

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

اللہ کے نام سے شروع جو بہت مہربان رحمت والا ہے



A FOUR YEARS GIRL

WITH

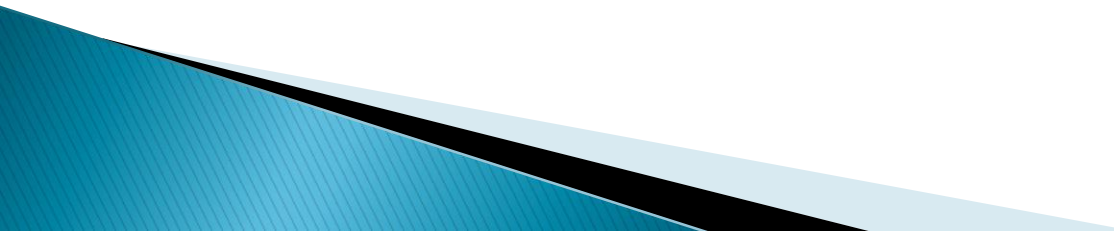
**DECREASED HEARING &
DULL EARACHE**

**DEPARTMENT OF PEDIATRIC E.N.T. II
THE CHILDREN'S HOSPITAL &
THE INSTITUTE OF CHILD HEALTH , LAHORE**

PERSONAL BIODATA

- ▣ NAME ABC
- ▣ AGE 4 YEARS
- ▣ GENDER FEMALE
- ▣ RESIDENCE KASUR
- ▣ M.O.A. OPD
- ▣ WEIGHT 19 KG.

PRESENTING COMPLAINTS

- ▶ **DECREASED HEARING**
 - ▶ **OCCASIONAL PAIN IN EARS**
 - ▶ **SNORING & SLEEP DISTURBANCE**
 - ▶ **OCCASIONAL SORE THROATS**
- 

HISTORY OF PRESENT ILLNESS

- ▶ **DECREASED HEARING**
 - ▶ **DULLNESS IN BOTH EARS**
 - ▶ **OCCASIONAL PAIN IN EARS**
 - ▶ **DEFECTIVE SPEECH**
 - ▶ **UNATTENTIVE DURING STUDY TIME**
 - ▶ **REPEATED COMPLAINTS FROM TEACHERS**
- 

FAMILY HISTORY

- 1ST CHILD
- HAS ONE YOUNGER SISTER

PAST HISTORY

- NOT SIGNIFICANT

HISTORY OF IMMUNIZATION

- IMMUNIZED

HISTORY OF ALLERGIES

- NOT KNOWN

SOCIOECONOMIC HISTORY

MIDDLE CLASS



GENERAL PHYSICAL EXAMINATION

- A SLIM UNATTENTIVE BOY WITH MOUTH BREATHING
- ## VITAL SIGNS

■ TEMP: 98.8 O F PULSE: 92 / MIN.

■ RESPIRATORY RATE: 16-18 / PM

■ PALLOR

■ THYROID

■ OEDEMA

■ LYMPH NODES

■ CYANOSIS

■ J.V.P.

■ JAUNDICE

■ SKIN RASHES

■ CLUBBING

ALL WERE NEGATIVE

LOCAL EXAMINATION



- **BILATERAL RETRACTED DULL LOOKING**

TYMPANIC MEMBRANES

- **HIGH ARCHED PALATE & PROMINENT INCISORS**
- **MILDLY ENLARGED TONSILS**

SYSTEMIC EXAMINATION

- RESPIRATORY SYSTEM
- G.I.T.
- C.V.S.
- C.N.S.

WITHIN NORMAL LIMITS



INVESTIGATION

- Hb% = 11.7 mg/dl TLC = 12.65×10^9
- N = 79 MCHC = 34
- L = 31 MCV = 81
- M = 06 MCT = 38
- E = 03 MCH = 37
- PLT = 248
- ESR = 15 mm in 1st hr.

B.T. 2 min 30 sec

P.T. Control 12 Test 15

A.P.T.T. Control 36 Test 37

RADIOLOGICAL INVESTIGATION

▶ X-RAY SOFT TISSUE NASOPHARYNX

(LATERAL VIEW FOR ADENOIDS)

▶ SOFT TISSUE DENSITY INDENTING

THE AIR COLOUMN

▶ ENLARGED ADENOID TISSUES



AUDIOLOGICAL INVESTIGATIONS

- **BILATERAL CONDUCTIVE**

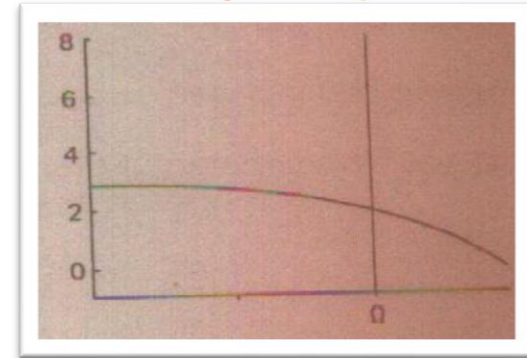
HEARING LOSS FROM 20 TO 30 dB

- **TYPE B (FLAT CURVE)**

TYMPANOGRAM

- **FINDINGS SUGESSTIVE OF OTITIS**

MEDIA WITH EFFUSION



DIAGNOSIS

ADENOID HYPERTROPHY & OTITIS MEDIA WITH EFFUSION

MANAGEMENT

ADENOIDECTOMY

&

GROMMETS INSERTION

UNDER

GENERAL ANAESTHESIA



FINDINGS

- THICK FLUID BOTH EARS +++
- LARGE PAD OF ADENOIDS
- HIGH ARCHED PALATE

OUTCOME

- HEARING IMPROVED
- SNORING STOPPED
- SPEECH IMPROVED
- PERFORMANCE & BEHAVIOUR IMPROVED
- CHILD & PARENTS ARE HAPPY

PLAN

- REGULAR FOLLOW UP

OTITIS MEDIA

WITH

EFFUSION

OME

SEROUS OTITIS MEDIA ;

MUCOID OTITIS MEDIA ;

SECRETORY OTITIS MEDIA ;

GLUE EAR

INTRODUCTION

- NON PURULENT EFFUSION IN THE MIDDLE EAR CLEFT
- EFFUSION IS MOSTLY THICK & VISCID
- THE FLUID IS NEARLY ALWAYS STERILE
- COMMONLY SEEN IN SCHOOL GOING CHILDREN

