



# Cooling Treatment for Hypoxic Ischaemic Encephalopathy

Parent/Caregiver/Whānau Information – Neonatal Services

This leaflet has been designed to accompany the individualised discussions you will have about the care of your pēpi/baby who has been diagnosed (identified) with moderate or severe hypoxic ischaemic encephalopathy (HIE).

In most pēpi who have moderate or severe HIE a treatment called cooling will be used. The doctors feel your pēpi may benefit from this form of treatment which has to be commenced within 6 hours of birth. This treatment is a standard of care and we will discuss in detail with you and any findings often several times each day.

Cooling slows down the basic functioning of the body and has been shown to decrease injury to the brain caused by the lack of oxygen and blood flow. Your pēpi will be placed on a cooling mat and cooled to a temperature of about 33.5°C for 72 hours (3 days). The mat is filled with water that can be cooled or warmed according to your pēpi needs.

## During this period, pēpi usually:

- Have special fine needle probes placed just under the skin on the head to monitor the electrical activity of their brain. Your nurse or doctor will explain this to you plus ensure you have a leaflet on electroencephalography – brain wave monitor.
- Have their temperature monitored continuously with a rectal thermometer in the anus (back passage). It is important to monitor the temperature to ensure it stays at the target temperature of 33-34°C
- Have lines in their umbilical cord to provide fluids, any medication required, and to continuously monitor blood pressure.
- Have urine output measured, usually with the insertion of a catheter (fine tube) inserted into the bladder.
- Have continuous observation of breathing, temperature, heart rate, and oxygen saturations, and blood pressure. This monitoring will continue when your pēpi is being rewarmed.
- Have regular blood tests done to see if organs such as the liver and kidney have been affected.
- Have morphine if appearing distressed.

Additional measures to ensure your pēpi is comfortable will include reducing the levels of light and sound around your pēpi. It is important your pēpi gets plenty of rest. You can help support your pēpi by talking/singing to him/her using a soft quiet voice.

If your pēpi is stable after 72 hours the cooling will stop, and your pēpi will be very slowly re-warmed to normal body temperature over the next 12 hours.

After being re-warmed some pēpi can take a week or longer before being able to breast or bottle feed, to establish a routine, and to grow. A lactation consultant and nurses will help you and your pēpi with establishing feeding.

You will be given lots of support to help you learn how to assist with your pēpi cares and to recognise cues for both handling and resting. You will be shown how to touch your pēpi, so you can care for your pēpi in a supportive way without over-handling or over-stimulating him/her.

The neonatal physiotherapist will assess your pēpi movements and responses around day 7 and an MRI scan of your pēpi head will be done. These results will be discussed with you.

Before discharge from hospital, outpatient appointments will be made for your pēpi to be seen by his/her consultant and other health professionals as required.

While some pēpi with HIE recover fully and have no long-term problems, others may need help and support from physiotherapists and speech and language therapists.

All pēpi who have been affected by HIE need their development monitored closely, especially over the first 2 years.

Having a sick pēpi in the Neonatal Intensive Care Unit is understandably stressful and frightening. Please express your concerns and ask your nurses and doctors any questions you may have. It is alright to ask again if you need information repeated or made clearer. All staff on the Unit are there to support you, and your family, and to provide the best care for your pēpi.

