

Sleep Studies

at Seattle Children's Sleep Center Bellevue



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Why does my child need a sleep study?

Your primary care provider has asked for a sleep study to learn more about your child's or teen's sleep. A sleep study or polysomnogram can help find out if your child's health problems are caused by poor sleep. When children don't sleep well, it's harder for them to concentrate, stay awake and function during normal daytime activities.

Sleep apnea

Snoring may be a symptom of obstructive sleep apnea, other symptoms can be morning headaches or daytime sleepiness. Snoring or always being tired are some of those clues. The most common sleep problem in children is a breathing disorder called obstructive sleep apnea. With this disorder, the child's breathing passageway (airway) partially or fully closes during sleep.

This makes it hard for air to get into and out of the lungs. When your child gets less oxygen at night than they need, they are tired during the day.

Types of sleep studies

There are 3 basic types of sleep studies we do at the center. Most children get either the basic diagnostic, called a polysomnogram, or/and a continuous positive airway pressure (CPAP) study. Some children/teens will need to stay a second day (but not a second night) to have a multiple sleep latency test (MSLT).

Basic diagnostic sleep study: The polysomnogram (PSG)

A polysomnogram (PSG) is a sleep study designed to find abnormalities during sleep. Often during sleep, the body acts differently than while awake.

A PSG records your child's functions during natural sleep to uncover any unusual patterns. So, your child will be staying all night with us. A PSG monitors these body functions, including:

- Sleep stages
- Eye movements
- Brain waves
- Muscle activity
- Breathing
- Body positions
- Heartbeat

A PSG is the best way to make a correct diagnosis.

CPAP sleep study: continuous positive airway pressure

If your child has been diagnosed with obstructive sleep apnea, the next step may be a sleep study using CPAP. CPAP stands for continuous positive airway pressure. CPAP allows your child to breathe normally during sleep, which will improve sleep quality as well as help their function and behavior during normal daytime activities.

During a CPAP sleep study, a mask (usually covering the nose or the nose and mouth) is connected to a CPAP machine which gives your child extra air to support their breathing. The air opens the space in the back of the throat so that the child can breathe better while sleeping. Throughout the night, our special CPAP machine records the right amount of air pressure needed to fully treat your child's obstructive sleep apnea.

The results of the CPAP sleep study give us the correct "air pressure prescription" to set up a CPAP machine in your home, so your child will get a good night's sleep every night.

Before the sleep study with CPAP, we may ask that your child go through a "CPAP Desensitization Program" to give them time to adjust to the CPAP equipment before the sleep study. Experienced pediatric staff members (including behavioral therapists) are often consulted and may work with you and your child during the desensitization process to help them adjust to the CPAP treatment.

Multiple Sleep Latency Test (MSLT)

The MSLT is designed to measure daytime sleepiness. An MSLT is a series of short naps, spaced two hours apart. The MSLT is done during the daytime immediately following a nighttime sleep study.

The first MSLT nap begins 1½ to 3 hours after waking up from the nighttime study. At least 4 naps are conducted during the day. A fifth nap may be necessary depending on what was seen during the first four nap times. The MSLT will be completed by 5:30 p.m. at the latest. The technologist will let you know the expected end time of your child's study as soon as they know.

- It is very important your child stays awake between naps. Basic cable television and preloaded movies are available to help keep your child awake.
- Breakfast and lunch are provided for your child. Sorry, but the family member who stays over during the testing needs to plan on getting breakfast and lunch on their own. You can feel free to bring in your own food. We have a refrigerator and a microwave available.

What happens during the study

Hooking up the sensors

Your child will come to a private bedroom with a double bed. Special video cameras and microphones record all sounds and movements your child makes during sleep.

Before your child goes to sleep, a sleep technologist, specially trained to work with children, will place sensors on several places on your child's body. All these sensors help collect data. These paste-filled sensors are put on with special tapes or mesh netting. The technologist will tape sensors:

- Partially in the nose to measure carbon dioxide and airflow
- On the chin
- On the chest to measure heartbeat
- On the face and scalp to measure brain waves and eye movements
- To each leg to assess leg movement

Soft belts are placed around the chest and tummy outside of the pajamas that measure movements of your child's chest and abdomen.

