

Sleep Studies in Children

A sleep study is a test that records your child's sleeping patterns. This test is needed to diagnose sleep disorders. The medical name for a sleep study is a polysomnogram (pa-lee-SOM-no-gram). It involves spending the night sleeping in the sleep laboratory.



A sleep study records various things while your child is sleeping such as: brain activity, eye movement, heart rate, leg movement, chest movement and breathing pattern, oxygen and carbon dioxide levels, air movement through the nose and snoring.

In order to collect this information, many different sensors (wires and connections like an EKG machine that evaluates the heart) are applied to your child's head, face, chest and legs. The goal is to monitor your child's sleep for at least 6 hours overnight.

Who does the test?

A sleep technologist specially trained in collecting and monitoring information while your child sleeps will perform the sleep study. A doctor is on call at all times in case your child needs medical help during the study.

How can I help my child get ready for the sleep study?

- On the day of the sleep study, try to keep your child's routine as normal as possible. For example, if your child usually takes a nap during the day, he or she should take a nap on the day of the study.
- Intake of sodas or drinks that contain caffeine should be avoided.
- You will want to explain the study to your child in a manner he or she can understand. Tell them

that you or a family member will stay with them during the study.

- Let the sleep laboratory know the medications your child is taking. Your child may be asked not to take these medications the night of the test.

What can my child and I expect during the sleep study?

You and your child will be assigned a room that has a bed for your child and a day bed for you or the caregiver staying with your child. All bedtime routines can be done, such as breastfeeding, reading a book, drinking and eating snacks.

The sleep technologist will place sensors on your child before he or she goes to sleep.

The sensors do not hurt and they are easy to remove. Your child will usually have the following areas monitored:

- Sensors on the head and face to record brain waves, chin and eye movements.
- Sensors on the chest to measure heart rate and on the legs to measure leg movements.
- Belts around your child's chest and tummy to record your child's breathing pattern. These belts do not restrict your child's breathing and are comfortable for most children.
- Sensors under the nose and mouth to measure air flow.
- A sticker attached to your child's finger or toe to monitor oxygen levels (see the ATS Patient

Information Series fact sheet on Pulse Oximetry at www.thoracic.org/patients.)

- Sensors on the chest to monitor carbon dioxide levels.

All of these sensors will let your child move freely while he or she is asleep and generally will not interfere with your child's sleep.

Your child may also be videotaped and monitored through the night on a closed circuit camera. This records your child's sleeping pattern and behavior and allows staff to monitor your child without being in the room. Sometimes, oxygen by nasal cannula or CPAP treatment by mask may be started during the sleep study as determined by your sleep provider. (See the ATS Patient Information Series on Positive Airway Pressure (PAP) for the Treatment of Obstructive Sleep Apnea in Children.) A specialist trained to interpret the sleep study will look at all the data recorded and provide the sleep study results at a later date.

The sleep technologist is always nearby. With the two way speakers, you can ask the staff for help at any time. Sometimes the sleep technologist may enter your child's room to make adjustments to the sensors without disturbing your child's sleep.

The morning after the sleep study, the sleep technologist will wake your child up and remove all sensors. You are then free to leave the sleep laboratory. Your healthcare provider will provide the sleep study results to you at a later date.

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Rx Action Steps

To make sure your child gets the best evaluation possible, there are several things you can do to prepare your child:

- ✓ Tell your child what to expect during the sleep test
- ✓ Tell the sleep center every medication your child is taking, even over the counter medication (medication that you can get without a prescription)
- ✓ If your child takes sleeping medication, ask the sleep specialist if you should give this medication on the day of the test
- ✓ Bring everything your child needs for a good night's sleep

Healthcare Provider's Contact Number:

For More Information

American Thoracic Society

- www.thoracic.org/patients/
 - OSA in Children
 - PAP in Children with Sleep Apnea

University of Rochester

- <http://www.urmc.rochester.edu/childrens-hospital/sleep-center/sleep-study.aspx>

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