PATHOGENESIS

▶ MALFUNCTION OF EUSTACHIAN TUBE

EUSTACHIAN TUBE FAIL TO AERATE / DRAIN

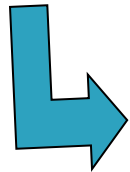
MIDDLE EAR

▶ INCREASED SECRETORY ACTIVITY OF MIDDLE EAR MUCOSA

INCREASED NUMBER OF SEROUS & MUCOID

SECRETING CELLS IN MULTIPLE BIOPSIES

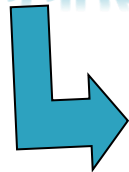
EUSTACHIAN TUBE DYSFUNCTION



NEGATIVE MEP



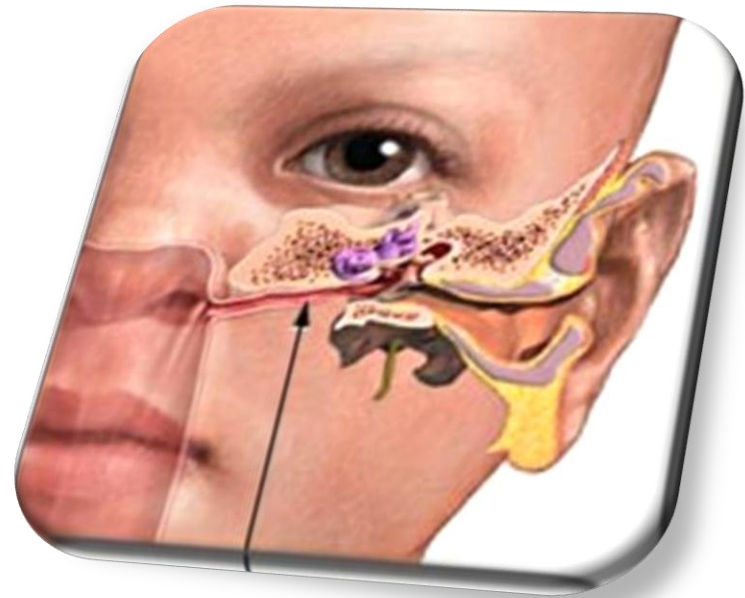
RETRACTION OF PARS FLACCIDA

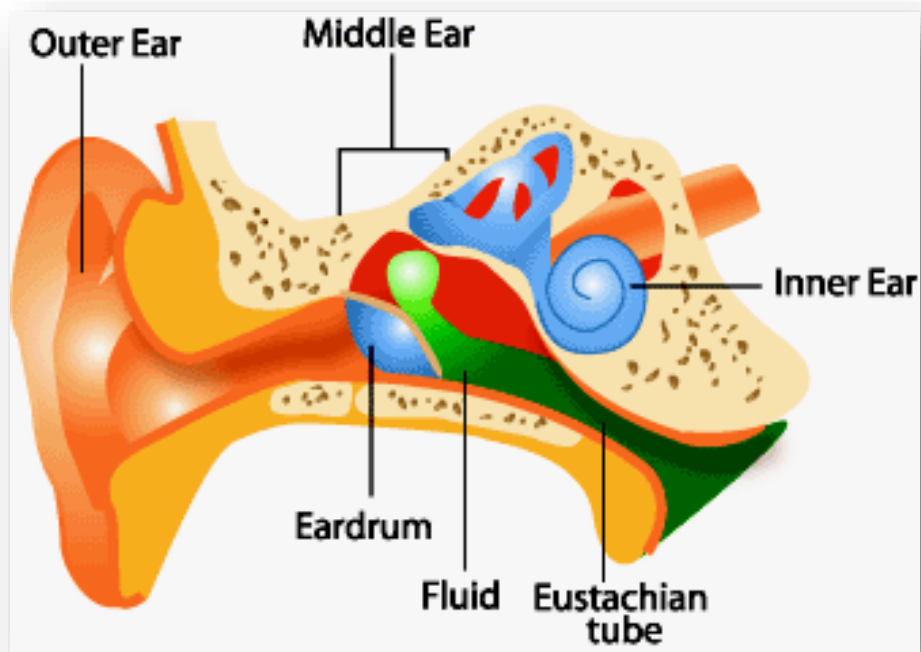


ME FILLS WITH FLUID & DEBRIS

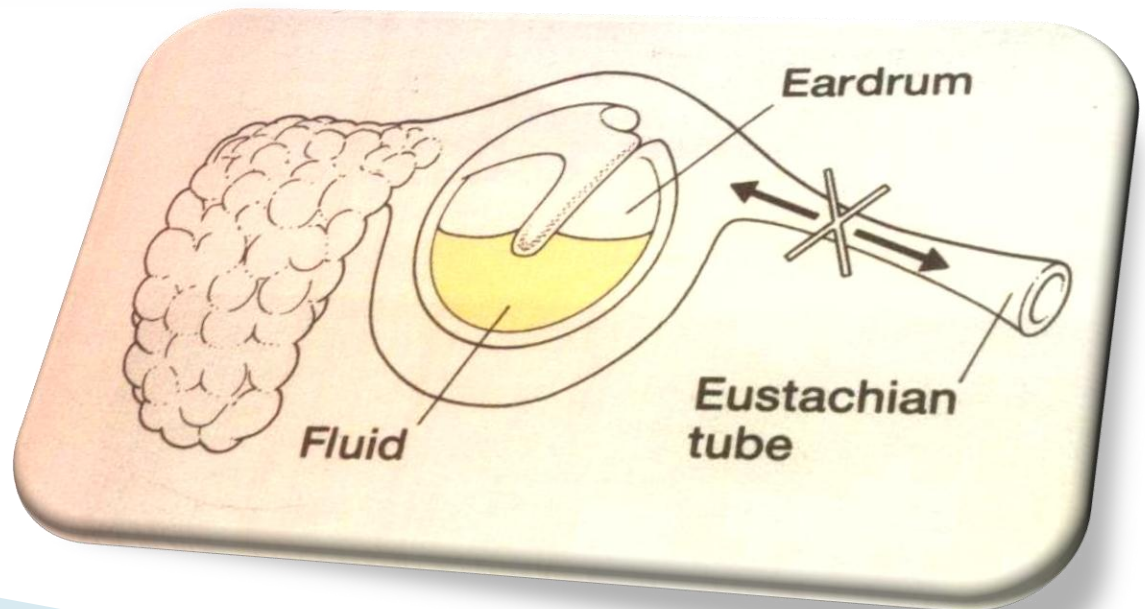


OTITIS MEDIA WITH EFFUSION





PATHOGENESIS



AETIOLOGY

- ▶ **ADENOIDS HYPERPLASIA**
- ▶ **CHRONIC RHINITIS / SINUSITIS**
- ▶ **RECURRENT TONSILLITIS**
- ▶ **PALATAL DEFECTS (CLEFT PALATE, PALATAL PARALYSIS)**

VIRAL INFECTIONS

- ▶ **ADENO & RHINO VIRUSES**


ALLERGY

- **OBSTRUCTS EUSTACHIAN TUBE BY OEDEMA**
- **INCREASES SECRETORY ACTIVITY OF MIDDLE EAR MUCOSA**

UNRESOLEVED OTITIS MEDIA

- **INADEQUATE ANTIBIOTIC THERAPY**
- **LOW GRADE INFECTION**

CLINICAL FEATURES

- HEARING LOSS
 - EARACHES
 - DULLNESS IN EARS
 - SENSE OF EAR BLOCKAGE
 - DELAYED & DEFECTIVE SPEECH
- 

OTOSCOPIC FINDINGS

- ▶ DULL / OPAQUE TYMPANIC MEMBRANE
- ▶ LOSS OF LIGHT REFLEX
- ▶ VARIOUS DEGREES OF RETRACTIONS
- ▶ FLUID LEVEL OR AIR BUBBLES
- ▶ RESTRICTED MOBILITY OF TYMPANIC MEMBRANE



Normal Ear
(no fluid)



Some Fluid
(air-fluid levels)



Effusion
(full of fluid)

