## Tracheotomy and Tracheostomy Tubes

#### Indications for Tracheotomy

- Prolonged mechanical ventilation
- Inability to clear airway secretions
- Inability to protect the airway
- Upper airway obstruction

# When should tracheotomy be performed?

### Timing of Tracheotomy

- Several randomized trials and meta-analysis have compared early versus late tracheotomy.
  - No difference in mortality, ventilator-associated pneumonia, or ICU or hospital length of stay
  - Early tracheotomy improves patient comfort and decreases the need for sedatives and narcotics.
  - Physicians are poor at predicting which patients will require long term ventilation.
    - In the 2 largest randomized trials, only 56.7% and 45.5% of patients randomized to late tracheotomy underwent the procedure.

JAMA. 2010;303:1483-1489 JAMA. 2013;309:2121-2129

### Benefits of Tracheotomy

- Improved patient comfort
  - Less sedation
- Improved communication
- Improved swallowing function
- Improved mobility
- Does not cause laryngeal or subglottic injury

### **Risks of Tracheotomy**

- Surgical procedure
  - Bleeding
  - Tracheal injury
- Tracheal stenosis
- Tracheo-innominate fistula

### **Timing of Tracheotomy**

- In general, tracheotomy for prolonged mechanical ventilation should be delayed for 12-16 days.
- Earlier tracheotomy is appropriate for patients with severe brain injury, severe, progressive neuromuscular disease, and patients who are especially likely to benefit from increased comfort, and increased ability to communicate, swallow, and ambulate.

## What types of tracheostomy tubes are available?

#### Flexible tracheostomy tubes



SKU#	I.D.	0.D.	INNER CANNULA I.D.
4CN65A	6.5 mm	9.4 mm	5.5 mm
5CN70A	7.0 mm	10.1 mm	6.0 mm
6CN75A	7.5 mm	10.8 mm	6.5 mm
7CN80A	8.0 mm	11.4 mm	7.0 mm
8CN85A	8.5 mm	12.2 mm	7.5 mm
9CN90A	9.0 mm	12.7 mm	8.0 mm
10CN10A	10.0 mm	13.8 mm	9.0 mm

#### Flexible tracheostomy tubes



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4UN65A	6.5 mm	9.4 mm	5.5 mm
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10UN10A	10.0 mm	13.8 mm	9.0 mm

XLT tracheostomy tubes

EXTENSION	I.D.	0.D.	TOTAL LENGTH	PROXIMAL LENGTH	RADIAL LENGTH	DISTAL LENGTH
Distal	5.0 mm	9.6 mm	90 mm	5.0 mm	37.0 mm	48.0 mm
Proximal	5.0 mm	9.6 mm	90 mm	20.0 mm	37.0 mm	33.0 mm
Distal	6.0 mm	11.0 mm	95 mm	8.0 mm	38.0 mm	49.0 mm
Proximal	6.0 mm	11.0 mm	95 mm	23.0 mm	38.0 mm	34.0 mm
Distal	7.0 mm	12.3 mm	100 mm	12.0 mm	39.0 mm	49.0 mm
Proximal	7.0 mm	12.3 mm	100 mm	27.0 mm	39.0 mm	34.0 mm
Distal	8.0 mm	13.3 mm	105 mm	15.0 mm	40.0 mm	50.0 mm
Proximal	8.0 mm	13.3 mm	105 mm	30.0 mm	40.0 mm	35.0 mm



