Idiopathic Sudden Sensorineural Hearing Loss

A WINDOW OF DAYS TO WEEKS — in treated patients the odds of complete recovery fall about 12% per day

An adjunct to corticosteroids in acute idiopathic sudden hearing loss, given early, to improve audiometric recovery.

TREATMENT PROTOCOL

Pressure	**2.0–2.5 ATA**
Duration	90 min
Frequency	Daily
Sessions	**10–20 sessions.** Benefit is greatest with a total exposure of 1,200 min or more
Review	UHMS sets no review point; continue ENT follow-up. Bagli 2020 model: audiometry after 10, continue to 20 only if PTA improved 11 dB or more

PATIENT SELECTION

Who to treat	Idiopathic acute sudden hearing loss, treated as early as possible alongside steroids. Benefit was greatest in severe-to-profound loss and in salvage after steroids had failed in Rhee 2018 (mostly non-randomised); Han 2026 found no overall effect in profound loss. UHMS: consider for loss over 40 dB within 14 days.
Who not to treat, or when to stop	**Chronic loss or isolated tinnitus — Cochrane found no benefit.** One trial found the tinnitus response tracked patient expectation ($p<0.05$), which the authors attributed largely to psychological mechanisms.
Mechanism	The cochlea has a high metabolic demand and poor collateral supply. Raising perilymph oxygen tension can recover hair-cell function that is ischaemic but still viable, if applied early.
Outcome measure	Pure-tone audiometry gain in dB; 25% and 50% threshold-improvement criteria; Siegel's criteria; word discrimination score.

WHAT THE NUMBERS SHOW

- **Newth 2025 Cochrane-lineage update** (7 trials, n=562, GRADE moderate by author judgement; AMSTAR-2 critically low): **RR 1.5 (95% CI 1.2–1.7), NNT 4**, and **15.1 dB (95% CI 8.2–22.0)** of additional gain.
- **Bagli 2020** (n=96, all HBOT-treated, no comparator): the onset-to-treatment interval was **the only independent predictor** of complete recovery — **OR 0.88 per day of delay (95% CI 0.82–0.95, p=0.002)**, about 12% of the odds lost per day.
- **Lun 2026** (n=70, four timing groups): median gain **33.8 dB early, 6.9 dB late, 0.0 dB salvage, 11.9 dB with steroids but no HBOT**.
- **Alde 2023** (n=49, treated within 3 days, no steroids): complete recovery **71.4% (35/49)**, uncontrolled.
- **Chaushu 2023**: pooled **spontaneous** recovery is about **60.3%** — the baseline every figure above must be read against.

EVIDENCE BASE

Shape and certainty	Very large — 40 or more records, at least 8 randomised trials, multiple Cochrane-lineage reviews. Certainty GRADE moderate.

Study	Design	Result and risk of bias
Newth 2025, Diving Hyperb Med — PMID 41364864	Cochrane-lineage update, 7 trials, n=562	**Positive**; GRADE moderate; AMSTAR-2 critically low
Bennett 2012, Cochrane — PMID 23076907	SR, 7 RCTs, n=392	Positive acute; no benefit chronic
Rhee 2018, JAMA Otolaryngol — PMID 30267033	Meta-analysis, 19 studies, n=2,401	Positive
Xie 2026, Braz J Otorhinolaryngol — PMID 42143851	Propensity-matched cohort, n=270 matched	**No benefit**; estimates favour control; ROBINS-I moderate
Lun 2026, Diving Hyperb Med — PMID 41875440	Retrospective cohort by timing, n=70	Positive for early; ROBINS-I serious

WHAT THE EVIDENCE DOES NOT SUPPORT

Cautions	**There is no 48-hour threshold in this literature.** The only trial enrolling inside 48 h (Fattori 2001) used that as an entry criterion, not a tested cut-off, and its comparator was a vasodilator rather than steroids. **Xie 2026, the best-controlled study, found no added benefit when full intravenous and intratympanic steroids are already given early.** Lun's timing gradient is confounded — its own steroid-only (no-HBOT) group improved more (11.9 dB) than its late-treated group (6.9 dB), which is internal evidence the groups are not exchangeable. Absolute effects are modest against a 60% spontaneous-recovery baseline.

STATUS AND SOCIETY POSITIONS

Status	**Not a PMB condition** — H91.2 is not on the CMS coded list. Relies on the clinical and SAUHMA Level B argument plus NRPL recognition, within the early-treatment window.
ICD-10 (SA)	H91.2, H90.3, H90.4, H90.5, H91.9
ECHM 2017 (Type, Level)	1B with medical therapy within 2 weeks; not after 6 months
AAO-HNSF 2019	Option, with steroids: within 2 weeks of onset, or as salvage within 1 month
NICE NG98	Does not address HBO_2 (WHO guideline review, 2025)

Compiled from the **UHMS Hyperbaric Oxygen Therapy Indications Manual, 15th edition (2023)** and the appraised trial evidence held in an HBOT evidence library. All treatments are 100% oxygen. US Navy Treatment Table profiles are named, not reproduced — the US Navy Diving Manual is the operative document at the chamber. Session counts are largely guideline convention rather than dose-finding evidence. This card summarises published parameters and does not replace those source documents or clinical judgement for the individual patient. Generated 28 October 2026. Not a SAUHMA publication and carries no society endorsement.