

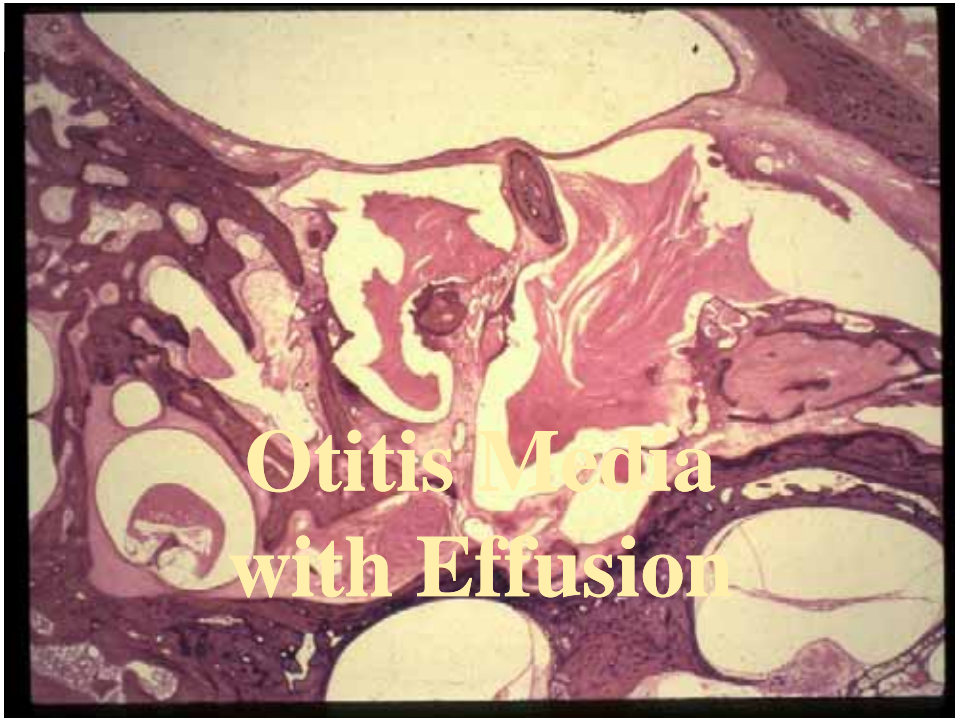
*Mokhtar Bassiouni*



Otitis Media

**Non-Suppurative  
Otitis Media**

- 1. Otitis Media with Effusion**
- 2. Adhesive Otitis Media**





Otitis Media

## Synonyms

- **Otitis media with effusion**
- **Secretory Otitis Media**
- **Glue Ear**
- **Serous Otitis Media**
- **Muroid Otitis Media**



Otitis Media

## Definition

**A clinically non-infectious non-suppurative form of fluid collection behind an intact TM.**

## Patho-physiology



Otitis Media

- Oxygen is constantly absorbed from the middle ear (one ml./day) by its mucosa → -ve P.
- The ET is closed most of the time. It opens periodically (1000 times /day) to equalize ME pressure.
- **Acute** ET obstruction → ME vacuum → vascular engorgement → transudation of serous fluid from subepithelial vessels → **Acute serous OM.**
- **Insidious** ET obstruction → increased CO<sub>2</sub> tension → glandular hypertrophy → production of viscid mucus → **chronic secretory OM.**
- **Post-otitis** → glandular hypertrophy → production of viscid mucus → **chronic secretory OM.**

## Etiology



Otitis Media

1. **Acute Eustachian tube obstruction (Causes: Barotrauma / Acute URTI / Severe hay fever)**
2. **Post-otitis (Unresolved acute otitis media due to inadequate therapy)**
3. **Eustachian tube dysfunction**

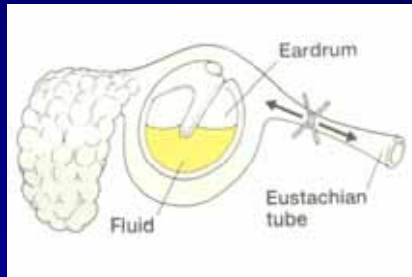
## Etiology



Otitis Media

### Causes of Eustachian tube obstruction / dysfunction

1. Functional obstruction
2. Secretional obstruction
3. Mechanical obstruction



## Etiology



Otitis Media

### Functional Obstruction

This type of obstruction is common in infants and younger children

1. **increased tubal compliance:** due to a decrease in the amount and stiffness of the cartilage supporting the ET.
2. **abnormal active opening mechanism:** due to age-related inefficient contraction of tensor palati muscle

