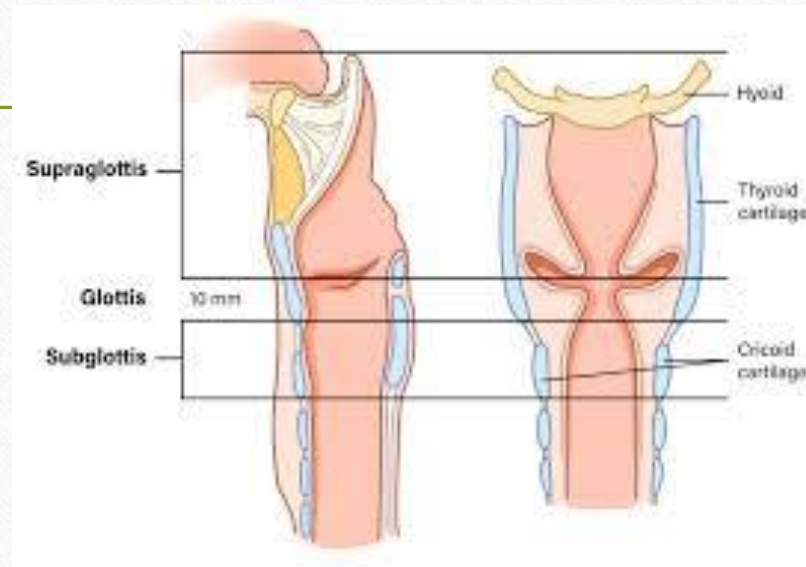


Approach to sign of upper airways obstruction

Dr Zahra Roshanzamir

In The Name of God

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- Upper airway ; extra thoracic air ways
 - Supra glottis
 - Glottis area
 - Subglottis
 - SIGN: Stridor because of turbulence of air and suprasternal retraction



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- A 17m/o infant that developed aphonia since 5 months ago
 - P/E
 - Stridore biphasic
 - Suprasternal retraction
 - Aphonia

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- Inspiratory stridor suggests a **laryngeal obstruction**
 - Expiratory stridor implies **tracheobronchial obstruction**
 - Biphasic stridor suggests **a subglottic or glottic anomaly**

Laryngomalacia

- Prolapse cartilage bag in glottis area
- Stridor started in first 2week of birth
- **INSPIRATORY**
- In 12M/O decreased and remission in 18 m/o

Pathologic Stridore

- Time: Not started in first week of life (except for the first 24 hours of life)
- Type: Biphasic
- Associated symptoms and sign:
 - Respiratory distress
 - Chronic aspiration
 - Dysphonia and Aphpnia
 - FTT
 - Wheezing

Differential Diagnoses

- Bilateral Vocal Fold Paralysis
- Infantile Hemangioma
- Laryngomalacia
- **Pediatric Airway Foreign Body**
- Subglottic Stenosis

Vascular Anomalies

- Tracheomalacia
- Laryngeal mass

- **Laryngoscopy and Bronchoscopy**

- The key to defining stridor of all phases is to evaluate the airway directly. Direct laryngoscopy with bronchoscopy is the criterion standard for making a diagnosis in infants and children with stridor.

