Sudden Sensorineural Hearing Loss Standard Procedure for the MHS

Guidance for Audiology

Recommendations from the
Defense Health Agency
Hearing Center of Excellence

Version Date: June 2020

Table of Contents

Background

The American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) Foundation published a clinical practice guideline (CPG) in March of 2019 that defined sudden sensorineural hearing loss (SSNHL) as:

- An acute loss of hearing over 72 hours
- A decrease of at least 30 decibels (dB) in three (3) consecutive frequencies
- Audiogram compared to a prior audiogram or the opposite ear's thresholds.[1]

Reported incidences of SSNHL range from 5 to 20 per 100,000 persons, but this is likely an underestimation as many patients who spontaneously recover may not seek medical attention.[2,3,4,5] Proper diagnosis of SSNHL remains challenging as it is often idiopathic, with no identifiable cause in 71-90% of cases.[3,5,6,7]

The AAO-HNS Foundation CPG discusses a variety of treatment options, to be determined by the treating otolaryngologist.

Proposed options	Discouraged options
■ Oral steroids	■ Antivirals
■ Intratympanic (IT) steroids	■ Thrombolytics
■ Combination of oral and IT steroids	■ Vasoactive substances
■ Hyperbaric oxygen	

Adherence to the treatment guidance on SSNHL found in this CPG can aid in standardization, to a certain extent, and foster value for both the patient and healthcare system. Quality of patient care is of increasing importance in the US healthcare system and will continue to frame important discussions on healthcare utilization and delivery.

Diagnosis in Active Duty Service members is particularly difficult due to the high rates of sensorineural hearing loss secondary to acoustic trauma and chronic hazardous noise exposure. A recent study by the Hearing Center of Excellence demonstrated that, within the Military Health System, 27% of the patients diagnosed with SSNHL either failed to meet criteria or were misdiagnosed.[8]

Upon completion of the study, several clinical gaps in the diagnosis and treatment of SSNHL were identified for primary care (PC), emergency department (ED), otolaryngology (ENT), and audiology (Aud).

Specialties	Gap
PC, ED	Recognition of signs & symptoms; knowledge of referral criteria
All specialties	Understanding of required documentation, diagnosis coding, and procedural coding for treatment
ENT	Standardized steroid dosage (oral and IT)
AUD	Standardized documentation of word lists used for word recognition testing

Further Reading

For a case review, overview of existing guidelines, and clinical recommendations, please refer to the following sources.

- Rauch, 2008. Full text is available at https://www.nejm.org/doi/pdf/10.1056/NEJMcp0802129.
- 2019 CPG. Full text is available at https://www.ncbi.nlm.nih.gov/pubmed/31369359.

Audiometric Confirmation of SSNHL

1. Criteria: 30 dB hearing loss at 3 consecutive frequencies occurring over a 72 hour period and if an underlying condition cannot be identified by history or clinical exam

2. Ear-specific, masked air and bone conduction (BC) thresholds, speech recognition threshold (SRT), and word recognition scores (WRS)

    a. Air conduction (AC) threshold, between 250-8000 Hz, mid-octave frequencies.

    b. Ear-specific SRT in dB HL should be measured using standardized spondee word list. Recorded stimuli are preferred for evaluation for standardization of outcomes, although monitored live voice may be used when appropriate.[1]

    c. Ear-specific masked WRS (in %)

        i. Presentation level of a 30- to 40-dB sensation level, above SRT

        ii. Use recorded versions of monosyllabic word lists (i.e., NU-6, W-22, etc.).

        iii. Different word lists should be used for each ear

Required Documentation

The otolaryngologist managing the patient with SSNHL will rely on the results of serial audiometric evaluations to inform further treatment strategies. As such, there is a need for thorough audiological documentation. Per the AAO-HNS CPG, the audiometric evaluation should include the following:

1. Air conduction and bone conduction thresholds, SRT, and WRS
2. For WRS - word lists used, method of presentation (monitored live voice vs. recorded), and number of words used (25 or 50 words)
3. Masking levels
4. Reliability
5. Validity
6. Type of transducer

Coding Guidance

Specialty	Code	Definition
Primary Care	H91.90	Unspecified hearing loss
ENT and Audiology (after audiometric confirmation)	H91.20	Sudden idiopathic hearing loss – unspecified ear
	H91.21	Sudden idiopathic hearing loss – right ear
	H91.22	Sudden idiopathic hearing loss – left ear
	H91.23	Sudden idiopathic hearing loss – bilateral

Patient Information

Standardized patient information based on the clinical practice guidelines is available from the AAO-HNS Foundation and can be found in Appendix A of this document.

Metrics for Implementation

The above standard protocol for the evaluation and treatment of SSNHL can lead to better understanding of treatment outcomes and cost to MHS. With the implementation of this protocol, HCE will evaluate certain metrics biennially for all specialties.

