

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Trauma To The Larynx

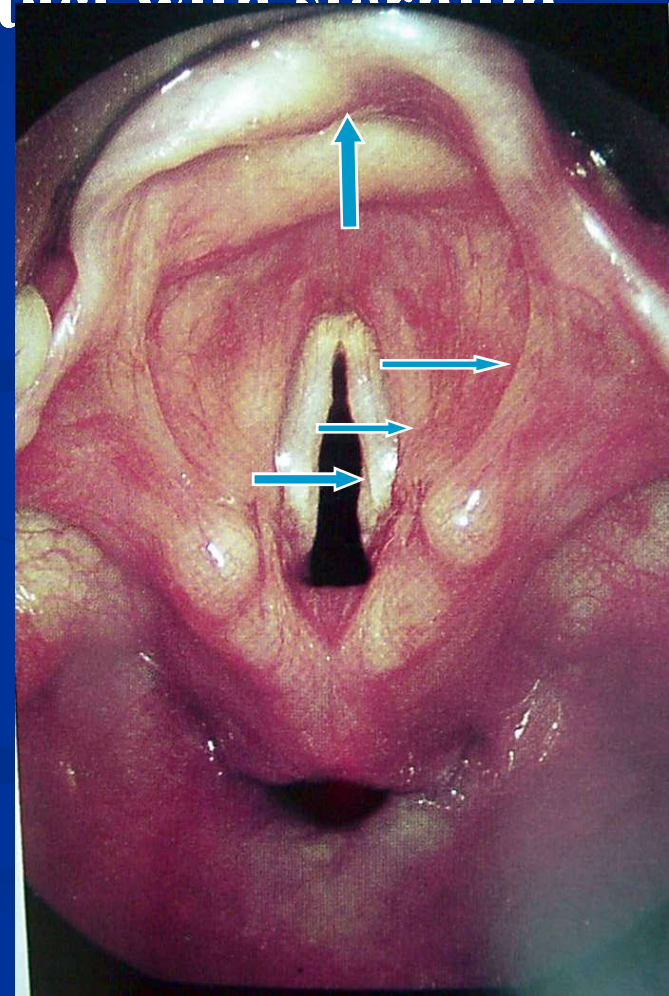
■ How the larynx is protected:

■ Against external trauma:

- ~ Flexion of the neck: chin in contact with sternum
- ~ Cervical spine posteriorly
- ~ Relative mobility
- ~ Elasticity of the larynx

■ Against internal trauma:

- ~ Reflex closure of the larynx during swallowing
- ~ Mechanical factors
- ~ Reflex apnoea



Trauma To The Larynx

I- External Trauma	II- Internal Trauma	
A- Blunt trauma B- Penetrating trauma	Iatrogenic	Accidental
	Intubation trauma Nasogastric tube injury High tracheostomy Cricothyroidotomy Irradiation injuries Lx surgical procedures	Mechanical: FB inhalation Chemical: corrosive swallow Thermal: Hot fumes Steam inhalation

I- External Laryngeal Trauma

■ Etiology:

