

**UNDERSTANDING SWEAT TEST RESULTS**

Children and adults with CF have an increased amount of chloride (salt) in their sweat. In general, sweat chloride concentrations less than or equal to 29 mmol/L is unlikely (regardless of age), values between 30-59 mmol/L are intermediate and sweat chloride concentrations greater than or equal to 60 mmol/L are consistent with the diagnosis of CF. For individuals who have CF, the sweat chloride test will be positive from birth. As a person grows older, sweat test values do not change from positive to negative or negative to positive. Sweat test values also do not vary when individuals have temporary illnesses.

**CAN THE TEST RESULTS BE INCONCLUSIVE?**

In a small number of cases, the test results fall into an "intermediate" range and the patient may have CF. In these situations, repeat sweat testing, as well as other diagnostic procedures (ex. genetic testing) may need to be performed. These will only be done after consultation with your physician.

**WHEN ARE THE SWEAT TEST RESULTS AVAILABLE?**

Sweat test results are usually available to your physician on the next working day after the test is performed. In a small number of cases, the quantity of sweat obtained is not sufficient to give an accurate result, and the test may need to be repeated. You can decrease the chances of this happening by being well hydrated before your appointment for the sweat collection procedure. Your results can be accessed through MyChart (CottageOne and Sansum).

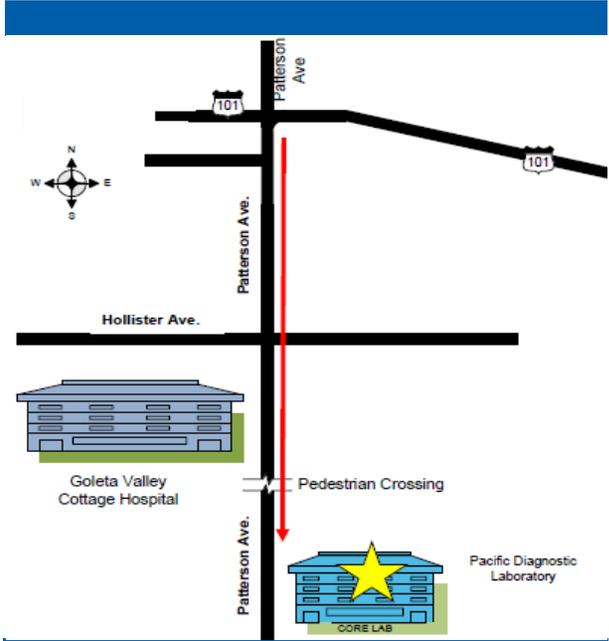
**HOW DO I SCHEDULE MY SWEAT TEST?**

You can schedule an appointment with Pacific Diagnostic Laboratories (PDL) Online or by phone for appointments Monday through Friday 10:30 am. The procedure is only done at PDL Core Laboratory located at 454 S. Patterson Avenue, Goleta, CA. The phone number for Client Services is (805) 879-8100. To make an Online appointment, go to [www.pdllabs.com](http://www.pdllabs.com).

Your Appointment:

Date: \_\_\_\_\_

Time: \_\_\_\_\_



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454 South Patterson Ave,  
Santa Barbara, CA 93111

References:

- 1. Macroduct Advanced Sweat Collection System User's Manual. ELITech Group Biomedical Systems. 2018.
- 2. CLSI C34-A4. Sweat Testing: Specimen Collection and Quantitative Chloride Analysis. 4th Edition. 2019.
- 3. Cystic Fibrosis Foundation Website. [www.cff.org](http://www.cff.org)



# Sweat Chloride Induction and Collection

*A guide for Patients (Adult & Pediatric)*



Appointments available @ [pdllabs.com](http://pdllabs.com)

## SWEAT CHLORIDE TEST

### OVERVIEW

Your physician has asked that this test be performed to diagnose or rule out the presence of CF, an inherited disorder of the lungs, intestines and sweat glands. The sweat test has been the “gold standard” for diagnosing cystic fibrosis (CF) since the early 1950s. When it is performed by trained technicians and evaluated in an accredited, high quality laboratory, the sweat test is still the best test to diagnose CF. It is recommended that the sweat test be performed in a Cystic Fibrosis Foundation-accredited care center (such as Pacific Diagnostic Laboratories), where strict guidelines are followed to ensure the accuracy of the results. The test can be performed on individuals of any age.

