

Hypothermia Treatment for Hypoxic Ischemic Encephalopathy

Your baby has signs of a very serious condition called hypoxic ischemic encephalopathy (HIE). HIE is when there is less than normal amounts of oxygen (hypoxia) or reduced blood flow (ischemia) to the brain. This can lead to brain injury.

Your doctors suggest hypothermia treatment or “Whole Body Cooling.” Cooling the body slows the body down and can decrease injury to the brain.

This handout will provide you with useful information about HIE and its treatment. Please review this handout and talk to your doctors and nurses with any questions or concerns.

When does HIE occur?

HIE can happen at any time – before, during or after birth.

Why does my baby need treatment?

Lack of oxygen and blood supply to the brain can cause brain injury. This brain injury can be mild, moderate or severe. Recovery can vary. Long-term effects include problems learning, thinking, and speaking (called “cognitive problems”) later in childhood. It can also lead to problems with walking or coordination (called “motor problems”). This is sometimes seen as cerebral palsy.

Why offer hypothermia treatment for HIE?

For some babies, this treatment will improve the long-term effects of HIE. Babies treated with hypothermia shortly after birth have less brain injury and fewer cognitive and motor problems. We will follow your baby’s progress over time to learn how your baby is developing.

What other organs are affected besides the brain?

Babies who have HIE may have breathing or bleeding problems and problems with their heart, liver, or kidneys. As a result, your baby may have a slow heart rate, low blood pressure, or worsening of bleeding. We will treat these problems in the NICU.

How does hypothermia treatment work?

Your baby will lie on a special cooling blanket that has water running through it. The water temperature can be changed to warm or cool the body. We begin treatment within 6 hours of your baby’s birth and cool your baby for 3 days (72 hours).

We use a special thermometer placed in your baby’s esophagus to monitor your baby’s body temperature. Your baby will be cooled to about 92° F. After 72 hours, we will slowly re-warm your baby to a normal body temperature of 98.6° F. This will take about 6 hours.

Your baby may need special IV access. Your baby may need blood products, and medicine. These would be used to keep your baby comfortable, treat seizures, any infection, and maintain normal blood pressure. Some babies with HIE may also need the help of a breathing machine.

Your baby cannot eat any milk feedings during the cooling process. You should still pump your breasts and store the breast milk in the NICU. Your baby can eat it once the treatment is complete.

Your baby may look different during cooling. The skin may be pale or blotchy and may feel cool to the touch. You will be able to touch your baby during cooling, but

you cannot hold your baby. Holding your baby may increase the body temperature. Your baby needs to remain in bed during the cooling and rewarming treatment.

What other tests does my baby need?

Your baby will have testing done to assess brain function. An EEG will look at the brain's electrical activity. It will also look for signs of seizures that are common in babies with HIE. An MRI will look at your baby's brain structure and the extent of brain injury. These findings, along with physical exams, will help us figure out long-term effects of the brain injury.

What happens after treatment?

After cooling treatment, we will teach you how to care for your baby and about any special needs your baby has. Once your baby is ready to leave the NICU, you will work closely with your primary care provider and other specialists. On top of primary care visits, we will also assess your baby's progress in our newborn follow-up program. This program is in a clinic at the Waisman Center. At this clinic, we will look at your baby's development over time, to figure out any other special needs your baby may require.

If you are a patient receiving care at UnityPoint – Meriter, Swedish American or a health system outside of UW Health, please use the phone numbers provided in your discharge instructions for any questions or concerns.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 3/2021 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#7650