A- Blunt trauma



1-Motor car accident



2-Strangulation

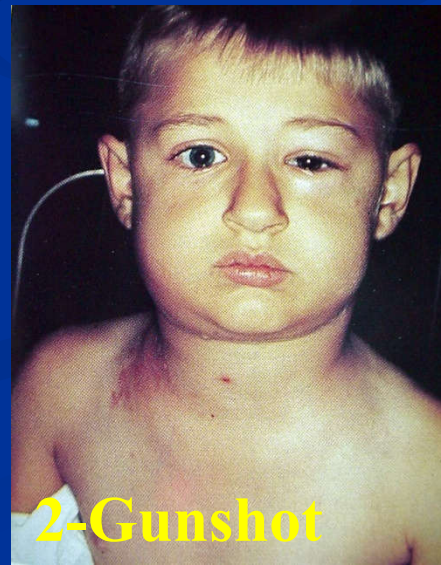
3-Clothesline injury

4-Sport injury

B- Penetrating trauma

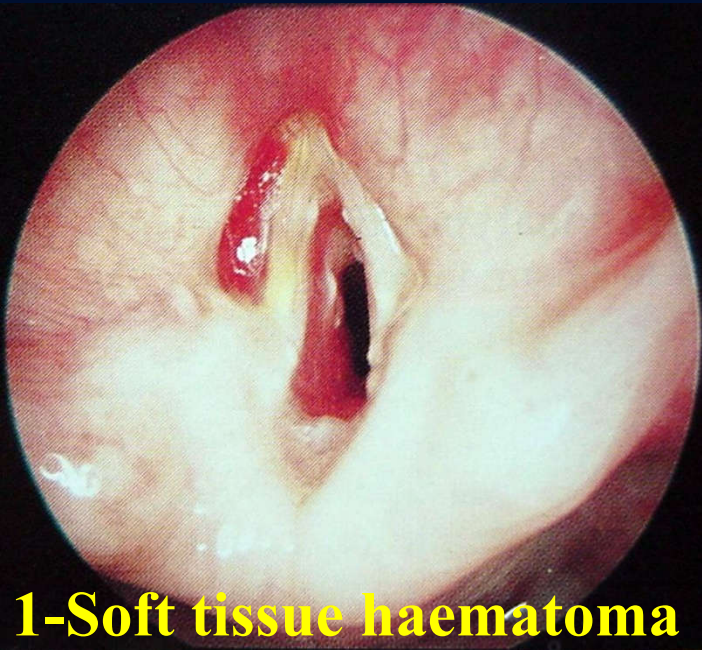


1-Knife injury

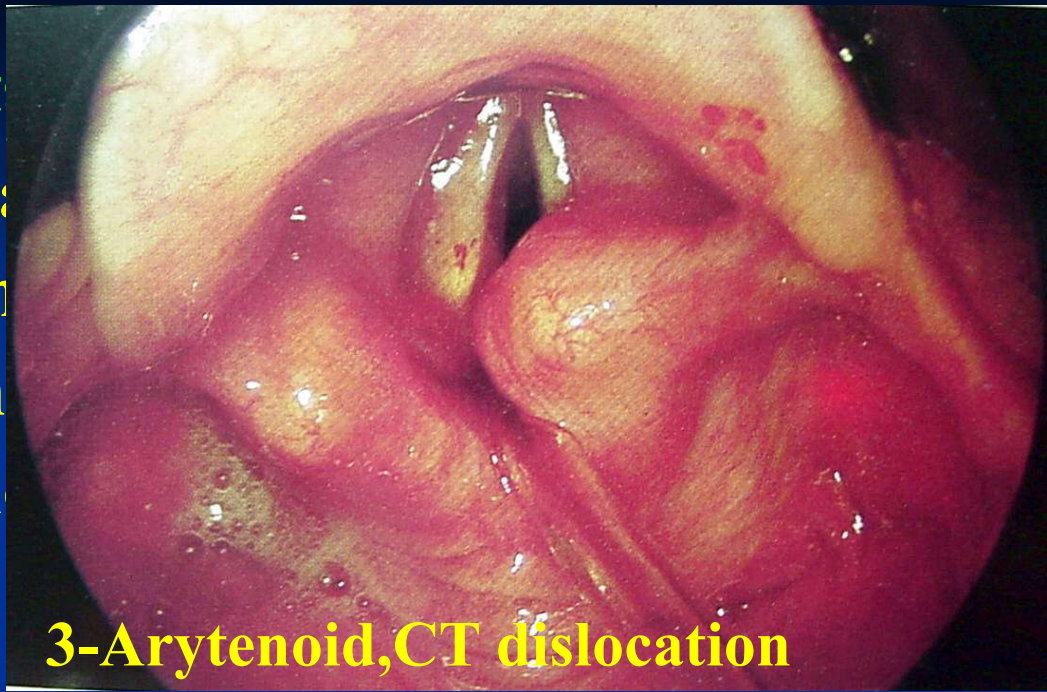


2-Gunshot

■ **Effects:**



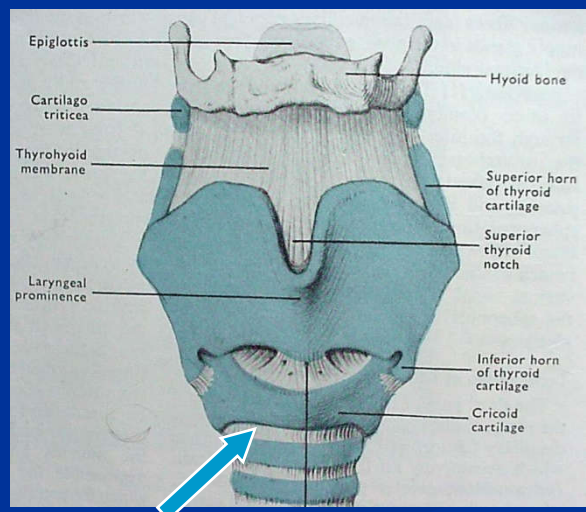
1-Soft tissue haematoma



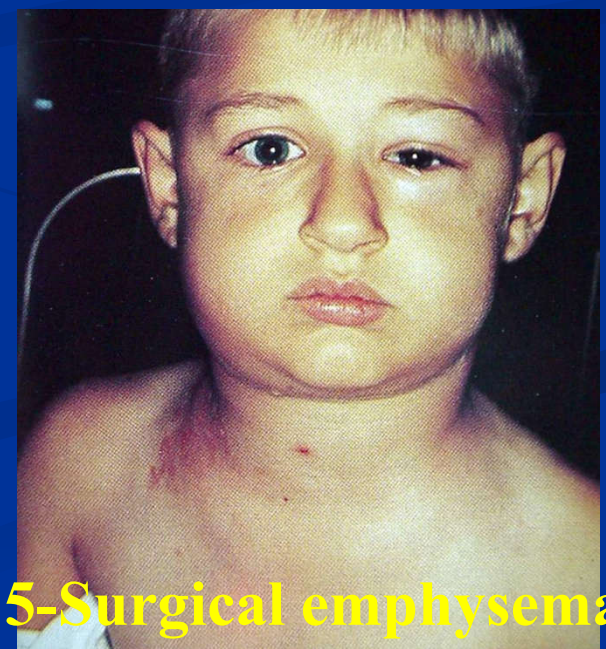
3-Arytenoid,CT dislocation



2-Cartilagenous fracture



4-Cricotracheal separation



5-Surgical emphysema

■ Clinical picture:

~Stridor

~Aspiration

~Dysphonia or aphonia

