Treatment of babies who have perinatal asphyxia  
(shortage of oxygen around the time of and before birth).

We know that your baby has been very unwell. Your doctor will already have spoken to you about what has happened to your baby and discussed the treatment needed.

You have been given this leaflet because your baby has been born with perinatal asphyxia and is being offered cooling treatment, and this information will help you to understand more about what this means.

What is perinatal asphyxia?
We do not always know what causes perinatal asphyxia but we do know that lack of oxygen to the baby’s brain can lead to brain injury. This injury may be severe and some babies will not survive. If a baby with perinatal asphyxia does survive, there is a chance that the baby will be disabled. Disability can be severe or it can be very mild but some degree of disability occurs in about half of all babies born with perinatal asphyxia.

The only standard treatment we have for perinatal asphyxia is intensive care treatment. There are no specific treatments that definitely help this condition. However, researchers continually try to find ways to improve the health of babies such as yours. There has been much research over recent years into the use of cooling as a possible treatment that could limit the amount of brain injury caused by perinatal asphyxia.

What is cooling?
Cooling means that a baby is cooled from the normal body temperature of 37°C (98.6°F) down to a temperature of 33.5°C (92.3°F). The baby is kept cool for about three days (72 hours). Cooling is started as early as possible after birth, and after 72 hours of cooling the baby’s temperature is slowly returned to normal.

How might cooling help?
There have been several studies that have looked at the effect of cooling after perinatal asphyxia. These include studies in animals, studies in adults and also studies in babies born with perinatal asphyxia. The three main reported studies of cooling for newborn babies with perinatal asphyxia have suggested that cooling can be beneficial.

The largest was the TOBY Study which recruited 325 babies and was funded by the Medical Research Council. The results were published in the New England Journal of Medicine in October 2009 showing that cooling can be beneficial for some babies with perinatal asphyxia. However, there may be side effects from cooling that we do not yet know about, so all cooled babies are always carefully observed and monitored.

A safe treatment that will help some babies
NICE (National Institute for Health and Clinical Excellence) published new guidance on cooling in May 2010. NICE had reviewed evidence from 8 studies and considered the expert opinions of specialist clinical advisers before agreeing to support the use of cooling as a routine treatment option for babies born with a brain injury caused by a shortage of oxygen. NICE guidance encourages clinicians to enter the details of each cooled baby into the UK TOBY Cooling Register which will contribute to the long term evidence about the safety and efficacy of cooling.

How will my baby be treated with cooling?
Your baby will receive standard intensive care and in addition your baby will be cooled. This means that your baby will be nursed on a special cooling mattress that cools the whole body to the desired temperature. The mattress is filled with fluid that can be cooled or warmed. You will still be able to touch your baby just as you would if they were not being cooled.
We will aim to cool your baby for three days (72 hours). After this time the cooling will be stopped and your baby’s temperature will slowly return to normal whilst still being carefully observed and controlled.

Your baby’s temperature will be measured closely to make sure that this stays at around 33.5°C (92.3°F). It is important to know exactly what your baby’s temperature is during cooling and re-warming, and we usually do this by measuring the temperature from a small probe placed in the baby’s bottom (which measures rectal temperature).

What are the possible side effects of cooling?
From studies which have been performed in animals or adults and from the existing studies of newborn babies we know that cooling may lead to problems with blood pressure control, abnormal heart rhythm, bleeding and clotting problems, and chemical and sugar imbalances in the blood. Skin problems have also been reported.

The doctors and nurses looking after your baby are aware of this and your baby will be closely monitored for signs of these unusual complications.

Your baby’s doctors can decide to stop the cooling early if they consider this to be best for your baby.

What happens now?
Thank you for reading this information leaflet. If you wish to discuss anything about the treatment your baby is receiving please speak to the doctor and nurse in the neonatal unit.

Local contact details:

Cooling treatment for babies with perinatal asphyxia

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