associated with hearing loss, whose parents are concerned about hearing loss, and who may have developed behaviors that indicate auditory impairment. Chapter 18 discusses types of hearing loss, causes, clinical manifestations, and appropriate treatment. (See the Research Focus box for further discussion).

Research Focus

Hearing Loss Frequency

The prevalence of hearing loss has increased among American children, and failure to identify children even with mild high-frequency hearing loss may have long-term consequences (Sekhar, Zalewsi, and Paul, 2013). Unilateral or bilateral hearing impairment within the speech frequencies is found in 3.1% of children and youth (Mehra, Eavey, and Keamy, 2009). The importance of asking children and their parents about the presence of hearing problems should be a part of every clinical visit.

TABLE 4-8

Auditory Tests for Infants and Children

Age	Auditory Test and Average Time	Type of Measurement	Procedure
Newborns	Auditory brainstem response (ABR)	Electrophysiologic measurement of activity in auditory nerve and brainstem pathways	Placement of electrodes on child's head detects auditory stimuli presented though earphones one ear at a time.
Infants	Behavioral audiometry	Used to observe their behavior in response to certain sounds heard through speakers or earphones	The child's responses are observed to the sounds heard.
Toddlers	Play audiometry	Uses an audiometer to transmit sounds at different volumes and pitches	The toddler is asked to do something with a toy (i.e., touch a toy, move a toy) every time the sound is heard.
Children and adolescents	Pure tone audiometry	Uses an audiometer that produces sounds at different volumes and pitches in the child's ears	The child is asked to respond in some way when the tone is heard in the earphone.
	Tympanometry (also called *impedance* or *admittance*)	Determines how the middle ear is functioning and detects any changes in pressure in the middle ear	A soft plastic tip is placed over the ear canal and the tympanometer measures eardrum movement when the pressure changes.