~Haemoptysis

■ Investigations:

~Radiologic evaluation

~Endoscopic examination

■ Treatment:

■ A: Airway:

~Secure the airway by emergency tracheostomy

~Airflow through a wound → don't disturb it

■ B: Breathing:

~Be sure that the patient is breathing

■ C: Circulation:

~Maintain the circulation by:

.Arrest of bleeding .Anti-shock measures

■ E: Exclude:

~Exclude other system organ injuries.

■ S: Surgical:

~Surgical treatment of Lx injury if severe

IIA- Iatrogenic Trauma

(1) Intubation Trauma

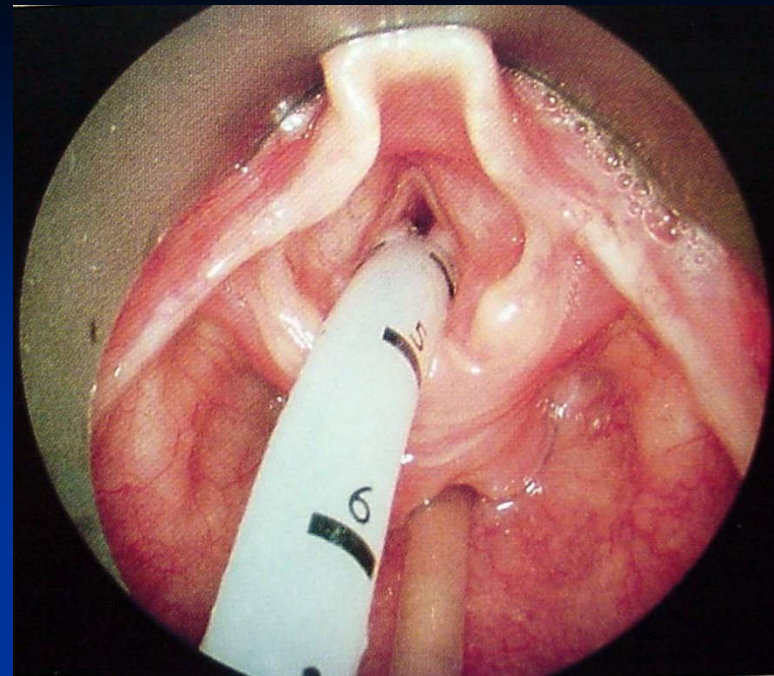
■ Etiology:

- Prolonged intubation
- Difficult intubation
- Emergency intubation
- Especially with:

-Oversized tube

-Cuffed tube

-Associated Ryle's tube

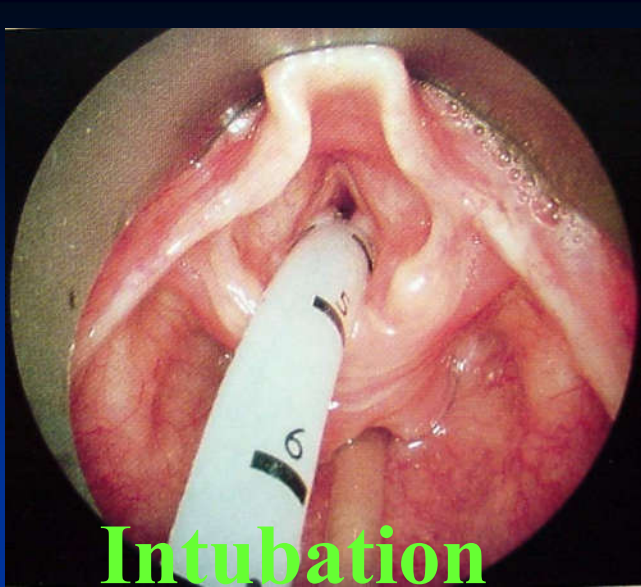


■ Site: Most commonly in:

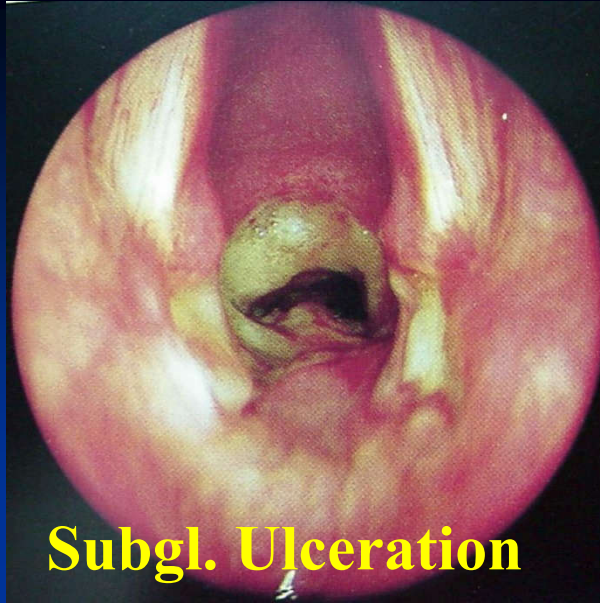
~Posterior glottis ~Subglottis ~Site of cuff, tip

■ Pathogenesis:

