

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



# FOREIGN BODY INHALATION

By

Ramadan Hashem Sayed

ENT Professor

Sohag Faculty Of Medicine

- **Definition: Entry of FB into the airway**
- **Protective mechanisms against FB inhalation:**

**1-Reflex closure  
of the larynx**

- 3 tire closure:**
- 1-Vocal folds
  - 2-Vestibular folds
  - 3-Aryepiglottic folds

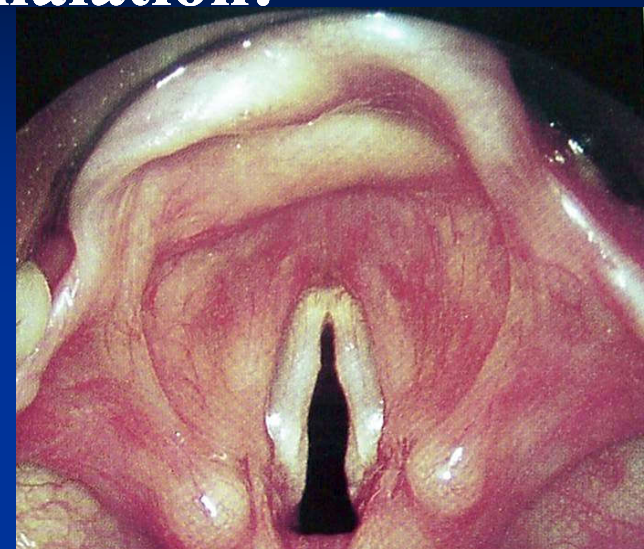
**2-Mechanical  
factors**