A pulse oximeter probe is placed on one finger to assess the level of oxygen to the blood. A red light shines through the finger, which is completely painless. The technologist may also place a sensor on your child's upper chest or forearm to measure carbon dioxide. Some sensors will be placed on top of your child's head using gauze and a sticky paste. Their head may be gently wrapped with gauze to help keep the sensors in place.

Will the hook-up hurt?

No, sleep studies do not hurt. The skin is not broken for any of these procedures and there are no needle pokes. The skin is cleaned before the sensors are put on, and most are taped in place on the skin with special "ouchless" tapes. The sensors are gently removed the morning after the study.

Can my child sleep with all these wires on?

Yes, most children sleep well. Our technologists will make your child as comfortable as possible. If a sensor is pulled or falls off, it is easily replaced. A TV is provided with preloaded movies and basic cable.

You or another parent or caregiver will need to stay the night with your child. This will make your child more comfortable during the study. The study room has a bed for you to sleep in next to your child. A limited number of separate parent sleep rooms are available upon request on a first-come, first-served basis.

Preparing for the study

Are sleep studies covered by insurance?

Yes. All or part of the charges for sleep studies (PSGs) are covered by most insurance companies. Check with your insurance company or managed care provider before you come in for your child's sleep study. You'll want to find out about coverage, costs and whether or not a preauthorization is needed.

How do we prepare for the study?

- Read our book "What to Expect When You Get a Sleep Study at Seattle Children's" with your child. The book explains a common patient experience and includes many photos to help children understand what the sleep study will be like.
- Plan for one adult guardian to stay overnight with any child under 18 years. A small bed with linens, blankets and pillow is provided.
- No other family members may stay.
- Avoid extra naps for your child on the day of the study. Usual routine naps are fine.
- Have your child avoid caffeine, tea or chocolate, as this may skew the results.
- Wash your child's hair with shampoo and dry it right before you come in for the stay. Do not use any hair products. These can interfere with the sensor paste.
- Have your child take any usual medicines unless otherwise instructed.

What to pack

- Bring your own pillow if you want. Bring a toothbrush, toothpaste and other toiletries.
- Bring any medicines your child is taking. Bring any special food or formula they require
- Have your child bring two-piece pajamas to wear. No nightgowns, please.
- Feel free to bring favorite toys, pillows or blankets for the study.
- **Only** service animals are allowed.

What to expect the night of the sleep study

- Lights out will be no later than 10 p.m. so your child can begin to get sleepy. We need your child to sleep long enough to allow us enough time to collect sufficient data.
- Night lights, white noise machines and fans are available upon request.
- All personal electronic equipment will be turned off as soon as the study begins.

You will be asked to turn off your cell phone while here and to step outside the study center for phone use. Thank you for your understanding. Our equipment is sensitive.

What to expect in the morning

Your child is awakened after the sleep study – usually by 6 a.m. – and the monitoring equipment is gently disconnected. We will ask you to complete a couple pages of morning questionnaires and then you will be ready to leave the sleep center if you have no other study.

How do I find out the study results?

Allow up to one month for the study results. During this time, your child's sleep study data is gathered, tallied and reviewed by our sleep doctor. A copy of the study results will be sent to your child's primary care provider, and then they will contact you to discuss the results. Most often your child will be scheduled for a follow-up Sleep Center appointment to discuss the results and lay out a treatment plan.

Comfort while you're here

Comfort items

For your convenience, if you forget to pack something, we have these toiletry items on hand. Let your technologist know if you would like any of these items:

- Shampoo, conditioner, lotion
- Toothbrush, toothpaste
- Comb
- Towels, face towels
- Extra blankets
- Night lights
- Electric fans
- WiFi access
- Basic cable TV with preloaded movies

Snacks

These snack items are in the Patient Kitchen Area near the entrance to the sleep lab. Please help yourself to any of these items:

- Juices: apple, orange
- Canned soup
- Saltines
- Coffee: Keurig and K-Cups
- Tea: caffeinated/decaffeinated
- Cups, plates, forks, spoons, knives, napkins
- Sugar, coffee creamer

