

the object is vegetative matter, such as beans or pasta, which swells when in contact with fluid.

Nursing Alert

If there is any doubt about the type of object in the ear and the appropriate method to remove it, refer the child to the appropriate practitioner.

The **tympanic membrane** is a translucent, light pearly pink or gray. Note marked erythema (which may indicate suppurative otitis media); a dull, nontransparent grayish color (sometimes suggestive of serous otitis media); or ashen gray areas (signs of scarring from a previous perforation). A black area usually suggests a perforation of the membrane that has not healed.

The characteristic tenseness and slope of the tympanic membrane cause the light of the otoscope to reflect at about the 5 or 7 o'clock position. The **light reflex** is a fairly well-defined, cone-shaped reflection, which normally points away from the face.

The **bony landmarks** of the eardrum are formed by the **umbo**, or tip of the malleus. It appears as a small, round, opaque, concave spot near the center of the eardrum. The **manubrium** (long process or handle) of the malleus appears to be a whitish line extending from the umbo upward to the margin of the membrane. At the upper end of the long process near the 1 o'clock position (in the right ear) is a sharp, knoblike protuberance, representing the **short process** of the malleus. Note the absence or distortion of the light reflex or loss or abnormal prominence of any of these landmarks.

Auditory Testing

Several types of hearing tests are available and recommended for screening in infants and children ([Table 4-8](#)). The American Academy of Pediatrics recommends pure tone audiometry testing at 500, 1000, 2000, and 4000 Hz, with children failing if they cannot hear the tones at 20 dB ([Harlor, Bower, and Committee on Practice and Ambulatory Medicine, Section on Otolaryngology Head and Neck Surgery, 2009](#)). Universal newborn hearing screening is available in most US states. The nurse must operate under a high index of suspicion for those children who may have conditions