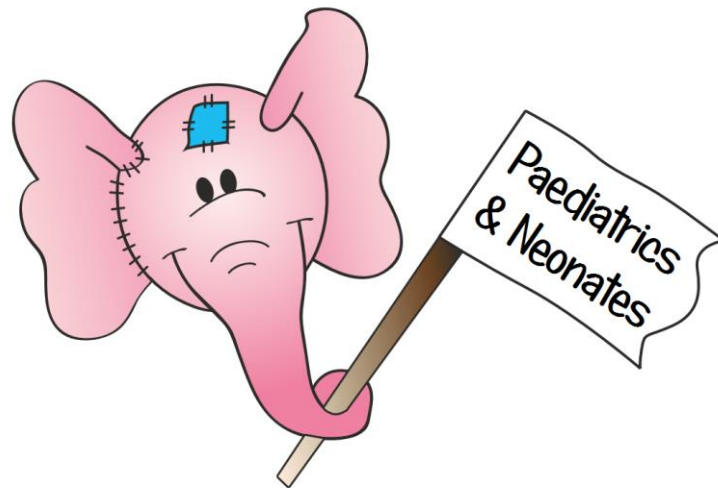


# Sleep study at home

## Children's Ward

## Parent/Carer Information Leaflet



### Introduction

Your child's consultant has suggested that you do a sleep study at home for your child. This leaflet gives you more information about this.

### What is a sleep study?

A sleep study is an overnight assessment of a child's heart rate, breathing pattern and oxygen levels during sleep. It provides information regarding the child's breathing to support diagnosis of any sleep-related breathing problems and possible treatment options. At Russells Hall Hospital, a study like this is also undertaken before a child has an operation to remove their tonsils.

## **Why does my child need a sleep study?**

Your consultant will explain this in detail. There are various reasons for doing a sleep study but the most common is to see if your child has obstructive sleep apnoea. This condition can cause dips in oxygen levels at times when your child is asleep. A common symptom of this can be snoring or a disturbed sleep pattern but not every child who snores has obstructive sleep apnoea.

Obstructive sleep apnoea can occur for many reasons, both in adults and in children. In children, the most common cause is enlarged tonsils and/or adenoids, which can partially block the airway. It is important to find out if your child has obstructive sleep apnoea so that treatment can be recommended.

## **How is a sleep study done?**

We use a monitor to record your child's oxygen levels and pulse for one night using a soft sensor, attached to your child's finger, hand or foot. When you return the monitor to the hospital, the information from the sleep study is downloaded and interpreted by the consultant paediatrician who will then decide on the appropriate treatment for your child.

We may need to make referrals to other specialist areas such as the sleep clinic, a respiratory consultant or ear, nose and throat (ENT) surgeon.

## **Who provides the sleep study service?**

A consultant-led sleep study service is provided at the hospital based in children's outpatient department. It is supported by the staff in the Children's Outpatient department who arrange sleep studies for parents to carry out at home.

Before the study begins, we complete a document with parents to ensure that they are confident with the equipment and understand the process required. All staff involved in the process have completed a training package supported by the outside agency supplying the equipment.

## **What happens next?**

You will need to go to the children's outpatient department on the date given to you to collect the monitor to use for the sleep study at home. The nurses there will give you a monitor and explain how to use it. They will also show you how to correctly place the sensor and start the study.

You will need to complete and sign the form attached to the back of this leaflet before the monitor is given to you. The nurse in the department will go through this with you.

## Information on using the sleep study monitor

For analysis your doctor will need at least six hours of data. Figure 1 shows the Massimo Radical 8 sleep study monitor used for the study.



Figure 1 – the Massimo Radical 8 sleep study monitor

### How to start your sleep study

1. Plug the monitor into a mains socket and switch it on to check it is working. You can then switch it off again until you are ready to start the study.
2. When your child is settling to sleep place the probe on their hand, big toe or finger (see figure 2 for correct positioning of the sensor on a finger). Whether you use your child's hand, foot or finger depends on comfort, preference and the site that enables a good signal (see point 5).



Figure 2 – correct positioning of the sensor on a finger

Please note that the probe has two circular discs. When the monitor is switched on, one glows red (LED) and the other does not (detector). They should be placed approximately opposite each other.

3. Use the Velcro wrap to hold the sensor in place (see figure 3) but do not wrap it tightly as this can cause circulation problems and could give a poor reading.



Figure 3 – the Massimo Radical 8 sleep study sensor and securing wrap

4. Wrap the securing wrap around the sensor and Velcro once these are in place (see figure 3). The sensor used for the foot has a self-adhesive securing wrap as part of the sensor.
5. Switch on the machine and wait while it runs through self checks. This can take up to two minutes.

The bars either side of the bottom reading both need to be **green** (please see figure 1). If they are, this shows you have a good signal.

If they are **red**, you need to check that the sensor is:

- In place correctly
- Not fixed too tightly
- Your child's hand/foot is not cold

If your child is moving, the signal may be lost but the monitor will find the signal again once the movement stops.

If the alarm sounds and the bell symbol is illuminated, do not panic:

- Check that the sensor is still in place
- If the monitor still has a poor/**red** signal, reposition the sensor

## General advice

You **do not** need to watch the monitor overnight. However, we do advise you to check on your child a few times during the night to make sure that the sensor is in place.

- If your child needs to be briefly disconnected from the monitor, unplug the sensor from the cable, and reconnect it when your child is back in bed. The alarm will sound but it will stop when the sensor is reconnected and a signal has been found.
- If your child is awake or unsettled for a long period of time, you can switch off the monitor until your child is asleep again, then switch it back on again as before.

## What happens when the sleep study is over?

- When your child wakes up in the morning, switch off the monitor and disconnect the machine.
- As soon as possible, return the machine to Russells Hall Hospital children's outpatient department so the information can be downloaded and sent to your consultant. The children's outpatient department is open from 8am until 4pm, Monday to Friday. If you return the machine out of these hours, please bring it to the Children's Ward on the 2nd floor.

If you have any questions or if there is anything you do not understand about this leaflet, please contact:

Children's outpatient department on 01384 456111 ext. 1280  
(8am to 4pm, Monday to Friday)

Children's Ward on 01384 456111 ext. 2271 (weekends)

Russells Hall Hospital switchboard number: 01384 456111

**This leaflet can be downloaded or printed from:**

<http://dudleygroup.nhs.uk/services-and-wards/paediatrics-and-neonatology/>

If you have any feedback on this patient information leaflet, please email [dgft.patient.information@nhs.net](mailto:dgft.patient.information@nhs.net)

**This leaflet can be made available in large print, audio version and in other languages, please call 0800 073 0510.**

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Ulotka dostępna jest również w dużym druku, wersji audio lub w innym języku. W tym celu zadzwoń pod numer 0800 073 0510.

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