

Protecting your baby from low blood glucose

Other formats

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What is low blood glucose?

You have been given this leaflet because your baby is at an increased risk of having low blood glucose (also called low blood sugar or hypoglycaemia).

Babies who are small, premature, unwell at birth, or whose mothers are diabetic or have taken certain medication (beta-blockers), may have low blood glucose in the first few hours and days after birth. It is especially important for these babies to keep warm and feed as often as possible in order to maintain normal blood glucose levels.

If your baby is in one of these “at risk” groups, it is recommended that they have some blood tests to check their blood glucose level. Extremely low blood glucose, if not treated, can cause brain injury resulting in developmental problems. If low blood glucose is identified quickly, it can be treated to avoid harm to your baby.

Normal blood sugar levels

If your baby is term infant (37 weeks and above) or late preterm (34-36 weeks), a blood sugar level of 2.0mmol/l is acceptable.

In unwell or preterm infants admitted to SCBU, we would aim for a blood sugar level of 2.6mmol/l.

Which babies are at risk of low blood glucose?

- Infants of diabetic mothers (including gestational diabetes)
- Preterm infants – born at less than 37 weeks
- Infants who are small for gestational age (SGA) or intra-uterine growth restricted (IUGR), (for example less than 2.5kg and / or less than the 2nd centile)
- Infants of macrosomic appearance (large for gestational age)
- Infants whose mothers have been on medication such as beta blockers or insulin

- Babies who become hypothermic (cold with a temperature less than 36.5°C)
- Infants with Haemolytic Disease of the Newborn (and bilirubin levels approaching exchange transfusion line) You will have been informed if your baby has this
- Infants with moderate to severe perinatal acidosis requiring admission to the neonatal unit
- Infants with suspected or confirmed early-onset sepsis
- Infants having seizures
- Infants who are reluctant to feed / poor feeding

Blood glucose testing

Your baby's blood glucose is usually tested by a heel-prick blood test. A very small amount of blood is needed and it can be done while you are holding your baby in skin-to-skin contact. This can be achieved whilst breastfeeding to comfort your baby, or sucrose can be offered as pain relief for the procedure. The first blood test should be taken before the second feed (2-4 hours after birth), and repeated until the blood glucose levels are stable for 2 consecutive readings.

You and your baby will need to stay in hospital for the blood tests.

You will know the result of the test straight away.

How to avoid low blood glucose

- **Skin-to-skin contact** – Skin-to-skin contact with your baby on your chest helps keep your baby calm and warm and helps establish breastfeeding. During skin-to-skin contact, your baby should wear a hat and be kept warm with a blanket or towel.
- **Keep your baby warm** – Put a hat on your baby when he / she is newborn until you are sure that he / she is warm and able to stay warm without it. Keep your baby in skin contact on your chest covered with a blanket and look into your baby's eyes to check his / her wellbeing in this position or if you put them into their cot, keep them warm with blankets.
- **Feed as soon as possible after birth** – Ask a member of staff to support you with feeding until you are confident, and make sure you know how to tell if breastfeeding is going well, or how much formula to give your baby.
- **Feed as often as possible in the first few days** – Whenever you notice “feeding cues” which include rapid eye movements under the eyelids, mouth and tongue movements, body movements and sounds, sucking on a fist, offer your baby a feed. Don't wait for your baby to cry – this can be a late sign of hunger.
- **Feed for as long, or as much, as your baby wants** – To ensure your baby gets as much milk as possible.

- **Feed as often as your baby wants, but do not leave your baby more than 3 hours between feeds** – If your baby is not showing any feeding cues yet, hold him/her in skin-to-skin contact and start to offer a feed about 3 hours after the start of the previous feed.
- **Express your milk (colostrum)** – If you are breastfeeding and your baby struggles to feed, try to give some expressed breast milk. A member of staff will show you how to hand express your milk, or watch the UNICEF hand expression video (search “UNICEF hand expression”). If possible, it is good to have a small amount of expressed milk saved in case you need it later, so try to express a little extra breast milk in between feeds. Ask your midwife / nurse how to store your expressed milk and to be given written information on how to express your milk.

Don't hesitate to tell staff if you are worried about your baby. If your baby appears to be unwell, this could be a sign that they have low blood glucose. As well as doing blood tests, staff will observe your baby to check if he / she is well. Your observations are also important, as you are with your baby all the time so know your baby best. It is important that you tell staff if you have any concerns that there is something wrong with your baby, as parents' instincts are often correct.