Tongue Root

Epiglottis

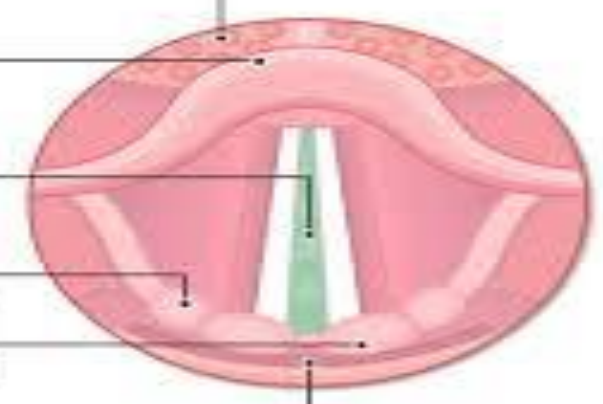
Glottis

Cuneiform Cartilage

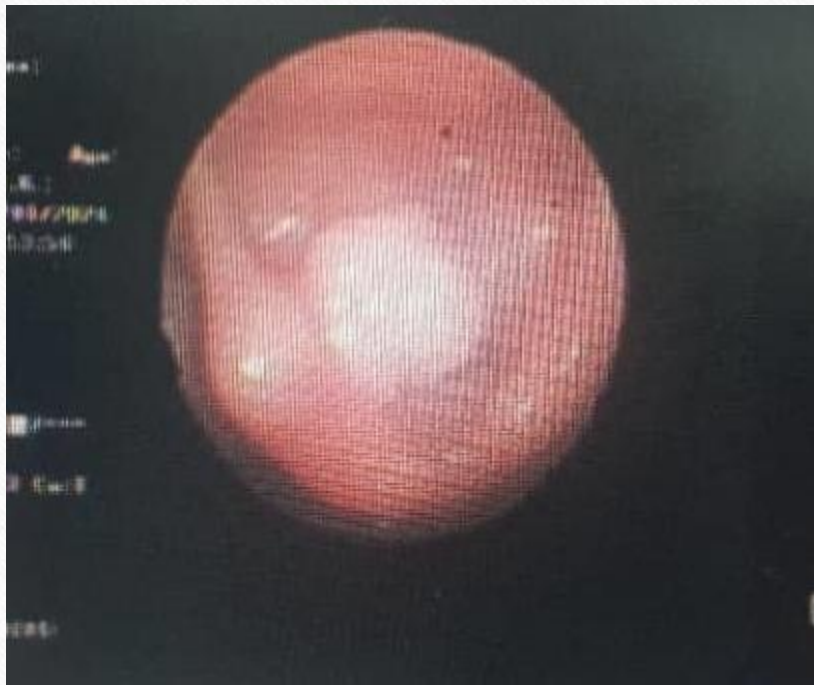
Corniculate Cartilage

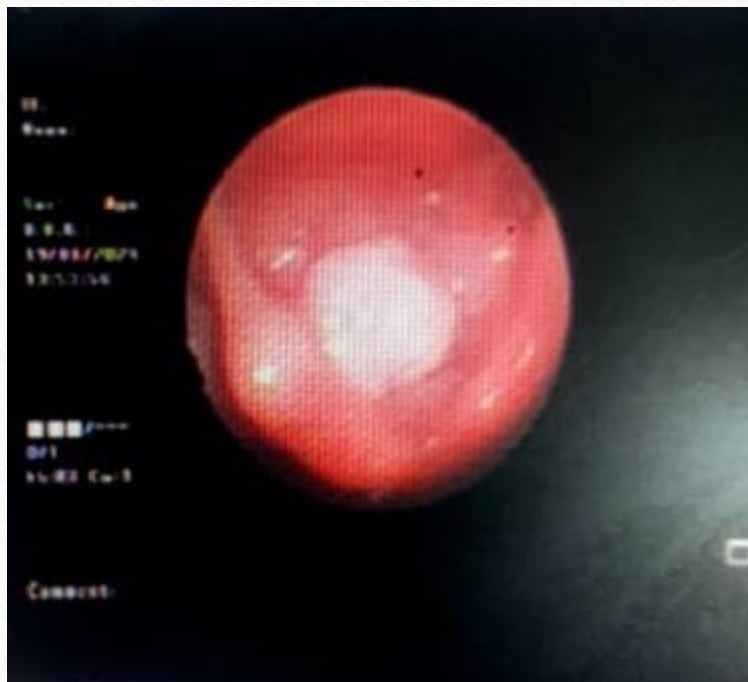
Esophagus

Anterior

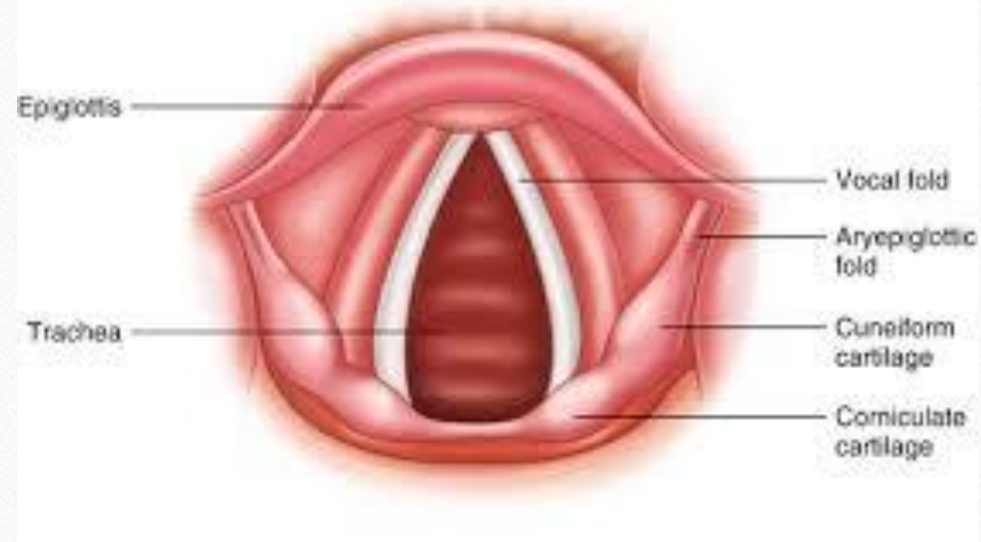


Posterior
Superior view of larynx





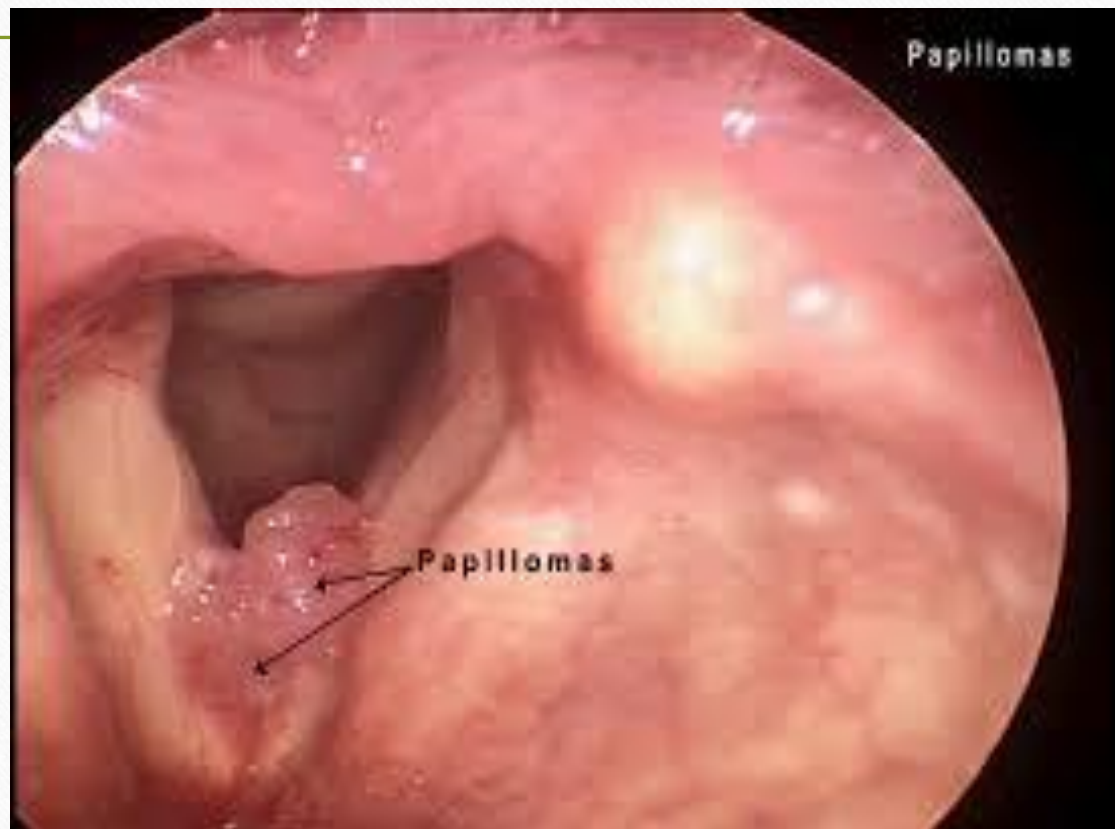
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- A 10 Y/O girl with CC extraction of fresh blood since 2 month ago
 - Endoscopy : Normal
 - CXR and Chest CT: Normal



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- Laryngeal papillomatosis (LP), also known as recurrent respiratory papillomatosis (RRP), is the most common benign mesenchymal neoplasm of the larynx in children
 - The virus that has been associated with LP is the human papilloma virus (HPV) **HPV 6 and HPV 11**
 - **vertical transmission** during childbirth.

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- The flexible fiberoptic nasopharyngoscope provides a precise preoperative diagnosis and the ability to rule out some differential diagnoses. Laryngeal papilloma is observed as pinkish to white “grape-like” projections





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- The definitive diagnosis of laryngeal papilloma is a **biopsy** of the lesion with HPV typing. The malignant transformation of laryngeal papilloma into squamous cell carcinoma can occur in up **to 1% to 4%** of the cases and depends mostly on the HPV typing and is more common in adults. Even though low-risk HPV 6 and 11 are most commonly related to the condition, high-risk HPV 16 and 18 can be present

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- Currently, there is **no “cure” for LP**. The standard of care consists of surgical removal of the papillomas with preservation of normal mucosa
 - Most laryngeal papillomas are easily displaced and manipulated since they do not invade deep tissues. Tracheostomy should be avoided unless completely necessary to secure the airway since it creates a transition zone and predisposes further spread of the disease.

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- Clinicians should be prudent to accept some residual papillomas rather than damage normal tissue since adjacent tissue may have latent virus not clinically visible. Suspension microlaryngoscopy **with laser removal is** the gold standard, preferably with a CO2 laser (10,600 nm)

Adjuvant Therapy

- The options include the use of **cidofovir, photodynamic therapy, bevacizumab, interferon, indole-3 carbinol, and proton pump inhibitors.**
- Bevacizumab works by blocking a protein called VEGF, which some cancer cells produce in large amounts. Blocking VEGF may prevent the growth of new blood vessels that tumors need to grow. Bevacizumab is a type of targeted therapy called an angiogenesis inhibitor

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- The HPV vaccine, which has been historically used to prevent cervical cancer and genital warts associated with HPV 6, 11, 16, and 18, has been approved for recurrent respiratory papillomatosis. The CDC has recommended that all boys and girls between the ages of **11 to 26 years be vaccinated**.