

RANCHO LOS AMIGOS
NATIONAL REHABILITATION CENTER



Trach Care

Purpose, Signs and Symptoms of Adverse Effects, and Care

March 11, 2023

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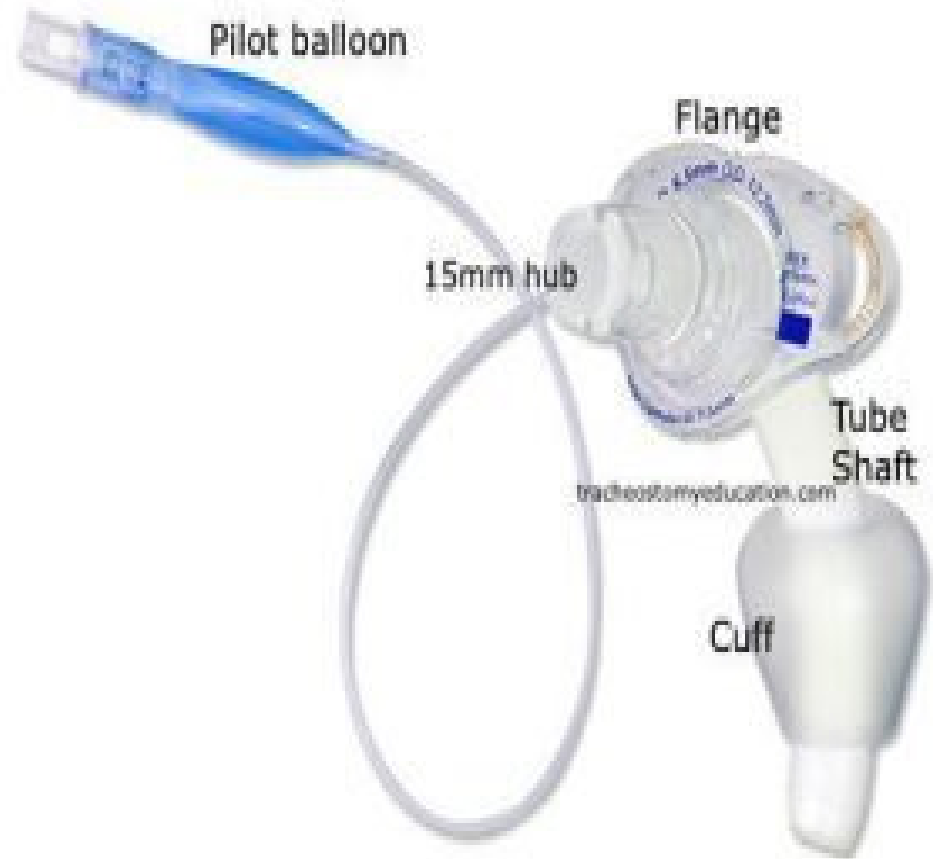
Learning Objectives

- Providers will explain the difference between sterile v. clean suctioning technique.
- Providers will explain the difference between a one-way speaking valve and decannulation cap.
- Providers will describe contraindications of decannulation in a patient with a tracheostomy following spinal cord injury.
- Providers will name two types of instrumental swallow exams commonly used for individuals with spinal cord injury.

Disposable v. Non disposable Inner Cannula

Disposable inner cannulas are removed and replaced during trach care

Non-disposable (reusable) inner cannulas are cleaned and re-inserted during trach care