PNEUMATO OTOSCOPY



HEARING TESTS

TUNNING FORK TESTS

- CONDUCTIVE DEAFNESS

AUDIOMETRY

- CONDUCTIVE HEARING LOSS OF 20-40DB

IMPEDENCE AUDIOMETRY

- REDUCED COMPLIANCE & FLAT CURVE

WITH A SHIFT TO NEGATIVE SIDE

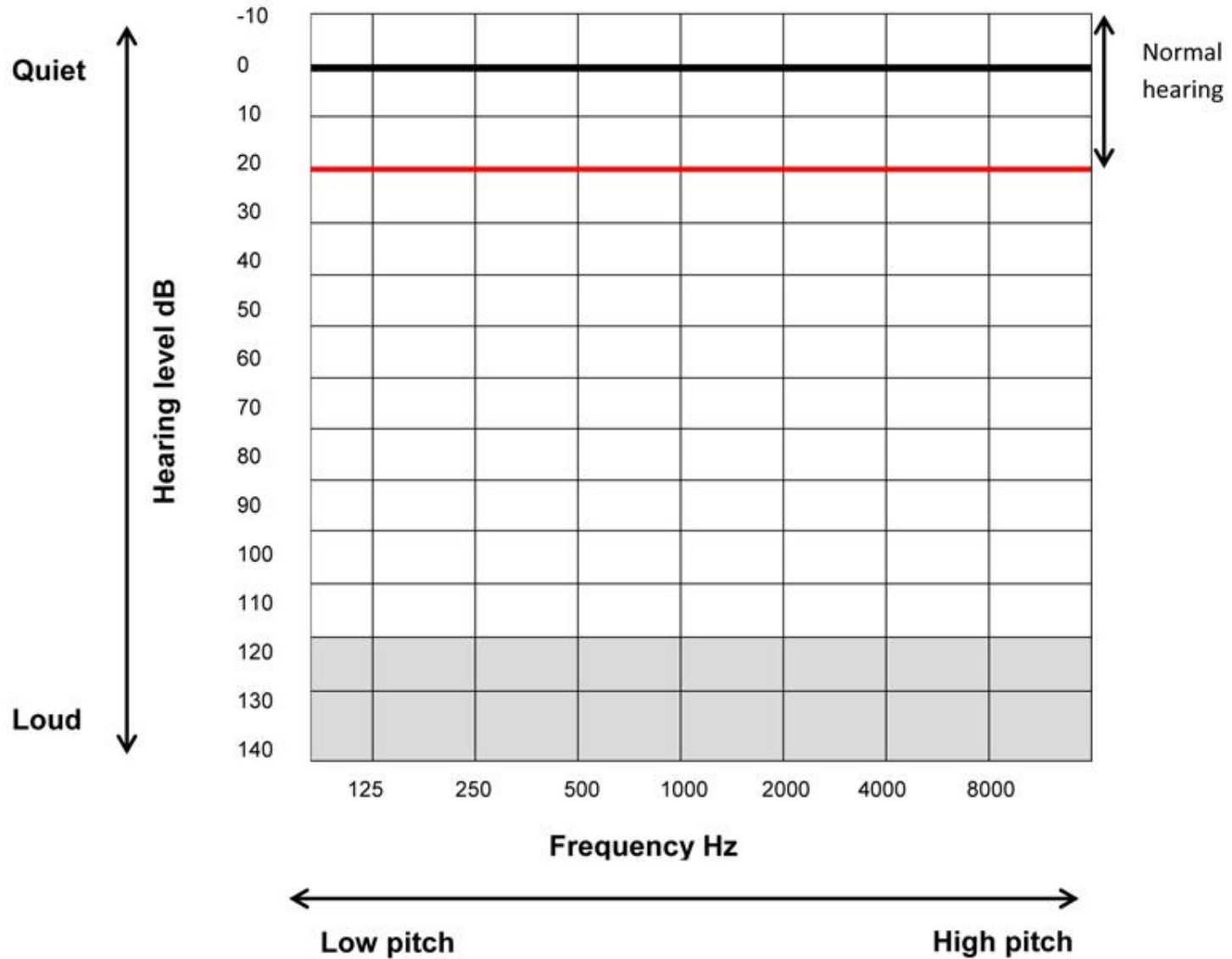
AUDIOMETRY



PURE TONE AUDIOMETER



AUDIOGRAM



Low Frequency

High Frequency

Frequency (Hertz)

125

500

1000

2000

4000

8000

Soft
↑
↓
Loud

-10
0
10
20
30
40
50
60
70
80
90
100
110
120

Hearing Threshold Level (decibels)

Normal Hearing

Mild Hearing Loss

Moderate Hearing Loss

Severe Hearing Loss

Profound Hearing Loss

Common audiogram symbols

Red, RIGHT

Blue, LEFT

Air Conduction

O

X

Bone Conduction

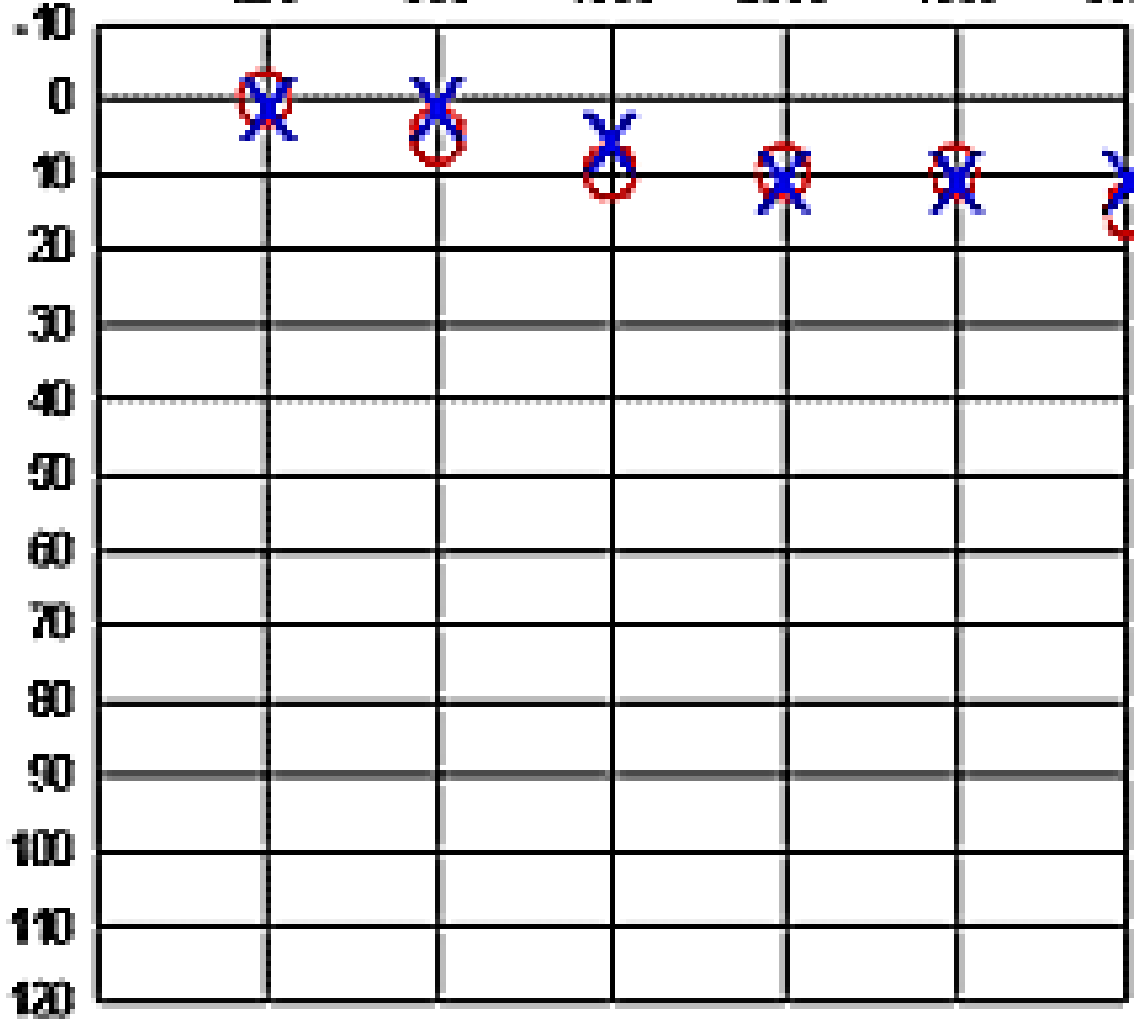
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Low pitches —————> High pitches

Frequency (Hz)

250 500 1000 2000 4000 8000



Normal hearing

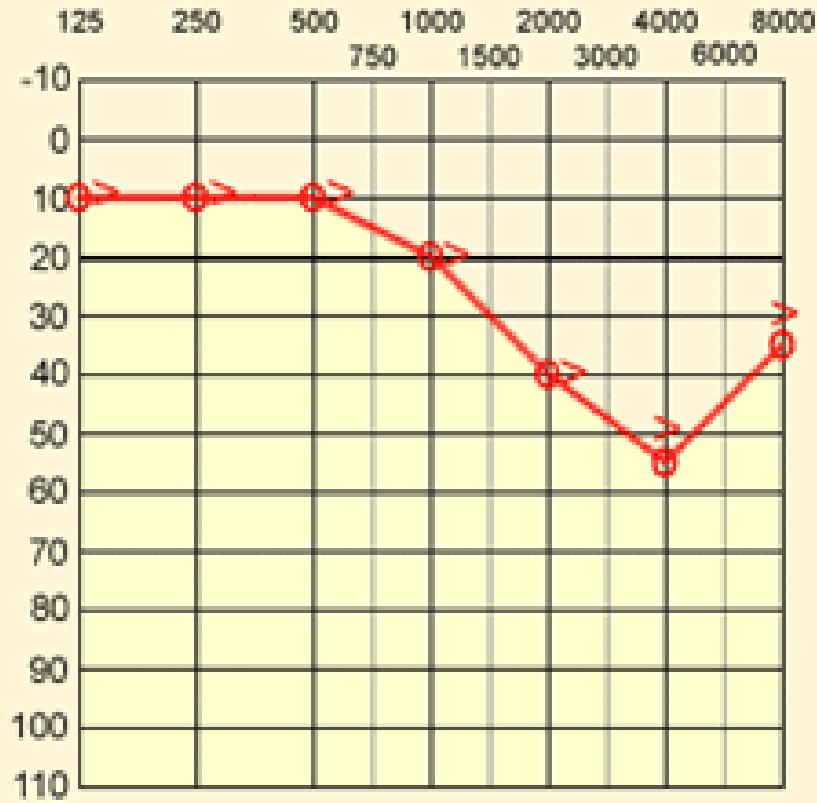
Soft

Loud

Sensorineural Hearing Loss Audiogram

Frequency in Hertz (Hz)

