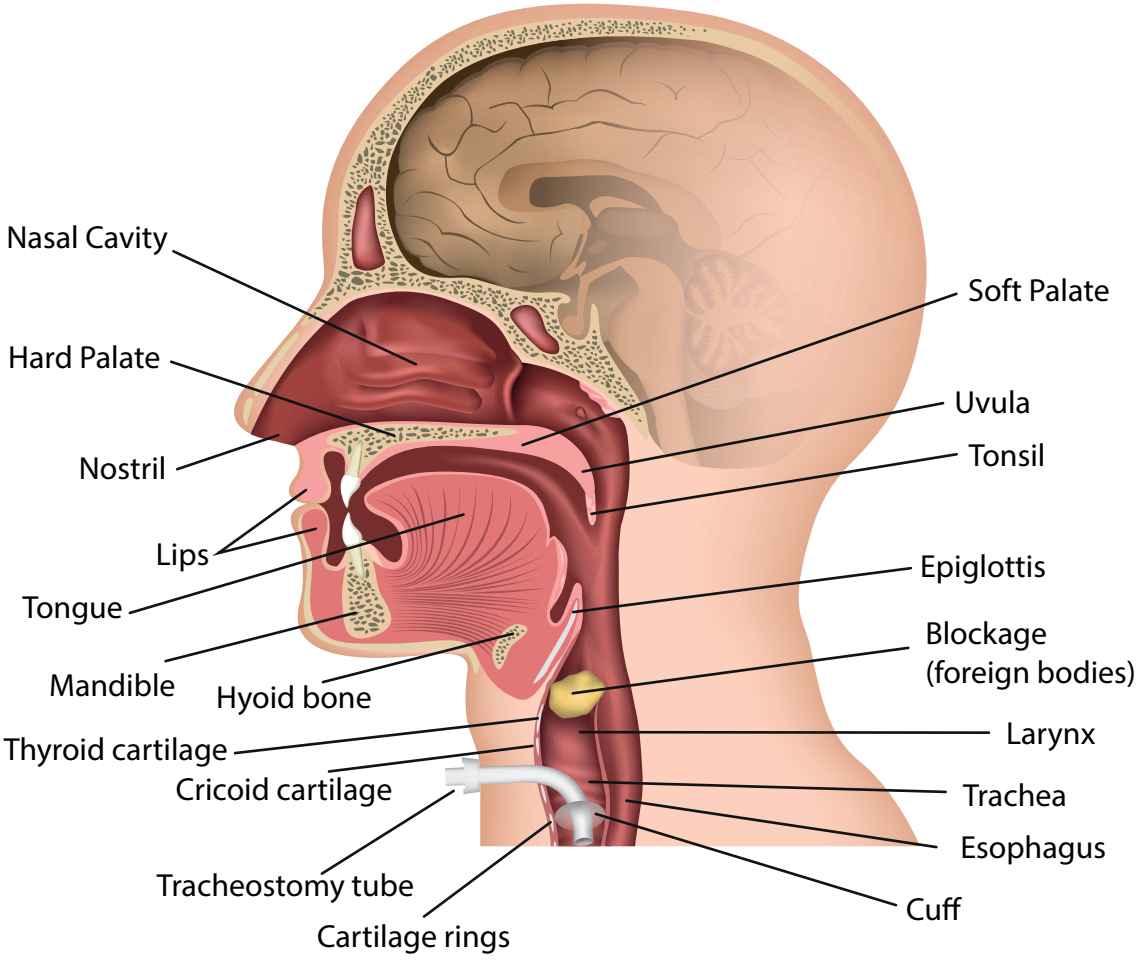
WHAT ARE 10 COMMON REASONS FOR A TRACHEOSTOMY?

What is a tracheostomy?

A tracheostomy is an artificial opening in the front wall of the trachea. The opening enables the passage of oxygen to the lungs of patients who are struggling to breathe. A tracheostomy may be temporary or permanent, depending on the condition of the patient.

A tube, known as a tracheostomy tube, is inserted into the hole to keep it open. If the patient requires additional respiratory support, the tube may be connected to a mechanical ventilator. The tube is also used to facilitate the removal of secretions from the airways using a suction catheter.

Human Upper Airways & Tracheostomy



richardson healthcare

What are the main reasons for a tracheostomy?

The principal reason for a tracheostomy is to deliver oxygen to the lungs when there is reduced function or a blockage in the airways. However, it is important to identify the source of these issues to implement the appropriate care plan and ensure good patient outcomes.

Airway obstruction

An obstruction in the airways can lead to a variety of respiratory issues. Both foreign objects becoming lodged in the respiratory tract and congenital abnormalities may cause obstructions requiring medical intervention.

Examples of congenital abnormalities that may lead to airway obstructions resulting in tracheostomies include Pierre Robin Sequence (PRS). The main features of PRS are a small jaw and a tongue that falls backwards into the throat. PRS is associated with difficulties eating and breathing. A variety of treatments and surgeries can reduce the condition's symptoms. However, a tracheostomy is sometimes an effective management option.[1]

Bronchopulmonary Dysplasia

Bronchopulmonary dysplasia (BPD) is a chronic lung condition that primarily affects babies born prematurely. The condition is sometimes referred to as chronic neonatal disease or chronic lung disease of prematurity.[2]

Babies born 10 weeks or more before their due date often have underdeveloped lungs that are very susceptible to irritation and inflammation after birth. It is estimated that up to 45% of babies born at 29 weeks or less will develop BPD.[3]

Babies with BPD usually require breathing support from a ventilator machine and oxygen therapy. Many babies born with BPD will recover and live healthy lives. However, some babies with severe BPD may require a tracheostomy. In fact, BPD has become the most common reason for a tracheostomy in babies under the age of one.[4] [5]

Chronic Obstructive Pulmonary Disease (COPD)

Chronic Obstructive Airways Disease (COPD) is a term used to represent a range of lung conditions. Patients with COPD usually exhibit shortness of breath, difficulties breathing, frequent chest infections and a persistent cough.

