

Hypothermia Therapy (Cooling Therapy)

An Information Guide for Parents

We are treating your baby with a therapy called hypothermia or cooling. This is because your baby is showing signs that they may have Hypoxic Ischemic Encephalopathy (HIE). Here we use the term “asphyxia” (say *ah-s-fix-ee-ya*).

Asphyxia happens when there is not enough oxygen in the blood and not enough blood flow to the brain and other organs of the body. Studies tell us that babies treated with cooling shortly after birth are less likely to have lasting damage to the brain.

Talk with your baby’s doctors and nurses any time you have any questions or concerns about this therapy.

What does hypothermia mean?

Hypothermia therapy 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 cool your baby’s body temperature to 33.5°C.

Cooling the body slows down the basic body functions and might help the brain to recover from not having enough oxygen and blood flow. The cooling therapy lasts for about 5 days in total.

Why do some babies experience asphyxia?

Asphyxia can happen at or near the time of birth. Often the cause of asphyxia is unknown. Some possible causes are bleeding or problems with the uterus, the placenta, or umbilical cord.

Why is it important to treat my baby?

A lack of oxygen and blood supply can damage the brain, lungs, heart, liver, and kidneys. If the asphyxia is for a short time only, the body might recover without damage.

If the asphyxia lasts longer, the damage can be permanent. Later in childhood, the child can have problems learning, thinking, and speaking, or have problems with walking and coordination. Cooling therapy reduces the chances or extent of these problems.

How does asphyxia effect other organs besides the brain?

A lack of oxygen and blood supply to organs can cause problems with breathing, as well as problems with the heart, liver, or kidneys. These problems often get better without therapy. If needed, we can treat them with medication or blood products.

Hypothermia is not meant to treat these organs. We use it to protect the brain.

When will I know if there is permanent brain damage?

Often the answer is only known with time. We do tests such as a brain scan (Magnetic Resonance Imaging or MRI). While your baby is in the hospital, we update you regularly as to how your baby is doing and what the tests are showing.

Your baby must continue to have their growth and development checked through either a neonatal follow-up program at the hospital, or an infant development program and paediatrician in the community.

What happens to my baby during therapy?

Before, during, and after this therapy, we closely monitor your baby.

You will see us do all of these:

- Constantly monitor their body temperature.
- Connect your baby to machines that monitor their heart rate, breathing rate, blood pressure, and brain activity.
- Do regular blood tests.
- Give medicine for pain or discomfort as needed
- Give fluid and medicines into a vein through a tiny flexible tube called an intravenous (say *in-trah-vee-nus*) or I.V. (say *eye-vee*).

While the cooling therapy lasts about 5 days, we start re-warming your baby's body after 72 hours of therapy.

As your baby's body warms, we might see changes in their heartbeat or seizures. If this happens, it usually only lasts for a short time.

What can I expect during this therapy?

You might notice these things:

- Your baby feels cool to touch.
- Your baby shivers at times.
- Your baby does not like to be held or touched.
- Your baby does not like noise or bright lights.

Expect your baby to have lot of tubes and wires attached to them.

During the therapy, your baby might also need any of these:

- a breathing machine to help them breathe
- medications to keep blood pressure normal
- medications for seizures

What if my baby has seizures?

Babies who have had asphyxia often have seizures. Seizures in babies can be hard to see. Some seizures can be seen only on the monitor. If your baby has seizures, we will treat them with medicines.

What can I do for my baby?

Ask as many questions as you need. 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 can ask them later.

During therapy, your baby's brain needs to stay 'quiet'. You can help keep your baby calm and comfortable by talking in a quiet, soothing voice.

You can let your baby know you are with them by gently touching them. One way to do this is with "hand hugs".

How to give a hand hug:

- Bring both of baby's arms close in front of their body.
- Gently place one hand over your baby's body and hands.
- Gently cup your baby's feet with the other hand.
- Keep your hands steady and still while you give your hand hug.

You are important to your baby's care. Even if it might feel like there isn't much for you to do, your baby knows you are there. When your baby is ready, we can help you hold your baby skin-to-skin, cuddle, and feed.

Can I breastfeed / chestfeed my baby?

During the therapy, you will not be able to feed your baby. We give the nutrients your baby needs through the intravenous. To keep your milk flowing, hand express or pump. Your baby can have a small amount your milk for Oral Immune Therapy, and for cleaning their mouth. The rest can be kept and given to your baby when they are ready to start feeding. Your baby's nurse can answer your questions about pumping and keeping your milk, Oral Immune Therapy, mouth care, and feeding.