Institution Name: Al- Nahdha Hospital

Document Title: Protocol of Management of Sudden Sensorineural Hearing Loss (SSNHL)

Approval Process

	Name	Title	Institution	Date	Signature
Written by	Dr. Zaina Al- Dhahli	Otology fellow	Al- Nahdha Hospital	January 2022	
Reviewed by	Dr. Mohammed Al- Rahbi	ENT Consultent	Al- Nahdha Hospital	January 2022	
	ENT Department Board	ENT Department Board	Al- Nahdha Hospital	January 2022	
	Dr. Hamdoon Al- Numani	Head of ENT Department	Al- Nahdha Hospital	January 2022	
Validated by	Quality Management & Patient Safety Department	Quality Management & Patient Safety Department	Al- Nahdha Hospital	January 2022	
Approved by	Dr. Hamad Al- Harthi	Hospital Director	Al- Nahdha Hospital	January 2022	

Contents Table:

Acronyms:.....1

.1 Introduction 2

2. Scope 2

3. Purpose 2

4. Definitions 2

5. Procedure 3-5

6. Document History and Version Control 6

7. References:.....7

Acronyms:

SSNHL	Sudden Sensorineural Hearing Loss
ITS	intratympanic steroids
PTA	Pure Tone audiometry
CHL	Conductive hearing Loss
HBO	Hyperbaric Oxygen
MRI IAS	Magnetic Resonance Imaging

1. Introduction

Sudden sensorineural hearing loss (SSNHL) is one of the most important clinical emergencies in the otology with a chance of recovery with treatment. The severity of hearing loss occurs on a scale ranging from moderate to total loss, which may lead to deafness and social distress in the patients. The current treatment modalities are sys- temic steroids, intratympanic steroids (ITS) and hyperbaric oxygen therapy. In this guideline, we will present two pathways of treatment in patient with moderate SSNHL and patient with moderately severe and worse.

2. Scope

This protocol applies to all ENT clinics, ENT accident and Emergency, Audiology clinics at Al Nahdha Hospital and at Seeb and Baushar Polyclinics.

3. Purpose

The purpose of this guideline update is to provide clinicians with evidence-based recommendations in evaluating patients with sudden hearing loss and sudden sensorineural hearing loss, with particular emphasis on managing idiopathic sudden sensorineural hearing loss.

