

Pulmonary Medicine, Allergy and Immunology

SWEAT TESTING

AT CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC, we believe parents and guardians can contribute to the success of this test and invite you to participate. Please read the following information to learn about the test and how you can help.

Fast Facts About Sweat Testing

- Sweat testing is a safe, reliable test for diagnosing cystic fibrosis (CF).
- The test can be done on its own, as part of your child's regular appointment in the pulmonary clinic or while your child is a patient in the hospital.
- The test is done by collecting some of your child's sweat to measure the amount of chloride (salt) in the sweat.
- The test can be performed on any child who is at least 2 days old.
- There are no needles used in this test, and it does not hurt.
- There are no special preparations, but your child should be well hydrated when he or she comes for the test.
- The test takes about 1 hour.

What Is A Sweat Test?

For more than 40 years, doctors have been using the sweat test as the most reliable way to diagnose cystic fibrosis (CF). CF is an inherited disorder of the lungs, intestines and sweat glands. Children who have CF have higher levels of salt in their sweat than those who do not have CF. The sweat test measures the amount of salt present in the sweat. Once a child tests positive for high sweat salt levels, it will never change over his or her lifetime. Sweat salt levels also do not change with colds or other temporary illnesses, so the results are very reliable.

Most children who have sweat tests will either have normal results, showing low sweat salt levels and ruling out CF, or abnormal results, showing high sweat salt levels and are a sign of CF. In a small number of cases, though, the sweat test results may fall into the "borderline" range and the doctor might need to repeat the sweat test or do other tests for an accurate diagnosis.

Home Preparation

No special preparation is needed for this test, but you should make sure your child drinks or nurses in the hours before the test so he or she is well hydrated. Your child should not use any creams or lotions on the skin for 24 hours before the test. Your child may take his or her regular medications as usual on the day of the test as they will not affect the test results.



Before the Test

- If your child's test is being done in the pulmonary clinic as part of a doctor's appointment, please register at the front desk of the clinic. You and your child will be called to the exam room.
- If your child's test is being done in the Fast Track lab, please go directly to the lab and register for the sweat test. You should bring the prescription for the sweat test from your child's PCP to the Fast Track lab. You and your child will be called to the lab where the test will be done.
- Your child may wear normal clothes to the test, but you should bring warm clothes or a blanket to help him or her sweat.

The Sweat Test

The sweat test may be done in Children's Hospital's Fast Track outpatient lab, in an exam room at the pulmonary clinic or in your child's hospital room if he or she is an inpatient. A lab technologist will do your child's test.

- Your child will be asked to sit or lie on the table, depending on his or her age.
- A small disk containing a colorless, odorless chemical that causes sweating will be placed on your child's arm or leg and held in place with a snug Velcro band. The chemical on this disk is completely safe and usually will not sting or burn.

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- The disk will then be attached to a small battery-powered machine that will send a weak electrical current to the skin to stimulate sweating. During the stimulation, your child might feel a slight tingling or itchy feeling. The stimulation will take 5 minutes.
- The technologist will ask you to keep your child relaxed and still during the 5-minute stimulation phase. You may talk to your child and hold his or her hand during the stimulation.
- The first disk will be taken off and a collection disk made of disposable plastic will be placed over the stimulated area and attached by a snug Velcro band. This disk and band will look as if your child is wearing a little watch. This collection disk is slightly concave so that your child's skin will form a seal around the edges of the disk. The disk will not hurt.
- Your child's arm will be wrapped with a thin sheet of plastic wrap to trap the sweat.
- The collection part of the test will take 30 minutes.
- You will be asked to keep your child from playing with or picking at the collection disk during the collection time. It might help to roll your child's sleeve or pant leg down over the disk while you wait.
- Your child may lie down, sit on the table or in your lap, or play quietly during the 30-minute collection time. If your child is a baby, you may hold him or her in your arms and give a bottle or nurse.
- At the end of the 30 minutes the technologist will return and will insert a small needle into a tube on the collection disk to draw out the sweat. The needle will not touch your child.
- Once the sweat has been drawn into the needle, the disk, plastic wrap and Velcro bands will be removed. The test is over.
- After the test, the area under the collection disk will be red. This redness usually goes away after a few hours. Occasionally, a rash will appear. If a rash appears, you may use A&D Ointment on it to relieve any itchiness. The rash might take longer to fade.
- In very rare cases, the skin under the collection disk might look like a bad sunburn. In the unlikely event of a burn, your doctor would give you special instructions for treating the skin.
- Most children make enough sweat to be tested in the 30-minute time period. Occasionally, small babies do not. If your child does not make enough sweat during the 30-minute period, the doctor might need you to repeat the test so that enough sweat can be collected to send to the lab.
- Your child may resume normal activities, eating and drinking as soon as the test is over.



- If the test was ordered by your child's pulmonary doctor, you will receive a call from the doctor's office by the end of the day. If your child's PCP ordered the test, the test results will be sent to that doctor by the end of the day. You should follow up with your PCP to get the results of the test.

A Parent's/Guardian's Role During the Test

The most important role of a parent or guardian during the test is to help your child stay calm and relaxed. The best way to help your child stay calm is for you to stay calm.

- You may stay with your child through the entire test.
- Feel free to ask any questions, but please ask them before or after the test.
- You may bring along a "comfort" item—such as a favorite stuffed animal or "blankie"—for your child to hold during the test.

Special Needs

If your child has any special needs or health issues you feel the technologist performing the test needs to know about, please call the Division of Pulmonary Medicine, Allergy and Immunology at Children's Hospital of Pittsburgh **before the test** and ask to speak with a nurse. It is important to notify us in advance about any special needs.

Division of Pulmonary Medicine, Allergy and Immunology

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To see the list of all available patient procedures descriptions, please visit www.chp.edu/procedures.