

# Did you know?

*The latest from the field of otolaryngology*

## Sudden Sensorineural Hearing Loss

**Sudden sensorineural hearing loss (sudden SNHL)** is considered a medically urgent condition. About 40,000 Americans experience sudden SNHL each year. About half of these patients recover their hearing partially or completely within two weeks. Even though the etiology of this condition is multifactorial and often unknown, prompt initiation of treatment, within a week of onset, has been shown to improve outcomes.

**Diagnosis** of sudden SNHL focuses on determining the causative factor. A full history and physical should include the following: The circumstances and time of onset should be elicited as well as any associated symptoms like vertigo, tinnitus or aural fullness. History of diving, flying or straining, autoimmune or hematologic disease, upper respiratory illness, or otologic surgery should be included. Causes of sudden SNHL are many and include, but the first two in the following list are by far the most common:

- Inflammation, most commonly viral, but also bacterial (meningococcal meningitis, syphilis)
- Middle ear-inner ear interaction, pathology of the middle ear can affect the inner ear via the round window of the labyrinth, e.g. barotraumas
- Vascular insufficiency, particularly in the vertebrobasilar circulation, diabetics are at increased risk
- Meniere's disease
- Autoimmune inner ear disease or a number of systemic autoimmune conditions
- Trauma, i.e. temporal bone fracture, labyrinth concussion, or a traumatic perilymph fistula
- Ototoxic medications, classically aminoglycosides
- Neurologic, multiple sclerosis
- Neoplastic, vestibular schwannoma, leukemia, myeloma and metastases to the temporal bone

A definitive diagnosis is identified in less than 10% of cases. Most cases are labeled as idiopathic. Prompt identification of the problem is important, as treatment of idiopathic sudden SNHL has been shown to be effective if commenced promptly. Laboratory studies may include CBC, ESR, VDRL, lyme titer in endemic areas. MRI is ordered if a vestibular schwannoma or multiple sclerosis is suspected. Referral to an otolaryngologist should occur within a few days, in order to obtain an audiogram and full evaluation.

**Treatment** of sudden sensorineural hearing loss should be commenced as soon as possible, preferably within a few days of onset. A number of steroids, antivirals, vasodilators and diuretics have been used for treatment of sudden SNHL. **Steroids are the only treatment currently supported by evidence.** Prednisone 1 mg/kg is usually given for 2-4 weeks, followed by a taper. Hearing loss is followed with serial audiograms. If there is no improvement, the patient may be a candidate for intratympanic steroid injections. Valacyclovir is commonly included in the treatment regimen for presumed viral cochleitis, but the evidence for its efficacy is lacking. Surgery can be performed to reinforce the round window and provide a better barrier between the middle and inner ear.

**Prognosis** for a partial or complete hearing recovery without treatment is approximately 50%. If steroid treatment is initiated within the first week, this recovery rate may be higher. Prognosis is better if hearing loss is milder, if there is some recovery seen within 2 weeks, and if vertigo is absent.

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