Food delivery

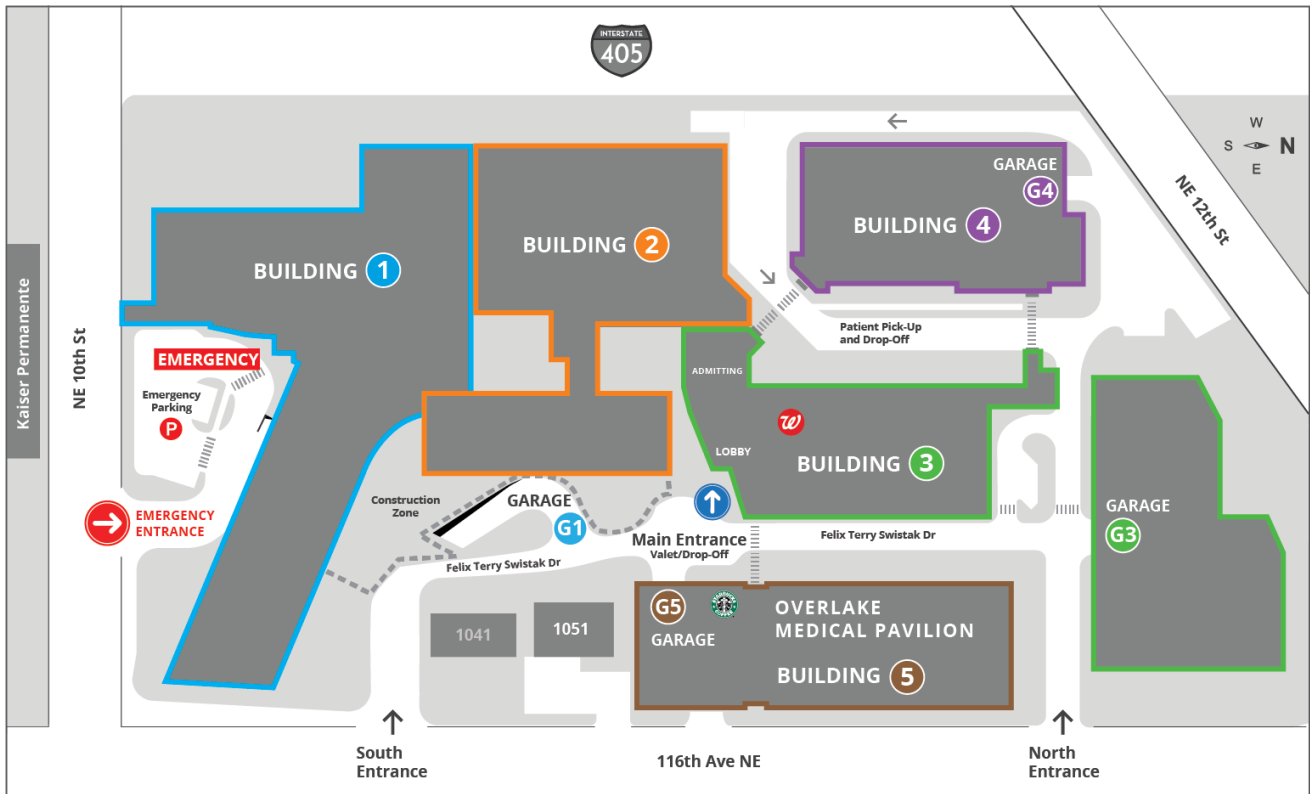
While we prefer that you eat before you arrive for the sleep study, you may have food delivered to the Sleep Center at your expense. We have a selection of restaurant menus from the area. Please ask your technologist for the menu book. Uber Eats and DoorDash deliver to our facility.

Address for delivery:

Overlake Medical Pavilion - Building 5
1231 116th AVE NE
Suite 385
Bellevue, WA 98004

Other food options

There is also a Starbucks and a hospital cafeteria on the Overlake campus. Ask a staff member for more details about these.



On the day of the sleep study

Where do we go for the sleep study?