There is currently no cure for COPD, but there are steps that can be taken to mitigate some of the symptoms. This includes stopping smoking, lung rehabilitation, and inhalers.[6]

Tracheostomies are often a treatment option for end-stage COPD patients who are struggling to breathe on their own.[7]

Haemangioma

When blood vessels collect, they can form a lump under the skin known as a haemangioma.[8] Haemangiomas are sometimes referred to as 'strawberry marks' because their exterior resembles a strawberry.[9]

Most haemangiomas are not problematic. However, some haemangiomas can lead to a serious obstruction of the airways that requires medical intervention (i.e., a tracheostomy).

Infection

The symptoms of certain infections can lead to a potentially fatal obstruction of the airways.
Epiglottitis refers to the swelling and inflammation of the epiglottis. Epiglottitis is usually caused by a bacterial infection.[10] An inflamed epiglottis can cover the trachea and restrict the flow of air into the lungs.[11]
A tracheostomy may be recommended to create an emergency, alternative airway.[12]

Neck and spine injuries

Neck and spine injuries can sometimes result in respiratory trauma or a serious obstruction of the airways.[13]
A tracheostomy may be necessary to support breathing and wean a patient off mechanical ventilation.
In cases where injury has resulted in long-term intubation, a tracheostomy may not only facilitate suctioning, but also improve patient comfort and reduce airway resistance.[14]

Neuromuscular disorders

Neuromuscular disorders are a group of conditions affecting the nervous system. These conditions result in progressive muscle weakness that can cause difficulties moving, eating and breathing.
Some neuromuscular disorders lead to a decline in respiratory muscle function. In many cases, mechanical ventilation may be required to support normal breathing.
A tracheostomy may be necessary to protect the airways from aspiration.[15]

Tracheal stenosis

Tracheal stenosis is a term for the abnormal narrowing of the trachea. This narrowing may hinder an individual's ability to breathe normally. Tracheal stenosis may be congenital or the result of physical trauma (i.e., an injury or complication of surgery).

Tracheomalacia

Tracheomalacia is a rare condition that primarily affects children. It is characterised by soft cartilage in the trachea that collapses during respiration.[16] The condition can be either congenital or acquired.
Some cases of tracheomalacia can be managed effectively and improve significantly over time, particularly as the trachea generally becomes more rigid as the child grows.[17]
In more serious cases of tracheomalacia, a tracheostomy tube can be useful in reinforcing the area vulnerable to collapse.[18]

Tumours

A tumour is a swelling or mass caused by an abnormal growth of tissue in the body. Tumours are either malignant or benign.[19]
A tumour in the respiratory tract can lead to an obstruction of the airways, leading to difficulties breathing and eating. The size and severity of the tumour will dictate whether a tracheostomy is necessary to alleviate the symptoms of the obstruction.[20]

References:

1. *Demke, Joshua, et al. Parental Perceptions and Morbidity: Tracheostomy and Pierre Robin Sequence. Otorhinolaryngology 2008; 72 (10): 1509*
2. *Asthma and Lung UK. What is BPD and What Causes It? What is BPD and what causes it? | Asthma + Lung UK (asthmaandlung.org.uk) [accessed 2nd October 2023]*
3. *Ibid*
4. *Akangire, Gangaram. Tracheostomy in Infants with Severe Bronchopul monary Dysplasia: A Review. Frontiers in Paediatrics 20*
5. *Great Ormond Street Hospital for Children NHS Foundation Trust, NHS. Tracheostomy: General Information. Tracheostomy: General Information (gosh.nhs.uk) [accessed 30th September 2023]*
6. *The NHS. Overview: Chronic Obstructive Pulmonary Disease (COPD) Chronic obstructive pulmonary disease (COPD) – NHS (www.nhs.uk) [ac cessed 1st October 2023]*
7. *Great Ormond Street Hospital for Children NHS Foundation Trust, NHS. Haemangiomas: Information for Families 2016. pdf (gosh.nhs.uk) [ac cessed 30th September 2023]*
8. *Ibid*
9. *The NHS. Epiglottitis. Epiglottitis – NHS (www.nhs.uk) [accessed 1st Octo ber 2023]*
10. *Ibid*
11. *Ibid*
12. *Ganuza, Javier-Romero, Oliviero, Antonio. Tracheostomy in Spinal Cord Injured Patients. Transl Med UniSa 2011; 1: 151-172*
13. *Ibid*
14. *Boussaid, Ghilas, et al. Does Tracheostomy Remain an Option in Neuro muscular Patients? Respiratory Care 2018; 63(3): 373*
15. *Great Ormond Street Hospital for Children NHS Foundation Trust, NHS. Tracheostomy: General Information. Tracheostomy: General Information (gosh.nhs.uk) [accessed 30th September 2023]*
16. *Ibid*
17. *Ibid*
18. *Ibid*
19. *Ibid*

Find out more at www.richardsonhealthcare.com

Richardson Healthcare Ltd, 310 Centennial Avenue, Centennial Park,
Elstree, Hertfordshire, WD6 3TJ, UK.
Phone: +44 (0) 800 170 1126. Email: info@richardsonhealthcare.com

richardson healthcare