- 1-Epiglottis**
- 2-Larynx
  - 3-Base of tongue

**3-Reflex apnoea**

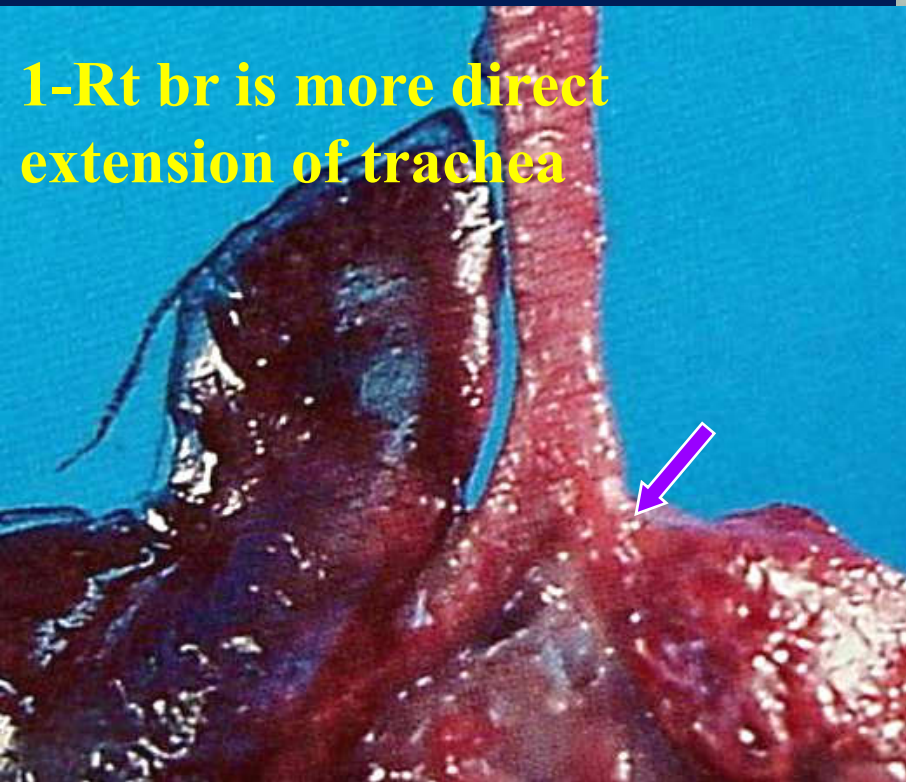
■ **Incidence:**  
**4-Reflex cough**

~Age: Most commonly  
~Sex: ♂ > ♀

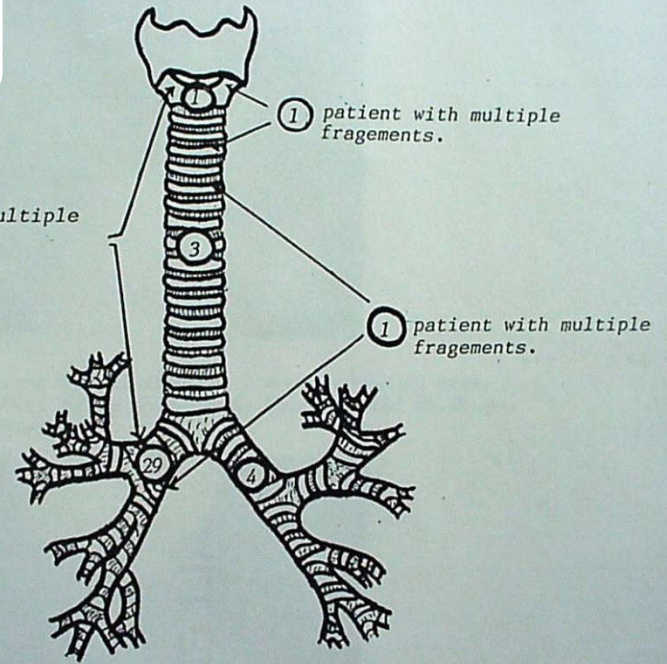


~Site: Rt bronchus > Lt bronchus

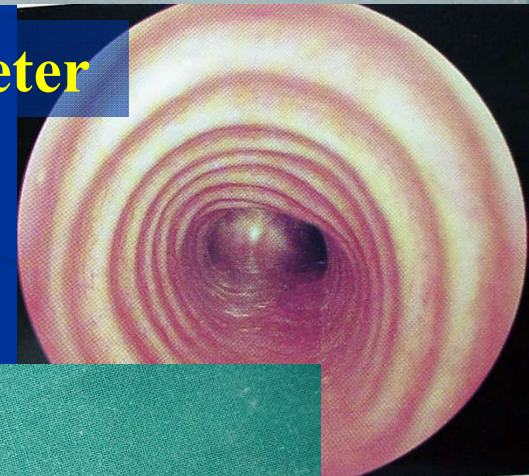
1-Rt br is more direct extension of trachea



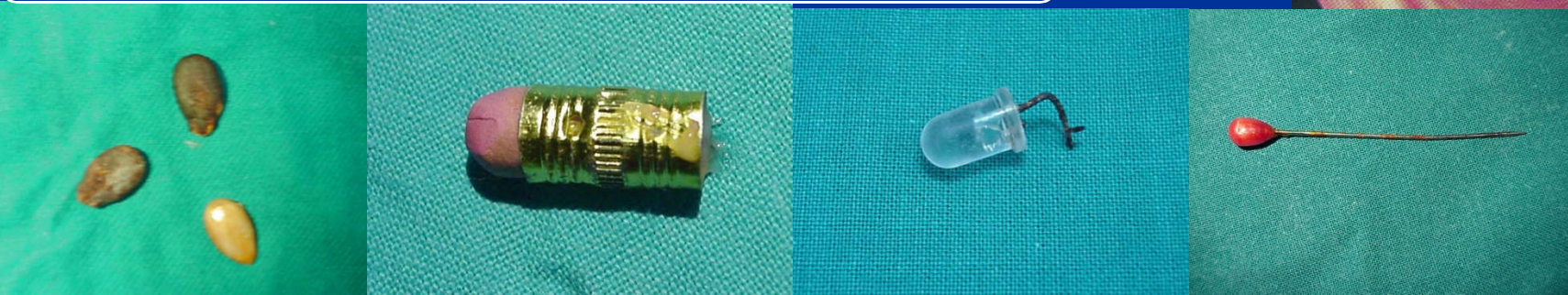
① patient with multiple fragments.