Hearing Level (HL) in dB (Re: ANSI, 1969)



Legend

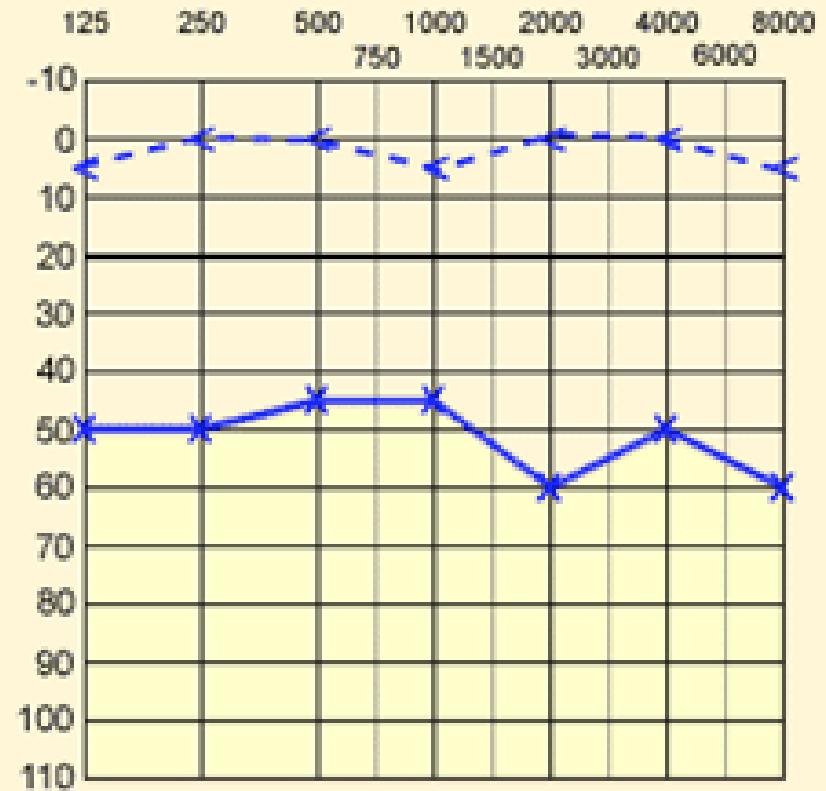
Air Conduction ○

Bone Conduction >

Conductive Hearing Loss Audiogram

Frequency in Hertz (Hz)

Hearing Level (HL) in dB (Re: ANSI, 1969)



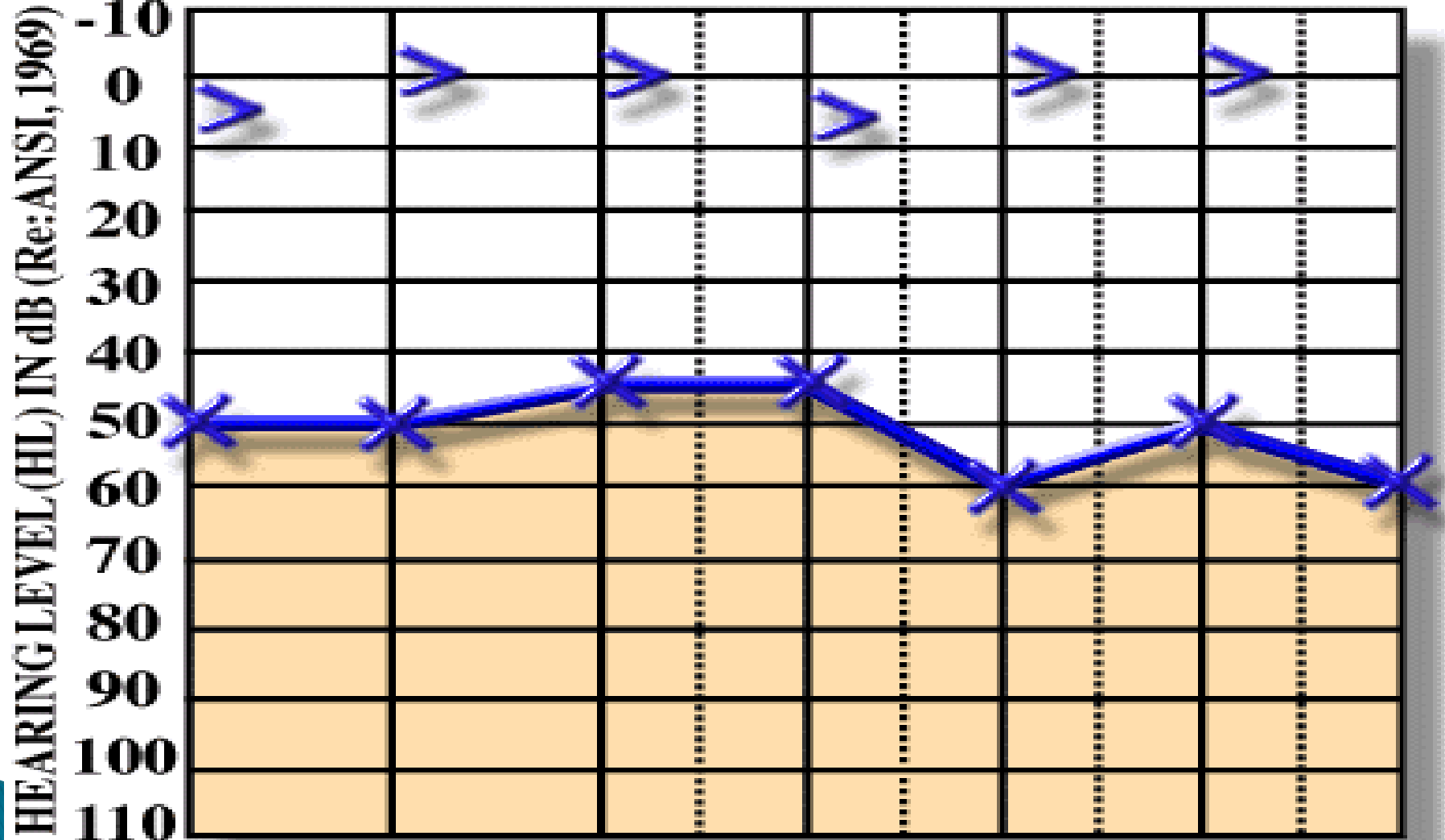
Legend

Air Conduction X

Bone Conduction <

FREQUENCY IN HERTZ (Hz)

