

Therapeutic hypothermia (cooling) to protect babies with hypoxic ischaemic encephalopathy (HIE)

Parent information sheet

MAY 2023

The information provided here will answer some of the questions you may have about therapeutic hypothermia (cooling) and how it is used to care for babies with hypoxic ischaemic encephalopathy (HIE).

What is hypoxic ischaemic encephalopathy (HIE)?

Hypoxic means not enough oxygen; ischaemic means not enough blood flow; and encephalopathy means brain injury. This means your baby may be at risk of a brain injury caused by a lack of oxygen or blood flow.

What causes HIE?

HIE can occur because of a lack of oxygen supply to the brain around the time of birth. The brain can be injured if there is a lack of oxygen. The brain injury may be mild, moderate or severe. A lack of oxygen or blood flow can also cause problems with the lungs, liver, heart and kidneys.

What is therapeutic hypothermia or cooling?

Babies with moderate or severe HIE may benefit from therapeutic hypothermia or cooling. Cooling is a treatment that lowers your baby's body temperature from 37 degrees to 33.5 degrees to prevent further brain injury and help with recovery. Cooling may be started just after your baby's birth and continue for three days before a gradual rewarming process occurs.

Where will my baby be cooled?

Babies who need cooling should be cared for in a neonatal intensive care unit (NICU). If your hospital does not have a NICU, a specialised transport team known as the Newborn and Paediatric Emergency Transport Service (NETS) will transfer your baby to a NICU for cooling and intensive care support.

What happens to my baby during cooling?

Your baby will be cooled using carefully placed cold gel packs or a special cooling blanket. Your baby's heart rate, breathing, blood pressure and temperature will be monitored closely. A special monitor may also be placed on your baby's head to record the activity of your baby's brain. When it is time for the cooling to stop, your baby will be slowly and gently warmed back up to their normal temperature over several hours.

Your baby will feel cold to touch and have a lower heart rate. Cooling is not painful, but your baby will be closely watched for discomfort, as babies who are cooled may sometimes shiver or be upset. If this happens, your baby may be given medications to keep them comfortable and you will be shown ways to settle your baby and help with these symptoms. You may be asked to not cuddle your baby during this time as it may warm the baby up too quickly. You can help your baby by talking to them and by holding their hand or foot to let them know you are there.

Your baby will not be able to feed as cooling can affect their stomach and bowel. If you are breastfeeding, the nurses or midwife can help you express your breast milk. This will be stored in the fridge or freezer until your baby is ready to be fed.

There may be mild side effects from cooling. Your baby will be watched closely for side effects. Rarely, cooling may need to be stopped before the whole three days is completed.

Your baby’s care

The first few days of your baby’s hospital stay may be worrying for you and your family. If your baby has been transferred from the birth hospital, you should also transfer there as soon as it is safe to do so.

The type of treatment your baby might need varies, but might include help with breathing and blood tests.

Outcomes after HIE

Your baby will be closely watched for lasting effects from brain injury. Some babies will make a full recovery, but others may have problems when they are older. It is important that you go to the follow-up appointments to watch for problems with learning, speaking, walking and movement.

Sadly, some babies will have a very severe injury and they may not survive in intensive care or may die after going home.

Comfort, support and information

Ask the care team as many questions as you need to ask. The team caring for your baby will include doctors, nurses and midwives. It can be difficult for

you and your family if you have been separated from your baby. Your healthcare team, including social workers and Aboriginal liaison officers, will help your family with organising transport, accommodation and financial help.

You may also wish to speak to a social worker or to arrange a meeting with your midwife and obstetrician to discuss the birth of your baby.

During this difficult time, it is important that you take care of yourself. The following resources can be helpful.

Australian Breastfeeding Association

This organisation provides counselling and breastfeeding information to any person seeking help. **1800 686 2 686**

Bliss

Parent information is provided in Bliss Charity [Hypoxic-ischaemic encephalopathy \(HIE\) – information for parents](#). Please note the contact information provided in this publication is for the United Kingdom.

Hope for HIE

An international organisation that has an Australian branch. www.hopeforhie.org

Life’s Little Treasures Foundation

A charity dedicated to providing support, friendship and information specifically tailored for families of premature or sick babies. [Life’s little treasures Foundation](#) **1300 697 736**

Miracle Babies Foundation

The foundation supports premature and sick newborns and their families. It offers an online information hub, hospital visits and support groups in the community after discharge. [Miracle Babies Foundation](#) 24-hour family support helpline **1300 622 243**

Pregnancy, Birth and Baby Helpline

This offers free, confidential, professional information and counselling for women, their partners and families relating to issues of conception, pregnancy, birthing and postnatal care. pregnancybirthbaby.org.au **1800 882436**