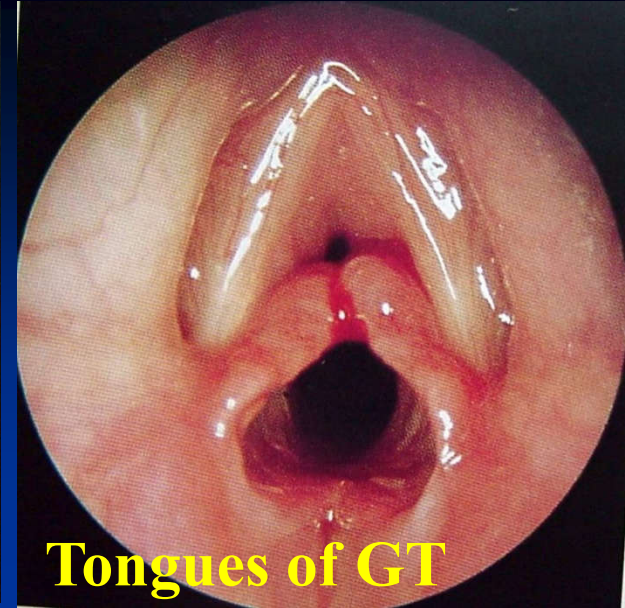
~Pressure necrosis → mucosal ulcerations → GT formation → healed by fibrosis → stenosis