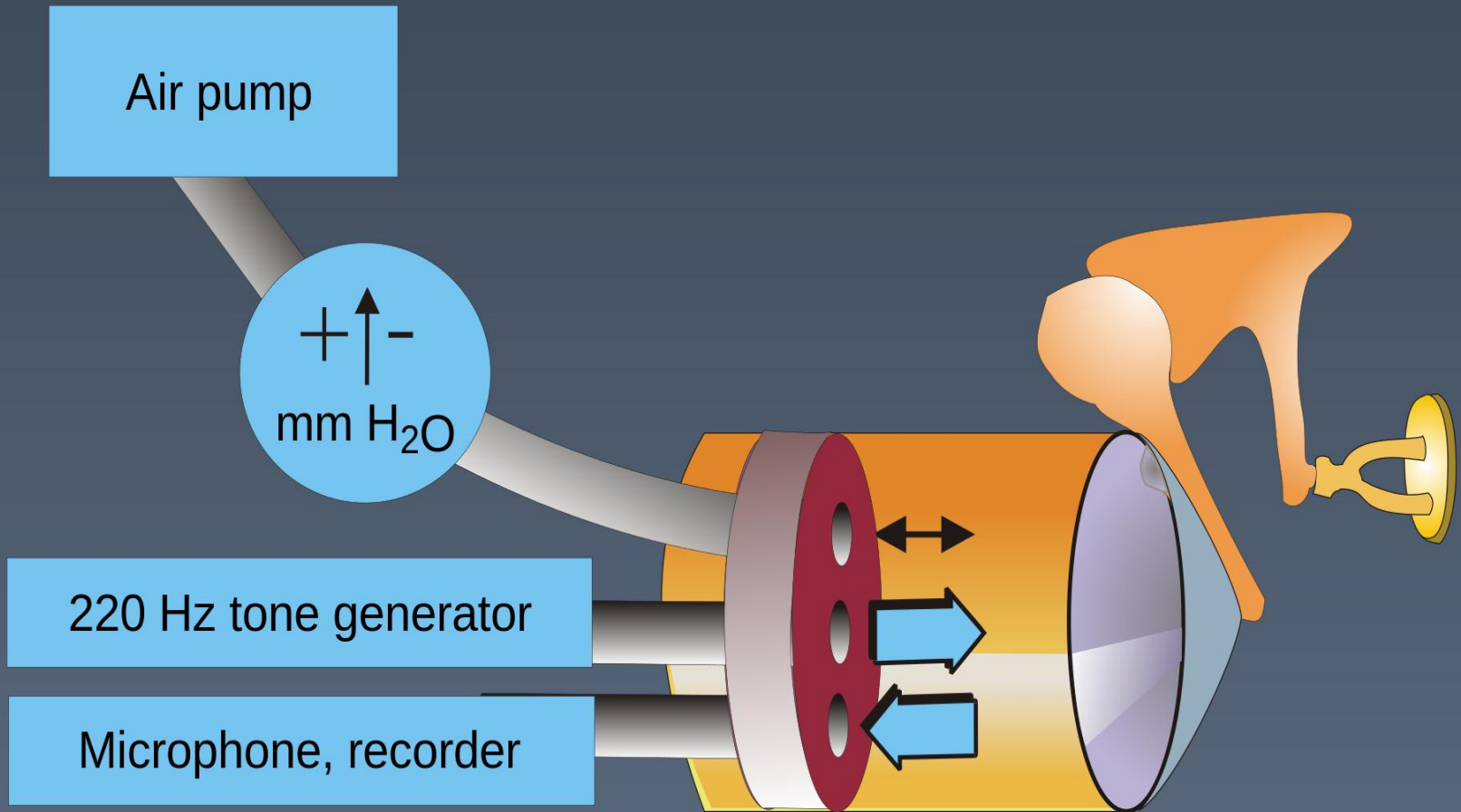
125 250 500 1000 2000 4000 8000
750 1500 3000 6000



