

# Tracheostomy Tube Suction

## Expected Outcome

The patient's airway is cleared effectively through the use of tracheal suction.

## Policy Statement

- Suctioning will be performed using aseptic technique
- Suctioning will be attended as clinically indicated on an individual basis
- Patients will be encouraged to cough and expectorate their own secretions when able
- Accredited nurses or registered nurses will perform suctioning as required
- The appropriate sized suction catheter is used

## When to Suction: Clinical Indicators<sup>1</sup>

- Coarse breath sounds
- Noisy breathing
- Increased or decreased rate of respiration
- Decreased oxygen saturation
- Copious secretions
- Patient attempting to cough

## Background

- An accredited nurse for the purposes of this protocol is an RN or EN who has completed a Suctioning Competency or is deemed competent by the CNE.

## Equipment

- Protective eye wear
- Gloves – sterile single use exam gloves or if using Closed Suction System [CSS]; non-sterile gloves
- Plastic apron or impermeable gown
- Suction catheter or CSS

Portex Blueline Ultra	Suction Catheter Size	'Shiley' (traditional)	Suction Catheter Size
Size 6.0 - inner diameter 5.0 mm	10 FG	Size 4.0 – inner cannula 5.0 mm	10 FG
Size 7.0 - inner diameter 5.5 mm	10 FG		
Size 7.5 - inner diameter 6.0 mm	10 FG		
Size 8.0 - inner diameter 6.5 mm	10 FG	Size 6.0 – inner cannula 6.4 mm	10 FG
Size 8.5 - inner diameter 7.0 mm	10 FG or 12FG		
Size 9.0 - inner diameter 7.5 mm	10 FG or 12FG	Size 8.0 – inner cannula 7.6 mm	10 FG or 12FG
Size 10. - inner diameter 8.5 mm	12 FG	Size 10. – inner cannula 8.9 mm	12 FG or 14 FG

- ⇒ Suction catheter size recommendation is that the diameter should be equal or less than half that of the inner cannula diameter<sup>1-3, 14</sup>).
- ⇒ In an emergency, a larger size suction catheter may be used to remove secretions.

- High pressure wall suction unit and tubing
- Oxygen outlet and tubing
- Oxy-Viva bag, tracheostomy oxygen mask for pre-oxygenation, if required
- Sterile dressing pack (optional)
- Sterile normal saline to clean used suction catheter
- Yankeur sucker

## Procedure

- Explain procedure to patient and select appropriately sized suction catheter
- Oxygen:
  - ⇒ Patient on oxygen therapy – maximal flow rate
  - ⇒ When using an oxy-viva bag or wall-oxygen humidification unit, flow rate is at 15 litres to supply 100% Oxygen
  - ⇒ When using a Heat Moisture Exchange unit [HME], use oxygen flow of up to 6 litres
- Patients not receiving continuous oxygen therapy are assessed for their need for pre-oxygenation prior to the suction
- Patients who are not receiving oxygen therapy and are spontaneously breathing are encouraged to do gentle deep breathing exercises prior to suctioning, as appropriate
- Pre-oxygenate the patient for approximately 3 minutes prior to commencing the suction<sup>4, 13</sup>
- Turn on the suction outlet, ensure there is an adequate seal and vacuum pressure (14 - 20kP)<sup>5</sup>
- Wash hands, don goggles and apron<sup>5</sup>
- Don appropriate gloves, ensuring that a sterile glove on the dominant hand is used with single-use suction catheters
- Introduce catheter into the tracheostomy tube to the approximate location of the carina - withdraw 1cm; or at the point where the patient begins to cough; apply suction
- As continuous suction is applied, withdraw the catheter slowly and smoothly out of the tracheostomy tube - maximum time is 15 seconds<sup>7-8</sup>
- Observe patient response, assess for need for further suctioning episodes; allow patient to rest and receive oxygen, as required, in between suction episodes
- Rinse the suction catheter in sterile normal saline prior to re-insertion; maintain asepsis<sup>1</sup>
- Allow patient to rest between suction passes, 2-3 passes maximum<sup>1, 9.</sup>
- When suctioning is complete; using non-dominant hand - draw the glove on the dominant hand up and over the used suction catheter and dispose of both gloves and catheter appropriately.
- Document event: CR 168 Tracheostomy Care Chart or flowchart
- Use a clean yankeur sucker to remove oral secretions

### In acute situations only:

- When there is difficulty suctioning thickened secretions it may be necessary to use a larger-sized suction catheter than recommended. After removing secretions with a larger suction catheter; the patient should be reviewed for increased humidification needs - a HME should be used in conjunction with <sup>4</sup>/<sub>24</sub> normal saline nebulisers (or more frequently). If the secretions are so thick that these methods are not effective, a water bath humidifier should be used, with the base temperature set at 38 - 39<sup>o</sup> Celsius.
- When there is suspected obstruction of the airway due to a mucous plug, the tracheostomy tube is at risk of blocking with sputum: 2-5mL sterile normal saline may be used to aid clearance of secretions
- This is not routine practice and is associated with the potential for hypoxaemia and retention of the saline bolus<sup>10-12</sup>
- If nil response to this technique patient safety is a concern, call MET

## Clinical Issues

Other Tracheostomy tubes available on the market:

- Shiley 'Flextra' - current HME in use does not fit this tube
- The size of the XLT and Flextra Shiley tubes is the size of the inner cannula.
- XLT is a proximal or distal extendable tube in both cuffless and cuffed (not fenestrated) combinations.
- XLT and Flextra use disposable inner cannulae ( do not soak, if crusty or thick secretions - discard and obtain replacement)
- Wards will need to ensure that they have adequate stock of disposable items for all tracheostomy tubes in use.

**References**

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