2-larger in diameter



~Type: Anything put in mouth



# **Clinical Picture**

## **1- Early Period**

**Sudden episode of:**

- Severe cough**
- Choking**
- Gagging**
- Cyanosis**

**May last for 30 minutes**

## **2- Latent Period**

**Relatively free of symptoms and  
diagnosis may be missed**

## **3- Manifest stage**

**Depends on:**

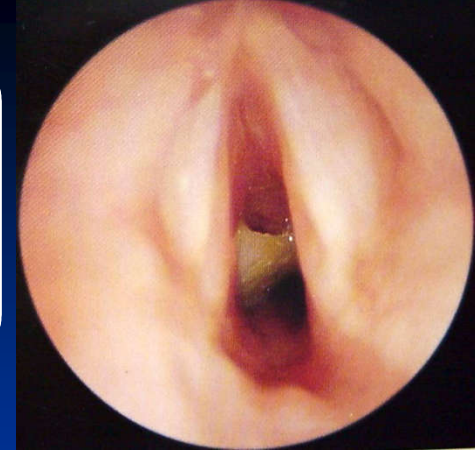
- Size**
- Type**
- Site**
- Duration of FB**
- Size of child**

**Manifest stage**

**Laryngeal FB**

**.Very rare**

**.Can→ Suffocation  
and death**



**Tracheal FB**

**-Large: may→ .rapid  
suffocation and death**

**-Smaller FB→**

**.biphasic stridor**

**.audible slap**

**.generally ↓ air entry**

**Bronchial FB**

**Valve effect**

**Inflam. reaction  
especially with  
