



Communication Disorders

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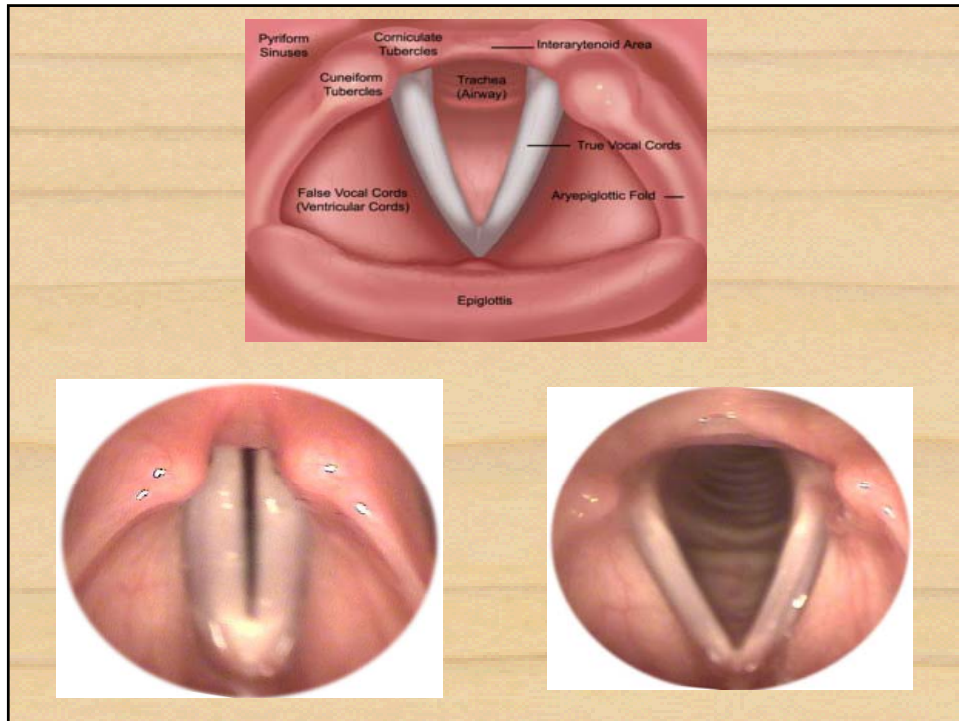
Communication Disorders

