

Syllabus	AM_IK_09
Topic	Paediatric tracheostomy

An 18 month old child is booked for a surgical tracheostomy on the ENT List.

a)
List 6 possible indications for a tracheostomy in the paediatric population (6 marks)

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)

b)
Give 1 reason for the relatively low incidence of paediatric tracheostomies compared to the adult population (1 mark)

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c)
List 3 early and 3 late complications of paediatric tracheostomies (6 marks)

Early complications:

- 1)
- 2)
- 3)

Late complications:

- 1)
- 2)
- 3)

d)

What 2 items should be given to all paediatric patients with tracheostomies? (2 marks)

1)

2)

In the Paediatric Intensive Care Unit (PICU), on the second post-operative day, you are called to the same patient as the nursing staff are concerned that the tracheostomy has become blocked.

e)

Give 5 immediate steps that you would take to manage the issue (5 marks)

1)

2)

3)

4)

5)

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	Answer	Mark	Guidance
a)	<p><u>Long-term ventilation</u></p> <ul style="list-style-type: none"> • Chronic lung disease • Muscular dystrophies • Cerebral palsy • Brainstem lesions • Tracheobronchomalacia • Congenital hypoventilation syndrome <p><u>Protection of airway from aspiration</u></p> <ul style="list-style-type: none"> • Neuromuscular disorder • Bulbar palsy <p><u>Airway Obstruction</u></p> <ul style="list-style-type: none"> • Tracheomalacia • Bilateral vocal cord palsy • Head and neck masses eg cystic hygroma or similar • Craniofacial syndromes e.g Pierre Robin, Treacher Collins, Beckwith Weiderman <p><u>Trauma</u></p> <ul style="list-style-type: none"> • Burns. • Inhalational injury. • Corrosive ingestion <p><u>Misc:</u></p> <ul style="list-style-type: none"> • Failed Intubation • Clearance of secretions 	1 mark for each (Max. 6 marks)	Need specific example of congenital syndrome
b)	<ul style="list-style-type: none"> • Technically more challenging/ Specialist service required • Psychosocial challenges • Lack of consensus for appropriate length of time for trachea to be intubated. • Children tolerate tracheal intubation for longer than adults. 	1 mark for any of the points	

<p>c)</p>	<p><u>Early Complications</u></p> <ul style="list-style-type: none"> • Airway obstruction. • Bleeding. • Pneumothorax. • Pneumomediastinum. • Surgical emphysema. • Oesophageal injury. • Recurrent laryngeal nerve injury. • Infection. • Blockage of tube with secretions. <p><u>Late Complications</u></p> <ul style="list-style-type: none"> • Granuloma formation. • Vascular erosion. • Swallowing problems. • Tracheal stenosis. • Tracheo-oesophageal fistula. • Breakdown of skin/stoma site. 	<p>1 mark for each (Max. 3 marks for early & 3 marks for late complications)</p>	
<p>d)</p>	<ul style="list-style-type: none"> • Paediatric emergency tracheostomy box (accompanies child at all times from insertion of tracheostomy) • Bedhead signs - details of type & size of tracheostomy, length inserted and calibre of suction catheter needed. 	<p>1 mark for each point</p>	
<p>e)</p>	<ul style="list-style-type: none"> • Call for help. • Open airway/ head tilt/ Chin life/ pillow under shoulders. • Apply high flow oxygen/100% oxygen to mouth and tracheostomy site. • Ensure capnography attached. • Remove attachments/ HME filter/ speaking valve/ inner tube. • Attempt to pass suction catheter. 	<p>1 mark for each (Max. 6 marks)</p>	

References

1) Okonkwo I, Cochrane L, Fernandez E. Perioperative management of a child with a tracheostomy. *BJA Education* (2020) 20(1)18-25

<https://bjaed.org/action/showPdf?pii=S2058-5349%2819%2930150-7>

2) Doherty C, Neal R, English C *et al*, Multidisciplinary guidelines for the management of paediatric tracheostomy emergencies. *Anaesthesia* (2018) 73(11)1400-1417

<https://associationofanaesthetists-publications.onlinelibrary.wiley.com/doi/epdf/10.1111/anae.14307>