Algorithm 1: Breathing difficulties in the patient with tracheostomy and patent upper airway

Management of the tracheostomy patient with breathing difficulties - Patent upper airway

Apply high flow oxygen to BOTH the face and the tracheostomy stoma
Call for Airway Expert help – Anaesthetics/Critical Care/ENT/Max Fax

Look, listen & feel at the mouth and tracheostomy
A Waters circuit or capnography may help if available

Assess patency

Yes

Is the patient breathing?

No

Is the patient improving?

Eg. SpO₂ >90%,

The tracheostomy is patent
Consider partial obstruction
Continue ABCDE assessment

1. Some inner tubes need re-inserting to connect to breathing circuits
2. If bleeding from tracheostomy, await expert before deflating cuff

Remove speaking valve or cap (if present)
Remove inner tube (if present)
Attempt tracheal suction

Can you pass a suction catheter?

Deflate the cuff (if present)?

Look, listen & feel at the mouth and tracheostomy

Partially obstructed or displaced
Continue ABCDE assessment
Await Airway Expert

REMOVE THE TRACHEOSTOMY TUBE
Look, listen & feel at the mouth and tracheostomy. Ensure oxygen re-applied

Call Resuscitation team
Follow ALS algorithm

Basic emergency oxygenation

Standard ORAL airway manoeuvres
Cover the stoma (swabs / hand)
Bag-Valve-Mask
Oral or nasal airway adjuncts
LMA

Tracheostomy STOMA ventilation
Paediatric face mask applied to neck
LMA applied to neck

Expert emergency oxygenation

Attempt ORAL intubation
DIFFICULT INTUBATION
Unout tube. Advance beyond stoma

Attempt intubation of stoma
Small trachy tube / 6.0 cuffed ETT
Consider Bougie / Aintree catheter / Fibre-optic scope

Support ventilation if hypoxic
Await Airway Expert

www.tracheostomy.org.uk
Algorithm 2: Breathing difficulties in the patient with laryngectomy

Management of the laryngectomy patient with breathing difficulties

Apply high flow oxygen to laryngectomy stoma using tracheostomy mask or paediatric face mask.
If any doubt about whether patient has a tracheostomy or a laryngectomy, apply oxygen to face also.*
Call for Airway Expert help – Anaesthetics/Critical Care/ ENT/Max Fax

Look, listen & feel at laryngectomy patient stoma.
There may not be a tube inserted into the stoma.
A Waters circuit or capnography may help if available.

Assess patency

Is the patient breathing?

Yes

- Remove cap (if present)
- Remove inner tube (if present)
- Attempt tracheal suction
- Can you pass a suction catheter?
- Deflate the cuff (if present)
- Look, listen & feel at the stoma / tube

No

- Laryngectomy stoma/tube patent
  Consider partial obstruction
  Continue ABCDE assessment

1. Some inner tubes need re-inserting to connect to breathing circuits
2. If bleeding from stoma, await expert before deflating cuff

Partially obstructed or displaced
Continue ABCDE assessment
Await Airway expert

No

REMOVE THE TUBE THAT IS IN THE LARYNGECTOMY PATIENT NECK (if present)
Look, listen & feel at the laryngectomy stoma. Ensure oxygen re-applied

Call Resuscitation team
Follow ALS algorithm
Support ventilation as required
Await Airway Expert

Is the patient improving?
Eg. SpO₂ >90%

Yes

- Laryngectomy stoma ventilation
  Paediatric face mask applied to neck stoma
  LMA applied to neck stoma

No

- Basic emergency oxygenation
  Attempt intubation of stoma
  Small trachy tube / 6.0 cuffed ETT
  Consider Bougie / Amneter catheter / Fibre-optic scope

LARYNGECTOMY patients have an end stoma and CANNOT BE INTUBATED via the mouth.
*Applying oxygen to the face & neck is a default emergency action for all patients with a tracheostomy.
Algorithm 3: Advanced airway management of the patient with a tracheostomy tube

Advanced Tracheostomy Algorithm
(For Expert Airway Management Responders)

Indications
- Tracheostomy tube position check
- Emergency airway following failure to secure upper airway in hypoxic patient
- Stable, oxygenated patient with suspected displaced (or completely displaced) tracheostomy tube
- Sedation and Anaesthetic drugs should only be used by experienced responders in appropriate settings

Ensure maximal flow of oxygen to the upper airway at all times via Face Mask or Breathing Circuit

Railroad Aintree Catheter (or similar) over Fibre-optic Bronchoscope (FOB)

Insert FOB through tracheostomy tube if present or directly through the stoma
- Consider lidocaine gel or similar if necessary

Advance FOB carefully. Identify tracheal rings and carina
- Advance Aintree Catheter into trachea from over the FOB and withdraw the FOB

Railroad tracheostomy (or small endotracheal tube) into stoma over the Aintree Catheter
- Use same size or smaller tracheostomy tube

NO — Able to insert tube? — YES

Attach RapiFit to Aintree Catheter and connect O₂

Check position of Aintree (Capnography or FOB)

Try smaller tracheal tube or endotracheal tube

Inflate the tracheostomy tube cuff. Connect to Waters circuit and Oxygen. Check
- Capnography trace
- Bilateral air entry
- Ability to pass suction catheter via tracheostomy
- Position in trachea with FOB when stable

Secure the tracheostomy tube
- Continue ABCDE assessment of patient

Failed definitive airway management at this stage is a dire situation. Options are:
- Get further help as appropriate
- Continue to attempt to oxygenate/ventilate via stoma and upper airway (Face Mask / LMA)
- Advanced upper airway management with FOB, ILMA, Aintree, Advanced Laryngoscopes
- FOB into stoma without Aintree may be more flexible
- Cricothyrotomy
- New Percutaneous or Surgical Tracheostomy

www.tracheostomy.org.uk