The following are signs that your baby is well

- **Is your baby feeding well?** – In the first few days your baby should feed effectively at least every 3 hours, until blood glucose is stable, and then at least 8 times in 24 hours. Ask a member of staff how to tell if your baby is attached and feeding effectively at the breast, or how much formula he / she needs. If your baby becomes less interested in feeding than before, this may be a sign they are unwell and you should raise this with a member of staff.
- **Is your baby warm enough?** – Your baby should feel slightly warm to touch, although hands and feet can sometimes feel a little cooler. If you use a thermometer the temperature should be between 36.6°C and 37.3°C inclusive.
- **Is your baby alert and responding to you?** – When your baby is awake, he/she will look at you and pay attention to your voice and gestures. If you try to wake your baby, they should respond to you in some way.
- **Is your baby's muscle tone normal?** – A sleeping baby is very relaxed, but should still have some muscle tone in their body, arms and legs and should respond to your touch. If your baby feels completely floppy, with no muscle tone when you lift their arms or legs, or if your baby is making strong repeated jerky movements, this is a sign they may be unwell. It can be normal to make brief, light, jerky movements. Ask a member of the team if you are not sure about your baby's movements.
- **Is your baby's colour normal?** – Look at the colour of the lips and tongue – they should be pink.
- **Is your baby breathing easily?** – Babies' breathing can be quite irregular, sometimes pausing for a few seconds and then breathing very fast for a few seconds. If you notice your baby is breathing very fast for a continuous period (more than 60 breaths per minute), or seems to be struggling to breathe with very deep chest movements, nostrils flaring or making noises with each breath out, this is not normal – please tell a member your midwife/nurse.

Who to call if you are worried

- In hospital, inform any member of the clinical staff.
- At home, call your community midwife or GP and ask for an urgent visit or advice.
- For advice out of hours, call NHS 111.
- If you are really worried, take your baby to your nearest MIU (Minor Injuries Unit) or A&E or dial 999.

What happens if your baby's blood glucose is low?

If the blood glucose test result is low, your baby should feed as soon as possible and you will need to provide skin-to-skin contact. If the level is very low the neonatal team may advise urgent treatment to raise the blood glucose and this could require immediate transfer to the Neonatal Unit.

Another blood glucose test will be done before the next feed or within 2-4 hours.

If you are breastfeeding and your baby does not breastfeed straight away, a member of staff will review your baby to work out why. If he / she is happy that your baby is well, he / she will support you to hand express your milk and give it by oral syringe / finger / cup / spoon. If your baby has not breastfed, and you have been unable to express any of your milk, you will be advised to offer infant formula.

In some hospitals the team may prescribe a dose of dextrose (sugar) gel as part of the feeding plan because this can be an effective way to bring your baby's glucose level up.

If you are breastfeeding and are advised to give some infant formula, this is most likely to be for one or a few feeds only. You should continue to offer breastfeeds and try to express milk as often as possible to ensure your milk supply is stimulated.

Very occasionally, if babies are too sleepy or unwell to feed, or if the blood glucose is still low after feeding, he / she may need to go to the Neonatal Unit / Special Care Baby Unit. Staff will explain any treatment that might be needed. In most cases, low blood glucose quickly improves within 24-48 hours and your baby will have no further problems.

Going home with baby

It is recommended that your baby stays in hospital for 24 hours after birth. After that, if your baby's blood glucose is stable and he / she is feeding well, you will be able to go home.

Before you go home, make sure you know how to tell if your baby is getting enough milk. A member of staff will explain the normal pattern of changes in the colour of dirty nappies and number of wet/dirty nappies. For further information, if you are breastfeeding, see 'How you and your midwife can recognise that your baby is feeding well' (Search 'UNICEF Baby Friendly assessment tool').

It is important to make sure that your baby feeds well at least 8 times every 24 hours and most babies feed more often than this.

There is no need to continue waking your baby to feed every 2–3 hours as long as he / she has had at least 8 feeds over 24 hours, (unless this has been recommended for a particular reason). You can now start to feed your baby responsively. Your midwife will explain this.

If you are bottle feeding, make sure you are not overfeeding your baby. Offer the bottle when he / she shows feeding cues and observe for signs that he / she wants a break. Don't necessarily expect your baby to finish a bottle – let him / her take as much milk as he/she wants.

Once you are home, no special care is needed. As with all newborn babies, you should continue to look for signs that your baby is well, and seek medical advice if you are worried at all about your baby.

(Adapted from BAPM 2017, Identification and Management of Neonatal Hypoglycaemia in the Full Term Infant – A Framework for Practice.)

Further information

For more information, please contact the Special Care Baby Unit.

References

BAPM (2017) Identification and Management of Neonatal Hypoglycaemia in the Full Term Infant – A Framework for Practice.

PALS

The Patient Advice and Liaison Service (PALS) ensures that the NHS listens to patients, relatives, carers and friends, answers questions and resolves concerns as quickly as possible. If you have a query or concern call 01271 314090 or email ndht.pals@nhs.net. You can also visit the PALS and Information Centre in person at North Devon District Hospital, Barnstaple.

Have your say

Northern Devon Healthcare NHS Trust aims to provide high quality services. However, please tell us when something could be improved. If you have a comment or compliment about a service or treatment, please raise your comments with a member of staff or the PALS team in the first instance.

'Care Opinion' comments forms are on all wards or online at www.careopinion.org.uk.

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