



Earliest Interactions
A MAINE EHDI PROGRAM



A FAMILY'S GUIDE TO **Auditory Neuropathy Spectrum Disorder**



What is ANSD?

Auditory Neuropathy Spectrum Disorder (ANSD) is a hearing difference that occurs when either the hearing nerve does not fire as expected or the connection between the hearing nerve and the inner ear is not working. This means that the outer, middle and inner ear are generally working well, but the sound information does not get sent through the nerve in a clear way, making it difficult for the brain to process. The spectrum portion of ANSD is important to remember because some children with ANSD have limited hearing difficulties while others may have difficulties similar to a child with profound hearing levels. ANSD can affect one or both ears.



What are the risk factors for developing ANSD?

Infants who experience certain medical complications and associated treatments are at higher risk of developing ANSD. These risk factors include:

- Hyperbilirubinemia (jaundice)
- Hypoxia (lack of oxygen)
- Severe infection
- Exposure to life saving medication where a side effect is negatively impacting the auditory system (ex. antibiotics)
- Genetics
- Immune disorders
- Other neuropathy disorders
- NICU stay longer than 5 days
- Prematurity/low birth weight

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How is ANSD diagnosed?

The best way to diagnose ANSD is via an auditory brainstem response (ABR) test. If your child is still under 6 months of age, this will be the primary test that they receive. However, if they are older, behavioral testing will likely be completed first.

Once ANSD is identified, multiple behavioral tests must be completed to assess “functional hearing” to help guide which technology recommendation might be best for your child.

Hearing can fluctuate over time and regular hearing tests are important to continue to best support your child.



What are some signs that my child might have ANSD?

Inconsistent responses to sound

Speech delay

More consistent responses to environmental sounds than to speech information

Some symptoms can be similar to other types of hearing differences, which is why proper diagnosis is important

What should I do if I suspect my child might have ANSD?



Discuss your concerns with your child’s pediatrician and they will be able to refer you to an audiologist for diagnosis.

What kinds of hearing technology might be helpful for children with ANSD?



A variety of hearing technology options are available for children with ANSD. Talk to your child’s audiologist to understand which might be the best option for your child.

How will my child with ANSD communicate as they get older?



This can depend on many factors as children with ANSD have a variety of “hearing profiles” and can be at different places on the spectrum of ANSD. Early intervention is available across different communication opportunities to best support your child and your family.

Find more resources at:
[earliestinteractions.com](https://www.earliestinteractions.com)

