

Hypoxic-ischemic encephalopathy (HIE) is a form of brain damage caused by insufficient flow of oxygenated blood, often during or around the time of birth. HIE often occurs in conjunction with a variety of associated conditions, including respiratory health concerns. Babies with HIE are often born prematurely; prematurity increases susceptibility to HIE. Many premature babies also have underdeveloped lungs.

In addition to prematurity-related issues, children with HIE may have respiratory problems stemming directly from HIE. Brain damage from HIE can impact regions of the brain that are responsible for controlling the muscles involved in breathing. This may go along with motor impairments such as cerebral palsy (CP), which is often caused by HIE.



Throughout this page, we'll discuss considerations related to respiratory health issues in children with HIE and cerebral palsy.

Causes of respiratory health issues in kids with HIE

Children with HIE may have respiratory conditions due to a wide variety of factors, including, but not limited to:

Persistent pulmonary hypotension of the newborn (PPHN)

In PPHN, the baby's body fails to adjust from fetal circulation to normal newborn circulation. Among other issues, this can cause breathing problems (1, 2).

Prematurity

Increases the risk of conditions such as respiratory distress syndrome (RDS), bronchopulmonary dysplasia, apnea, pneumonia, and PPHN (3).

An HIE diagnosis can be difficult, but our team is here to help. Call us when you're ready.

Breathing problems associated with cerebral palsy/motor impairments

These may be related to the following factors, among others (1, 4):

- Weakness of muscles in the respiratory system
- Gastro-oesophageal reflux (GOR)
- Spinal curvature/scoliosis (which restricts lung function)
- Sleep apnea
- Inadequate nutritional intake, leading to muscle atrophy
- Swallowing problems, which can lead to aspiration (breathing in of food, liquid, etc.) and aspiration pneumonia
- Poor respiration due to lack of physical activity



Children with cerebral palsy and other motor impairments may also be impacted more profoundly by infections, which can exacerbate existing respiratory issues.

Diagnosing respiratory health conditions

Clinicians should carefully monitor for respiratory issues in children with HIE. In some cases, communication difficulties may make respiratory conditions less obvious. Kids with HIE often have [speech/language disorders](#) that may make it hard or impossible to verbally express their own symptoms. Therefore, in addition to clinically evaluating the child's health, clinicians should discuss possible signs of respiratory issues with parents, and take seriously any reported abnormalities.

Medical professionals should consider:

The nature of a respiratory issue (i.e. the main symptoms), such as apnea, wheezing, or recurrent infections

Potential contributing factors/causes of said respiratory problems

Possible interventions, including (4):

- Medications
- Therapies
- Technology (e.g. CPAP, ventilators)
- Braces (for scoliosis)
- Surgeries



Treatment and therapy for respiratory health conditions

Treatments for children with HIE and respiratory issues should be both multidisciplinary and individualized. The many secondary conditions associated with HIE (respiratory or otherwise) are often interrelated. In order to address respiratory problems, it may also be necessary to address:

- [Feeding/nutritional issues](#)
- Motor impairments
- Skeletal issues
- Other complications associated with HIE

Doctors should take care in weighing the risks and potential benefits of different courses of action, putting the focus on improving the child's quality of life. As with any other treatment, they must also get the informed consent from the patient or informed permission from the parents (4, 5).

About the HIE Help Center

The HIE Help Center is run by [ABC Law Centers](#), a medical malpractice firm exclusively handling cases involving HIE since 1997. If you suspect your child's birth injury has been caused by medical negligence, contact us to learn more about pursuing a case. We provide free consultations, during which we will inform you of your [legal options](#) and answer any questions you have. You pay nothing throughout the entire legal process until we win your case!



Sources

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