



The impacts of [hypoxic-ischemic encephalopathy \(HIE\)](#), a brain injury caused by an oxygen-depriving event, may include impairment in a child's vision and/or hearing. Generally, newborn babies are screened at birth for sensory impairments, and then further screened periodically throughout their development (1, 2). If parents have concerns about vision and/or hearing, they can speak to their child's pediatrician. The pediatrician may then refer them to specialists such as ophthalmologists (for vision evaluation and care) or audiologists and otolaryngologists (for hearing evaluation and care) (1). These medical professionals can provide recommendations regarding what kind of interventions the child will need – sometimes this may involve glasses or a hearing aid, though there are certain circumstances in which surgical intervention may be appropriate.

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Common vision impairments in children with HIE



The following are some examples of vision impairments that may arise in children with HIE (3, 4):

- **Cortical Visual Impairment (CVI):** Also known as cortical blindness or cerebral visual impairment, this type of vision loss can be caused by damage to the brain and pathways between the eye and the brain. The eyes themselves are often normal, but visual impairment ranges from mild to severe. Hypoxia (oxygen deprivation) is the most common cause of CVI (5).
- **Tunnel vision:** This involves the loss of peripheral vision, typically due to conditions that impact the function of rods in the retina. People with tunnel vision cannot see objects unless they are near the center of their visual field (6).
- **Strabismus:** The eyes of people with strabismus are misaligned, and point in different directions (some cases are more obvious than others). Strabismus is often caused by brain damage, which impacts the muscles that control eye movement. Children who have strabismus may develop amblyopia (vision impairment) in the misaligned eye. The brain will learn to only pay attention to visual input from the straighter/stronger eye. This can cause them to lose depth perception. If amblyopia is detected early in life, it can be treated by putting a patch over the stronger eye to improve vision in the weaker eye. If it is not caught early, it is more likely to become permanent (7).



Common hearing impairments in children with HIE



Babies with HIE are at risk for sensorineural hearing loss (SNHL) (8), which involves damage to the inner ear or pathways between the brain and inner ear (9). Whether SNHL is temporary or permanent depends in part on the duration and severity of the oxygen deprivation the infant experienced (8). If sensorineural hearing loss is permanent, it can sometimes be managed with hearing aids. People with sensorineural hearing loss may also be eligible for cochlear implants (9).

What signs may indicate a child has a vision or hearing impairment?

The following indications are general; they may apply to children with and without HIE.

Signs and symptoms of visual impairment (10):

- Problems tracking objects (in infants over three months)
- Misaligned eyes/strabismus (in infants over four months; younger than that, it is common for babies' eyes to occasionally appear misaligned)
- White/light gray coloration in the pupil
- Fluttering eyes
- Redness that doesn't go away after a few days
- Pus/crustiness
- Consistently watery eyes



- Eyelid drooping
- Sensitivity to light
- The child complains of eye pain or itchiness

Signs and symptoms of hearing impairment (11):

- Not startling at loud noises
- Not turning towards the source of a sound (this is concerning if it occurs after six months of age)
- By one year of age, not saying simple words like “mama” and “dada”
- Speech delays/problems
- Difficulty following directions
- Turning up TV volume unusually high
- Saying “huh?” or asking someone to repeat something often

When should a child with HIE be referred to a vision or hearing specialist?

There are certain HIE-associated diagnoses which indicate that a child’s pediatrician should refer them to a specialist (12):

Indications for early referral to an ophthalmologist:

- If a child has Stage III HIE
- If a child has Stage II HIE with either abnormal findings from a neurological examination or reduced visual awareness at the time of discharge from the hospital
- If a child has an HIE-associated stroke

Indications for early assessment of sensorineural hearing:

- If a child has intrapartum asphyxia, they should be tested for sensorineural hearing loss after birth and before they are discharged from the hospital.
- If the child has persistent pulmonary hypertension of the newborn (a serious circulation problem) along with HIE, they should be tested repeatedly throughout childhood because they may be at higher risk of late-onset sensorineural hearing loss.



Vision and hearing are critical for a child's development, as they are two of the most important senses through which a child perceives the world. When children show early signs of impairment in vision or hearing, pediatricians should refer them to specialists such as ophthalmologists, audiologists, and otolaryngologists. These specialists can make recommendations for early interventions to help maximize a child's abilities.

Other conditions that are associated with HIE

In addition to vision and hearing impairments, children with HIE may be more likely to develop the following conditions. Click on the links below to learn more:

- [Cerebral palsy](#)
- [I/DD \(intellectual/developmental disabilities\)](#)
- [Learning disabilities](#)
- [Epilepsy/seizure disorders](#)
- [Speech delays and language disorders](#)
- [Behavioral and emotional disorders](#)
- [Nutritional concerns](#)
- [Oral health issues](#)
- [Neurologic and mental health concerns](#)
- [Skin health concerns](#)
- [Orthopedic conditions](#)
- [Pain](#)
- [Respiratory conditions](#)
- [Sensory processing issues](#)

About the HIE Help Center and ABC Law Centers

The HIE Help Center is run by [ABC Law Centers](#), a medical malpractice firm exclusively handling cases involving HIE and other birth injuries. Our lawyers have over 100 years of combined experience with this type of law, and have been advocating for children with HIE and related disabilities since the firm's inception in 1997.



We are passionate about helping families obtain the compensation necessary to cover their extensive medical bills, loss of wages (if one or both parents have to miss work in order to care for their child), assistive technology, and other necessities.

If you suspect your child's HIE may have been caused by medical negligence, please [contact us](#) today to learn more about pursuing a case. We provide free legal consultations, during which we will inform you of your [legal options](#) and answer any questions you have. Moreover, you would pay nothing throughout the entire legal process unless we obtain a favorable settlement.

You are also welcome to reach out to us with inquiries that are not related to malpractice. We cannot provide individualized medical advice, but we're happy to track down informational resources for you.

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