Hypothermia Treatment (Whole Body Cooling)
For Hypoxic Ischemic Encephalopathy
An Information Guide for Parents

Your baby has signs of a very serious and sometimes life threatening condition called Hypoxic Ischemic Encephalopathy (HIE). HIE is when there is less than normal amounts of oxygen (hypoxia) or reduced blood flow (ischemia) delivered to the brain. This can lead to brain injury. The treatment your doctors recommend is called “Hypothermia” or “Whole Body Cooling”. Hypothermia treatment means cooling the body on purpose. Cooling the body slows the metabolism (or work) of the body and can decrease injury to the brain.

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

When does HIE occur?
HIE can happen at any time – before birth, during delivery or after birth.

Why is it important to treat my baby for HIE?
Lack of oxygen and reduced blood supply to the brain can cause brain injury. This brain injury can be mild, moderate or severe and recovery can vary. Long term effects of this injury can lead to problems learning, thinking, and speaking (called “cognitive problems”) later in childhood. It can also lead to problems with walking or coordination. This is sometimes seen as cerebral palsy (called “motor problems”).

Why offer hypothermia treatment for HIE?
For some babies, this treatment will improve the long term effects the injury may have on the brain. Studies have shown that babies treated with hypothermia shortly after birth have less brain injury and fewer cognitive and motor problems. We will follow your baby’s development over time to learn how your baby’s cognitive and motor skills are progressing.

What other organs are affected besides the brain?
Babies who have HIE may develop problems with breathing, bleeding, and with their heart, liver, or kidneys because of the lack of oxygen and blood to these organs. As a result, your baby may have a slow heart rate, low blood pressure, or worsening of bleeding.

We will provide treatment in the NICU to support these problems.

How is hypothermia treatment provided and monitored?
• Your baby will lie on a special cooling blanket that has water running through it. The water temperature can be adjusted to warm or cool the body. We begin treatment within 6 hours of your baby being born and cool your baby for 3 days (72 hours).
• We use a special thermometer placed in your baby’s esophagus to constantly monitor your baby’s body temperature. Your baby will be cooled to about 92° F. Normal body temperature is 98.6° F.
Once the 72 hour cooling period is complete, we will slowly re-warm your baby to normal body temperature. This will take about 6 hours.

- Your baby may need special IV access for monitoring, treatment, and nutrition.
- Your baby may need blood products, and medicine. These would be used to keep your baby comfortable, treat seizures and potential infection, and maintain normal blood pressure.
- Some babies with HIE need the help of a breathing machine.
- Your baby will be unable to eat any milk feedings during the cooling process. It is important for you to pump your breasts and store the breast milk in the NICU for your baby to eat once his or her treatment is complete.
- Your baby’s physical features may appear 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; however holding your baby may increase his or her temperature. For that reason, your baby needs to remain in bed during the cooling and rewarming treatment.

**What other tests may be performed on my baby?**

Your baby will have testing done to assess brain function. An EEG will look at the brain’s electrical activity and possible signs of seizures that are common in babies with HIE. Special brain imaging, called MRI, will look at your baby’s brain structure and the extent of possible brain injury. These findings, along with physical exams, will help us determine long-term effects of the brain injury.

**What happens after treatment?**

After cooling treatment, we will work with you to learn your baby’s cares and any special needs your baby may have. Once your baby is ready to leave the NICU, you will work closely with your primary care provider and other specialists. In addition to primary care visits, we will also assess your baby’s progress in our newborn follow-up program. This program is a clinic located at the Waisman Center. At this clinic we will look at your baby’s development over time, and can recognize additional support your baby may need.

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 © 6/2017 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#7650