Communication and Swallowing post Tracheostomy.

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Facilitating Communication

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

- Breath - expiration
- Vocal Cords
- Articulation
Effects on Communication

- Query 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
Non-Oral Communication Options

- Call system
- Yes/no questions
- Mouthing (reduced rate, key words, over articulation)
- Writing
- “Low tech” communication aid (pictures, alphabet chart)
- “High tech” aids e.g. GOTALK, Light-writer
- Electrolarynx

- Be aware of patients linguistic and cognitive skills. May be impaired e.g. CVA/TBI
AAC
Speaking Valves

Facilitate communication by redirecting airflow through vocal folds.
Passy Muir Speaking Valves
Other speaking valves
Benefits of Speaking Valves

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

- Less than 48 hours post tracheostomy.
- Inability to tolerate full cuff deflation.
- Upper airway obstruction/tracheal oedema or stenosis.
- Medical/respiratory instability
- Severe aspiration/tenacious secretions.
- Anarthria or severe dysarthria.
- Unconscious/comatose patients.
- Laryngectomy.
Post laryngectomy anatomy
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
• 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 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
- Mode of ventilation: Pressure support, CPAP, volume support

- Levels of ventilatory support:
  - PEEP 6 or lower
  - PS 8 or lower and weaning
  - FIO₂ 45% or less
  - RR <30
Placement of speaking valve for ventilated patients
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, myopathy, reduced airflow)
- **Reduced tolerance of speaking valve**
- **Anxiety**
Options?

- Fenestrated tubes
- Downsizing tracheostomy tube
- Above cuff voicing
SWALLOWING
“Truth is, none of our patients had swallow problems till the speech therapist arrived”
Tracheostomy and swallow

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)
Myth of the 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 on cuff deflation.
- Bacterial colonisation may occur
SLT Dysphagia Assessment

- Medical history (underlying diagnosis?)
- Bedside clinical dysphagia evaluation: oromotor examination, food/fluid trials with palpation, cervical auscultation and/or pulse oximetry.
- Blue Dye Test: High level of false negatives
- Videofluoroscopy – remains gold standard.
- Fibreoptic Endoscopic Examination of Swallow (FEES)
Videofluoroscopy
FEES
Clinical Signs of Dysphagia

The following signs may be suggestive of dysphagia:

- Coughing during or after eating/drinking
- Wet, gurgly voice
- Effortful swallow
- Repeated swallows required to clear a single bolus
- Food/fluid stained secretions seen on suctioning
- Repeated, unexplained RTIs
Strategies to Minimize Aspiration & Monitor Dysphagia

Modified diet/fluids if recommended.
Feed only when alert and sitting upright.
Facilitate airflow through larynx through use of a speaking valve where indicated
Reduced bolus size
Reduced rate of intake
Reduced amounts to allow for fatigue effect.
Safe swallow guidelines as per swallow chart.
Continue to monitor for acute/chronic signs of aspiration.

*If swallowed material detected through tracheostomy tube on suctioning, NPO & inform team/SLT*
Any Questions?