The initial and follow-up audiometric evaluations should include the following:

- ✓ Coding compliance after audiometric findings
- ✓ Proper documentation (see above)
- ✓ Appropriate referral to ENT for treatment
- ✓ Audiometric follow up during and after treatment

References

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Appendix A

American Academy of Otolaryngology-Head and Neck Surgery Foundation

Clinical Practice Guidelines
Patient Information

CLINICAL PRACTICE GUIDELINES

PATIENT INFORMATION

SUDDEN SENSORINEURAL HEARING LOSS (SSNHL) FREQUENTLY ASKED QUESTIONS (FAQS)

WHAT IS CAUSING THE PROBLEM?	The cause of sudden sensorineural hearing loss (SSNHL) is often not clear. It usually is in one ear. You may have other symptoms including dizziness (spinning sensation, balance problems, or vertigo) and ringing (tinnitus) or feeling like your ear needs to pop.
HOW IS SUDDEN HEARING LOSS DIAGNOSED?	The sudden loss in hearing occurs within a 3-day period and is obvious to you. You may also have loud ringing, dizziness, and/or pressure in the ear. You should see a healthcare provider as soon as possible if you have any of these symptoms. Your healthcare provider will complete a physical examination and review your medical history. A hearing test (audiogram) should be obtained by your healthcare provider but other routine lab tests and x-rays are not usually recommended.
WILL MY HEARING COME BACK?	Approximately half of patients with SSNHL recover at least some hearing without treatment. Patients with mild to moderate to severe hearing loss are considered in the "steroid-effective zone" and have a high chance — over 75 – 80% — of recovery with steroid therapy. The earlier that treatment is begun, the better the chances for recovery. Patients with profound hearing loss, which is a complete loss of hearing, patients who experience dizziness (vertigo) with their sudden hearing loss, and individuals above age 65 have a much lower chance of getting their hearing back. In those cases, you and your healthcare provider should discuss aggressive treatments to try to bring your hearing back. Hearing can take up to 6 weeks or more to return, after treatment is finished.
IS THERE ADDITIONAL TESTING NEEDED WITH SSNHL?	Once in a while (less than 1% of the time) SSNHL is due to a benign (non-cancerous) tumor on the nerve that connects the ear to the brain. These tumors are called "vestibular schwannomas." Your healthcare provider may order a magnetic resonance imaging (MRI) scan to look for this tumor if an MRI is safe for you. Another option is a type of hearing test called Auditory Brainstem Response (ABR). However, if the ABR is abnormal, your healthcare provider should recommend an MRI.

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CLINICAL PRACTICE GUIDELINES

PATIENT INFORMATION

SUDDEN SENSORINEURAL HEARING LOSS (SSNHL) FREQUENTLY ASKED QUESTIONS (FAQS)

HOW IS SUDDEN HEARING LOSS TREATED?	There are many treatments for SSNHL. Watchful waiting may be recommended. This is because half of patients may get back hearing on their own — these are usually patients with mild to moderate degrees of hearing loss, but healthcare providers do not currently have a way to predict who will get better without treatment. Initial treatment should be given within 2 weeks and can include steroids in pill form or injected into the ear directly (intratympanic steroid injections), or hyperbaric (pronounced hi-per-bar-ik) oxygen therapy (HBOT) given with steroids. If the first treatments do not work, your otolaryngologist should discuss "salvage therapy." You may be offered HBOT with steroids, but your healthcare provider should recommend intratympanic steroid injections through the eardrum. The benefits of therapy may include more quick and complete recovery of hearing, but there are also side effects that must be considered when choosing from the available options.
WHAT ARE THE SIDE EFFECTS OF EACH TREATMENT?	Side effects are different with each type of treatment but may include anxiety, pain, dizziness, high blood sugar, high blood pressure, depression, or sleep problems. In head-to-head comparisons, intratympanic injection of steroids causes much fewer side effects than oral steroids. You should talk to your healthcare provider about side effects from any treatment that you are considering.
WHAT ELSE CAN I EXPECT?	Sudden hearing loss can be frightening and may make you feel embarrassed, frustrated, worried, lonely, and even depressed. Talking with a counselor can be helpful. If you have tinnitus (ringing in the ear), it is usually loud and awful at the beginning, but reduces significantly over the first several months and if the hearing comes back up. If you do not experience full hearing recovery, you may want to talk to your otolaryngologist and audiologist about hearing aids or other devices you can use to make hearing easier. You should get a follow-up hearing test (audiometry) within 6 months of your first visit with SSNHL.

SOURCE: Chandrasekhar SS, Tsai Do BS, Schwartz SR, et al. Clinical Practice Guideline: Sudden Hearing Loss (Update). Otolaryngol Head Neck Surg. 2019;161 (1_Suppl):[S1-S45].

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