Voice Disorders

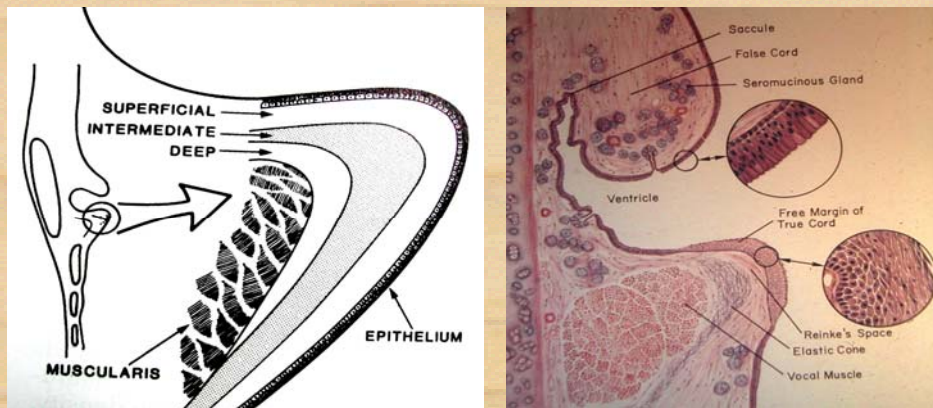
Speech Disorders

Language Disorders

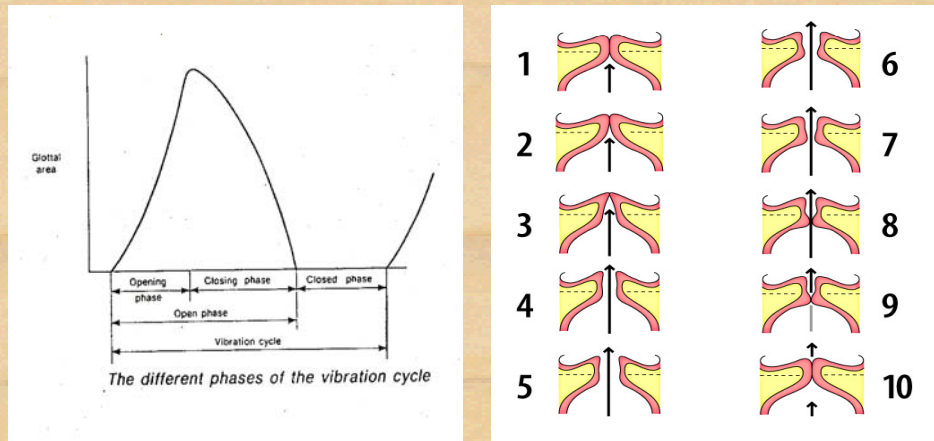
Voice Disorders



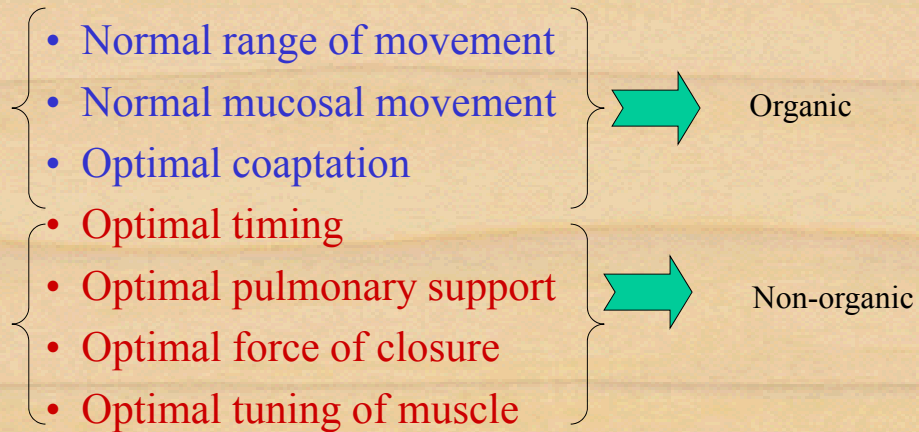
- Vocal folds structure.



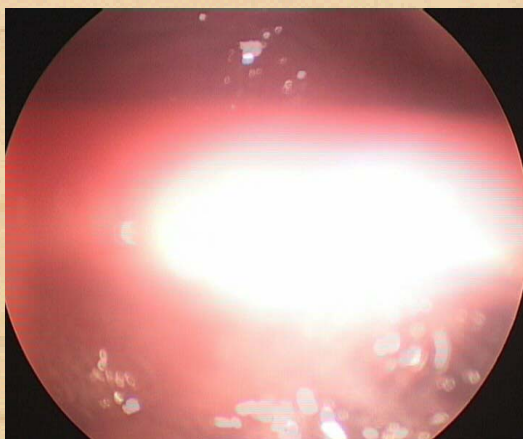
- Aerodynamic myoelastic mechanism.



Prerequisites of normal voice production



Normal larynx



Classification of voice disorders

- Organic voice disorders
- Functional (non-organic)
- Minimal Associated Pathological Lesions

I- Organic voice disorders

1- Congenital malformations:

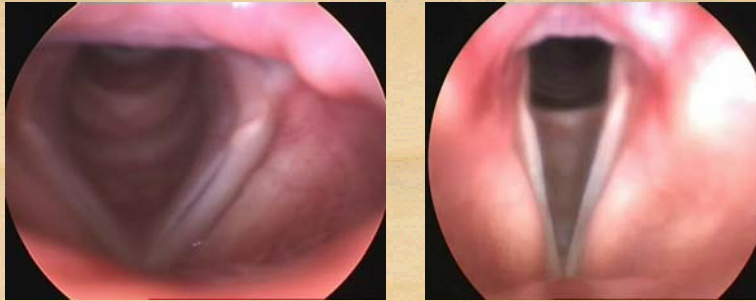
- a- Sulcus vocalis
- b- Congenital laryngeal web
- c- Congenital laryngeal stenosis (laryngomalacia)
- d- Congenital laryngeal cysts or laryngoceles
- e- Crit du chat syndrome

Organic congenital voice disorders

Sulcus glottideus:

- Furrow along the edge of the membranous vocal fold.
- Dysphonia starts at adulthood.
- High pitched, breathy, decrease voice range, voice break and diplophonia.
- Males >females
- Examination:
 - Bilateral
 - Furrow
 - Bowing
- Treatment:
 - Slicing mucosa technique
 - Vocal fold injection
 - Voice therapy