Sterile v. Clean Suctioning Technique

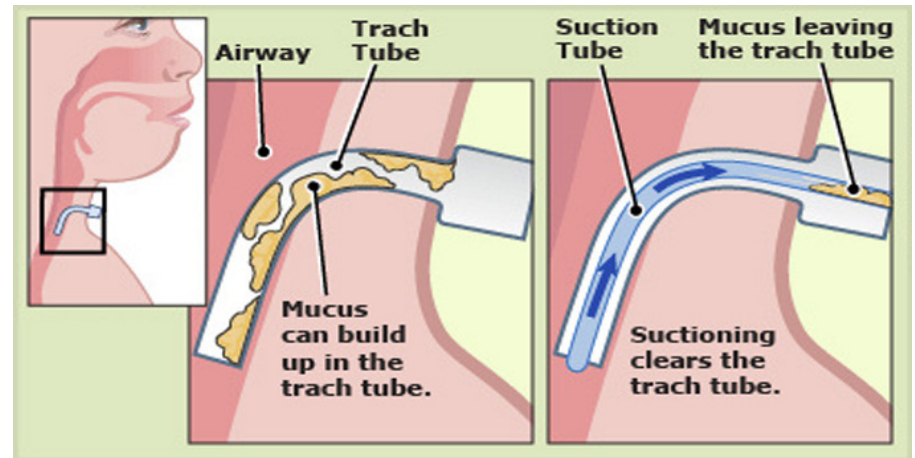
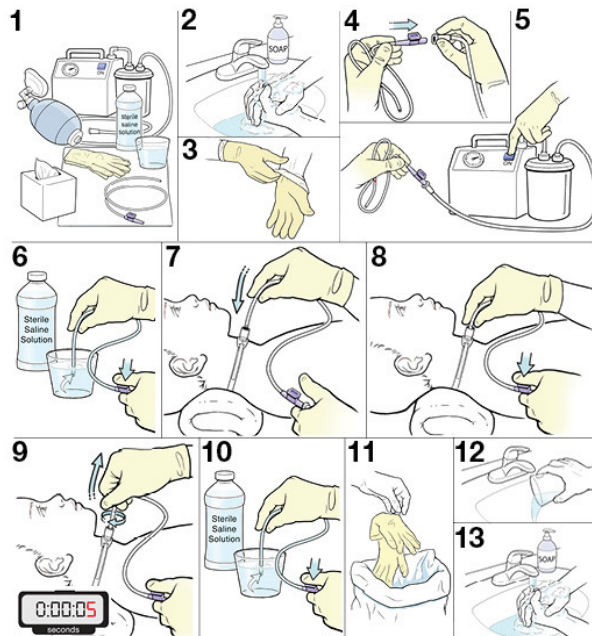
14-day post tracheotomy

As covered in their scope of practice; RN, LVN, PT, OT, ST, PA, MD, RT, Rec Therapy can all perform suctioning on the patient.

- Catheter Size and Trach Size
 - 8 French → #3-3.5 (Peds)
 - 10 -12 French → #4 (Adults)
 - 16 French → #6-10 (Adults)
- Wall Suction and Portable Suction
 - Adult 80-120 mmHg | 3-5 inches Hg
 - Child 80-100 mmHg | 3-4 inches Hg
 - Infant 60-80 mmHg | 2-3 inches Hg

Suctioning and Tracheostomy

- Oxygenate patient before each suction pass to prevent hypoxia
- Assess the patient, monitor the heart rate, and oxygen saturation after each suction pass



Emergency Procedures: Trach Re-insertion

- **Unintentional decannulation** occurs when the tracheostomy tube is completely expelled.

The newer the stoma, the faster it will close.

*****If unable to re-insert, prepare for intubation*****

Rancho P&P C156

RESPIRATORY CARE MANAGEMENT: EMERGENCY RESPIRATORY EQUIPMENT BAG

- **Each patient with an artificial airway will have an emergency respiratory equipment bag with them at ALL times.**
 - a. List of contents of emergency respiratory bag
 - b. Bag-valve mask device of appropriate size
 - c. Two new tracheostomy tubes (cuffed or uncuffed)
 1. One same size as current trach tube
 2. One that is a size smaller
 - d. Suture removal kit
 - e. Obturator for current trach tube size
 - f. Two suction catheters of appropriate size
 - g. Yankauer for oral suction
 - h. Clean gloves
 - i. Water soluble lubricant
 - j. Two - 4 x 4 gauze
 - k. Velcro tracheostomy tube holder
 - l. Twill tape
 - m. 12 ml syringe
- **RN/LVN responsible for the patient is to ensure that all emergency equipment is available and in working condition at all times.**





Which SCI patient might need a trach?

- C1 – C3: Definite trach placement; may be vent dependent; usually no diaphragmatic innervation
 - Cannot move air
- C4–T4: Maybe / Maybe not
 - Diaphragm but no intercostals
 - Diminished protective cough; aspiration risk
 - Difficulty clearing secretions; compromised respiratory health
- Crushing, penetrating, burn injuries to throat or chest
- Respiratory failure

Tracheostomy Capping Trials

Speaking Valves



Decannulation Caps



Patients with Inflated Cuff or Open Trach

- Will likely be unable to produce voice
- Alternate methods of communication may include:
 - Speech or “lip” reading
 - Yes/No questions
 - Basic Needs list
 - Gestures
 - Partner assisted alphabet scanning
 - Eye-gaze board
 - Text to speech if patient has some hand function (e.g. cell phone, iPad, etc.)

