

Ask The Experts

QUESTION: I am on a vent users' listserv, and periodically the group discusses cuffed vs. uncuffed trach tubes. Can someone explain when and why a cuffed trach tube is preferable? When is it not? If a cuffed trach tube is used, when should it be inflated?

ANSWER: Linda Dean, RRT, Clinical Specialist, Passy-Muir, Inc.

There are numerous types and brands of tracheostomy tubes and three primary types of cuffs. Each cuff is filled with a different medium – air, water or foam. Regardless of what it is filled with, the cuff has one purpose, and that is to seal the airway to control mechanical ventilation. During the acute disease process, when a patient is in critical care, it may be necessary to keep the cuff inflated so that all of the air delivered from the ventilator goes to the lungs and then back to the ventilator on exhalation to be measured and monitored. As the patient becomes more stable, a deflated cuff or cuffless tube may be introduced.



Cuff inflated

Patients who require full-time ventilation may prefer the cuff deflated to enable speech, either through “leak speech” or

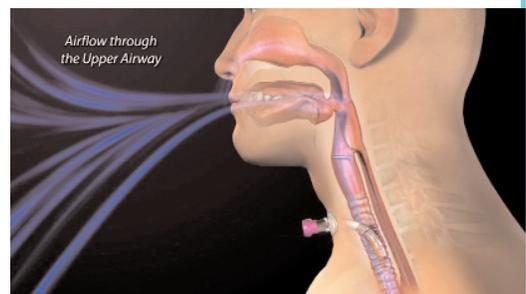
the use of a Passy-Muir® Speaking Valve. At nighttime, there are some patients who still need the cuff inflated because they fall so deeply asleep and the throat muscles relax so much that large amounts of air leak out of the mouth and nose.



Cuff deflated

It is a common misconception that the inflated cuff of a tracheostomy tube will protect the airway and prevent aspiration. This is simply not so. The definition of aspiration is any material that falls below the level of the vocal cords. The material that has reached an inflated cuff is already aspirated. A cuff can actually make it more difficult to swallow and increase the risk of aspiration.

Some research has shown that a tracheostomy with an inflated cuff impairs laryngeal movement during the swallow, decreases sensation in the oral pharynx, decreases the normal pressures in the airway during swallow and renders the natural cough (protective mechanism) ineffective. Therefore, if a patient does not need the cuff for ventilation, the tracheostomy tube cuff should be deflated or the patient should be evaluated for a cuffless tube.

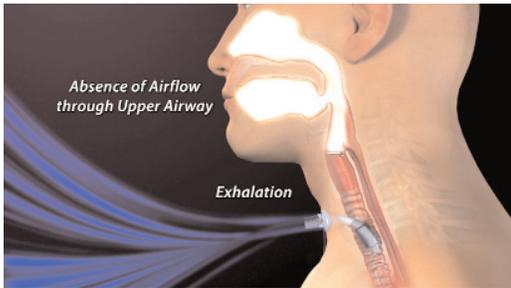


Airflow with cuff deflated and Passy-Muir Valve



On rare occasions, for the patient with a very severe swallow impairment and no ability to protect the airway (e.g. a patient at the end stage of ALS), an inflated cuff is the only way to minimize aspirated material from entering the lower airways.

In summary, there are many tubes and cuff options for the tracheostomy patient. It is best to consult with the health care team to determine which option best meets an individual's ventilation, communication and swallowing needs. ▲



Airflow with cuff inflated

Are you a ventilator user or health professional with a question about home mechanical ventilation?

Send it to info@ventusers.org, and IVUN will find experts to answer it.

Music Helps Reduce Stress and Anxiety

continued from page 3

We are currently finishing a 4.5 year study testing whether music is effective for anxiety self-management for patients throughout the duration of receiving mechanical ventilation in the ICU and if these patients have lower stress levels when encouraged to listen to preferred music whenever they like for as long as they like each day they are on a ventilator in the ICU.

While we are awaiting the final results, patients who have participated in the study have conveyed that they indeed feel relaxed and enjoy listening to music they prefer, including the

benefits of wearing headphones to reduce some of the noise in the ICU, which also assists with sleep.

The overall goal of my work is to provide a complementary intervention to the medical plan of care to bring some comfort and relaxation to patients receiving mechanical ventilation in the ICU. I am extremely grateful to those patients and family members who have participated in my many studies over the years. ▲