

Hypothermia (Cooling) Treatment

An Information Guide for Parents

Your baby is being treated with a therapy called hypothermia or cooling. This is because your baby is showing signs that they may have Hypoxic Ischemic Encephalopathy (HIE). HIE is also called asphyxia. Asphyxia is when there is decreased oxygen and decreased blood flow to the brain and other organs of the body. Studies show that babies treated with hypothermia shortly after birth have a decreased chance of long term effects of asphyxia.

This handout is to provide you with information about asphyxia and cooling, and what it means for you and your baby. If you have any questions about this information, your baby's doctors and nurses can answer them for you.

What does hypothermia mean?

Hypothermia (cooling) treatment involves cooling the body temperature on purpose. Your baby's normal temperature is 36.5°C to 37.5°C. Using a special cooling blanket, we will cool your baby's body temperature to 34.0°C. Cooling the body slows down the basic functioning of the body and may decrease injury to the brain caused by decreased oxygen and decreased blood flow. The cooling treatment lasts for about 5 days.

Why do some babies experience asphyxia?

Asphyxia happens most often before your baby is born or during the delivery. Often the cause of asphyxia is unknown. Bleeding or problems with the uterus, the placenta, or umbilical cord can cause asphyxia.

Why is it important to treat my baby?

A lack of oxygen and blood supply can injure the brain, the lungs, the heart, the liver, and the kidneys. If the period of asphyxia is short, the body may recover without damage. If the period of asphyxia is longer there may be permanent injury. Later in childhood there can be problems learning, thinking, and speaking or problems with walking and coordination. Hypothermia (cooling) treatment may decrease the seriousness of these problems.

How does asphyxia affect other organs besides the brain?

Babies who experience asphyxia may develop problems with breathing and with their heart, liver, or kidneys because of the decreased levels of oxygen and blood to these organs. These problems often get better without treatment or can be treated with medication or blood products. Hypothermia is not meant to treat these organs; it is just used to protect the brain.

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How will my baby be monitored during the treatment?

We will monitor your baby very closely during the entire time that your baby is being cooled and re-warmed. During this time, your baby will:

- have his/her temperature monitored continuously
- have his/her vital signs (Heart Rate, Respirations, Blood Pressure) monitored
- have regular lab tests
- be given medication for pain or discomfort as needed
- receive liquid into the vein through a small thin tube also called IV fluids
- be re-warmed slowly after 72 hours of treatment (during re-warming, seizures and heart beat changes may be seen, but will last only a short time)

What can I expect during this treatment?

You may also notice during this time your baby:

- feels cool to touch
- shivers at times
- does not tolerate holding, touching, noise, or bright lights well
- has a lot of tubes attached to them for intravenous (IV) fluids and medications
- has a lot of wires attached to them to monitor their heart rate, breathing, blood pressure and brain activity

During this time your baby may need:

- to be on a breathing machine
- to be on medications to keep blood pressure normal
- to be on medications for seizures

What if my baby has seizures?

Seizures are a frequent problem in babies that have experienced asphyxia. Seizures in babies can be difficult to see. Some seizures can only be observed on the monitor. If your baby experiences seizures, we will treat your baby with medications.

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When will I know if there is permanent brain damage?

Those caring for your baby will be best able to answer this question. Often the answer is known only over time. Early brain imaging with a MRI may give useful information. While your baby is in the hospital, the doctors and nurses will update you regularly as to how your baby is doing and what the tests are showing. It is very important for babies who have been asphyxiated to receive close follow-up of their development either through a neonatal follow-up program at the hospital or through an infant development program.

What can I do for my baby?

Ask as many questions as you need to. Your understanding is important to your baby's progress. If you think of questions when you are not at the hospital, write them down so you may ask them later.

During treatments, your child's brain needs to stay 'quiet'. It is very important for your baby's treatment that we keep all stimulation to a minimum.

You can speak softly to your baby and gently place your hand on your baby's arms, legs, or body.

Can I Breastfeed my baby?

During the treatment period you will not be able to breastfeed. Your baby will be given IV fluids to meet his/her nutritional needs. At this time you can hand express or pump your breast milk which can be stored and given to your baby when he/she is ready to start feeding. The nurses caring for your baby can answer your question about pumping and storing your breast milk.

This handout does not take the place of a discussion with your doctor. Discuss any questions or concerns you may have with your doctor.