## Etiology



Otitis Media

### Secretional Obstruction

1. Production of very viscid ME secretions, as to cause blockage of ET lumen e.g., **Mucoviscidosis/cystic fibrosis**
2. Defective mucociliary clearance of ME secretions: **Kartagener syndrome/primary cilia dyskinesia.**

## Etiology



Otitis Media

### Mechanical Obstruction

1. **Congenital e.g. Cleft palate**
2. **Acquired**
  1. Adenoids
  2. Allergy
  3. Inflammatory: e.g., Coryza (Rhinopharyngitis)
  4. Metabolic: myxoedema due to tubal oedema
  5. Neoplastic
    1. Benign e.g., angiofibroma
    2. Malignant, e.g., nasopharyngeal carcinoma
  6. Traumatic
    1. F.B. : post-nasal pack
    2. Physical trauma: Post-irradiation
    3. Surgical trauma: post-adenoidectomy scarring

## Clinical Types/Stages



Otitis Media

- **Acute /Serous**



- **Chronic/ mucoid (Secretory)**



## Symptoms



Otitis Media

- **Hearing loss**
- **A feeling of blockage**
- **Tinnitus**
- **Pain, in acute cases.**

# Otologic Examination



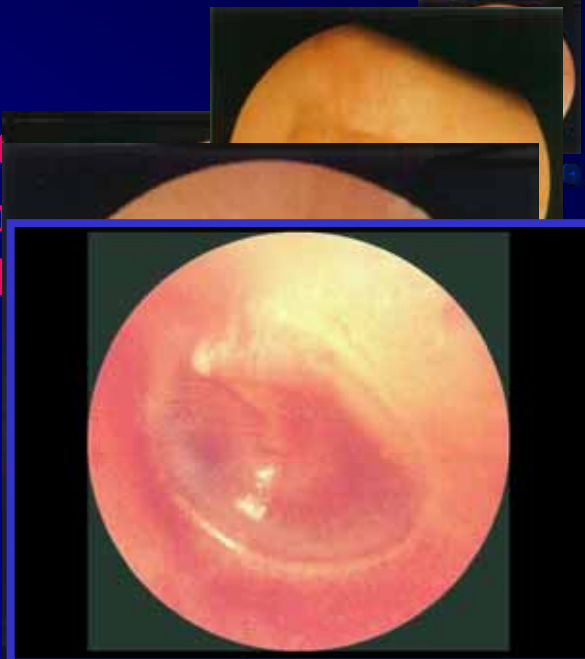
Otitis Media



Otoscopy

man  
M

- Air bubbles
- Air-fluid level /Hair-line
- Froth
- Opaque TM
- Retracted TM

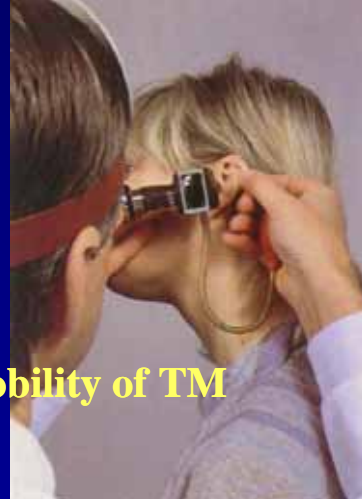


# Pneumatic Otoscopy

## Seiglization



Otitis Media



- Restricted mobility of TM

# Otologic Examination

## Tuning Fork Tests



Otitis Media

Rinne test is -ve

Weber test lateralizes to same side

Schwabache test is prolonged



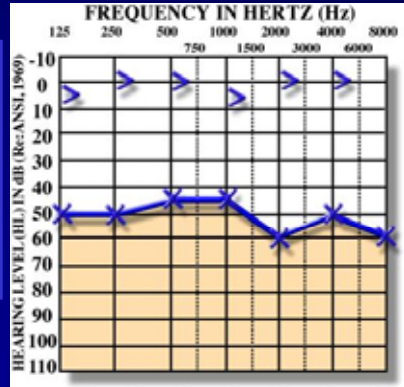


# Otologic Examination



Otitis Media

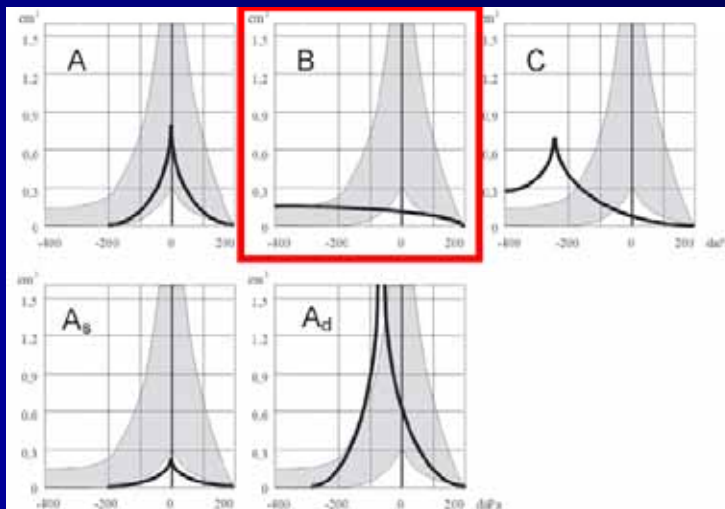
## Audiometry



# Otologic Examination



Otitis Media

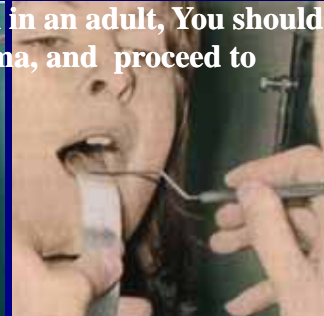


## Nasopharyngeal examination



Otitis Media

- **With a nasopharyngeal mirror**
- **With an endoscope**
- **In case of unilateral ME effusion in an adult, You should suspect nasopharyngeal carcinoma, and proceed to nasopharyngeal examination**



## Complications



Otitis Media

- **Pars Tensa sequelae including:**
- **Retraction Pocket.**
- **Tympanosclerosis.**