Intubation



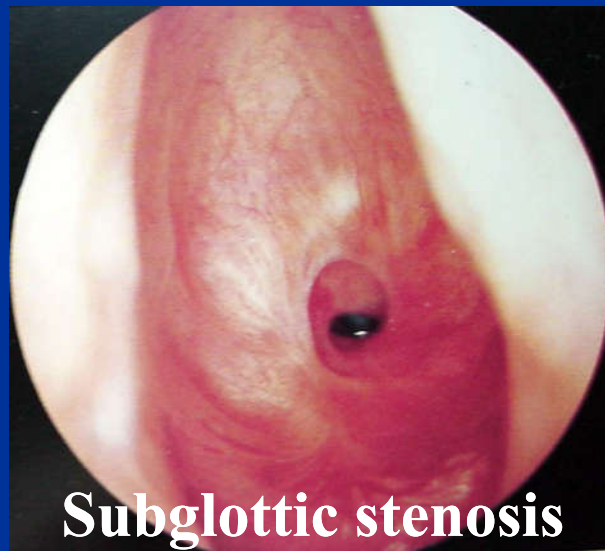
Subgl. Ulceration



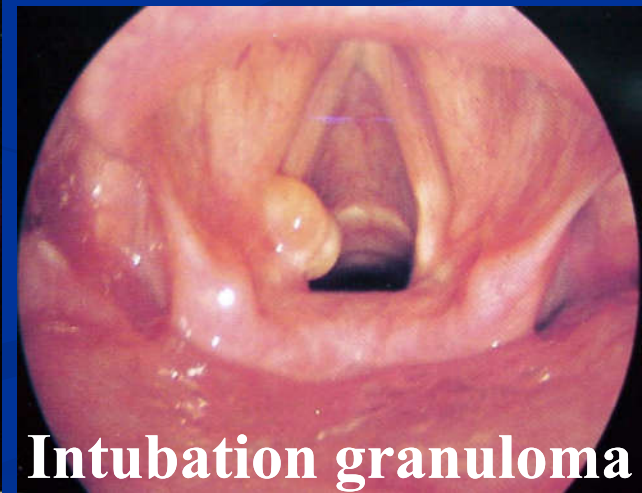
Tongues of GT



Post glottic stenosis



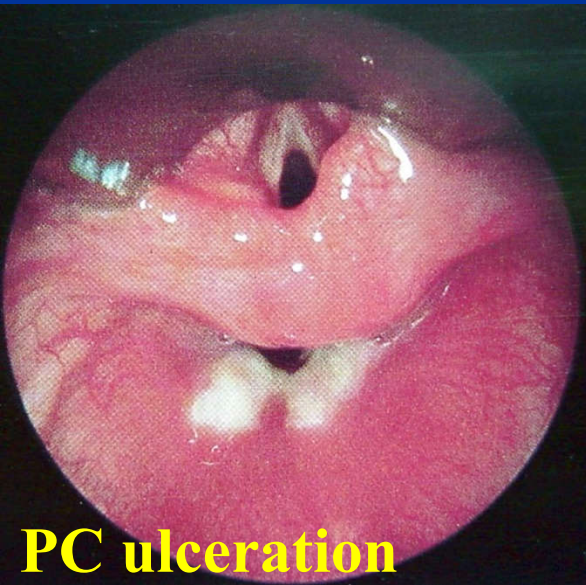
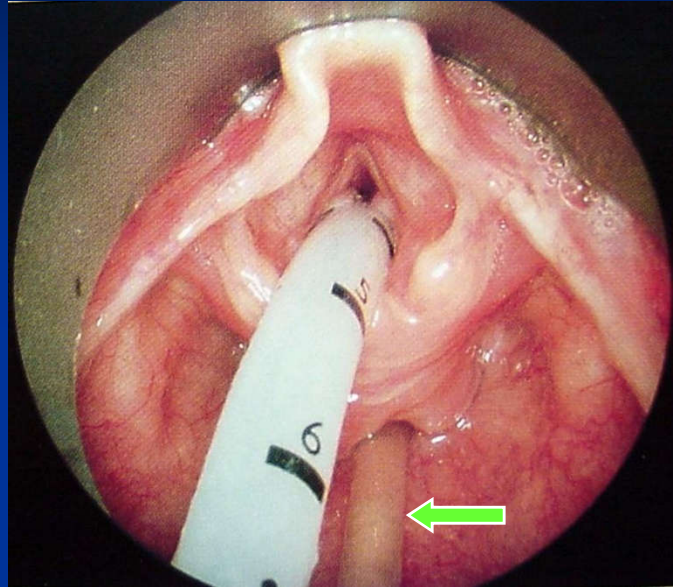
Subglottic stenosis



Intubation granuloma

(2) Nasogastric (Ryle) Tube Injuries

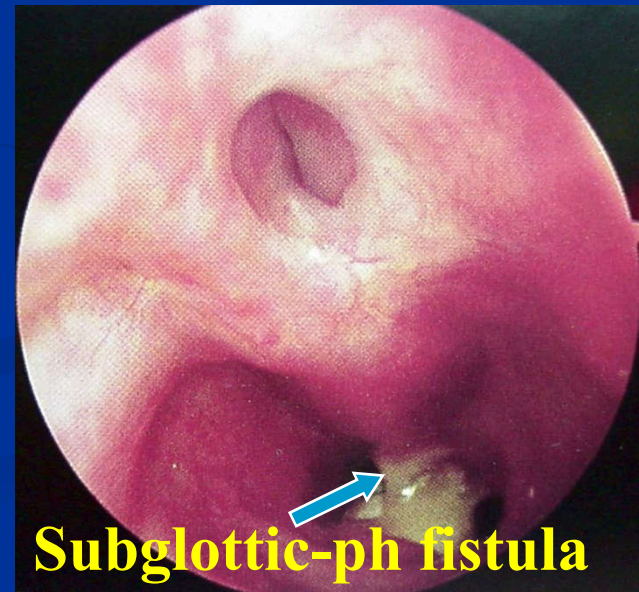
- **Etiology:** Due to pressure by Ryle's tube on postcricoid mucosa.
- **Can end in:**



