ototoxic antibiotics.

Environmental noise is a special concern. Sounds loud enough to damage sensitive hair cells of the inner ear can produce irreversible hearing loss. Very loud, brief noise (such as gunfire) can cause immediate, severe, and permanent loss of hearing. Longer exposure to less intense but still hazardous sounds (such as loud persistent music via headphones, sound systems, concerts, or industrial noises) may also produce hearing loss (Biassoni, Serra, Hinalaf, et al, 2014; Grindle, 2014; Harrison, 2012; Jerry and Oghalai, 2011; Serra, Biassoni, Hinalaf, et al, 2014). Loud noises combined with the toxic substances (such as smoking or secondhand smoke) produce a synergistic effect on hearing that causes hearing loss (Fabry, Davila, Arheart, et al, 2011; Talaat, Metwaly, Khafagy, et al, 2014).

Pathology

Disorders of hearing are divided according to the location of the defect. **Conductive** or **middle-ear hearing loss** results from interference of transmission of sound to the middle ear. It is the most common of all types of hearing loss and most frequently a result of recurrent serous otitis media. Conductive hearing impairment involves mainly interference with loudness of sound.

Sensorineural hearing loss involves damage to the inner ear structures or the auditory nerve. The most common causes are congenital defects of inner ear structures or consequences of acquired conditions, such as kernicterus, infection, administration of ototoxic drugs, or exposure to excessive noise. Sensorineural hearing loss results in distortion of sound and problems in discrimination. Although the child hears some of everything going on around him or her, the sounds are distorted, severely affecting discrimination and comprehension.

Mixed conductive-sensorineural hearing loss results from interference with transmission of sound in the middle ear and along neural pathways. It frequently results from recurrent otitis media and its complications.

Central auditory imperception includes all hearing losses that are not linked to defects in the conductive or sensorineural structures. They are usually divided into organic or functional losses. In the **organic** type of central auditory imperception, the defect involves the reception of auditory stimuli along the central