

# Communication



## Facilitating Communication

- Ideally, preserve/facilitate oral communication where feasible
- Allow patient participation in decision making and treatment planning
- Reduce likelihood of adverse incidents
- Improve overall quality of life



## Normal Speech

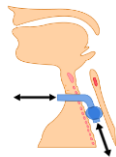


- Breath – expiration
- Vocal Cords
- Articulation



## Effects on Communication

- Query any underlying diagnosis
- Majority of air no longer directed through larynx so unable to produce voice
- Especially so with large tubes and/or when the cuff is inflated



National tracheostomy safety project [www.tracheostomy.org](http://www.tracheostomy.org)



## Non-Verbal Communication Options

- Call system
- Yes/no questions
- Mouthing (reduced rate, key words, over articulation)
- Writing
- "Low tech" communication aids (white board, LCD boards, picture charts/boards, alphabet charts)
- "High tech" communication aids ( GOTALK, Light-writer, IPAD)
- Electrolarynx

❖ Be aware of patients linguistic and cognitive skills. May be impaired e.g., CVA/TBA, delirium



### Alternative and Augmentative Communication (AAC) Aids



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### Speaking Valves



Facilitate communication by redirecting airflow through vocal folds.

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### Types of Speaking Valves



Passy Muir Valves

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### Other Speaking Valves



Shiley valve

Trache voice valve

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### Benefits of PM Speaking Valves

- ✓ Facilitate improved voice production and oral communication
- ✓ Positive effects on swallow and secretion management
- ✓ Improves smell and taste
- ✓ Restores physiological PEEP
- ✓ Expedites weaning/decannulation time



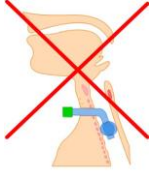
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### Contraindications for Speaking Valves

- Less than 48 hours post tracheostomy insertion
- Inability to tolerate full cuff deflation
- Upper airway obstruction/tracheal oedema or stenosis
- Medical/respiratory instability
- Severe aspiration/thick tenacious secretions
- Anarthria or severe dysarthria
- Unconscious/comatose patients
- Laryngectomy patients

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## Important!!!



**Never** place a speaking valve when the cuff is **INFLATED!!!**

The patient will not be able to breathe out!!!

## Safe Cuff Deflation

- Medical clearance is mandatory before first attempt at cuff deflation
- Explain process to patient
- Aspiration of secretions via subglottic port
- Oral and tracheal suction prior to deflation
- Tracheal suction as cuff is deflated (2 people)
- Slow deflation
- May be "leak speech" following deflation



## Fitting the Speaking Valve

- Attach the SV to the hub of the tracheostomy tube
- Monitor the patient's physiological and clinical response to the use of the SV for indications of intolerance -> increased work for breathing, fatigue, decreasing oxygen saturation levels, a change in skin colour, excessive coughing
- If valve poorly tolerated, remove and re-inflate cuff
- Aim to **gradually** increase tolerance of the speaking valve
- SLT will assess voice quality/communication and carry out therapy as appropriate



## Care of the Speaking Valve

- SV to be worn as tolerated, especially when talking and swallowing -> Gradual build-up of tolerance
- SV to be removed if having breathing difficulties
- SV to be removed when sleeping
- Should be cleaned daily in mild soapy water. Rinse thoroughly in warm (not hot) and let air dry
- Single patient use only
- Lifespan of approx. 2 months

## Ventilated Patients

Consider:

- Overall medical status
- Level of alertness
- Cognitive status
- Airway patency

**SIH guidelines as follows:**

- Mode of ventilation: Pressure support, CPAP, volume support
- Levels of ventilatory support:
  - PEEP 6 or lower
  - PS 8 or lower and weaning
  - FIO<sub>2</sub> 45% or less



## Troubleshooting

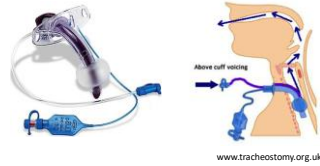
- **Breathing difficulties:** (consider patient position, upper airway obstruction, cuff deflation, secretions, anxiety)
- **Coughing** (common+, consider secretions, anxiety, changed sensation)
- **Weak voice** (consider vocal cord function, aphonia/dysphonia, myopathy, reduced airflow)
- **Reduced tolerance of speaking valve**
- **Anxiety**

### Options

- Fenestrated tubes
- Downsizing tracheostomy tube
- Above cuff voicing

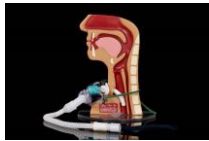


### Above cuff vocalisation



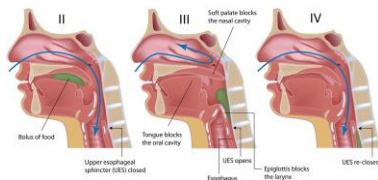
www.tracheostomy.org.uk

### Speaking Valve with High Flow O2/AIRVO



### Swallowing

### Normal Swallow



### Tracheostomy and Swallow

**High risk group:**

- Aspiration in 50-87% of patients (Goldsmith 2000, Tolep et al 1996, Elpern et al 1994)
- Consider underlying diagnosis

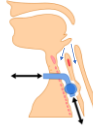
**Effects of tracheostomy:**

- Reduced laryngeal elevation
- Obstruction of oesophagus?
- Disuse muscle atrophy
- Disruption of airway pressures
- Reduced cough reflex
- Reduced subglottic pressure
- Desensitisation of larynx
- Persistent effects of ET intubation

(Goldsmith 2000, Brodsky et al 2017)

## Swallowing with an Inflated Cuff?

- Does not prevent aspiration!
- Bolus already aspirated
- Incomplete cuff seal especially on liquids
- Aspirated material may pool above the cuff and be aspirated cuff deflation
- Bacterial colonisation may occur
- Reduced sensation
- Ideally have cuff deflated BUT patients may be able to swallow with cuff inflated



Adapted national tracheostomy safety project [www.tracheostomy.org](http://www.tracheostomy.org)

## SLT Dysphagia Assessment

- Detailed medical history (underlying diagnosis?) and current clinical presentation
- Bedside clinical dysphagia evaluation may include: oromotor examination, oral hygiene assessment, food/drink trials with palpation, strategies, cervical auscultation, and/or pulse oximetry
- Blue Dye Test: High level of false negatives
- Videofluoroscopy of swallow (modified barium swallow)
- Fiberoptic Endoscopic Examination of Swallow (FEES)

## Videofluoroscopy



## FEES



## Clinical Signs of Dysphagia

The following signs may be suggestive of dysphagia:

- ✓ Coughing/throat clearing during or after eating/drinking
- ✓ Wet, gurgly voice
- ✓ Increased WOB, desaturation
- ✓ Effortful swallow
- ✓ Repeated swallows required to clear a single bolus
- ✓ Food/fluid stained secretions seen on suctioning
- ✓ Repeated, unexplained RTIs

## Strategies to facilitate safe oral intake:

- Oral care
- Modified food/drinks if recommended
- Feed only when alert and sitting upright
- Facilitate airflow through larynx through use of cuff deflation/speaking valve where appropriate
- Reduced bolus size and reduced rate of intake
- Reduced amounts to allow for fatigue effect
- Safe swallow guidelines as per swallow chart (diet orders EPR)
- Continue to monitor for acute/chronic signs of aspiration

*If swallowed material detected through tracheostomy tube on suctioning, nil by mouth & inform team/SLT*

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Any Questions?

