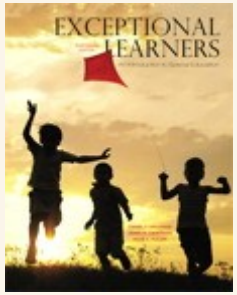

CHAPTER 11: Learners Who are Deaf of Hard of Hearing

Exceptional Learners: An Introduction to Special Education

Thirteenth Edition

Hallahan, Kauffman, & Pullen

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Topics

- Definition and classification
- Prevalence of hearing impairment
- Anatomical and physiological characteristics of ear
- Identification of hearing impairment
- Psychological and behavioral characteristics
- Educational considerations
- Assessment of progress
- Early intervention
- Transition to adulthood

Definition and Classification 1

- Physiological definition
  - Deaf: inability to hear sounds 90dB or greater
  - Hard of hearing: inability to hear sounds below 90dB

- Educational definition
  - Deaf: cannot process linguistic information through audition with or without a hearing aid
  - Hard of hearing: with hearing aid, has residual hearing to process linguistic information through audition

Definition and Classification 2

Congenitally deaf:
born deaf

Adventitiously deaf:
acquire deafness some time after birth

Prelingual deafness:
occurs at birth or before speech and language develops

Postlingual deafness:
occurs after development of speech and language

Mild: 26 to 40 dB

Moderate: 41 to 55 dB

Moderate-severe: 56 to 70 dB

Severe: 71 to 90 dB

Profound: 91 dB and above

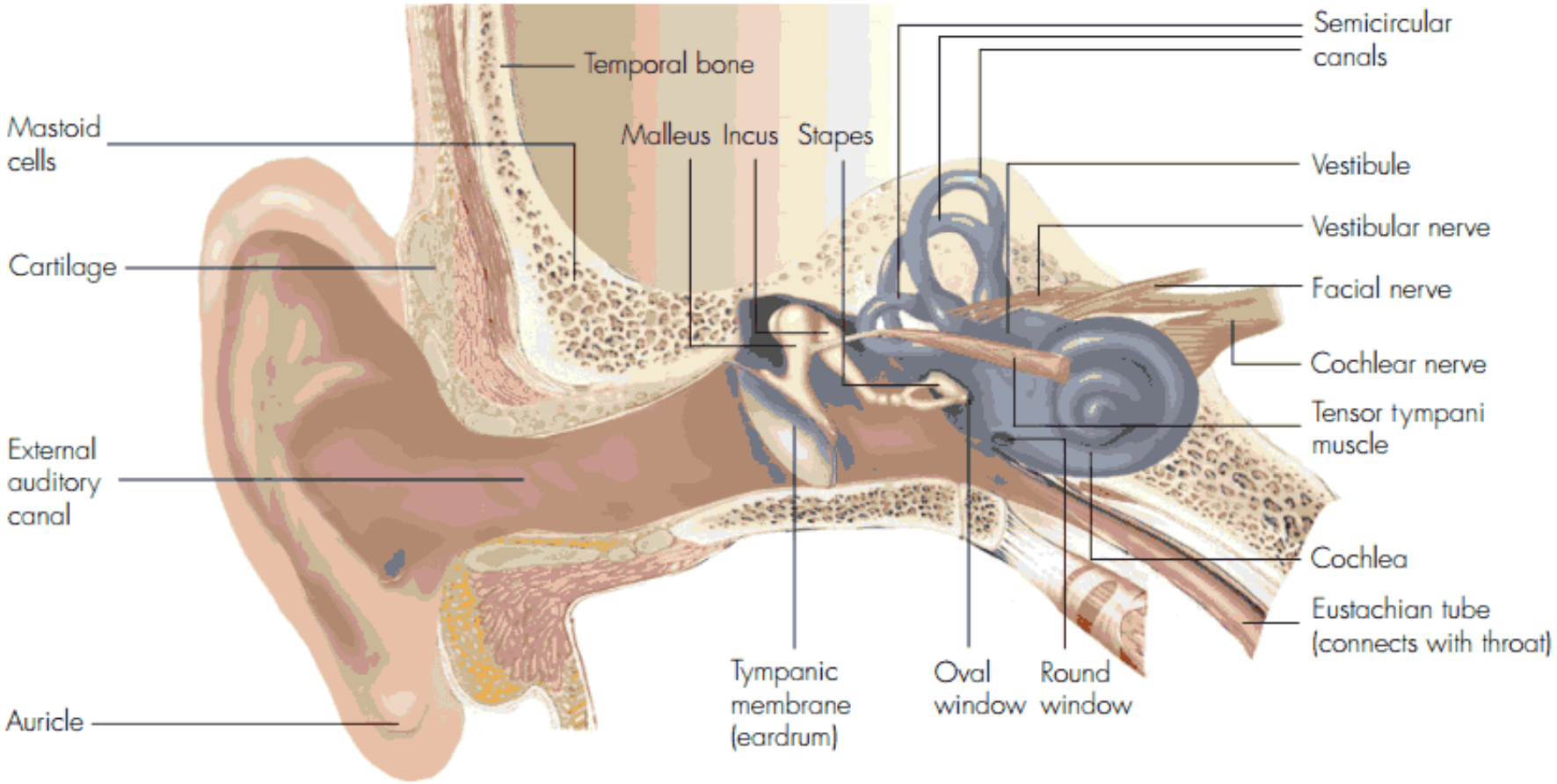
Prevalence

- 0.10% of the population from 6 to 21 years of age is deaf or hard of hearing
- Evidence suggest far greater prevalence for hard of hearing than for deafness