PC ulceration

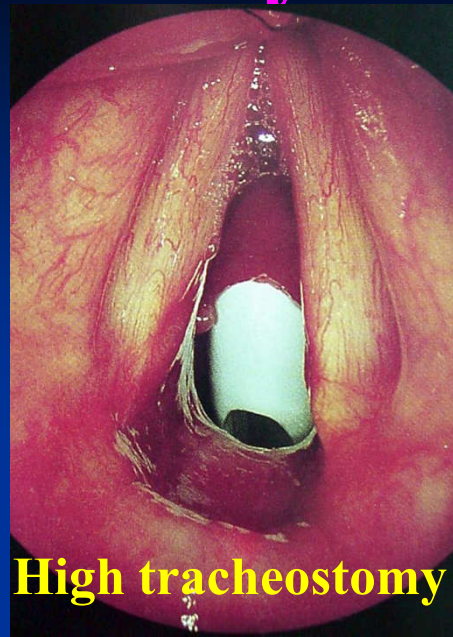


Subglottic stenosis

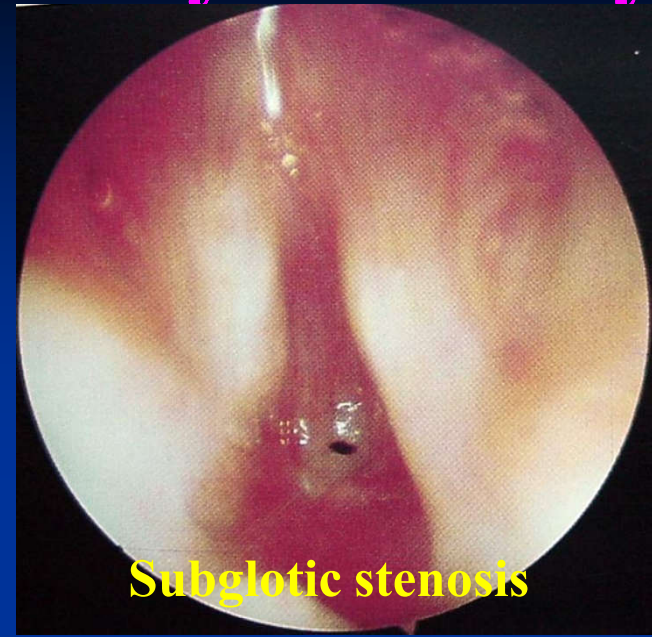


Subglottic-ph fistula

(3) High Tracheostomy & Cricothyroidotomy



High tracheostomy



Subglottic stenosis

■ Etiology:

~Friction by tracheostomy tube → perichondritis → chondral necrosis → healing by fibrosis → subglottic stenosis

■ Clinical picture:

~Failed decanulation

~Subglottic GT, stenosis.

■ Prevention:

~if done, remove the tube and replace it by a tube at lower level.

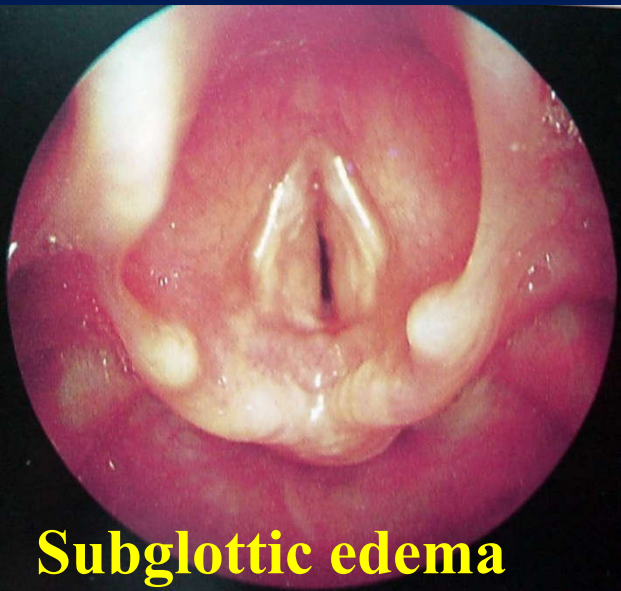
■ Treatment:

