



[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 and other [birth injuries](#)), and 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 children with HIE and associated disabilities

Children with HIE may have respiratory conditions due to a wide variety of factors, including the following (among others):

- Persistent pulmonary hypotension of the newborn (PPHN), which is associated with HIE. 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, which increases the risk of conditions such as respiratory distress syndrome (RDS), bronchopulmonary dysplasia, apnea, pneumonia, and PPHN (3).
- 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.

Diagnosis, treatment and therapy for respiratory health conditions



Clinicians should carefully monitor for respiratory issues in children with HIE, cerebral palsy, and other disabilities. In some cases, communication difficulties may make respiratory conditions less obvious; children 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 following factors:

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. These may include medications, therapies, technology (e.g. CPAP, ventilators), braces (for scoliosis), or surgeries (4).

Treatments for children with HIE, cerebral palsy, and respiratory issues should be both multidisciplinary and individualized. The many secondary conditions associated with HIE (respiratory and otherwise) are often interrelated. In order to address respiratory problems, for example, it may also be necessary to treat [feeding/nutritional issues](#), motor impairments, skeletal issues, and other complications associated with HIE. Doctors should take care in weighing the risks and potential benefits of different courses of action, with a focus on improving the patient'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 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 medical advice, but we're happy to track down informational resources for



you.

Sources

Hypoxic-Ischemic Encephalopathy. (2019, May 30). Retrieved July 3, 2019, from

<https://emedicine.medscape.com/article/973501-overview#a7>

Persistent Pulmonary Hypertension of the Newborn (PPHN). (n.d.). Retrieved July 3, 2019, from

<https://www.nationwidechildrens.org/conditions/persistent-pulmonary-hypertension-of-the-newborn-pphn>

Common conditions treated in the NICU. (n.d.). Retrieved July 3, 2019, from

<https://www.marchofdimes.org/complications/common-conditions-treated-in-the-nicu.aspx>

Seddon, P. C., & Khan, Y. (2003). Respiratory problems in children with neurological impairment. *Archives of disease in childhood*, 88(1), 75-78.

Proesmans, M. (2016). Respiratory illness in children with disability: a serious problem?. *Breathe*, 12(4), e97-e103.