Suction and The Role of Physiotherapy

Senior Physiotherapist in Respiratory Care

SJH

The Role of Physiotherapist

- Assessment of Respiratory/Mobility status
- Assisting Secretion Clearance
- Facilitate Weaning and Decannulation
- Pt support and advice
- Education of junior staff and MDT
- Neck/shoulder exercises and posture
- Liase with SaLT re swallow

Indications for tracheostomy

- Bypass acute/chronic upper airway obstruction
- Prevention/treatment of retained tracheobronchial secretions
- Prevention of pulmonary aspiration
- Inability to protect airway
- Facial/head trauma
- Airway oedema e.g. burns/post ENT surgery
- Prolonged intubation/ventilation – facilitate weaning
- Spinal injuries- impaired cough/swallow

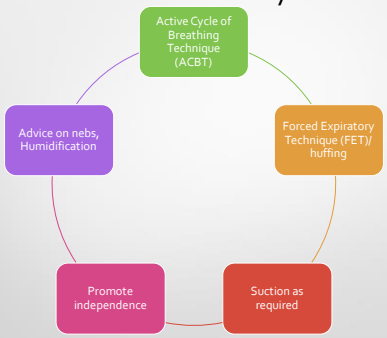
Assessment of Respiratory Status

- Breathing Pattern/patient comfort
- RR, HR, BP, Temp
- Level of FiO_2 & Humidification

- Investigations: CXR, ABG
- Auscultation
- Recent events
- Is patient able to clear secretions? Why not?

- Need for sxn over previous 24 hrs, inner cannula.
- Nebuliser requirements
- Colour & tenacity of secretions

Secretion clearance- Physio's Role



Suction

The mechanical aspiration of pulmonary secretions from a patient with an artificial airway in place. The procedure involves pt preparation, the suctioning event(s) and follow up care.

Endotracheal Suction Guidelines - ICU Working Party

Clinical Interest Group of ISCP

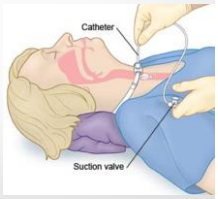
www.iscp.ie

Catheter Size for Suction

Trache tube size (mm) X 3
2

E.G. 8 X 3 = 24 = 12
2 2

Ensures catheter is less than ½ the internal diameter of the trache tube



Equipment required

- Apron + gloves
- Fluid Shield mask if appropriate
- Suction circuit/portable machine
- Catheters
- Sterile gloves
- Oxygenation equipment
- SaO_2 monitor

Preparation of Patient

- Explain the procedure to the pt- how long it will last, what it will feel like and why you are doing it.
- The patient should receive hyperoxygenation by the delivery of 100% oxygen for > 30 secs prior to the suction event.
- The patient may be monitored using a pulse oximeter.

The Suction Event

- Description- the placement of a suction catheter through the artificial airway into the trachea and ***the application of a negative pressure as the catheter is being withdrawn.***
- Sterile technique
- Continuous suction technique
- < 15 secs per suction event. Fast in, slow out.
- Suction pressure maximum safe limits 100-150mmHg

Follow Up care

- The pt should be monitored for adverse reactions.
- Breathing control, position of ease.
- The patient should be hyperoxygenated by delivery of 100% oxygen > 1 min.

Indications to Suction

- Audible secretions or evidence of secretions on auscultation.
- Visible secretions in the airway.
- Clinically apparent increase in work of breathing.
- Need to maintain patency and integrity of the airway.
- Deterioration of ABGs/Obs.
- Suction is an invasive procedure and should **NOT** be carried out on a routine basis.

Precautions

- Disordered coagulation
- Cardiovascular instability
- Suspected/confirmed increase in intracranial pressure
- Bronchospasm

Covid 19 **positive**/ suspected

- Full PPE- including FFP2 or FFP3, eye shield, gown and gloves
- Closed suction circuit advised – renewed weekly
- HME Swedish nose with oxygen port can be applied
- Reduce frequency of checking inner cannula to avoid disconnecting the circuit unless clinically indicated
- Surgical mask may be worn by patient during tracheostomy care with cuff deflated

Closed suction circuit

Swedish nose

Covid **negative**/ not suspected

- Ffp2 or ffp3, eye shield, apron and gloves should be worn for all tracheostomy care including suctioning
- Reduce frequency of checking inner cannula
- NB. Suction only as needed

Hazards include:

- Hypoxia/hypoxemia
- Tissue trauma to the trache and/or bronchial mucosa
- Cardiac arrest
- Respiratory arrest
- Cardiac Dysrythmias
- Pulmonary atelectasis
- Infection
- Bronchospasm/ Bronchoconstriction
- Pulmonary haemorrhage
- Elevated Intracranial pressure
- Hypertension
- Hypotension

Assessment of Outcome

- Improvement in breath sounds
- Decrease in work of breathing
- Improvement in ABGS or SaO2
- Removal of pulmonary secretions

Role in Weaning

- Facilitation of process
- Monitoring of chest status
- Promotion of independent secretion clearance
- Reassurance and support

References

- Tracheostomy Care Guidelines
  SJH/RVEEH Tracheostomy Care Working Group
  October 2000
- Endotracheal Suction Guidelines
  ICU Working Party, Clinical Interest Group of ISCP