



Pulse oximetry screening

Information for all parents of newborns to explain the process of pulse oximetry screening.

What is a newborn pulse oximetry screening?

Your newborn baby will undergo a routine pulse oximetry screening, usually within the first 12 hours after birth. This leaflet explains the benefits of the test in early diagnosis of potential problems and explains what happens during the screening.

A pulse oximeter is a special machine that is used routinely to measure the amount of oxygen in the blood. They are very simple to use – a small probe is wrapped around your baby's hand and foot and connected to the machine, which then measures the oxygen levels by shining a light through the skin.

It is very quick – the whole screening takes less than 5 minutes – and is completely harmless and painless.

We are measuring blood oxygen levels in newborn babies to try to identify the small number of babies who have an unidentified serious heart defect. We know that these babies usually appear healthy at birth but often have lower oxygen levels. The screening identifies babies with oxygen levels below 90%, or those who have more than a 3% difference on each side, so we can check these babies very carefully to identify a possible heart defect before the baby becomes unwell.

Babies with other potentially serious conditions, such as breathing problems, infections and circulation problems also often have lower oxygen levels, and the screening may also identify these babies.

Your midwife will explain what happens beforehand and answer any queries you may have.

A doctor or specialist nurse will check all babies who have lower oxygen levels to see if further tests or treatments are required. They will explain what is happening with your baby at each step.

What if the screening shows normal oxygen levels?

If it shows your baby's oxygen levels are within normal limits no further pulse oximetry screening is necessary at this time. Your baby will continue with routine care before discharge, including a newborn physical examination (NIPE).

Normal oxygen levels are **very reassuring** but does **not always mean that there isn't a problem**. A small proportion of babies (about 1 in every 8000) who have normal oxygen levels may still have a serious heart problem, therefore it is still important to observe the baby for any change in condition and carry out the routine physical examination.

What if the screening shows lower oxygen levels?

About **3 in every 100 (3%)** babies **will show lower oxygen levels first time** but the oxygen levels will only be slightly low. This might cause some worry for you, but we know that the lungs of some babies adapt to being born at a slower rate than others – this is normal, and these babies are healthy.

Because we know this, if the babies oxygen levels are only **slightly reduced** in the first test and the baby **appears healthy**, then we will repeat the screening a second time about 1 to 2 hours later (**Re-screen**).

Nine out of 10 babies will have normal oxygen levels during the second screening and these babies will be treated as healthy. It is important that the baby's oxygen levels are normal before going home and so, very occasionally, this will lead to a slight delay in the baby's discharge.

Those who continue to have lower oxygen levels will be seen by a doctor or specialist nurse used to looking after babies. They will examine your baby and may do further tests to try to find out why the levels are low (including checking for a heart problem) [see below].

About **3 babies in every 1000 (0.3%) screened** will have very low oxygen levels on the first screening which means that they will be seen by a doctor or specialist nurse used to looking after babies straight away. They will examine your baby and may do tests to try to find out why the levels are so low (including checking for a heart problem) [see below*].

What will happen if my baby has low oxygen levels?

About 7 in every 1000 babies screened (0.7%) will have lower oxygen levels. **This might cause you to worry** but the doctor or specialist nurse **will check your baby straight away and explain what is happening**.

More than half of the babies (6 out of every 10 or 60%) who have low oxygen levels are healthy and they just have slow adaptation to birth. **Five out of these 6 babies** will develop normal oxygen levels very quickly and need no investigation or treatment.

Five out of every 10 babies who have low oxygen levels (3.5 out of every 1000 babies screened) will need further investigations and almost all will be admitted to the Neonatal Unit (Buscot) for further assessment.

This may make you worried, but the doctor or nurse will explain what is happening. Most babies will have blood tests, x-rays and other investigations to try to find out the cause of the low oxygen levels.

Babies admitted to a Neonatal Unit (Buscot)

Two in every 10 will not have a problem – these babies will have had additional tests due to the initial screening concerns which may delay discharge, but they are usually on NNU for less than 12 hours.

Seven in 10 will have a breathing problem or infection and most will benefit from the test by early diagnosis and treatment of a potentially serious illness.

***One in 10 will have a heart problem** and they will all benefit from early diagnosis and treatment.

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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C Cooke, RBFT Practice Development MW L4, February 2022

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Our Maternity Strategy and Vision

'Working together with women, birthing people and families to offer compassionate, supportive care and informed choice; striving for equity and excellence in our maternity service.'

You can read our maternity strategy here