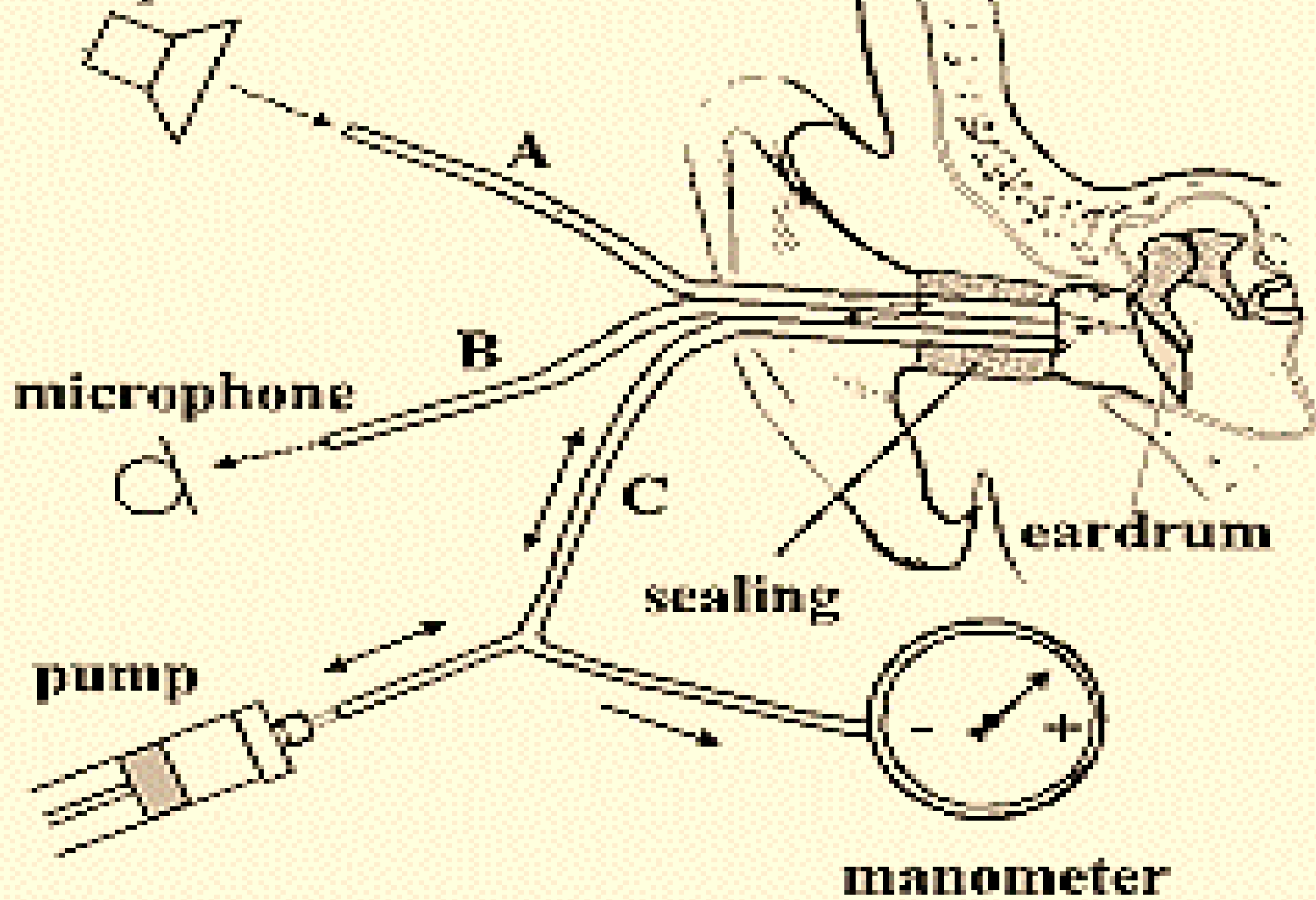
IMPEDENCE AUDIOMETRY TYMPANOMETRY



Tympanometry



loudspeaker



microphone

B

C

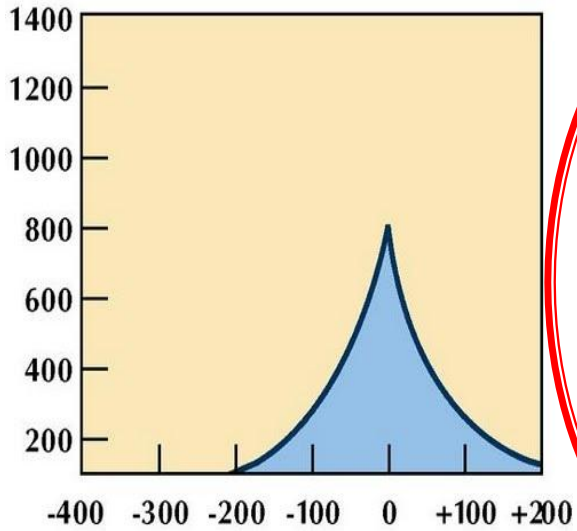
eardrum

sealing

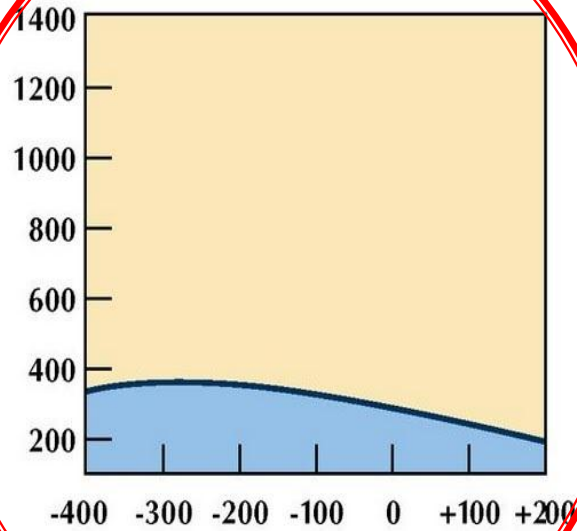
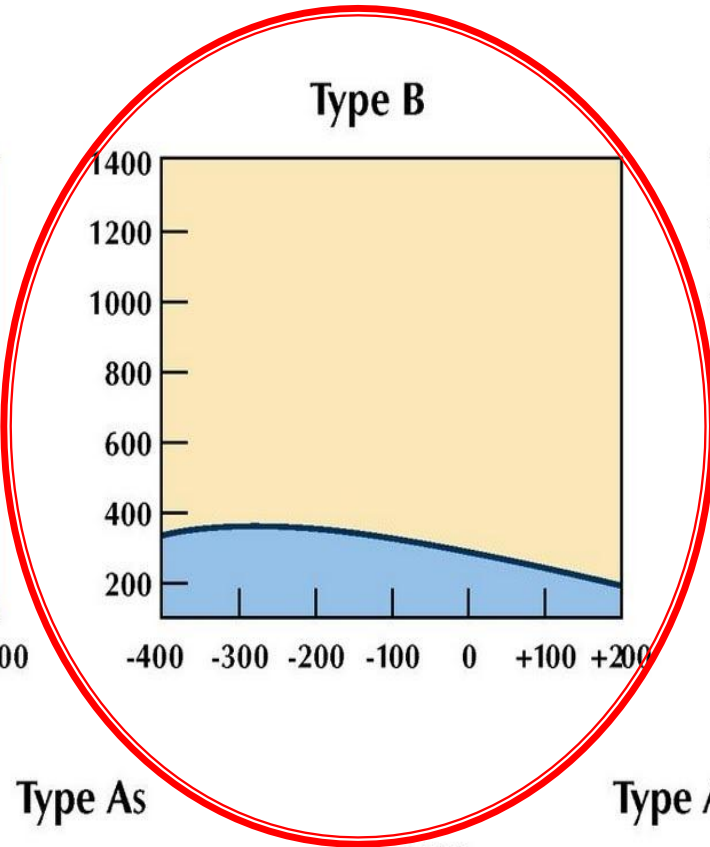
pump

manometer

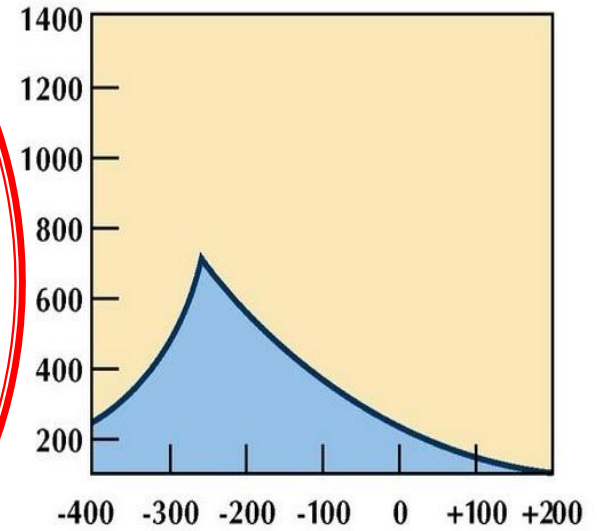
Type A



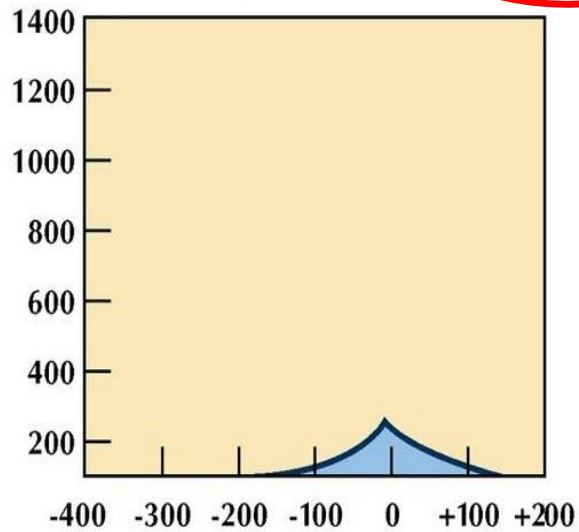
Type B



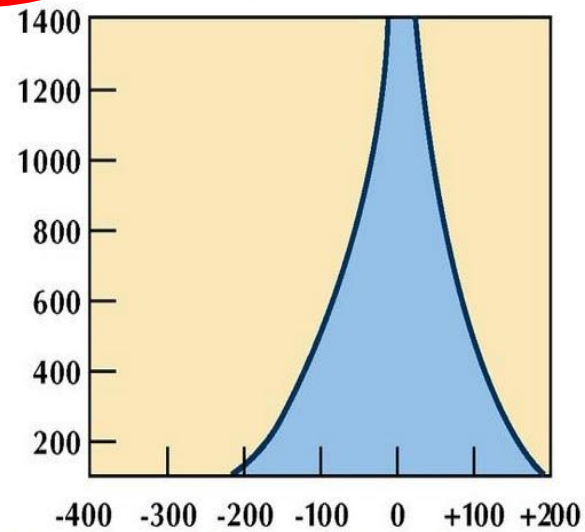
Type C



Type As



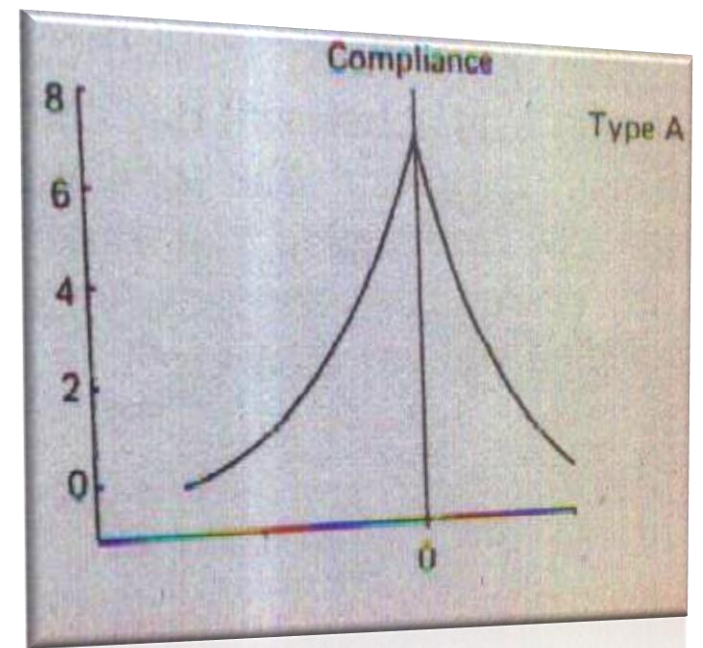
Type Ad



TYPE A

TYMPANOGRAM :

NORMAL (NORMAL COMPLIANCE)