- **Atrophy.**
- **Adhesions.**



## Complications



Otitis Media

- **Recurrent acute otitis media.**
- **TM sequelae (Atrophy, tympanosclerosis, retraction pocket, adhesions)**
- **Middle ear atelectasis / adhesive otitis media.**
- **Secondary cholesteatoma (secondary to posterosuperior retraction pocket)**
- **Developmental impairment consequent to hearing impairment**

## Treatment



Otitis Media

- **Medical treatment**
- **ET Inflation**
- **Surgical treatment**

## Medical treatment



Otitis Media

1. Oral decongestants
2. Mucolytic agents
3. Anti-inflammatory compounds/corticosteroids
4. Antibiotics

Medical treatment is to be tried for 3 months before surgery is resorted to

## ET inflation



Otitis Media



- By employing Valsalva maneuver
  - By politzerization

## Surgical treatment



Otitis Media

1. Myringotomy/Grommets
2. Adenoidectomy
3. Cortical mastoidectomy/ rarely used

## Myringotomy & Grommets





**Myringotomy Knife.**



Otitis Media



Otitis Media

**Synonyms**

*Middle ear atelecasis*  
*Atelectatic otitis media*

This slide has a dark blue background. In the top right corner, there is a small circular inset image showing a middle ear view, with the text "Otitis Media" below it. The word "Synonyms" is written in pink. Below it, two synonyms are listed in yellow italics: "Middle ear atelecasis" and "Atelectatic otitis media".



Otitis Media

## Pathophysiology

- Complication of chronic secretory otitis media in which the tympanic membrane has become thin, atrophic, retracted, and adherent to middle ear structures
- Fibrous organization of chronic sterile middle ear effusion



Otitis Media

## Signs

- Tympanic membrane
  - Opaque, off-white
  - Distorted cone of light
  - Irregularly retracted
  - Immobile





Otitis Media

## Treatment

- **Surgical:**  
**Tympanoplasty+Synechotomy+placement of silastic sheeting in ME to prevent recurrent adhesions+cartilage reinforcement of TM+Gromet tube if there is concomitant ME effusion or vacuum.**
- **Hearing aids**