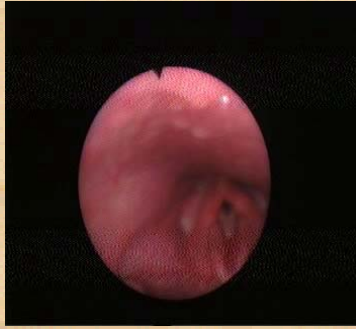
Sulcus glottideus



Congenital laryngeal web

- Incomplete recanalization of the glottis results in adhesion of the anterior 2/3 of the glottis.
- Types:
 - Glottic
 - Supraglottic
 - Infraglottic
- The severity of symptoms depend on the degree of glottic closure
- Examination:
 - A web that partially occludes the glottis, with varies thickness.
- Treatment:
 - Tracheotomy
 - Excision

Congenital laryngeal web



Congenital laryngeal cysts

1. **Congenital saccular cyst**
 - obstruction of the laryngeal saccule orifice
 - Anterior and lateral saccular cysts.
2. **Laryngocele:**
 - Air filled dilatation or herniation of the saccule of the laryngeal ventricles.
 - Internal laryngocele
 - External laryngocele
 - Combined
3. **Congenital vocal fold cyst**



Figure 1. View of the larynx during inspiration. We can observe the abduction flap at the same level as the opposite vocal fold.

Congenital laryngomalacia:

- Abnormal flaccidity of the supraglottic laryngeal tissue
- Clinical Picture:
 - Stridor improve in prone position
 - Feeding difficulty
- Examination:
 - Omega shaped epiglottic
 - Approximated aryepiglottic folds
 - Redundant mucosa over arytenoid cartilages and aryepiglottic ligament
- Management:
 - Parent reassurance
 - Tracheotomy
 - Endoscopic surgery



Congenital subglottic stenosis

- Subglottic lumen 4.0 mm in diameter or less at the level of the cricoid.
- Incomplete recanalization of the laryngotracheal tube during the third month of gestation.
- Pathological types:
 - Granulomatous
 - Fibrous
 - Calcified
 - cartilaginous
- Symptoms:
 - Biphasic stridor (+/- respiratory distress)



Cri du chat syndrome:

- Partial deletion of short arm of chromosome 5.
- Distinctive high pitched cat cry
- MR, Microcephaly, slanting palpebral fissure, congenital heart disease, DLD....



Acquired organic voice disorders

- **Traumatic:**
 - Mechanical trauma (Blunt, sharp, cut wounds and stabs)
 - Physical trauma (Thermal, Chemical, Irradiation)
- **Inflammatory:**
 - Acute laryngitis
 - Chronic laryngitis (Specific, Non specific)

Laryngoscleroma

- Klebsiella rhinoscleromatis
- Subglottic



- **Laryngeal tumors:**
 - Benign
 - Dysplasia
 - Malignant



Laryngeal tumors



Neurological disorders

Motor disorders:

- Upper motor neuron lesions
- Lower Motor Neuron lesions:
 - Brainstem nuclei
 - Peripheral laryngeal nerves
 - Neuromuscular junction
 - Laryngeal muscles

Sensory disorders

- Anesthesia: superior laryngeal nerve lesion
- Hyper and parasthesia

Vocal fold immobility

- Neurologic or paralytic
- Mechanical:
 - Ankylosis of cricoarytenoid joint,
 - Dislocation of the joint.



Endocrinopathies

- Thyroid gland dysfunction
- Pituitary gland dysfunction
- Gonadal dysfunction
- Virulizing anabolic drugs
- Premenstrual changes

Connective tissue disease

- Rheumatoid arthritis
- Systemic lupus erythromatosis
- Systemic sclerosis



Figure 2. Bamboo nodule on the middle third of the right vocal fold (Arrow).



II- Functional Voice Disorders

Habitual voice disorder

Hyperfunctional childhood dysphonia

Mutational voice disorder

Hyperfunctional

Hypofunctional

Phonasthenia

Ventricular dysphonia

Psychogenic voice disorder

Psychogenic dysphonia

Psychogenic aphonia

II- Functional Voice Disorders

Mutational voice disorder:

- Failure of change of high pitched to low pitched voice.
- Puberty
- Elevated larynx
- Treatment:
 - Reassurance
 - Voice therapy

II- Functional Voice Disorders

Hyperfunctional dysphonia:

- Strained leaky voice
- Vocal fold hyperaemic, swollen
- Phonatory waste
- Ventricular hypertrophy
- Treatment: Voice therapy

II- Functional Voice Disorders

Hypofunctional dysphonia:

- Results from longstanding laryngeal dysphonia
- Weak breathy voice
- Incomplete glottal closure
- Treatment: Voice therapy

II- Functional Voice Disorders

Phonasthenia:

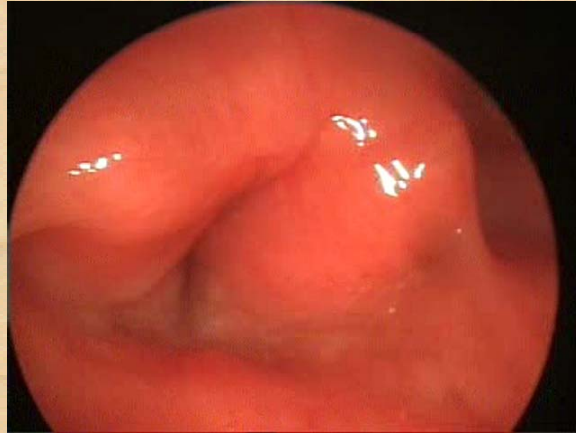
- Symptoms of phonasthenia
- Absent in the morning increase during the day
- No change of voice
- Increased vascular marking
- May be associated with other functional lesions
- Treatment: voice therapy

II- Functional Voice Disorders

Ventricular dysphonia:

- Hypertrophic and hyperactive ventricular folds
- Secondary compensatory hypertrophy
- Irregular strained leaky low pitched voice
- Red injected hypertrophic ventricular bands
- Treatment:
 - Voice therapy
 - Excision or trimming of ventricular folds

Ventricular dysphonia



Psychogenic voice disorders

- Aphonia
- Dysphonia
- Associated with psychiatric diseases

III- MAPLs

- 1- VF polyp
- 2- VF cyst
- 3- VF nodules
- 4- Reinke's edema and polypoidal degeneration
- 5- Contact granuloma

Common features:

- 1- Common predisposing factors
- 2- Related histopathological features:
non-neoplastic & non-inflammatory
- 3- Similar presenting symptom
- 4- Relative similar lines of management
- 5- Common favorable prognosis

Vocal fold polyp

- Swelling in the membranous VF
- Acute vocal abuse.
- More in males.
- Histopathological types:
 - Fibrous
 - Hyalinous
 - Telangiectatic
 - gelatinous

Vocal fold polyp



Male – 44 years



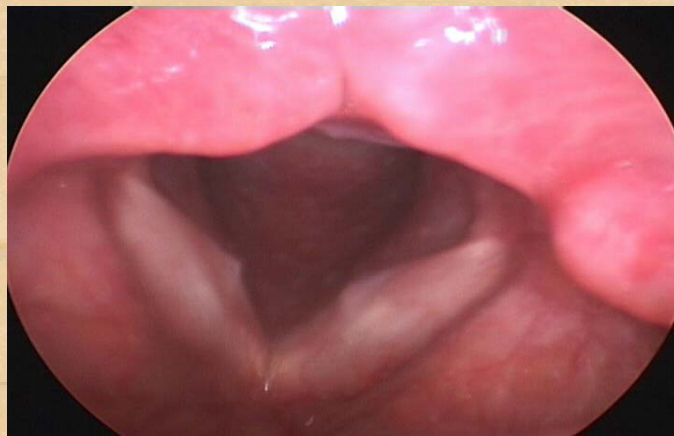
Vocal fold nodules

- Small, bilateral symmetrical swellings
- Types:
 - Male Child type
Soft, more spindle shaped and extend over the entire length of the m. v.f.
 - Female Adult form.

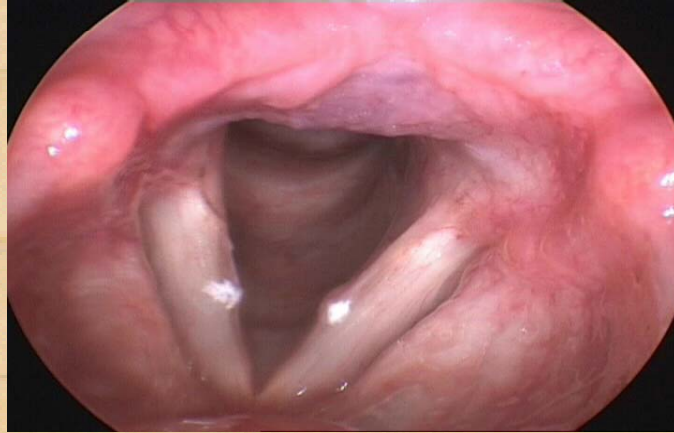
Vocal Fold Nodules



Female – 32 years



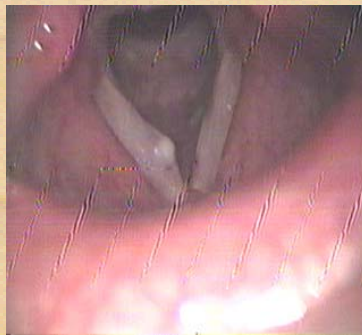
Female – 33 years



Vocal fold cyst

- Intra-folder cyst is unilateral or bilateral smooth swelling, on membranous VF. covering mucosa is normal.
- Types:
 - Epidermoid cyst : congenital or acquired.
 - Mucous retention cyst
- In all ages.