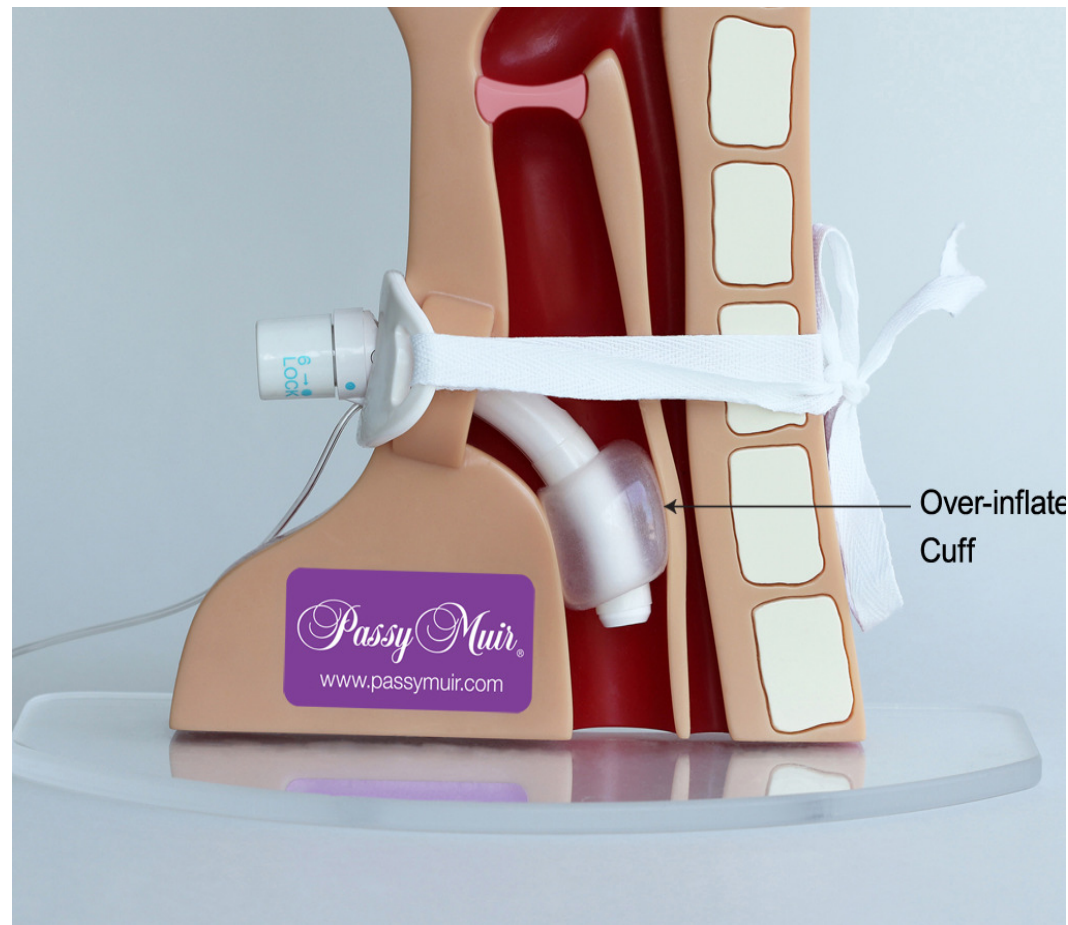


Danger!

Speaking Valves & Cuffed Trach Tube

- When the trach cuff is inflated, the patient can ONLY breathe in and out of trach tube; they cannot redirect air through upper airway.
- When a speaking valve is placed on the trach, it allows patient to inhale through trach but closes and allows air only to be exhaled through the upper airway; air does not escape back out of the trach tube.
- If a speaking valve is placed on an inflated cuffed trach, the person cannot redirect air through the upper airway, since the cuff is blocking the passage to that route, the patient is unable to exhale and can potentially suffocate.

Life threatening situation!



Which SCI patients are most likely to have swallowing difficulties?