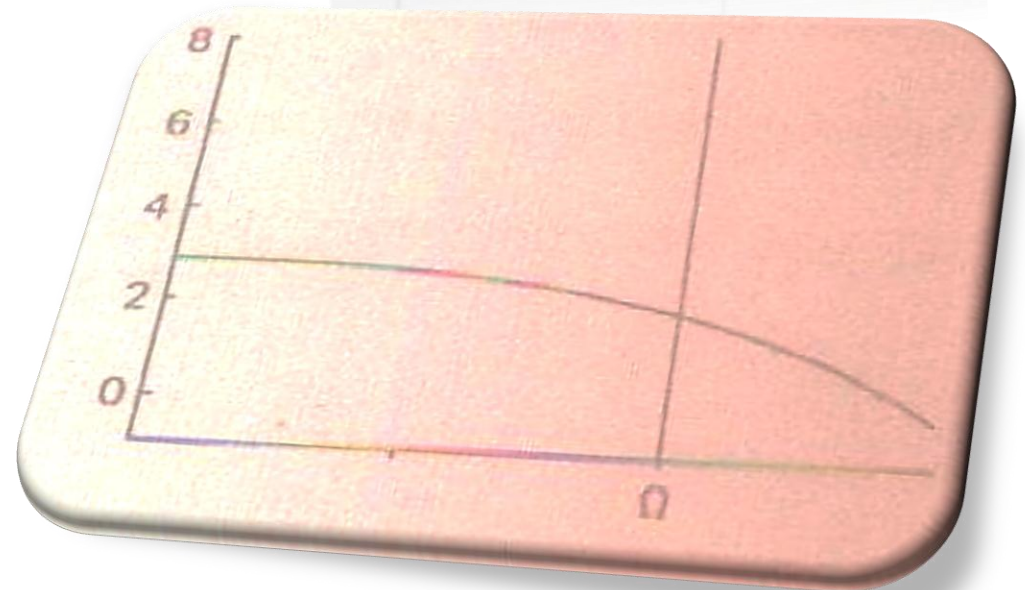


TYPE B

TYMPANOGRAM :

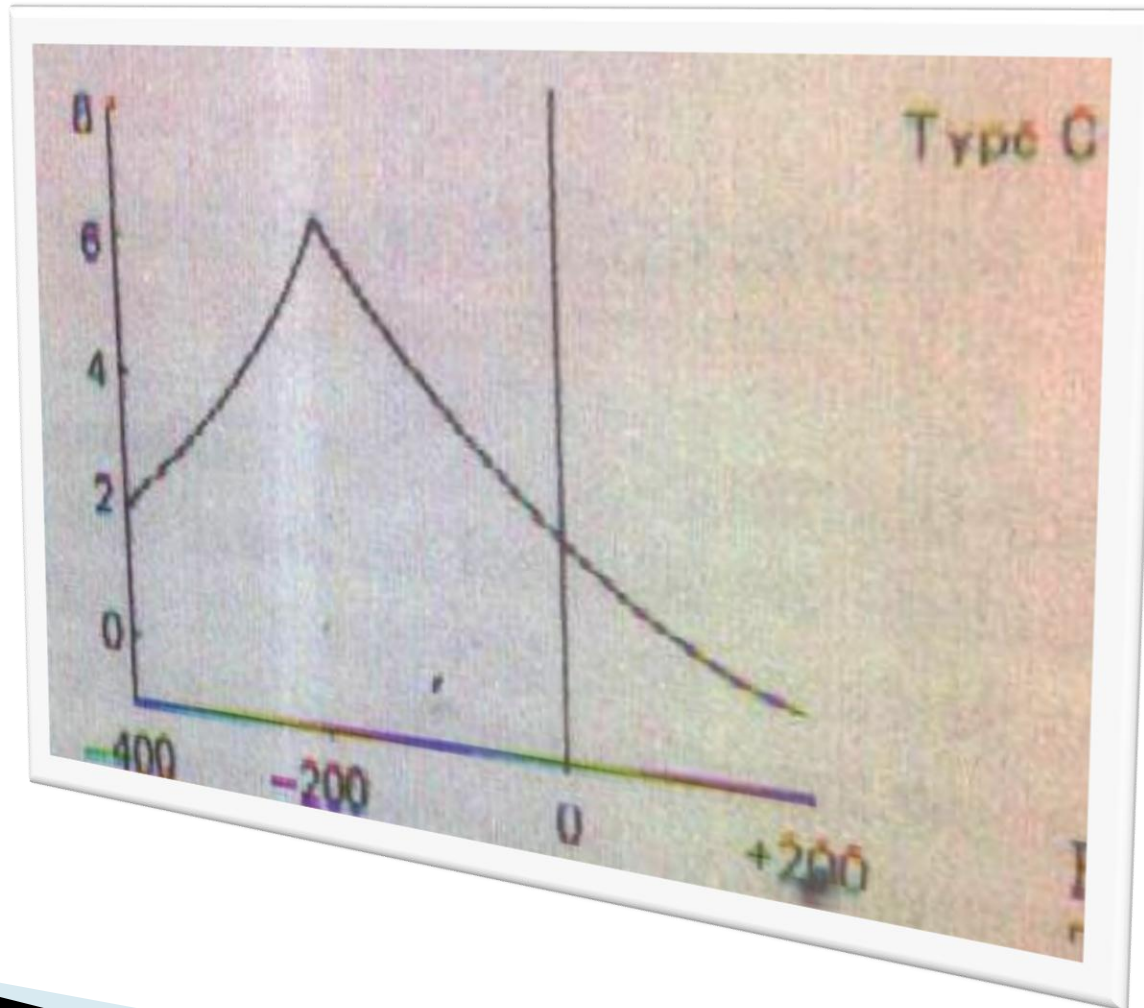
FLAT CURVE

(FLUID/OME)



TYPE C TYMPANOGRAM :

NEGATIVE INTRATYMPANIC PRESSURE (ETD)



TREATMENT

MEDICAL TREATMENT

- ▶ DECONGESTANTS

RELIEVES OEDEMA OF EUSTACHIAN TUBE

- ▶ ANTIHISTAMINES

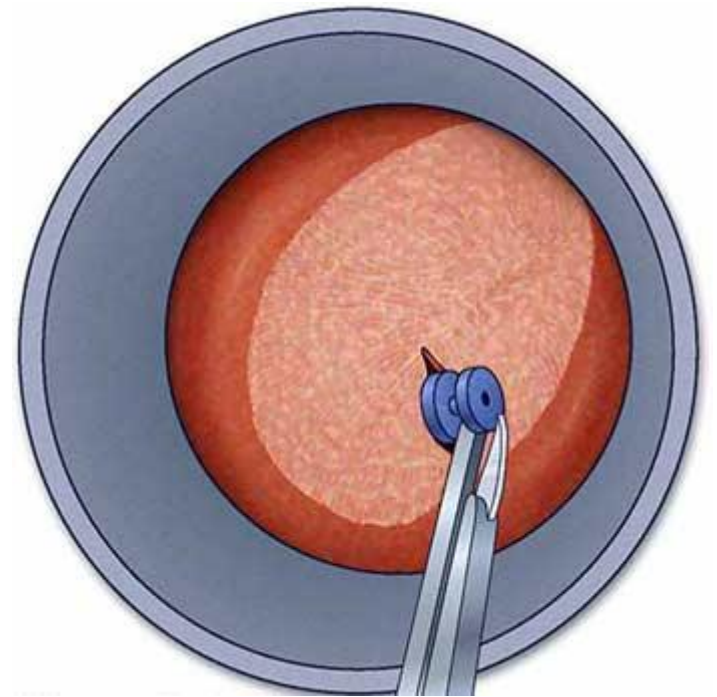
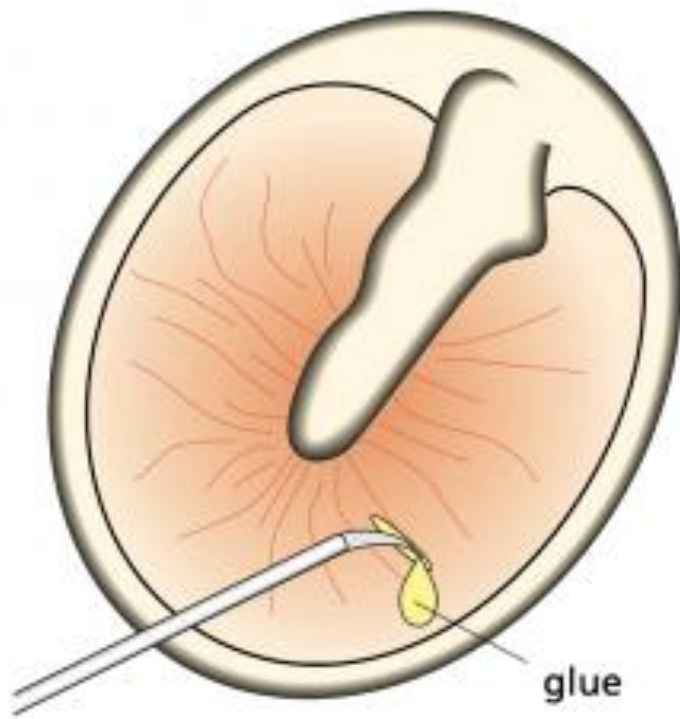
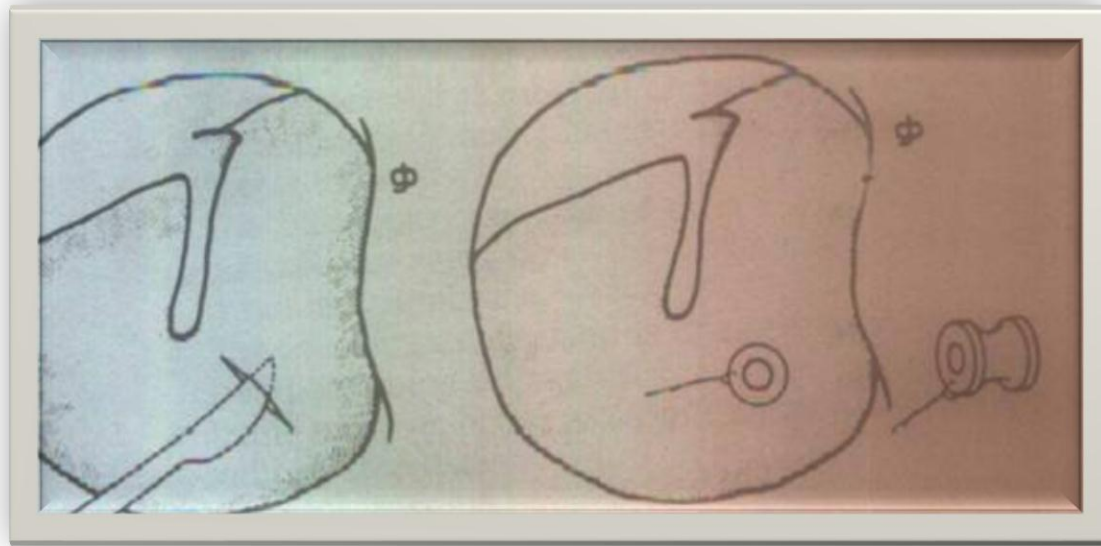
- ▶ ANTIBIOTICS