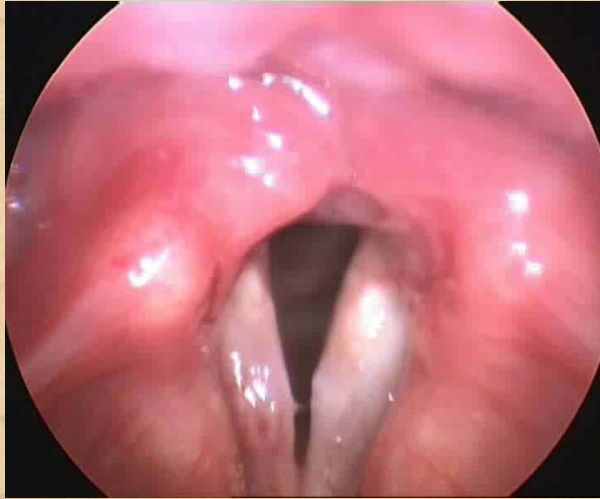
Vocal Fold Cyst



Female – 24 years



Female – 22 years



Reinke's edema & Polypoidal degeneration

- A boggy swelling of the membranous VF usually bilateral, with very mobile mucosa, dt accumulation of fluid in Reinke's space.
- Polypoidal degeneration is a later stage, swelling becomes lobulated and the mucosa becomes less translucent because of fibrotic changes.

Reinke's Edema



Male – 55 years



Contact granuloma

- Vocal process granuloma is a lobulated swelling on the vocal process.
- Unilateral or bilateral.
- More in males
- Superficial ulceration and focal granuloma occur between the vocal processes.

Intubation granuloma:

- Positive history of endotracheal intubation.
- Severity of IG depends upon the size of tube and time of intubation.
- Common in females.
- Sessile or pedunculated.
- Regress or spontaneously detach over few months.

Contact granuloma



Intubation Granuloma



Female – 33 years





Speech disorders

- Dyslalia
- Stuttering
- Dysarthria
- Nasality

Dyslalia

- Sigmatism: /s/, /z/
- Rotatism: /r/
- Lack of distinction between /t/, /d/ and /k/, /g/.
- Speech therapy.

Stuttering

- Disruption in the fluency of verbal expression.
- repetitions in the utterance of short elements (sounds, syllables and words of one syllable).
- Accompanied by accessory activities involving the speech apparatus, body structures or stereotyped speech utterances. (speech related struggle)
- The immediate cause is unknown and may be complex or compound

Dysarthria

A group resulting from disturbance of neuromuscular control over speech mechanisms

Types:

- Flaccid dysarthria (LMNL)
- Spastic dysarthria (Bilateral UMNL)
- Hypokinetic (Parkinson disease)
- Hyperkinetic (chorea, athetosis, dystonia)
- Ataxic (Cerebellar)
- Mixed dysarthria

Nasality

- Speech sounds are mostly oral sounds.
- Some speech sounds have to resonate in the nasal cavity /m/, /n/.

Types

- Hyponasality
- Hypernasality: Nasal tone of speech
Nasal emission
Consonants imprecision

Language Disorders

- Delayed language development
- Dyslexia
- Aphasia

Delayed Language Development

1. Hearing impairment:
2. Brain Damage:
 - Mental retardation
 - Brain damage motorly handicapped
 - Minimal brain damage
3. Psychiatric disorders
4. Environmental deprivation
5. Idiopathic

Dyslexia

- This is a type of learning disability involving impairment of reading, spelling and writing occurring in average intelligence child and in the absence of hearing, visual or neurological disorders.
- It is manifested by difficulty in learning to read despite the conventional instruction, adequate intelligence and socio-cultural opportunity.

Aphasia

- Def: Acquired impairment of language after its full acquisition
- Types -Receptive aphasia
 - Expressive aphasia
 - Mixed aphasia
- Etiology - Cerebrovascular strokes
 - Traumatic brain insult
 - Infectious processes
 - Neoplasm
 - Iatrogenic



Thank You