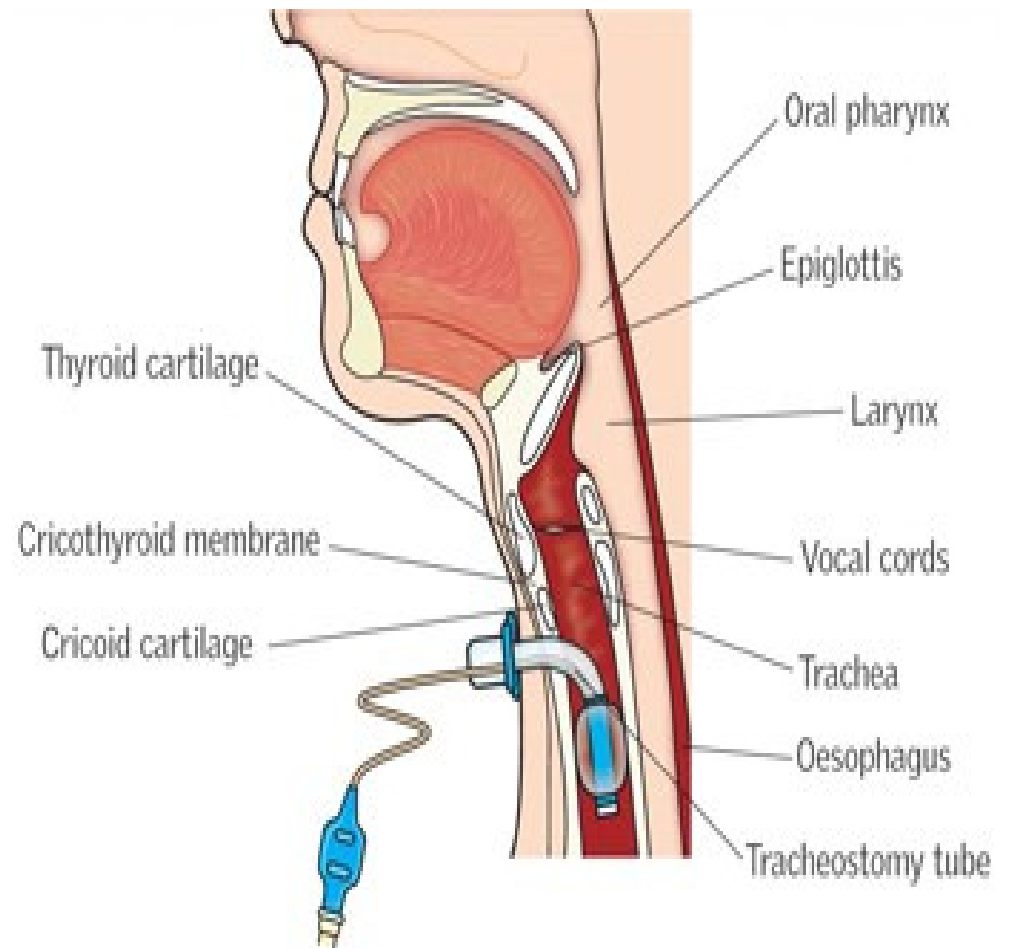
- C1-C3
 - Near the brainstem, specifically the medulla, which is the swallow center of the brain
 - Glossopharyngeal nerve (CN 9) inserts above C3:
 - Decreased pharyngeal/laryngeal elevation
 - Hypoglossal nerve (CN 12) which controls the tongue, inserts above C3:
 - Oral prep phase dysphagia 2/2 weakened tongue, decreased laryngeal elevation
 - Superior laryngeal nerve inserts at C3-C4:
 - decreased or absent pharyngeal swallow;
 - decreased laryngeal sensation

Which SCI patients are most likely to have swallowing difficulties?

- C4-below
 - Recurrent laryngeal nerve inserts at C6 or below:
 - decreased sensation from the carina
 - decreased airway protection & vocal fold closure
 - Cricopharyngeus muscle inserts at C5-6 level:
 - decreased upper opening to esophagus
- Decreased innervation of intercostal muscles can reduce protective cough mechanism

Mechanical Ventilation

- Indicates fragile overall system
- Interferes with timing of swallow with respiration which is an aspiration risk
- Positive pressure can decrease sensation of swallow



Speech Therapy Dysphagia Assessments

Modified Barium Swallow Study (MBSS)
Videofluoroscopic Swallow Study (VFSS)



Fiberoptic Endoscopic Evaluation of Swallowing (FEES)



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Photo Credits

- <https://tracheostomyeducation.com/cuffed-versus-cuffless-tracheostomy-tubes/> (Slide 4)
- <https://www.drshrepathakent.com/tracheostomy/> (Slide 6)
- <https://baycare.org/health-library/step-by-step-suctioning-a-childs-tracheostomy> (Slide 6)
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- <https://www.dysphagia-diagnostics.com/what-is-fees> (Slide 16-right)



תודה
Dankie Gracias شكراً
Спасибо Merci Takk
Köszönjük Terima kasih
Grazie Dziękujemy Dékojame
Ďakujeme Vielen Dank Paldies
Kiitos Täname teid 谢谢
Thank You Tak
感謝您 Obrigado Teşekkür Ederiz
감사합니다
Σας ευχαριστούμε ขอบคุณ
Bedankt Děkujeme vám
ありがとうございます
Tack