

Let's Talk About...

Cooling Therapy for Newborns with HIE

What is cooling therapy?

Cooling therapy—also called **therapeutic** [ther-uh-PYOO-tik] **hypothermia** [hahy-puh-THUR-mee-uh]—is a treatment for newborn babies with a brain injury called **HIE**.

HIE stands for **hypoxic** [hahy-POK-sik] **ischemic** [ih-SKEE-mik] **encephalopathy** [en-sef-uh-LOP-uh-thee]. This brain injury occurs when a baby's brain and body fail to get enough blood and oxygen at some point before birth. Every organ in your baby's body—like the brain, heart, lungs, liver, and kidneys—can be damaged when it doesn't get enough blood and oxygen.

Why does my child need it?

Cooling therapy has been shown to lower the effects of the brain injury and improve recovery in some babies with HIE.

The effects of HIE can be mild, moderate, or severe. Mild HIE may cause no or few lasting problems. Moderate or severe HIE can cause immediate and long-lasting problems. One immediate problem is seizures. Later problems can include trouble with learning, thinking, speaking, walking, or controlling body movements. Some children develop **cerebral palsy**, which is type of paralysis that makes it difficult for them to control their muscles.

Cooling therapy may not help every baby, but medical studies have shown that:

- Babies born at 36 weeks gestation or greater who have this treatment have a better chance of survival than those who don't receive it.
- Babies who have this treatment develop better compared to those who don't receive it.



How is it done?

With cooling therapy, your baby is cooled to 92.3°F (33.5°C) using a cooling blanket. Your baby's normal body temperature is about 98.6°F (37°C). The cooling process will slow down your baby's need for oxygen and may help lower the risk of brain injury.

During cooling therapy, your baby's body temperature will be lowered for 72 hours (3 days). Your baby's temperature will be monitored very closely during this time. To be useful, the therapy must be started within 6 hours after birth.

Cooling therapy also involves:

- **Giving medicine.** Cooling therapy isn't painful for a baby, but it may be uncomfortable. Your baby may shiver and be restless. Your baby may be given medicine to be more comfortable. The medicine is given through a small tube—called an **intravenous line**, or **IV**—inserted into a vein.

- **Monitoring and support.** Your baby’s temperature, brain activity, heart beat, breathing, and blood pressure will be closely monitored.
 - Body temperature is monitored using an instrument placed in your baby’s throat.
 - Brain activity is monitored by placing **electrodes** (wires) on your baby’s head and connecting them to a machine. These don’t send electricity into your baby’s head. The machine will help your doctor know if your baby is having seizures. Some seizures may require medicine.
 - Finally, your baby may need a **ventilator** (breathing machine) to support breathing and a **catheter** (small tube) to empty the bladder.
- **Feeding.** Your baby will receive nutrition through an IV. If you plan to breastfeed, pump during your baby’s treatment. A nurse will show you how to use the hospital’s pump and how to label and store your milk for use when your baby is ready.
- **Touching.** Your baby will need rest and quiet during treatment. You can be there, but you won’t be able to hold your baby. You can touch a hand or foot, and talk quietly. Your baby will know you are there.

What happens after the treatment?

After having cooling therapy, it is important for your baby to have regular healthcare visits. This includes appointments with:

- Your baby’s primary care doctor
- A healthcare provider to check your baby’s hearing and vision
- A developmental specialist

These visits will be scheduled for you before your baby leaves the hospital.

Talking with your doctor about this treatment

The table below lists the most common possible benefits, problems, and alternatives for this treatment. Other benefits and risks may apply in your baby’s unique medical situation. The conversation you have with your baby’s healthcare provider is the most important part of learning about these risks and benefits.

Be sure to ask questions. It’s important to have all your questions answered before you agree to a recommended treatment.

Possible benefits	Risks and possible problems	Alternatives
Benefits may include: <ul style="list-style-type: none"> • Lowering the chance of death from HIE • Lowering the effects of brain injury from HIE 	Possible problems include: <ul style="list-style-type: none"> • Slower heart rate • Low blood pressure • Lower heart function • Abnormal heart rhythm • Abnormal lung function • Blood clots • Bleeding • Skin injury • Abnormal sugar and salt levels in the body <p>These problems are not common, and most go away after the treatment. If they happen, your baby’s doctor will discuss them with you and treat them as needed.</p>	Cooling therapy is currently the only treatment used to lessen the effects of HIE.

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