vegetable FB**

**Bypass Valve**

**Stop Valve**

**One-way Valve**

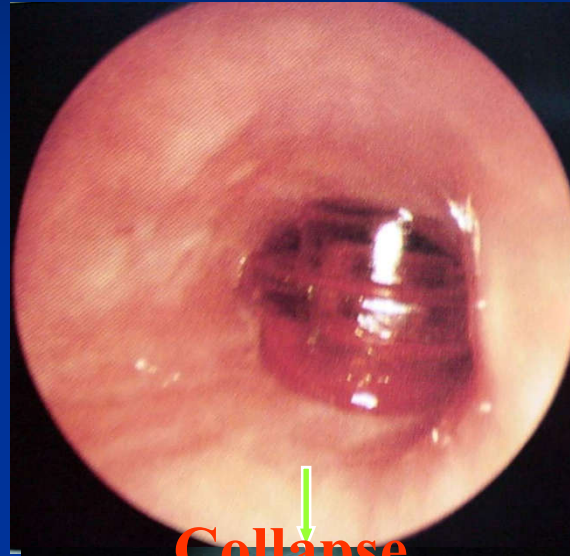
## Valve effect

### Bypass Valve

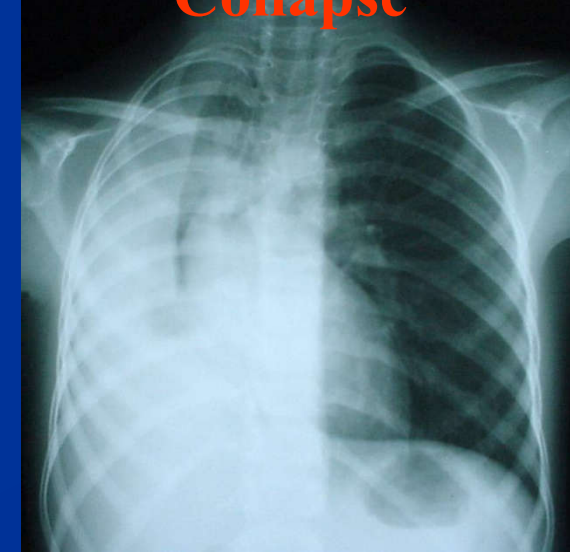


↓ air entry

### Stop Valve

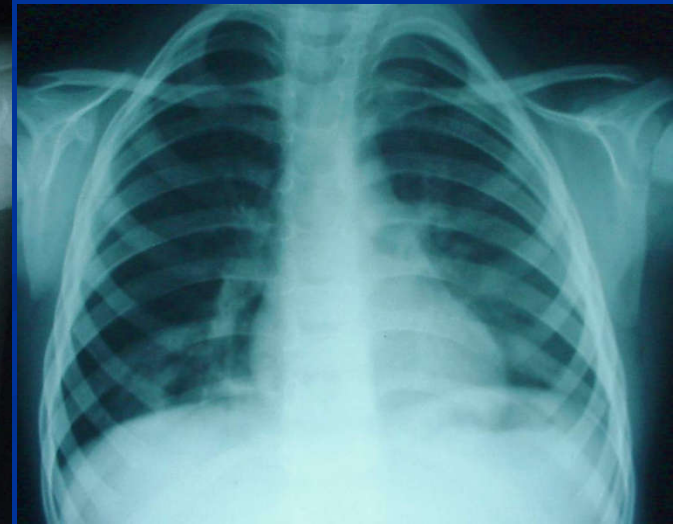


Collapse



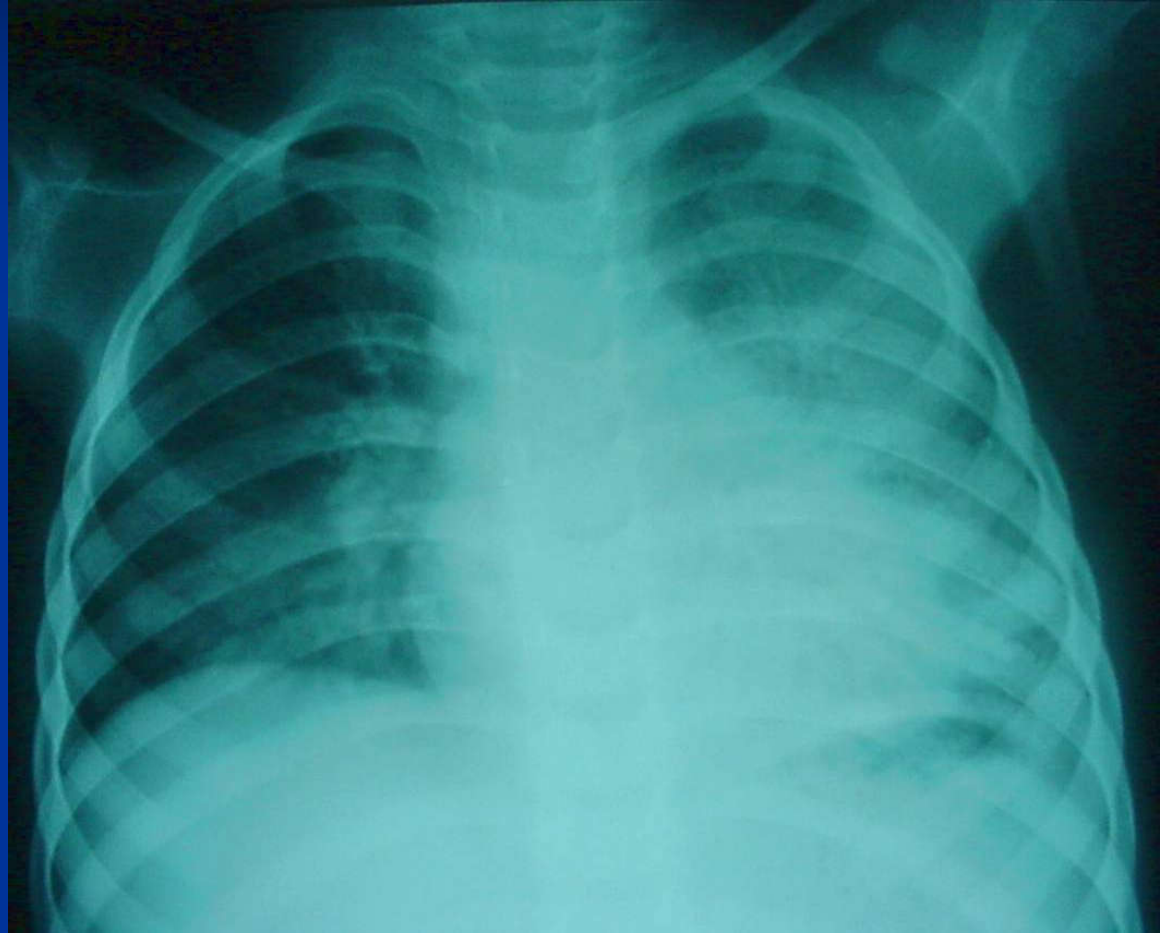
### One-way Valve

Obstructive  
Emphysema



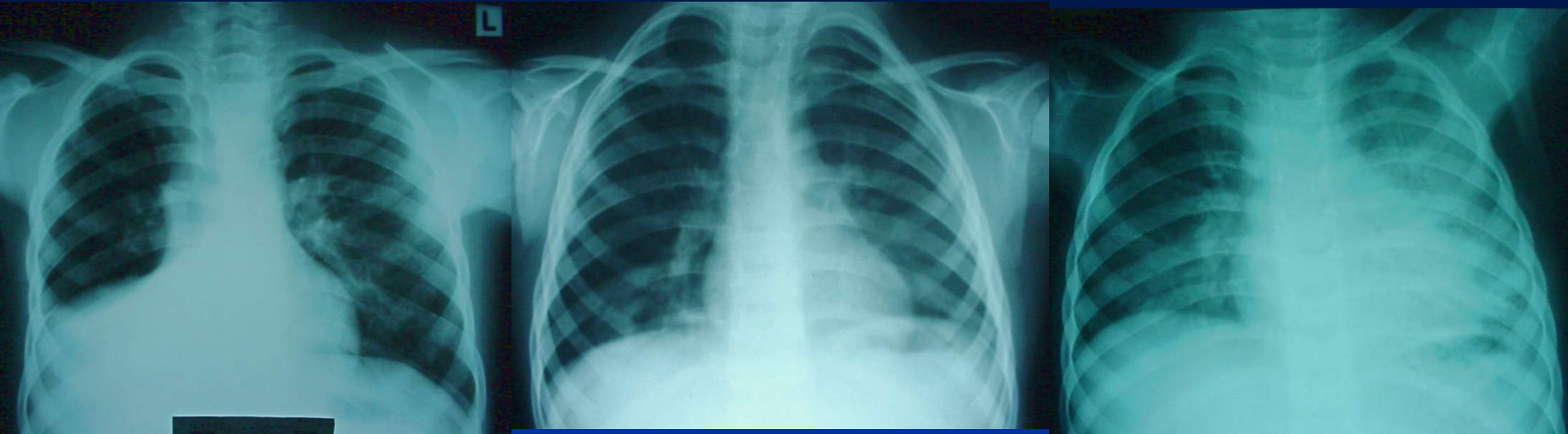
# Inflammatory reaction

- **Bronchopneumonia**
- **Pneumonia**
- **Bronchiectasis**
- **Lung abscess**



# Investigations

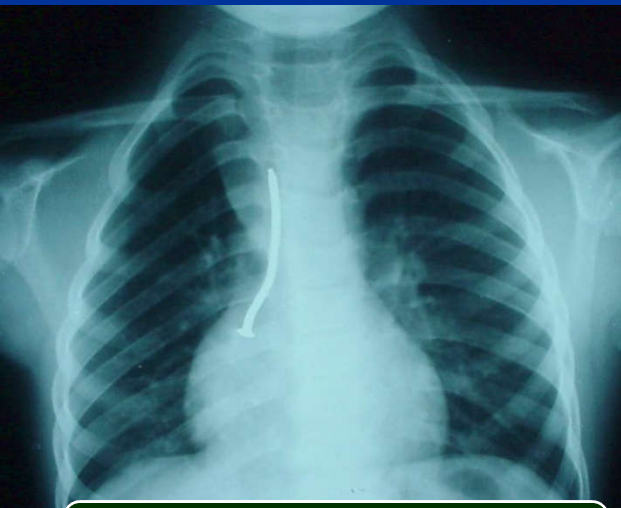
## 1- Chest X-ray



**Segmental collapse**

**Obstructive emphysema**

**Unresolved pneumon.**



**Radio-opaque FB**

**No abnormal findings**

## 2- Bronchoscopy

# Diagnosis

**Diagnosis of FB inhalation may be missed if :**

**The early episode  
passed un-witnessed**

**Latent period with  
relatively no symptoms**

# **Diagnosis of FB inhalation should be suspected & Bronchoscopy must be done in the following cases:**

## **History of**

**Sudden episode of severe spasmodic cough, choking, gagging, cyanosis especially during eating, playing especially in children**

## **Clinical finding of**

- Unilateral rhonchi**
- Unilateral ↓ breath sound**
- Obstructive emphysema**
- Persistent atelectasis**
- Unresolved pneumonia**
- Inexplicable wheeze**

