



University of Connecticut
Health Center
John Dempsey Hospital
NICU/NBN

Hypothermia Treatment for Babies with Hypoxic-Ischemic Encephalopathy (HIE)

Your baby has signs of a condition called hypoxic ischemic encephalopathy (HIE). This may be because of a period of low oxygen or low blood flow to the brain. HIE can cause serious illness in babies because organs other than the brain can also be injured. Some babies will have show signs of brain damage that is temporary; in other cases, there are neurologic problems that do not go away with time.

The usual treatment for HIE is support of all the body systems by giving oxygen, helping with breathing, giving IV fluids and medications so there is a strong heart rate and normal blood pressure, treating infection and seizures, and doing tests such as blood work, electroencephalogram (EEG) ultrasound of the head and MRI scan of the brain.

Hypothermia, or cooling, is one treatment that is now being used for some babies with HIE. Hypothermia treatment may or may not stop some of the damage that is happening in the brain. If hypothermia treatment is started soon after birth, the neurologic outcome may be better for some babies with HIE. We cannot tell which babies will improve with hypothermia treatment. During hypothermia treatment, the baby is placed on a blanket that is filled with water. A machine cools the water to keep the baby's temperature between 91.5 and 93.2 degrees Fahrenheit (F) [33 and 34 degrees Celsius (C)]. Normal body temperature is about 98.6°F (37°C). Hypothermia treatment is given for 3 days.

Hypothermia treatment has been used in hundreds of babies with HIE. No serious or lasting side effects from hypothermia treatment have been found. A low heart rate has often been seen when babies are on the cooling blanket. There may be side effects that we do not yet know about. We also do not know if there are long-term benefits beyond age 2.

Your baby will get the usual intensive care for HIE even if you choose not to have hypothermia treatment started. You may choose to have hypothermia stopped at any time before the 3 days of treatment are done.

We cannot guarantee that hypothermia treatment will make your baby's long-term neurologic outcome any better. After discharge from the NICU, babies with HIE are seen by pediatricians for routine health care and by a specialists in neurology and neurodevelopmental follow-up.

Please tell your baby's care team your concerns and questions about your baby's condition and hypothermia treatment.