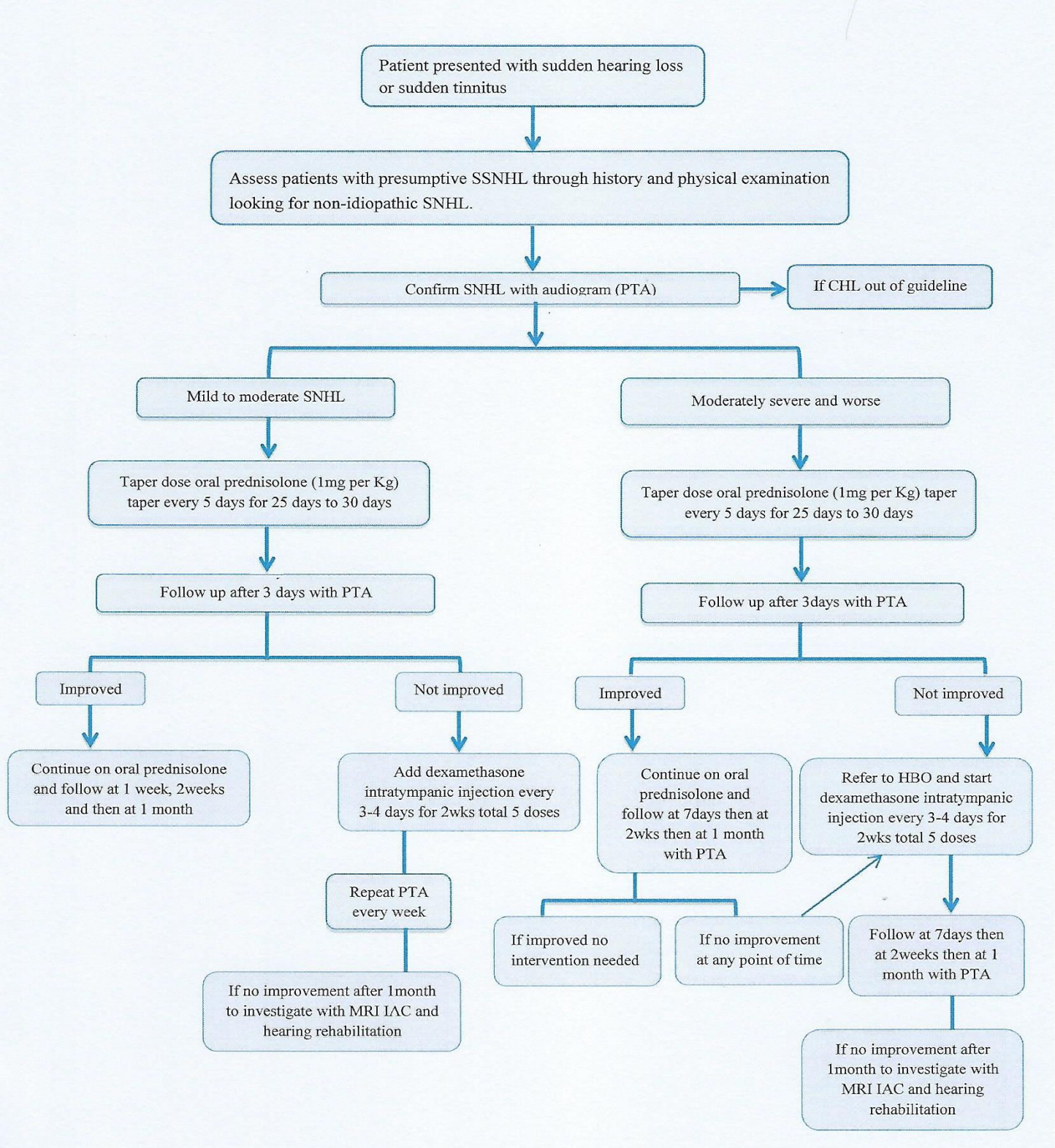
4. Definitions

4.1 Sudden sensorineural hearing loss (SSNHL) : A subset of SHL that (a) is sensorineural in nature, (b) occurs within a 72-hour window, and (c) consists of a decrease in hearing of 30 decibels affecting at least 3 consecutive frequencies.

4.2 Idiopathic sudden sensorineural hearing loss (ISSNHL): SSNHL with no identifiable cause despite adequate investigation.

4.3 Improvement: if there is improvement in PTA by 10 dB or more.

5. Procedure


Patient presented with sudden hearing loss or sudden tinnitus
Assess patients with presumptive SSNHL through history and physical examination looking for non-idiopathic SNHL.
Confirm SNHL with audiogram (PTA)
If CHL out of guideline
Mild to moderate SNHL
Moderately severe and worse
Taper dose oral prednisolone (1mg per Kg) taper every 5 days for 25 days to 30 days
Taper dose oral prednisolone (1mg per Kg) taper every 5 days for 25 days to 30 days
Follow up after 3 days with PTA
Follow up after 3days with PTA
Improved
Not improved
Improved
Not improved
Continue on oral prednisolone and follow at 1 week, 2weeks and then at 1 month
Add dexamethasone intratympanic injection every 3-4 days for 2wks total 5 doses
Continue on oral prednisolone and follow at 7days then at 2wks then at 1 month with PTA
Refer to HBO and start dexamethasone intratympanic injection every 3-4 days for 2wks total 5 doses
Repeat PTA every week
If improved no intervention needed
If no improvement at any point of time
Follow at 7days then at 2weeks then at 1 month with PTA
If no improvement after 1month to investigate with MRI IAC and hearing rehabilitation
If no improvement after 1month to investigate with MRI IAC and hearing rehabilitation

5.1 Any patient present with sudden hearing loss or sudden tinnitus should take detailed history and examination to rule out non-idiopathic SSNHL.

5.2 List of symptoms should ask about:

5.2.1 Sudden onset of bilateral hearing loss.

5.2.2 Antecedent fluctuating hearing loss on one or both sides.

5.2.3 Concurrent severe bilateral vestibular loss with oscillopsia.

5.2.4 Gaze evoked or downbeat nystagmus.

5.2.5 Concurrent eye pain, redness, lacrimation, and photophobia.

5.2.6 Focal neurologic symptoms or signs, such as headache, confusion, diplopia, dysarthria, focal weakness, focal numbness, ataxia, facial weakness.

