

HYPOGLYCAEMIA (LOW BLOOD SUGAR LEVEL)

Why are blood sugar levels important?

Glucose (sugar) is an essential source of energy for the brain. Hypoglycaemia (low blood sugar levels) has the potential to cause permanent brain damage. This may affect your child's development and learning abilities at school. The blood sugar level below which long-term brain injury can occur depends on many factors such as how long the level remains low and whether the baby is unwell. However, various studies have shown that a blood sugar level of less than 2.6 mmol/l may be harmful for babies.

What causes low blood sugar level?

This can occur in two situations:

1. When there is reduced glucose production in the liver. This can occur in babies with
 - intra-uterine growth restriction (babies that have not grown well before birth)
 - cold stress after birth
 - prematurity (less than 37 weeks gestation)

All of these babies are at risk of low blood sugar.

2. When there is an increase in the production of insulin (a hormone that delivers sugar to the cells, making blood sugar levels fall). This can occur when a newborn is

- born to a mother who has diabetes
- large for gestational age

Why does my baby need blood tests?

Unlike in adults, signs of low blood sugar (jitteriness, irritability and temperature instability) often occur late. Signs of a low blood sugar cannot be relied upon to indicate low sugar levels. These signs often do not occur even if the blood sugar level is very low. Blood sugar testing in babies at risk of having a low blood sugar will be performed at certain intervals in order to make sure that the blood sugar level does not drop.

How do we test the blood sugar level?

The blood sugar level is tested by taking a small amount of blood from your baby, usually via a prick of the heel. This is then sent to the laboratory and tested. The result is expected within 30 minutes.

Why does my baby need extra feeds?

In most babies frequent breastfeeds (or formula feeds if this is the mother's choice) are sufficient to ensure safe blood sugar levels. However, those babies at risk of hypoglycaemia (see list above) may need additional frequent breastfeeds and/or expressed breast milk/ formula feeds to prevent a low blood sugar level. Sometimes, additional milk feeds do not keep the blood sugar level in this safe range and an intravenous drip may be required. In all babies, our aim is to prevent periods of low blood sugar that may cause damage to their brain. Once there is sufficient nutrition available (lactation/breastfeeding is established) and your baby's blood sugar control is stable, the additional feeds and blood tests will no longer be necessary. This usually occurs after 2-4 days when breast milk production has sufficiently increased.

Will giving formula to my baby affect his/her breastfeeding?

If your choice is to breastfeed your baby you will be encouraged to breast feed and express extra milk for your baby before additional formula is given. This stimulates breast milk production and facilitates the process of breastfeeding. Additional formula (milk) may be given by a cup, syringe, or a small feeding tube placed in your baby's nose or mouth going to the stomach (oro-gastric or naso-gastric tube). Your baby may have a decreased appetite in this period due to the additional milk feeds, therefore your midwife will educate and support you in expressing your breast milk to maintain stimulation of your lactation during this period. Giving additional formula in these circumstances will usually NOT interfere with successful breastfeeding.

Will formula in the first few days increase my child's risk of developing allergies?

From the limited research available, we know that a small amount of formula given in the first few days does not increase the risk of developing allergies. If there is a SIGNIFICANT family history of cow's milk allergy, formula free of cow's milk protein will be used. The neonatal registrar or Neonatologist will discuss this with you.

If you have any further concerns or questions please ask the staff attending you and your baby.