- ▶ MIDDLE EAR AERATION TECHNIQUES

VALSALVA MANOEUVRE

SURGICAL TREATMENT

- **MYRINGOTOMY & ASPIRATION OF FLUID**
- **GROMMETS INSERTION**
- **TYMPANOTOMY/CORTICAL MASTOIDECTOMY**
- **SURGICAL TREATMENT OF CAUSATIVE FACTORS**
(ADENOIDECTOMY, ADENO-TONSILLECTOMY,
MAXILLARY ANTRAL WASH OUTS)

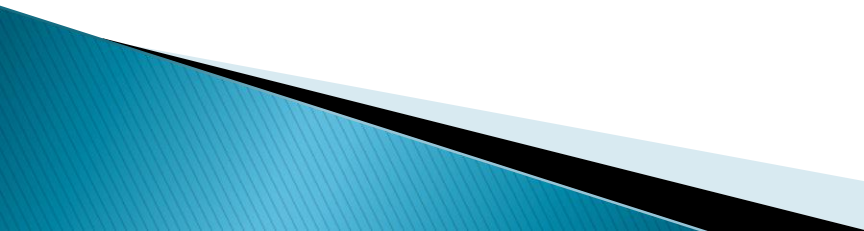


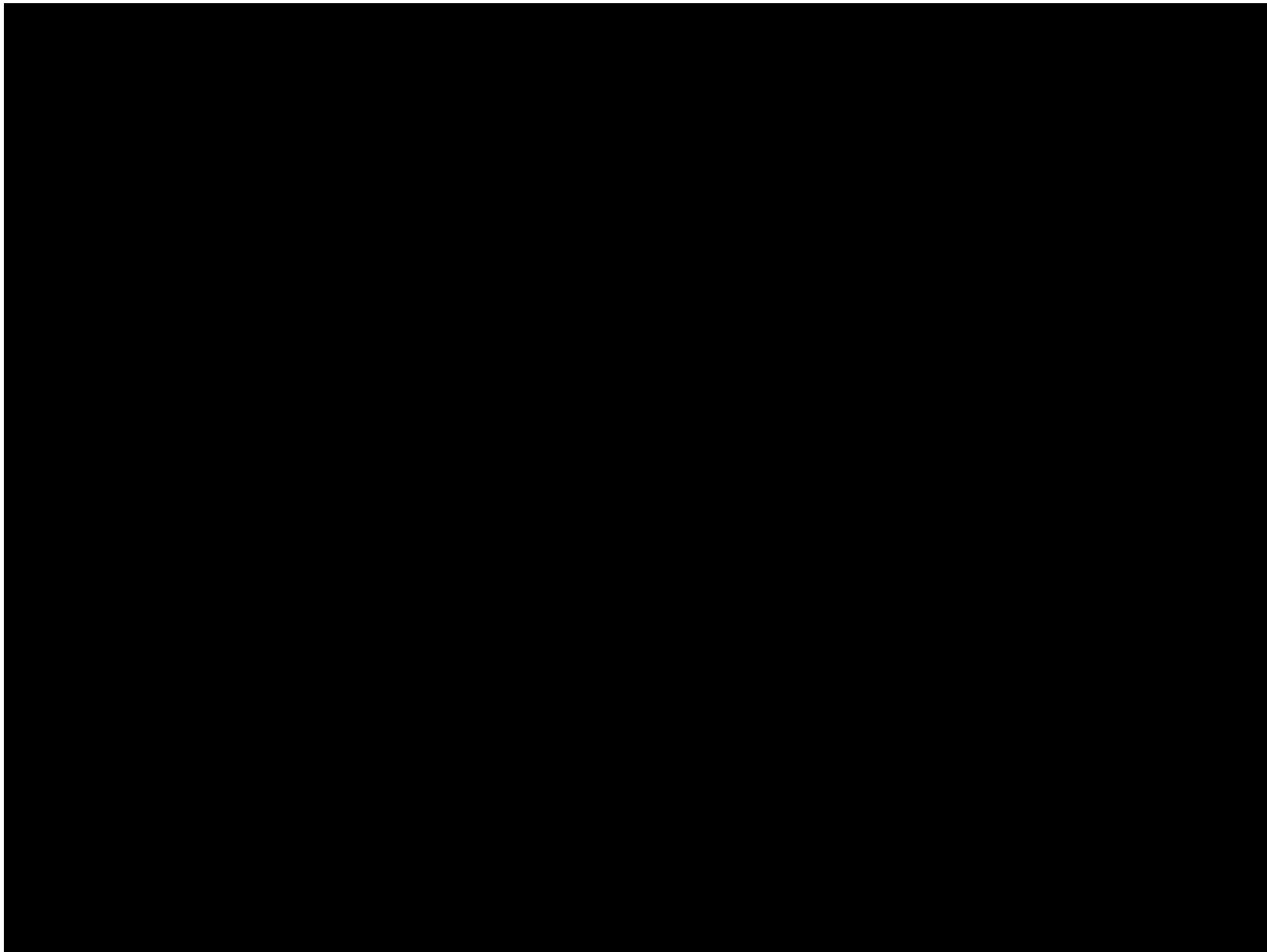
COMPLICATIONS

- **ATROPHIC TYMPANIC MEMBRANE**
- **OSSICULAR NECROSIS**
- **TYMPANOSCLEROSIS**
- **RETRACTION POCKETS**
- **CHOLESTETOMA**

SUMMARY

- ▶ **OTITIS MEDIA WITH EFFUSION(OME)
IS A FREQUENTLY OCCURRING
PROBLEM IN SCHOOL GOING AGE
GROUP**

- **EARLY RECOGNATION & PROMPT SURGICAL TREATMENT (MYRINGOTOMY & GROMMETS INSERTION) NOT ONLY RESOLVE THE CONDITION BUT ALSO AVOID COMPLICATIONS**
 - **REGULAR CLINICAL & AUDIOLOGICAL FOLLOW UP IS ESSENTIAL**
- 



Thank You

For Your Attention



QUESTIONS