The clinic is located on level 3 of the Overlake Medical Pavilion, on the left after you exit the elevator.

Parking: you can park in the Overlake Medical Pavilion Garage, on any of the levels. Please bring your parking ticket with you to the Sleep Center so it can be validated. We are unable to validate for any other garage located on the Overlake Medical Center campus.

- If you park on levels 3 to 6, first take the garage elevator to level 1 (the lobby), cross the lobby to the other set of elevators, and then go to level 3.
- If you park on levels 1 or 2, you can take an elevator straight to level 3.

The Sleep Center is all the way to the left after you exit the elevator on level 3.

What else do we need to know?

- Check-in time is at 7 p.m. Check-out time is between 6 and 7 a.m. the next day. Please plan for your rides to and from the center around these times.
- Bring all your home CPAP/BiPAP/ventilator and tube feeding equipment with you to the study (mask, tubing, machine, power cord). We have oxygen and suction here for your child if needed.
- Please call to reschedule the study if your child has:
 - A fever over 100 degrees F
 - Cold or cough symptoms
 - Vomiting or diarrhea
 - Any other sickness

If your child arrives for the sleep study with the above symptoms, we may need to reschedule your study.

To reschedule for illness or any other reason, call 206-987-5072, option 2. It may be several weeks before we can get you in, but we will try to reschedule as soon as possible.

About the Sleep Center

Seattle Children's Sleep Center is the only sleep center in the Pacific Northwest dedicated to diagnosing and treating patients from infancy through age 21. Our multidisciplinary team of pediatric sleep disorders specialists is directed by Maida Chen, MD, board-certified pediatric sleep disorders specialist.

We are fully accredited by the American Academy of Sleep Medicine.

If you have any other questions about the sleep study or insurance coverage, or if you need help making arrangements, please call us!

Seattle Children's Sleep Center
1-877-987-5072 (toll-free)
206-985-3397 (fax)
sleep.disorders@seattlechildrens.org





Directions to the Sleep Center

Overlake Medical Pavilion - Building 5
1231 116th AVE NE, Suite 385, Bellevue, WA 98004

Driving directions:

I-405 South:

- Take I-405 South to Exit 13B for NE 8th Street East.
- Keep left at the fork. Follow signs for NE 8th Street East and merge onto NE 8th Street.
- Turn left onto 116th Avenue NE.
- Just past the first main Overlake campus entrance, turn left into Garage 5 (brown garage).
- Seattle Children's is on the third floor of the Overlake Medical Pavilion above the garage.

I-405 North:

- Take I-405 North to Exit 13A for NE 4th Street.
- Turn right at NE 4th Street.
- Turn left onto 116th Avenue NE.
- Just past the first main Overlake campus entrance, turn left into Garage 5 (brown garage).
- Seattle Children's is on the third floor of the Overlake Medical Pavilion above the garage.

I-90 East and I-405 North (from Seattle):

- Take I-90 East to Exit 10A for I-405 North.
- Follow I-405 North directions.

WA-520 East* (from Seattle):

- Take WA-520 East to the exit for Bellevue Way NE toward Lk Washington Blvd NE.
- Turn left onto Bellevue Way NE toward Lk Washington Blvd NE.
- Turn right onto Northup Way.
- Turn right onto 116th Avenue NE.
- Just past the first main Overlake campus entrance, turn right into Garage 5 (brown garage).
- Seattle Children's is on the third floor of the Overlake Medical Pavilion above the garage.

***WA-520 Toll** – WA-520 has a toll to cross. You will get a bill in the mail if you do not have the Good to Go pass.

Free Interpreter Services

- In the hospital, ask your child's nurse.
- From outside the hospital, call the toll-free Family Interpreting Line, 1-866-583-1527. Tell the interpreter the name or extension you need.

Seattle Children's offers free interpreter services for patients, family members and legal representatives who are deaf or hard of hearing or speak a language other than English. Seattle Children's will make this information available in alternate formats upon request. Call the Family Resource Center at 206-987-2201. This handout has been reviewed by clinical staff at Seattle Children's. However, your needs are unique. Before you act or rely upon this information, please talk with your healthcare provider.

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