patients.

Methods: As part of a larger retrospective study approved by the Institutional review board at our institution, we examined the success rate of ICU nurses inserting electromagnetic-guided tubes (CORPAK® MedSystems, Buffalo Grove, IL) into a post-pyloric location, and related complications. To evaluate the nurse's decision regarding proper tube placement, stored real-time tracings were viewed. Three seasoned clinicians evaluated the tracings and compared results with the radiologist's report.

Results: From December 2009 to July 2013, nurses placed 36 of 74 tubes using the Cortrak® System. The rate of successful placement was 44%; 16 tubes were in a post-pyloric location. All other tubes were left in the gastric location (n=20). Concurrence between real-time tracing and radiologic report was 77%. Using the Cortrak® System nurses had a 100% success in avoiding inadvertent lung placement or other complications.

Conclusions: Nurse turnover, inexperience, and competing priorities limit opportunities for skill acquisition. Use of an evidence-based protocol, skills fairs, and hands-on experience are critical strategies for performance improvement. The safe and rapid placement that can be accomplished using the Cortrak® system results in early initiation of feeding and attainment of nutrition goals, both of which contribute to decreased ICU mortality and length of stay.

Biography

Mary McCarthy, Ph.D., RN has been a nurse for over 30 years with 15 years of critical care/emergency nursing and 15 years of research and teaching experience. Research involves ICU care, nurse staffing and patient outcomes, and Soldier wellness, supported by grant funds totaling over $2 million to date. As a retired Army nurse and currently an Army nurse scientist, her passion is working in the military setting with its unique challenges to maintaining a seasoned, trained, and stable nursing workforce. In addition, patients are younger with war-related traumatic injuries requiring novel scientific approaches to recovery and healing.

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