



TRACHEOSTOMY EMERGENCIES

Blocked or displaced tube · the NTSP algorithm

IS THERE A
larynx?

THE FIRST QUESTION

this changes everything

TRACHEOSTOMY (patent larynx)

The upper airway still works. You CAN oxygenate from the FACE as well as the stoma. Most ICU tracheostomies.

LARYNGECTOMY (no larynx)

There is NO connection from mouth to trachea. The STOMA IS THE ONLY AIRWAY - face-mask oxygen is useless.

Check the bed-head sign / notes BEFORE the emergency. Apply oxygen to BOTH the face and the stoma while you work it out.

THE ALGORITHM

patient not breathing / not improving

1 CALL FOR HELP

Airway expert + resuscitation trolley. Apply high-flow O₂ to the FACE and the STOMA.

2 LOOK, LISTEN, FEEL

At the mouth AND the tube. Use waveform CAPNOGRAPHY - if there is CO₂, the tube is patent.

3 REMOVE the inner tube

The commonest cause is a blocked inner cannula. Remove it, keep it out, reassess.

4 PASS a suction catheter

Passes freely → tube is patent: suction and ventilate. Will NOT pass → tube blocked or displaced.

5 DEFLATE the cuff

If still not improving. This may let the patient breathe around a displaced tube.

6 REMOVE the tube

If still not improving, take the tracheostomy tube OUT and reassess breathing.

THEN OXYGENATE

- **Tracheostomy (larynx)** - cover the stoma and use a FACE mask / bag-valve; or a paediatric mask over the stoma
- **Then intubate** - orally past the stoma (advance the tube beyond it), OR via the stoma with a small ETT
- **Laryngectomy** - the STOMA only - paediatric mask over the stoma, or a size 6 ETT / LMA into the stoma

OTHER EMERGENCIES

- **BLEEDING** - late, pulsatile or a herald bleed = tracheo-innominate fistula. Over-inflate the cuff, apply digital pressure, call surgery IMMEDIATELY.
- **SURGICAL EMPHYSEMA** - suggests a false passage or displaced tube - stop ventilating through it and reassess.

PREVENT: bed-head sign stating tracheostomy vs laryngectomy · emergency box at the bedside (spare tubes same + smaller size, tracheal dilators, suction, bougie) · humidification and regular inner-tube care · never force a tube back into a fresh (< 7 day) stoma - the tract is not formed.

ROUTINE CARE & TROUBLESHOOTING

stops most emergencies happening

SUCTION & HUMIDIFY

Suction only as deep as the tube, < 10-15 s, pre-oxygenate. Humidify ALWAYS - dry gas makes plugs.

INNER TUBE

Check and clean at least 4-6 hourly (more if secretions are thick). This single habit prevents most blockages.

CUFF

Keep 20-30 cmH₂O. Too high causes tracheal ischaemia and stenosis; too low allows aspiration and leak.

WEANING & DECANNULATION: needs adequate cough, manageable secretions, tolerating cuff deflation, and a patent upper airway (cuff-leak / speaking valve / capping trial). Decannulate in daylight hours with the emergency kit to hand; keep the stoma dressed and watch for 24 h.

PEARLS & PITFALLS

- Ask 'is there a larynx?' first - in a laryngectomy, face-mask oxygen goes nowhere and delay is fatal.
- Remove the inner cannula early - a blocked inner tube is the single commonest cause and takes seconds to fix.
- Capnography is the fastest way to tell a patent tube from a blocked or displaced one.
- A fresh tracheostomy (< 7 days) has no formed tract; blind reinsertion creates a false passage.

References: National Tracheostomy Safety Project (NTSP) emergency algorithms · DAS / ICS guidance.

Educational aid; verify doses against local protocol and patient factors.

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