- 30% of the students receiving services for deaf or hard of hearing come from Spanish-speaking homes

Anatomy and Physiology of the Ear

- The outer ear
  - Tympanic membrane (eardrum)
  - Auricle
- The middle ear
  - Malleus (hammer), incus (anvil), and stapes (stirrup)
  - Oval window
- The inner ear
  - Vestibular mechanism
  - Cochlea

Illustration of the Outer, Middle, and Inner Ear



Identification of Hearing Impairment

- Screening tests
  - Otoacoustic emissions
- Pure-tone audiometry
  - Hearing at different frequencies (hertz)
  - Audiometric zero
- Speech audiometry
  - Speech reception threshold (SRT)

Causes 1

- Classification of causes:
  - Conductive hearing impairment: interference with transfer of sound along the conductive pathway of the middle or outer ear
  - Sensorineural hearing impairment: problems in the inner ear
  - Mixed hearing impairment: combination of the two
- Hearing impairment and the outer ear
  - Atresia
  - External otitis

Causes 2

- Hearing impairment and the middle ear
  - Most correctible with surgery
  - Otitis media, most common
- Hearing impairment and the inner ear
  - Most severe
  - Hereditary or acquired
  - Connexin-26 gene
  - Congenital cytomegalovirus (CMV)

Psychological and Behavioral Characteristics 1

- Spoken language and speech development
  - The most severely affected area of development
  - Linked to degree of loss and age of onset
- Sign language
  - Grammatical complexity
  - Nonuniversality
  - Developmental milestones
  - Neurological foundations
- Intellectual ability
  - Performance tests indicate no difference

