



Empowering Children. Supporting Families. Building Brighter Futures.

Resource 034 | Hearing conditions

Auditory neuropathy spectrum disorder

What it means

Auditory neuropathy spectrum disorder (ANSD) is a hearing condition in which sound detection by parts of the inner ear may be preserved, but transmission or timing of signals along the auditory pathway is disrupted. Understanding speech can be more difficult than ordinary hearing thresholds suggest. [1]

Causes and risk factors

Possible contributors include genetic conditions, prematurity-related or other neonatal complications, severe jaundice, and damage involving inner-ear connections or the auditory nerve. Causes and outcomes vary, and not every child has the same site of difficulty. Medical evaluation helps clarify relevant associated conditions. [1,2]

General family education. A concern deserves assessment, but this guide does not diagnose a child or prescribe treatment.



Signs and everyday impact

A child may detect sounds inconsistently, have particular difficulty understanding speech in noise, or show communication delay. Responses can vary across situations. A screening test that measures only one part of the hearing system may not fully characterize ANSD. [1,2]

Assessment and diagnosis

Diagnosis uses a pattern of audiological findings, often including auditory brainstem response and tests of inner-ear function, rather than behavior alone. Repeated behavioral assessment and functional communication information help establish useful hearing access. Audiology and medical specialists may consider neurological or genetic investigations where appropriate. [1,2]

Treatment and therapy

An individualized plan may include hearing aids when appropriate, communication and language support, assistive technology, and cochlear implant consideration for selected children. Decisions depend on functional benefit and the auditory nerve and medical findings, not a single test score. Progress and access should be reviewed carefully; outcomes cannot be guaranteed. [1,2,3]

Support at home

Provide consistent accessible language using the methods that work for the child. Reduce noise, use visual information, and allow communication through signs or other supports. Keep notes on real-world listening and understanding to help the team judge whether a device or strategy is useful.

When to seek help

New weakness, loss of skills, rapidly changing hearing, or significant neurological symptoms requires medical assessment alongside audiology follow-up.

Questions for your care team

- Which test findings support ANSD?
- How are real-world speech understanding and language access being measured?
- What evidence of benefit will guide technology decisions?



Podcast preparation

Use this outline to develop a later podcast script.

Suggested opening

Welcome to Mariel Early Intervention. Today we discuss auditory neuropathy spectrum disorder. Auditory neuropathy spectrum disorder (ANSD) is a hearing condition in which sound detection by parts of the inner ear may be preserved, but transmission or timing of signals along the auditory pathway is disrupted. This is general education; each child needs individualized care.

Opening: Define the topic and its developmental context.

Understanding: Explain causes and signs without inviting self-diagnosis.

Assessment: Describe evaluation and distinguish screening from diagnosis.

Support: Discuss treatment, therapy, and practical family supports.

Closing: Explain urgent signs and one clear next step.

Misconception to address: Detecting a tone on a hearing test does not necessarily mean speech is understood clearly.

Before recording: update clinical references and local service details, arrange clinical review, and use fully consented or fictional examples.

Terms in plain language

- ANSD: auditory neuropathy spectrum disorder.
- Otoacoustic emissions: sounds generated by inner-ear sensory function.
- Speech perception: recognizing and understanding speech.

Sources and further reading

Sources accessed 3 October 2026. Numbered references support the clinical overview. Treatment availability and referral routes vary by country.

[1] What Is Auditory Neuropathy? — Causes & Treatment

<https://www.nidcd.nih.gov/health/auditory-neuropathy>

[2] Hearing Loss in Children

<https://www.asha.org/practice-portal/clinical-topics/hearing-loss-in-children/>

[3] Types of Hearing Loss

<https://cdc.gov/hearing-loss-children/about/types-of-hearing-loss.html>