5.2.7 Recent head trauma.

5.2.8 Recent acoustic trauma.

5.2.9 Recent barotrauma.

5.3 Grades of hearing impairment as recommended by the Global Burden of Disease Expert Group on Hearing Loss:

Category	Pure-tone audiometry
Normal hearing	−10.0 to 4.9 dB hearing level 5.0 to 19.9 dB hearing level
Mild hearing loss	20.0 to 34.9 dB hearing level
Moderate hearing loss	35.0 to 49.9 dB hearing level
Moderately severe	50.0 to 64.9 dB hearing level
Severe hearing loss	65.0 to 79.9 dB
Profound hearing los	80.0 to 94.9 dB hearing level

5.4 Intratympanic injection procedure:

The procedure is done as office-based. The patient should be placed in supine position and local anesthesia of the external auditory canal is applied. A small gauge spinal needle is used to administer the steroids (dexamethasone) to the middle ear. The tympanic membrane is penetrated at the posterior-inferior quadrant, taking care not to puncture in the same place twice during the course of the treatment. Another hole can be created (using the same needle) anterior inferiorly before injecting the drug posteriorly. This might help to know that the middle ear is full since the surplus drug would drain anteriorly. In addition, to decreasing the stretch of the tympanic membrane, hence avoiding any discomfort or further pain. The patient should be kept with their head tilted away from the affected ear, without swallowing or speaking for 30 minutes.

5. Document History and Version Control

Document History and Version Control			
Version	**Description of Amendment**	**Author**	**Review Date**
01	Initial Release	Dr. Zaina Al- Dhahli	Jan/ 2025
02			
03			
04			
05			

Written by	**Reviewed by**	**Approved by**
Dr. Zaina Al- Dhahli	Head of ENT Department Dr. Mohammed Al- Rahbi ENT Departmental Board	Hospital Director

6. References:

Title of book/ journal/ articles/ Website	Author	Year of publication	Page
1-Prognostic effect of hyperbaric oxygen therapy starting time for sudden sensorineural hearing loss	ErolYıldırım, K. Murat O¨zcan. Mehmet PalalıMehmet Ali Cetin SerdarEnsariHu¨seyinDere	2015	
2-Intratympanic versus intravenouscorticosteroid treatment for suddensensorineural hearing loss in diabeticpatients: proposed study protocol for aprospective, randomized superiority trial	Weiqiang Yang, Xiaoling Li, JiataoZhong, Xueshuang Mei, Hongyu Liu, Le Yang, Liming Luand Hongyi Hu	2020	
3-Is Salvage Hyperbaric OxygenTherapy Effective for Sudden Sensorineural Hearing Loss in Patients with Non-response to Corticostreoid Treatment?	AyşeSeçilKayalıDinç ,MelihÇayönü, SüleymanBoynueğri, EvrimÜnsal Tuna AdilEryılmaz	2020	
4-Contribution of intratympanic steroids in the primary treatment of sudden hearing loss	HasanDemirhan, Ali RızaGökduman, BahtiyarHamit, MügeFethiyeYürekliAltındağ &ÖzgürYiğit	2018	
5-Addition of Hyperbaric Oxygen Therapy vs Medical Therapy Alone for Idiopathic Sudden Sensorineural Hearing Loss A Systematic Review and Meta-analysis	Tae-Min Rhee, Doyeon Hwang; Jee-Soo Lee; Jonghanne Park, JooMyung Lee	2018	
6-Improvement or Recovery From Sudden Sensorineural Hearing Loss With Steroid Therapy Does Not Preclude the Need for MRI to Rule Out Vestibular Schwannoma	Cassandra Puccinelli and Matthew L. Carlson	2019	Vol. 40, No. 5, 2019
7-Post-contrast 3D-FLAIR in idiopathic sudden sensorineural hearing loss	Jiali Wang,TongliRenWenfang Sun· Qiong Liang· Wuqing Wang	2019	
8-The prevalence and clinicalcharacteristics of vestibular schwannoma among patients treated as sudden sensorineural hearing loss: A 10-year retrospective study in southern China	Weiqiang Yang, XueshuangMei, Xiaoling Li, Yaqi Zhou, JiataoZhong, Hongyu Liu, Lu Li, Hongyi Hu	2020	
9- Clinical Practice Guideline: Sudden Hearing Loss (Update	Sujana S. Chandrasekhar, Betty S. Tsai Do, Seth R. Schwartz, Laura J. Bontempo,Erynne A. Faucett, Sandra A. Finestone, Deena B. Hollingsworth, , David M. Kelley, Steven T. Kmucha, GulMoonis, Gayla L. Poling, J. Kirk Roberts, Robert J. Stachler, Daniel M. Zeitler, , Maureen D. Corrigan, Lorraine C. Nnacheta, and Lisa Satterfield.	2019	Vol. 161(1S) S1–S45