### NEWBORN SCREENING FOR CF

Newborn screening (NBS) is a nationwide program to identify babies who may have certain health conditions. CF screening tests newborns to identify babies who are at high risk of having the disease. If a baby has a positive NBS for CF, the baby will need to have a sweat test to see if they actually have CF. Some babies that have a positive NBS test for CF do not have CF. This is called a false-positive. Therefore, anyone, at any age, who has symptoms of CF should have a sweat test to see if they have CF. The sweat test should be done at CF foundation-accredited care center. The sweat test can often be done on an infant as young as 2 weeks old. Sometimes babies do not make enough sweat to get an accurate sweat test. In those cases the sweat test has to be done when the baby is older and enough sweat can be collected for the test.

### WHAT DO I NEED TO BRING WITH ME?

Please bring the completed laboratory requisition and your Insurance card.

### PREPARATION

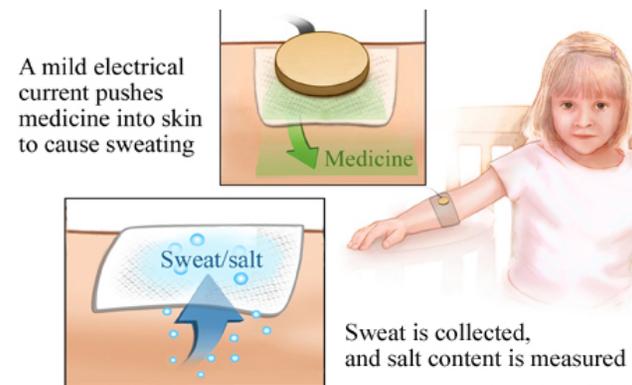
There are no restrictions on activity or diet or special preparations before the test. However, it is important to be well hydrated before having the sweat collection procedure. For adults, it is recommended to drink eight, 8 oz. glasses (64 oz.) of water during the 24 hours prior to the procedure. Babies should be fed their usual amount at their usual times. One should not apply creams or lotions to the skin 24 hours before the test. All regular medications may be continued and will have no effect on the test results.

### WHAT HAPPENS DURING A SWEAT TEST?

The sweat test determines the amount of chloride in the sweat. There are no needles involved in the procedure. The sweat test consists of three sequential steps: 1) sweat stimulation, 2) sweat collection and 3) analysis. In the first step, a colorless and odorless chemical called pilocarpine is applied to a small area on an arm or leg. An electrode is then attached to the arm or leg and a weak electrical current is applied to the area to stimulate sweating. This procedure is called pilocarpine iontophoresis. Individuals may feel a tingling sensation in the area, or a feeling of warmth. This part of the procedure lasts approximately five minutes. The second step consists of cleaning the stimulated area and collecting the sweat in a plastic coil. This part of the procedure lasts thirty minutes. The entire procedure takes approximately one hour. Once the sweat is collected, it is taken to the clinical laboratory for analysis.

### REMOTE RISK OF MINOR BURNS

Minor skin burns can be a side-effect of pilocarpine iontophoresis. Fortunately, such burns are extremely rare when using the Macroduct Advanced iontophoretic system used by Pacific Diagnostic Laboratories (PDL). The Macroduct Advanced system has features that substantially reduce, but do not totally eliminate the possibility of skin burns (frequency estimated to be less than 1 in 50,000). Burn descriptions vary and some individuals may exhibit a sensitivity to pilocarpine that typically manifests as mild erythema (redness) of the skin at the location of the electrode. Blisters may form which are often mistaken as burns, but they are simply the reaction of the skin to pilocarpine and invariably disappear within 2-3 hours. Experience has shown that when burns do occur, the injuries are minor and there are no lasting effects.



There is a blue dye in the sweat collector that will color the sweat and allow the lab to see if sweat is being produced.