Hearing Loss: Causes, types and degree

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Learning Objectives

1. Understand the parts of the ear and how the hearing system works
2. Learn the definition of hearing loss and common causes among children
3. Discuss different types of hearing loss
4. Discuss the varying degrees of hearing loss
5. Understand how to read an audiogram
How Hearing Works?

Hearing and How it Works
MED-EL
https://youtu.be/fIAxGsV1q0
What is Hearing Loss?

Hearing loss is when your ability to hear is reduced.

The type of hearing problem will depend on which part of the ear is not responding well.

Problems can be located at:
- Outer ear
- Middle ear
- Inner ear
- Auditory nerve
- Auditory pathway
Categorizing Hearing Loss

- **Type (or origin)**: Conductive, Sensorineural or Mixed
- **Degree (or severity)**: Normal, slight, mild, moderate, moderately-severe, severe, profound
- **Initiation (or when)**: Congenital or acquired (pre-lingual or post lingual)
- **Shifts**: Stable, Fluctuating, Progressive
- **Location (or where)**: Unilateral or bilateral
- **Cause**: Known or unknown; environmental or genetic

White & Voss, 2015
Prevalence of Hearing Loss

50% - hearing loss is caused by genetic factors

90% - children with congenital hearing loss are born to normal hearing parents

20-30% - Unknown cause of genetic hearing loss

Premature babies – higher risk of hearing loss

Fuente: www.marchofdimes.com - www.emedicine.com
Common Causes

**Prenatal (before birth):**
- Infections during pregnancy (CMV, syphilis, rubella)
- Maternal diabetes
- Maternal use of alcohol or drugs
- Other maternal viral or bacterial illnesses

**Postnatal (at or after birth):**
- Prematurity (including low birth weight)
- Lack of oxygen and use of mechanical oxygen
- Birth trauma
- Childhood illnesses: rubella, meningitis
- Severe injury to head and/or ears
- Untreated otitis media or ear infections
- Ototoxic medications
- Excessive noise for an extended duration

White & Voss, 2015; www.marchofdimes.com; www.emedicine.com
Types of Hearing Loss

Conductive Hearing Loss

Problems in the outer or middle ear space

Common causes:
- Ear infection (otitis media)
- Fluid in the middle ear
- Foreign objects in the ear canal
- Damage to the eardrum
- Malformations: pinna, auditory canal, ossicles.
Sensorineural Hearing Loss

Problems in the inner ear, the cochlea or the auditory nerve.

Common causes:
• Malformations: cochlea, auditory nerve.
• Ototoxic medication
• Infections: meningitis
• Severe head injury
Mixed Hearing Loss

Problems in the outer, middle and inner ear

Combination between a conductive hearing loss and a sensorineural hearing loss

Common causes:
- Otitis media + malformations in the inner ear
Severity of Hearing Loss

- Normal: 0-15 dB HL
- Slight: 15-25 dB HL
- Mild: 25-40 dB HL
- Moderate: 40-55 dB HL
- Moderately-Severe: 55-70 dB HL
- Severe: 70-90 dB HL
- Profound: 90+ dB HL

Retrieved from: www.jtc.org
Audiogram Interpretation

Retrieved from: www.jtc.org

Retrieved from: www.heartolearn.org
Resources

 MEDEL: How hearing works? https://youtu.be/fIAXGsV1q0


For questions or to request materials, please visit our website:

“Hear to Learn”

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