ear such as superior semicircular canal dehiscence, lateral semicircular canal dysplasia, incomplete partition of the inner ear, and large vestibular aqueduct, are also associated with conductive hearing loss. This pathologic third window is associated with loss of mechanical energy associated with the sound wave leading to conductive hearing loss (see below).

Eustachian tube dysfunction is extremely common in adults and may predispose to acute otitis media (AOM) or serous otitis media (SOM). Recently, Eustachian tube balloon dilation has been shown to relieve acquired inflammatory obstruction of the Eustachian tube orifice and improve symptoms due to Eustachian tube dysfunction. Trauma, AOM, and chronic otitis media are the usual factors responsible for tympanic membrane perforation. While small perforations often heal spontaneously, larger defects usually require surgical intervention. Tympanoplasty is highly effective (>90%) in the repair of tympanic membrane perforations. Otoscopy is usually sufficient to diagnose AOM, SOM, chronic otitis media, cerumen impaction, tympanic membrane perforation, and Eustachian tube dysfunction; tympanometry and Eustachian tube function testing can be useful to confirm the clinical suspicion of these conditions.

Cholesteatoma, a benign tumor composed of stratified squamous epithelium in the middle ear or mastoid, occurs frequently in adults, often in the setting of severe Eustachian tube dysfunction. This is a slowly growing lesion that destroys bone and normal ear tissue. Theories of pathogenesis include traumatic immigration and invasion of squamous epithelium through a retraction pocket of the tympanic membrane, implantation of squamous epithelia in the middle ear through a perforation or surgery, and metaplasia following chronic infection and irritation. A chronically draining ear that fails to respond to appropriate antibiotic therapy should raise suspicion of a cholesteatoma. On examination, there is often a perforation of the tympanic membrane filled with cheesy white squamous debris. The presence of an aural polyp obscuring the tympanic membrane is highly suggestive of an underlying cholesteatoma. Conductive hearing loss secondary to ossicular erosion is common. Bony destruction visualized on CT of the temporal bone is also highly