# Treatment

**Bronchoscopic  
Removal**

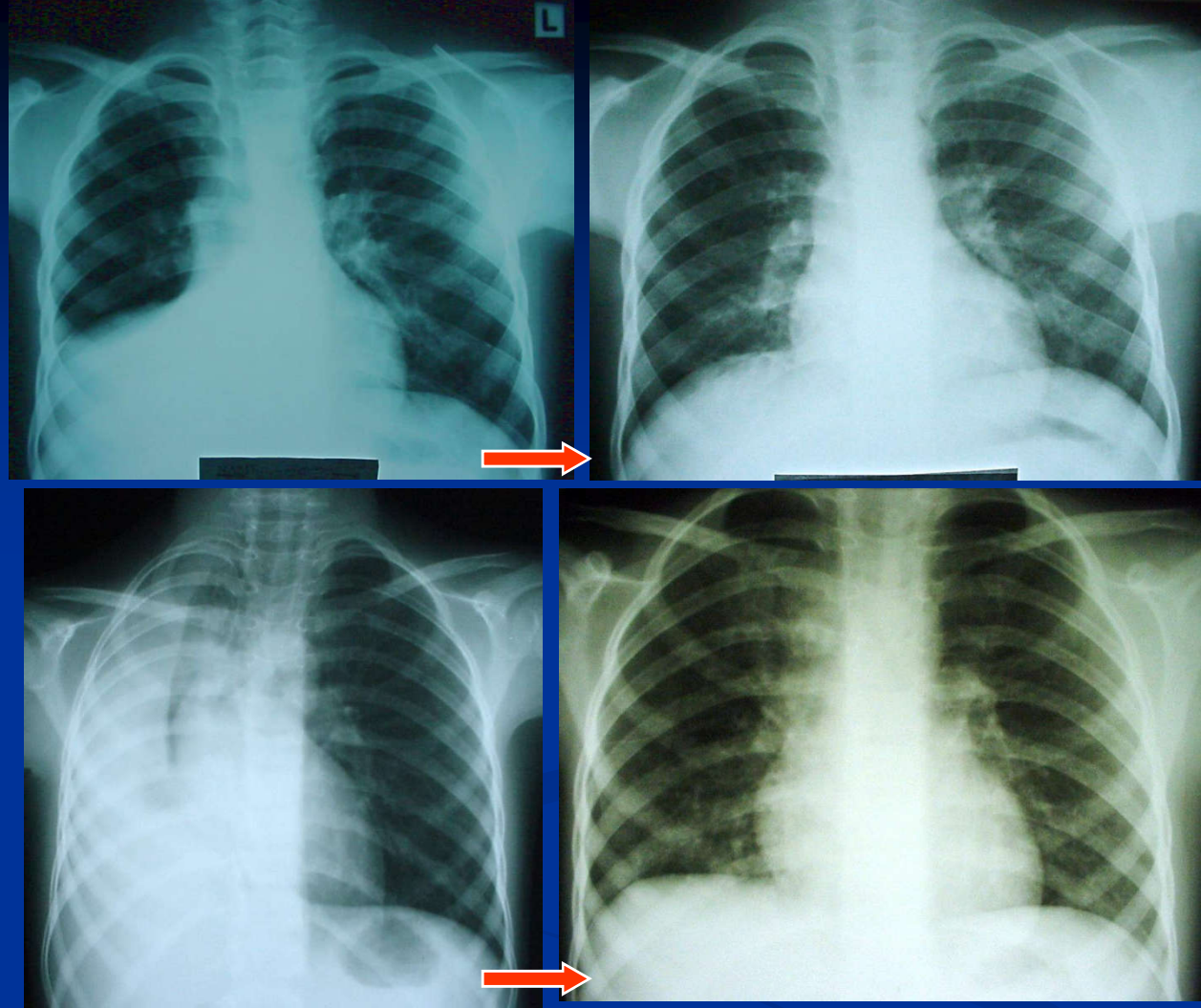


**Tracheostomy**

→ Severe airway obstruction  
→ Bronchoscopy through tracheostomy

**Thoracotomy**

→ If FB is impacted



# First Aid Measures

- **What is meant by 1<sup>st</sup> aid measures?**
  - **Measures done to save life, in life-threatening emergencies, where no trained medical personal or no medical equipment is available until definitive medical treatment can be accessed or until the illness or injury is fully dealt with.**
- **Examples of ENT emergencies need FAM?**
  - **FB inhalation**
  - **Airway obstruction by any mean (Cricothyrotomy)**
  - **Epistaxis**

# I- FB inhalation:-

## ■ When you suspect FB inhalation?

- FB airway obstruction should be considered in any victim who suddenly:
  - Stops breathing
  - Becomes cyanotic, or
  - Loses consciousness
  - for no apparent reason.
- The universal sign for choking is hands clutched to the throat. If the person doesn't give this signal, look for these indications:
- Inability to talk
- Difficulty breathing or noisy breathing
- Inability to cough forcefully
- Skin, lips and nails turning blue or dusky
- Loss of consciousness

# **What are the steps of 1st aid measures in FBI?**

## **A- In conscious victim:**

- **1- Call for help**
- **2- Perform the Heimlich maneuver with the victim standing:**
  - **Stand behind the victim, wrap your arms around the victim's waist, and proceed as follows:**
  - **Step 1: Make a fist with one hand.**