XLT tracheostomy tubes

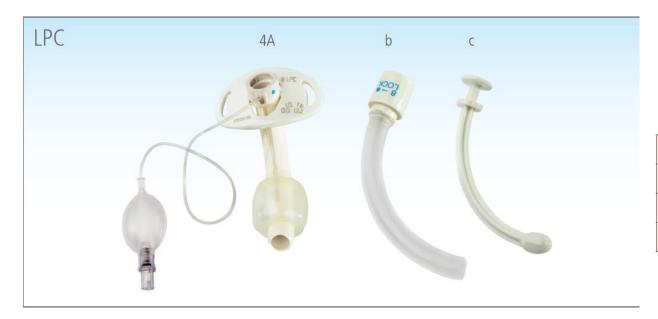




Cuffed with reusable inner cannula

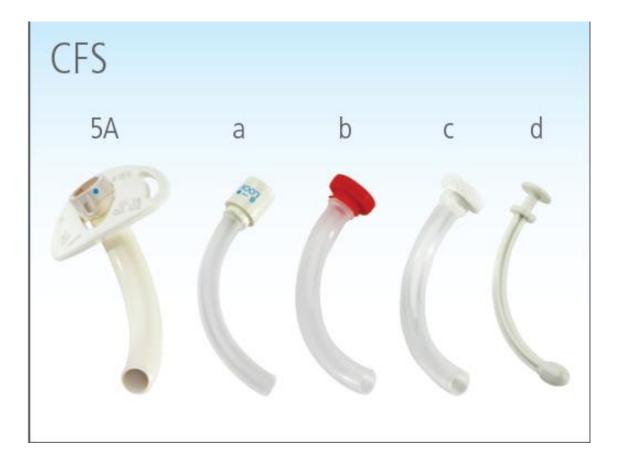


#### Cuffed with reusable inner cannula



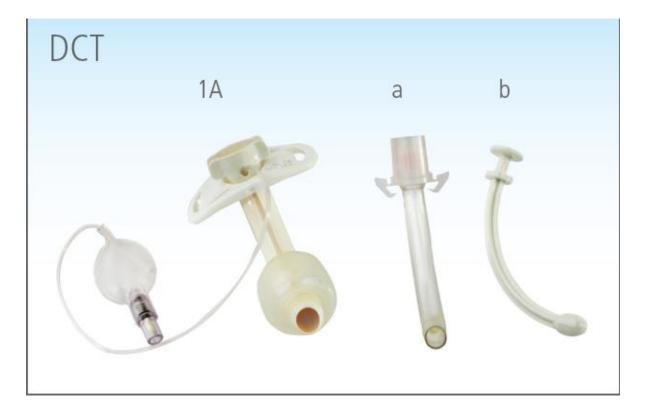
	PRODUCT			
SIZE	DESIGNATION	I.D.	0.D.	LENGTH
4	4LPC	5.0 mm	9.4 mm	65 mm
6	6LPC	6.4 mm	10.8 mm	76 mm
8	8LPC	7.6 mm	12.2 mm	81 mm
10	10LPC	8.9 mm	13.8 mm	81 mm

#### Cuffless with reusable inner cannula



	PRODUCT			
SIZE	DESIGNATION	I.D.	0.D.	LENGTH
4	4CFS	5.0 mm	9.4 mm	65 mm
6	6CFS	6.4 mm	10.8 mm	76 mm
8	8CFS	7.6 mm	12.2 mm	81 mm
10	10CFS	8.9 mm	13.8 mm	81 mm

Cuffed with disposable inner cannula



	PRODUCT			
SIZE	DESIGNATION	I.D.	0.D.	LENGTH
4	4DCT	5.0 mm	9.4 mm	62 mm
6	6DCT	6.4 mm	10.8 mm	74 mm
8	8DCT	7.6 mm	12.2 mm	79 mm
10	10DCT	8.9 mm	13.8 mm	79 mm

#### Cuffless with disposable inner cannula



	PRODUCT			
SIZE	DESIGNATION	I.D.	O.D.	LENGTH
4	4DCFS	5.0 mm	9.4 mm	62 mm
6	6DCFS	6.4 mm	10.8 mm	74 mm
8	8DCFS	7.6 mm	12.2 mm	79 mm
10	10DCFS	8.9 mm	13.8 mm	79 mm

