Children’s sleep service studies

What is a sleep study?
A sleep study is a test to measure how your child breathes when they are asleep.

Why does my child need a sleep study?
Usually the test has been requested because their sleep quality, or breathing while asleep is causing concern. They may also have a condition that might give rise to breathing problems during sleep.

What is sleep disordered breathing?
The term ‘sleep disordered breathing’ refers to a range of conditions that result in breathing problems during sleep. This may cause symptoms of tiredness, difficult behaviour, hyperactivity in some children and affects quality of life as the body is not given enough time to rest and restore itself.

What is obstructive sleep apnoea syndrome (OSAS)?
OSAS occurs as a result of the upper airway at the back of the throat becoming blocked repeatedly during sleep. Each time this occurs, breathing stops or is reduced for a short period of time, the child will then be woken up by the struggle to breathe. These ‘apnoeas’ may occur several times during the night or during day time naps. Sleep will be disrupted and of poor quality. The frequency of these events determines the severity of OSAS.

What happens?
Your child may be offered a consultation with a doctor with a special interest in sleep related breathing problems in children before deciding which investigation is required. You will be contacted either by phone or letter. This is usually to decide which type of sleep study is needed (see below), or whether no study is needed at all.

A hospital inpatient sleep study
- Your child will be admitted to hospital for this study. You should arrive by 6pm and should be able to go home the next morning.
- During the evening that you arrive a doctor will come and examine your child and make sure they are well for the study.
- Some children may require a blood test just before they wake up in the morning, the doctor will discuss this with you during their examination.
At around 05:00 a small amount of blood will be taken while your child is asleep to measure sleep blood gas levels called CO2. If your child is already awake we will be unable to take the blood sample.

- You will be able to stay with your child and should bring an overnight bag with your child’s favourite night clothes, comforter or ‘special bedtime toy’.
- We are unable to accommodate siblings during your child’s overnight stay.
- If your child has a sleep study in PICU or HDU, you will be able to sit and rest next to your child, but unfortunately there is no bed for you to sleep in.
- A pull down bed is available if your child is admitted on to ward F3.
- Prepare your child for bed as per your normal bedtime routine i.e. bath, PJs, story, brush teeth etc.
- The ward nurse or sleep coordinator will then connect your child to the sleep monitoring equipment.
- A soft probe is wrapped around your child’s toe or finger to monitor his or her oxygen levels while asleep; the probe position will be moved every three hours.
- Two stretchy bands are put around your child’s chest and just below the waist line along with a position sensor.
- Nasal cannulas (two small tubes) will be placed just under the entrance of your child’s nose to monitor flow of air.
- A video camera will be positioned to observe your child while in bed to record their pattern of breathing while they are asleep.
- If your child is having a CO2 study, one extra probe will be attached to their skin, the position of these probes will be moved every three hours during the night.
- The nurse will start the study recording before your child goes to sleep, once connected to the sleep study equipment; settle your child to sleep as you normally would.
- During the night your ward nurse will regularly check your child to make sure everything is connected and recording.
- As part of your admission you may be asked to see the paediatric respiratory consultant the following morning for a post sleep study review. In this situation you will be asked to vacate the bed by 08:00, have some breakfast and return to ward F3 consultation rooms to speak to the doctor at 09:00.
- The sleep laboratory will analyse the study recording made during the sleep study. The sleep team consultant will look at the study results and consider your child’s symptoms. Results normally take four to six weeks to analyse at which point the results will be discussed with the referring doctor and appropriate treatment offered. You will receive a letter with the sleep study results.

Further information

- Please phone the sleep study coordinator Gail Holloway on 01223 245151 and bleep 159 301 or the paediatric admissions coordinator Joana Rivera on 01223 256782 or call the respiratory nurse specialist Louise/Jenny on 01223 216585 for any further information you may need about the process of sleep studies being undertaken.
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Authors            Children’s Services
Pharmacist         N/A
Department         Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ www.cuh.org.uk
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