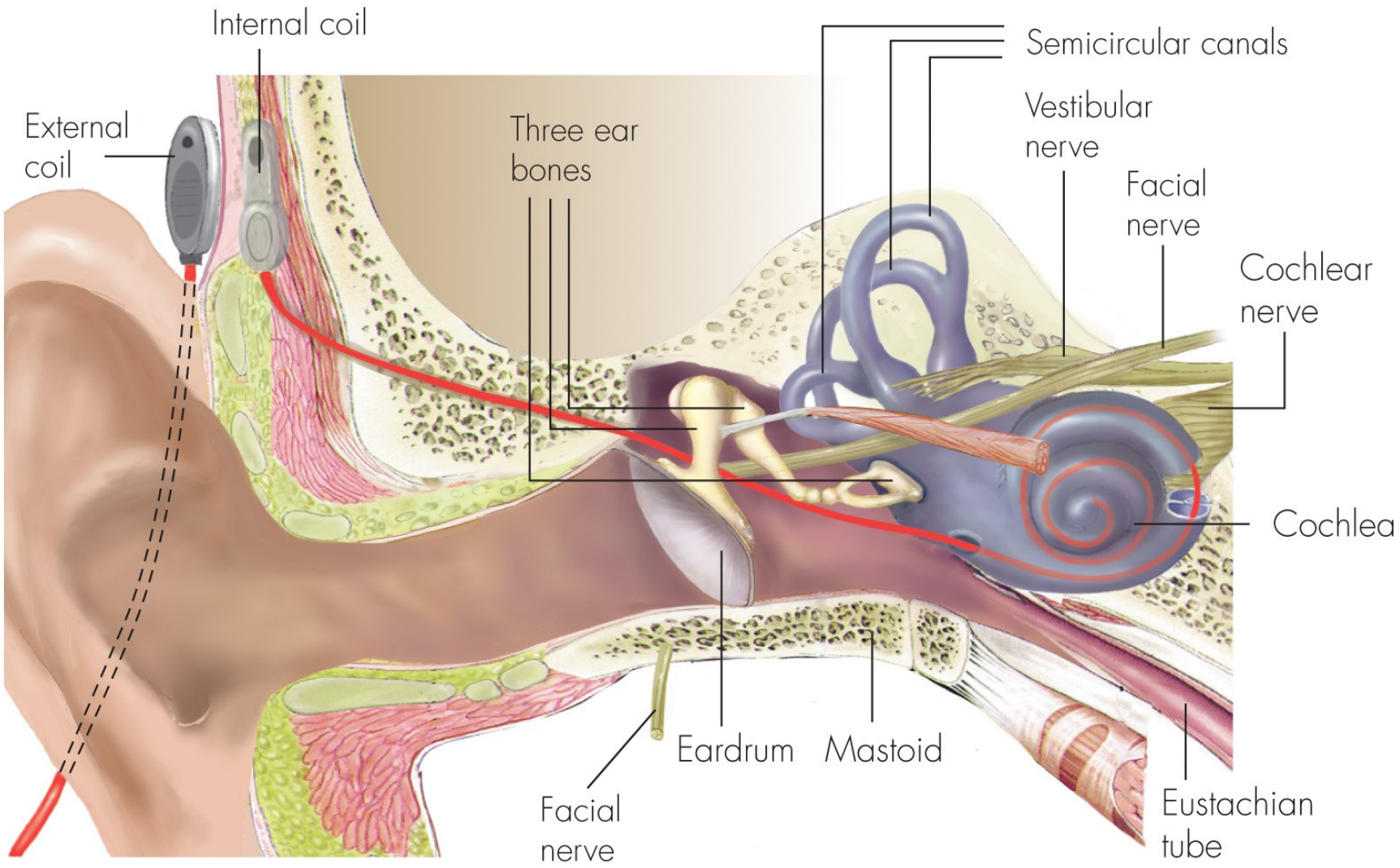
Psychological and Behavioral Characteristics 2

- Academic achievement
  - Deficits in reading ability
  - Trail behind even in math
  - Benefit from explicit phonics-based instruction
  - Children who are deaf with parents who are deaf have higher achievement
- Social adjustment
  - Amount of inclusion and hearing status of parents affect degree of social isolation
  - Need strategic grouping in general education

Psychological and Behavioral Characteristics 3

- Deaf Culture
  - Common bond of deafness
  - Cultural bias in marriage patterns
  - Some different behavioral norms
- Concern for the erosion of deaf culture
- Deaf activism
  - The Gallaudet experience
  - Cochlear implant debate
  - Genetic engineering debate

A Cochlear Implant



Educational Considerations 1

- Oral approaches
  - Auditory-verbal approach
  - Auditory-oral approach
    - Speechreading
    - Cued speech
  - Criticisms of the oral approach
    - Homophenes
- Total communication: oral and manual
  - Signing English systems
  - Fingerspelling
  - Less fluent than ASL

Educational Considerations 2

- The bicultural-bilingual approach
  - ASL is considered the primary language
  - People who are deaf help develop program and curriculum
  - Curriculum includes instruction in Deaf culture

Educational Considerations 3

- Technological advances
  - Hearing aids
  - Television, video, and movie captioning
  - Telephone adaptation
  - Computer-assisted instruction
  - The Internet
- Service delivery models
  - 86% attend local schools
  - 52% spend majority of time in general education

Assessment of Progress

Assessing academic skills

- Progress monitoring
  - Curriculum-based measurement
  - STAR Reading, Math, and Early Literacy Assessments
- Standardized assessments biased toward cultural majority

Testing accommodations

- Sign interpretation for directions
- Extended time
- Separate room
- Response accommodations (sign to interpreter)

Early Intervention

- Debate over oralism versus manualism
- Children who are deaf with parents who are deaf tend to do better than those with parents who are hearing
- About 90% of children who are deaf have hearing parents
- Preschool projects teach sign language to parents and children

Transition to Adulthood

- Postsecondary education
  - Availability of postsecondary programs
  - About 23% of people who are deaf attend
  - Sign language interpreters
    - ASL versus transliteration