Fenestrated





Fenestrated



Adjustable length



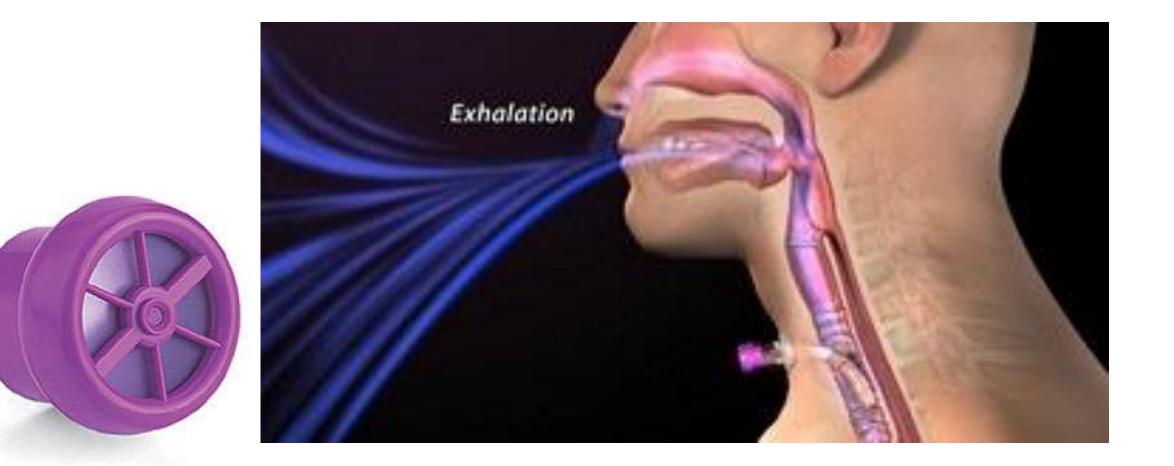


"Fome-Cuf"

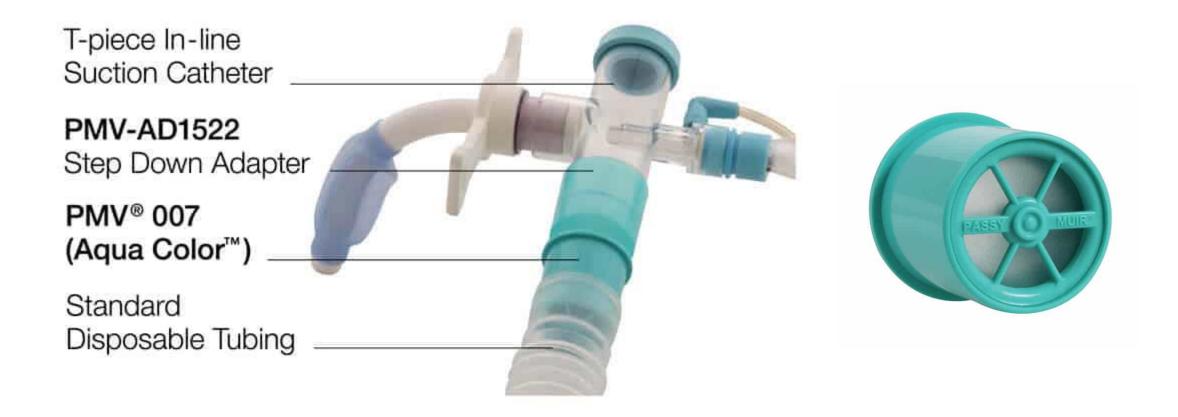


## What are the Options to Allow Speech?

#### Speech Options



#### Speech Options



## How do you Decannulate a Patient?

## Steps for Removal of the Tracheostomy Tube

- Once the patient has been successfully removed from mechanical ventilation, assess ability to breathe, speak, and clear secretions with the trach occluded.
- If necessary, downsize the tube.
- Place a one-way valve or cap on the tube.
- Remove tube if the patient demonstrates adequate ventilation and does not require suctioning.