

CASE STUDY

Florida Hospital Implements Policy to Ensure Safe Care for Tracheostomy Patients



Charlotte Regional Medical Center (CRMC), located in Punta Gorda, Florida, has an older-than-average patient population that often has a variety of factors that places it at high risk for postoperative problems, including respiratory failure. Consequently, the hospital frequently performs endotracheal intubations and tracheostomies. In 1997 CRMC began addressing how it was managing patients with artificial airways. What staff discovered was unnerving, but not atypical: Patients were remaining intubated for long periods, and the selection of tracheostomy tubes was not always patient-specific. Patients with tracheostomies consistently encountered numerous problems, including a higher incidence of aspiration resulting from prior intubation.

AT A GLANCE

Name and Type of Organization: Charlotte Regional Medical Center (CRMC) is a 208-bed acute care community hospital. CRMC has an award-winning cardiology department with four active cardiothoracic surgeons on staff.

Staff Involved: Respiratory care practitioners; a critical care nurse; a progressive care nurse; a speech-language pathologist; an ear, nose, and throat physician; a thoracic physician; and the assistant director of cardiopulmonary services.

In addition, physicians used different protocols and methods for treating ventilator and tracheostomy patients. It became obvious that CRMC did not have a standardized optimal process for caring for patients with artificial airways. *Information on the project was provided by Mary Spremulli, coordinator of Speech-Language Pathology, and Mike Harrell, assistant director of Cardiopulmonary Services for CRMC.*

Identifying the Issues

An interdisciplinary performance improvement (PI) team made up of physicians, respiratory care practitioners, nurses, and a speech-language pathologist examined the hospital's management of patients with artificial airways. The team discovered that some patients were undergoing multiple intubations, while others were being extubated and immediately started on an oral diet before an assessment of intubation-relat-

ed injury was performed. This led to aspiration and pneumonia, and it caused readmissions to the intensive care unit (ICU), delays in discharge, and returns of discharged patients to the facility. An upper airway assessment by speech pathology and ear, nose, and throat (ENT) specialists was requested only after problems developed.

The PI team identified risks to patient safety that increased the longer the patient had an endotracheal tube. Patients intubated for longer than 7–10 days had an increased risk of vocal fold or structural damage, communication problems, nutritional compromise, and delayed transfer to less acute care.^{1,2,3} While acknowledging that tracheostomy was not without risk, the PI team believed that early tracheostomy would shorten a patient's ICU days on mechanical ventilation, reduce risks associated with prolonged intubation, and increase patient comfort and participation in care.

Developing the Policy and Procedure

As a result of its research, the PI team developed an algorithm to guide treatment decisions and a policy and procedure for treating patients requiring prolonged intubation. The policy and procedure recommends that a patient not be intubated for longer than 7–10 days, but instead receive a tracheostomy. Within 24–48 hours of the tracheostomy, the patient should be referred to speech pathology for assessment of upper airway function, identification of problems, and determination of candidacy for a speaking valve. The algorithm illustrates the steps and time frames involved in successfully and safely weaning a patient off a ventilator, converting to a tracheostomy, introducing a speaking valve, resuming an oral diet, and ultimately decannulating a patient.

Implementing Change

After the procedure was developed, the team faced a bigger challenge: Implementing it. Change is never easy, and staff at CRMC were initially resistant to the policy. Some physicians felt that patients and families would perceive moving a patient from a ventilator to a tracheostomy tube as an admission of failure. The organization had to overcome this perception by emphasizing to patients and families the benefits of performing

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tracheostomies. Most of the time, patients with tracheostomies are better able to participate in their care and ultimately recover faster than patients without tracheostomies.^{1,2}

CRMC offered extensive education to the nursing, respiratory, and medical staffs. It used different formats for different groups, such as an extensive in-service for nurses. Nurse education focused on the basic anatomic and physiologic considerations of intubation versus tracheostomy. By seeing the two procedures demonstrated on a model, the nurses easily saw the benefits of early tracheostomy and referral to speech pathology. Other education formats included periodic written updates on the PI process and articles about the process included in the hospital physicians' publication. Current literature about the benefits of early tracheostomy was also shared with staff.^{1,2,4} For clinicians, actually seeing the improved outcomes in the patients had the most impact in encouraging compliance.

Positive Outcomes

In setting up this policy, CRMC increased patient safety and comfort by facilitating the likelihood of ventilator weaning, quick transfer from the ICU, and fewer readmissions resulting from complications after extubation or decannulation. Other benefits included a standardization of equipment and supplies as a result of a consistent care plan, and the reduction of accidental or premature extubations or decannulations. Typical patient length of stay and cost of care were also reduced.

By encouraging early referral to speech pathology, the organization gave patients the opportunity to receive a speaking valve. The speaking valve used at CRMC is a closed-position, "no-leak" valve that, when used, mimics a closed respiratory system. It helps restore functions such as coughing, swallowing, and speaking.^{5,6} When patients are put on a ventilator, their ability to communicate is taken away. Not only is this difficult for patients and families, but an important diagnostic tool is also removed: patients' ability to say whether they are in pain or whether they have other symptoms. The protocol helped staff identify early those candidates who were eligible for speaking valves, thus restoring more quickly and safely the patients' ability to talk with their families and care providers. Such a reestablishment of communication can improve the patient's quality of life and allow for more quick and easy identification of pain or other problematic symptoms. This can encourage treatment compliance and speed recovery.

Long term care facilities typically do not accept ventilator patients. In addition, patients with tracheostomy tubes can be difficult to place. The ultimate goal of CRMC's protocol is to

safely and successfully remove the tracheostomy tube so that the patient can be transferred more easily to a long term care or rehabilitation facility. In some cases, the patient can even return home. This improves quality of life for the patient and reduces cost of care for both the patient and the hospital.

Tracking Progress

When the PI process was under way, the CRMC polled nurses regarding their opinions of tracheostomy versus ET intubation. Nurses stated that patients with tracheostomies did better psychologically primarily because they required less sedation and restraint. Ninety percent of nurses favored tracheostomy, citing patient comfort, ease of care, and restored communication.

CRMC tracked the progress of patient care outcomes by formulating several PI indicators, including a joint indicator between respiratory care and speech pathology. The indicators include the number of patients referred to speech pathology within 24–48 hours of a tracheostomy, the number of patients assessed for speaking valve candidacy, and the number of patients successfully converted to oral diets by discharge. In addition, the length of intubation before tracheostomy is monitored.

Lessons Learned

CRMC learned some valuable lessons after implementing this process. Initially, the organization tried to create an additional form for assessing patients, but staff reacted negatively to the increase in paperwork. CRMC then shifted emphasis to education, using forms already in existence. During training, the PI team highlighted where staff should document assessment information on the current forms.

CRMC also learned the importance of having a universally applied, clear pathway and consistent care plan for artificial airway patients. All members of the treatment team needed to be on board with the protocol and be well trained for the PI process to be successful. Even now, the education component of the process continues as new employees join the hospital staff and receive training on the protocol. **PS**

References

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