



## PALLIATIVE CARE CASE OF THE MONTH

### Comfort Measures for a Patient with a Recent Tracheostomy

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**Case:** Mrs. S was a 68-year-old woman who had been living in a nursing home for the past year after suffering a stroke. She had been in and out of the hospital with urinary tract infections, and her oral intake was limited due to dysphagia from her stroke. She was admitted to the hospital with a seizure and was found to have a large subdural hematoma. Though she underwent surgical evacuation, seven days later she was not able to follow commands or interact meaningfully. After a discussion with her husband over the phone, she underwent a tracheostomy with a plan for a percutaneous gastrostomy placement for artificial nutrition. However, the next day when her husband had visited after not having seen her in a week, he was shocked at her condition saying that he was not aware what he had decided over the phone. Mr. S said that his wife had spoken about end of life multiple times over the past years and she has always stated that she would never want a feeding tube or breathing tube and would want care exclusively focused on comfort at this point. The palliative care service was consulted, and it was clear the patient would not want artificial nutrition or hydration. Her husband wanted her back to her nursing home which was near his home; however, they would only take a size 6, not the size 8 tracheostomy, which had been placed the day before.

**Discussion: Palliative Care Physician:** This case was challenging on many levels. One uncertainty for me was that when the goals are changed to comfort measures, patients are permitted to eat for comfort and enjoyment. However, I wasn't sure if a patient who had had a tracheostomy placed the day before was even physically able to eat. I knew she didn't want a feeding tube, but I was uncomfortable having her be entirely NPO if she was interested in eating. When I first met her, she was awake, though only slightly interactive, and could conceivably be interested in taking in some food orally. My questions for my speech language pathology colleague were as follows: 1) Was it possible for a patient with a recent trach of that size to eat for comfort? 2) When could a trach be downsized or even removed in a patient whose goal is comfort, with the goal of enabling her to take in food and to be closer to home?

**Speech Language Pathologist:** Speech and swallowing are possible with a tracheostomy with or without mechanical ventilation; however, it is not "guaranteed" that a patient can speak or swallow with a tracheostomy tube.

It is dependent on the specific characteristics of the patient. For example, a head and neck cancer patient with tracheostomy for an airway due to upper airway obstruction (a tumor in the pharynx) will likely not be able to speak or swallow due to an obstructed upper aerodigestive tract. Some patients are able to eat on mechanical ventilation with the tracheostomy cuff inflated. However, most patients will have the potential to have for better swallowing if the tracheostomy cuff can be completely or even partially deflated. This potentially allows the patient to generate increased subglottic pressure for improving airway protection. It is important to note that an inflated tracheostomy cuff does not prevent aspiration. Timing of trials of speech and swallowing are also somewhat related to clinician preference and patient status but typically, it is recommended that a tracheostomy cuff does not get manipulated (inflated/deflated) within the first 48hrs. For many clinicians this means that trials of a Passy-Muir valve and swallowing will be initiated after 48hrs. This precaution is mainly to prevent accidental decannulation (when the tracheostomy tube is dislodged). For many patients, the typical standard of care will be to attempt to transition them to use of a speaking valve prior to evaluating swallow as speaking valves have the potential to improve swallow function. The literature has shown that this is not a "rule" as some studies have found that speaking valves do not improve swallow.

In terms of sizing of tracheostomy tubes, there are many different brands and types. Technically it is possible to swallow with any of the tracheostomy tubes in place although safety of swallowing may be affected by the presence of a tracheostomy. Tracheostomy tubes should be sized according to each specific patient. For most facilities, the initial tracheostomy to be placed during the surgical procedure is the Shiley cuffed tracheostomy tube, with the most common sizes to be #6 and #8. These sizes of Shiley tracheostomy tubes are made to work with several different tracheostomy placement kits/inducers. Many physicians will just place the same size tube in all patients; however, it ideally should be decided based on size of patient's anatomy. Most adult males will be fit properly with Shiley #8 while many adult females can have a Shiley #6 placed. Weaning from a tracheostomy does not necessitate the same downsizing across patients. One opinion that appears in many texts indicates that the tracheostomy tube should not take up more than 2/3 of the tracheal lumen.

*Personal details in the case published have been altered to protect patient privacy.*

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*(Discussion Continued)*

One must also take into account the mechanical ventilation needs as smaller tubes may increase resistance and be suboptimal with higher vent pressures. One does not want the tracheostomy too big as there is risk of the tracheostomy tube abutting the tracheal wall and causing tissue damage. Tracheostomy tubes that take up too much of the airway can also be barriers to weaning and to speech. One additional way that a tracheostomy/size of tracheostomy may physiologically impact the swallow mechanism is the presence of an over inflated tracheostomy cuff that can press into the esophagus causing difficulty with moving foods and even liquids down the esophagus.

In this case, work with tracheostomy manipulation should be held until 48hrs after insertion to ensure safety, as despite patient transitioning to palliative measures, accidental dislodgement of airway or potentially losing an airway could result in an acute medical emergency. If it was of urgency to trial swallowing on the first post-operative day, it should be attempted with extreme caution to prevent losing the airway. In addition, I would have recommended further discussion between the nursing home and the medical team regarding acceptance of a patient with a tracheostomy of a certain size. It is unclear as to why they stated that the tracheostomy could not be of a certain size particularly when the type/size are one of the more common tracheostomy tubes and there would be easy access to appropriate tracheostomy supplies. I also would have recommended assessment of ability to swallow for comfort with assistance of skilled palliative care clinicians. Assuming that oral intake will aid comfort and enjoyment may not be accurate if a person has pain or anxiety due to difficulty with swallowing. The palliative care and the ICU clinicians should work closely with speech language pathologists who have expertise in both critical and palliative care for assistance with swallowing and communication options with tracheostomy in context of these comfort-based goals of care.

**Resolution of the case:** The speech pathologist working on the floor, who was not working with the palliative care team, evaluated the patient and recommended "NPO". Per the critical care team, the trach could not be downsized for seven days. Though the goal was comfort, in the week before the tracheostomy was downsized Mrs. S remained in the ICU and was placed back on mechanical ventilation. On the seventh day, the trach was downsized and she was removed from mechanical ventilation with the plan to transition back to her nursing home. Unfortunately, she died in the ICU shortly thereafter.

As a result of this case, the palliative care team is working with the speech language pathology department to develop collaborative plans for patients who are near the end of life and whose goals do not include artificial nutrition.

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