~Reinsertion of tracheostomy

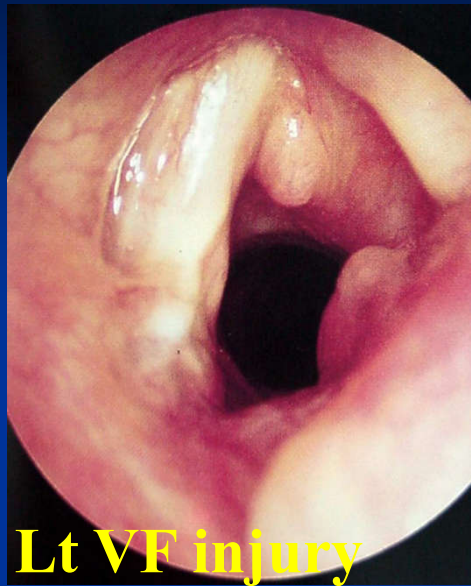
~Surgical treatment of stenosis

(4) Laryngeal Surgical Procedures

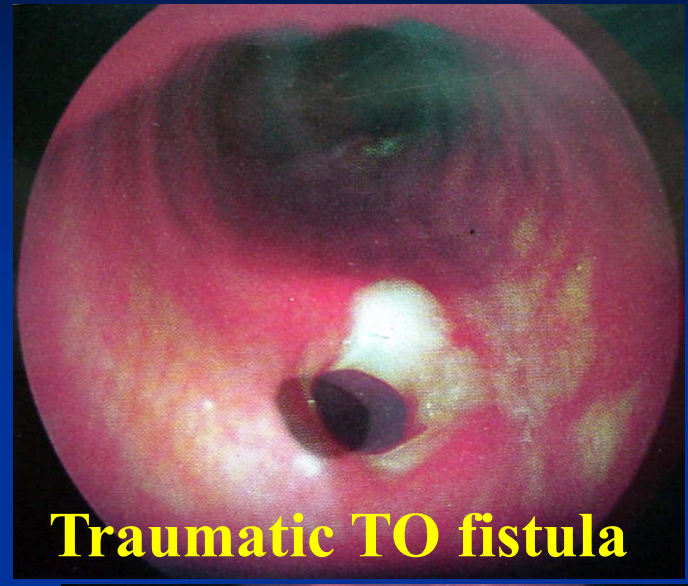
1-Clumsy instrumentation leading to:



Subglottic edema

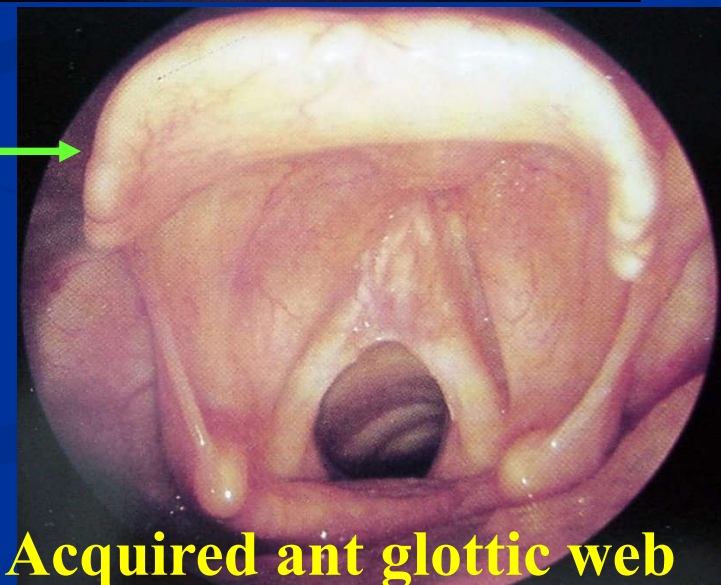


Lt VF injury



Traumatic TO fistula

2-Removal of pathology involving AC leading to:



Acquired ant glottic web

3-Laryngofissure, partial laryngectomy

(5) Irradiation Injury Of The Larynx

■ Can lead to:

- ~ Mucositis
- ~ Laryngeal edema
- ~ Perichondritis and chondral necrosis



Post-irradiation Perichondritis

الحمد لله رب العالمين



- أثبت العلماء أن أرضنا الإبتدائية غمرت بالماء غمراً كاملاً فى بدء خلقها و لم يبق ظاهراً منها شئ من اليابسة
- ثم انفجر قاع المحيط بثورة بركانية عنيفة ظلت تلقى بالحمم التى تراكمت و كونت جزيرة بركانية أولية
- نمت هذه الجزيرة البركانية بواسطة الثورات البركانية المتلاحقة حتى كونت القارة الأم (قارة بانجيا)
- تمزقت هذه القارة بواسطة شبكة من الصدوع و الخسوف الأرضية إلى القارات الحالية و التى ظلت تتباعد حتى وصلت إلى أوضاعها الحالية

قال رسول الله صلى الله عليه و سلم:

“ كانت الكعبة خشعة على الماء فدحيت منها الأرض ”

خشعة: أكمة لاطئة بالأرض