  - **Step 2: Place the thumb side of the fist against the victim's abdomen, in the midline slightly above the navel and well below the tip of the xiphoid process and the lower margins of the rib cage.**

- **Step 3: Grasp the fist with the other hand and press the fist into the victim's abdomen with a quick inwards and upwards thrust.**



HM3F0405

- **3- Check the**
- obstruction**
- **4- Attempt r**
- if obstruction**
- **5- Measures**

**ble FB: if**

**PR):** →

**ricothyrotomy)**

## **B- In unconscious patient**

- **1- Call for help, check breathing**
- **2- Blind finger sweeps of the upper airway**
- **3- Perform Heimlich maneuver with victim unconscious**
  - **Step 1: Place the victim in supine position**
  - **Step 2: Kneel astride the victim's thighs and place the heel of one hand against victim's abdomen, in midline slightly above navel and well below tip of xiphoid.**
  - **Step 3: Place the second hand directly on top of the first.**
  - **Step 4: Press into the abdomen with a quick upward thrust.**



**Thank You**



“ و الطور. و كتابٍ مسطور. فى رِقٍ منشور. و البيت المعمور.  
و السقف المرفوع. و البحر المسجور ”  
(الطور ١-)

قال رسول الله صلى الله عليه و سلم:  
“ لا يركب البحر إلا حاجٌ أو معتمر أو غازٍ فى سبيل الله فإن  
تحت البحر ناراً وتحت النار بحراً ”

■ تسجير قيعان كافة محيطات الأرض و قيعان بعض بحارها حيث تتعدى  
درجة الحرارة الألف درجة مئوية

■ تكون سلاسل من الجبال البركانية تمتد فى أواسط المحيطات

■ الصحارة الصخرية فى نطاق الضعف الأرضى تحوى كماً من  
الماء يفوق كل ما على سطح الأرض من ماء بعشرات الأضعاف

