

Sweat test

Information and advice for patients

Clinical Biochemistry

What is a sweat test?

A sweat test is used to determine how much salt is present in the sweat.

Why does this need to be carried out?

This test is carried out on children or adults who have recurrent chest infections, frequent unexplained pale diarrhoea, problems gaining weight or poor growth. These symptoms are commonly seen in patients with cystic fibrosis (CF). A sweat test may also be performed as a follow-up to the newborn screening programme.

What is the benefit of the test?

The test can help to investigate or rule out the diagnosis of CF. Normal levels of salt in sweat can help rule out CF. High levels of salt in sweat is an indicator for CF, however diagnosis would not depend on the result of one sweat test alone. Your doctor will also take into account symptoms, clinical findings and other tests. It is important to diagnose CF as soon as possible so that the right treatment can be started.

Are there any risks or side-effects?

There is usually a red mark on the skin where the sweat has been stimulated. This is normal and should fade within a few hours. No needles are involved in this test.

Are there any alternative tests?

There are no alternative tests that will measure the amount of salt in sweat.

What should I do to prepare for a sweat test?

There is usually very little you need to do to prepare for a sweat test. Your doctor will advise you if there is anything they require you to do.

Avoid using any creams or vaseline on the arms or legs on the day of the appointment before the sweat test, otherwise the test cannot be performed. You should also have plenty to drink and keep warm, as this will help with sweat production.

Who does this test?

The Clinical Biochemistry Department will make an appointment for you at the request of your doctor and a member of the biochemistry laboratory staff will perform the test.

The test is usually done as an outpatient appointment, either in the Birmingham Treatment Centre at City Hospital or on Priory Ground Ward at Sandwell General Hospital. Please see your letter for where you need to go for the test.

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How is the test performed?

2 special gel pads containing a chemical called pilocarpine that stimulates sweat production are secured on the arm (or occasionally the leg) with velcro straps.

A small current from a battery is passed through the pads for 5 minutes to stimulate the sweating process.

The skin is then carefully washed with water and dried.

A sweat collection device containing a plastic coil is placed over the stimulated area and secured quite tightly with velcro straps. If you think that the hand (or foot) where the device is fitted is turning blue or are concerned that the strap is too tight, please ask the member of staff doing the test to check it, do not try to adjust the strap yourself.

You will then be asked to wait for 20-30 minutes for sweat to be drawn into the coil device. During this time you (or your child) are free to read, play or eat, although salty foods such as crisps should be avoided to minimise any risk of contamination.

The plastic coil is then removed and taken to the laboratory, and you are free to leave.

Does it hurt?

The test is not painful, although some people experience a tingling sensation at the location where the sweat is being stimulated. If it is your child having the test you will be able to stay with him/her throughout.

How long does the test take?

The whole appointment will take approximately 1 hour.

Why might the test not be carried out?

If you have skin problems such as a rash, eczema or the skin is broken or raw then it may not be possible to do the test. The member of staff performing the test may check both arms and legs to find the best location to stimulate the skin. If any creams or vaseline have been used on the arms or legs, this will interfere with the sweat production so the test cannot be performed.

Can blood tests be done at the same time?

Blood tests can be done during the same hospital visit however it is better if the sweat test is done first. This is because the sweat test cannot be done if the skin is broken or if cream has been used.

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How do I get the results?

The sweat collected during the test is sent to a specialised laboratory. Usually the results are returned and reported to the doctor who requested the test within about a week and he/she will contact you with the results. The laboratory will not be able to give the results directly to you or any other family member.

What do the results mean?

In most cases the results will clearly show either a normal level or a high (abnormal) level of salt in the sweat, although sometimes the results can be borderline. Your doctor will explain the results and what they mean for you.

Will the test be repeated?

In a few cases the test may need to be repeated because not enough sweat had been collected during the first test. Sometimes the doctor may request a repeat test if the results are inconclusive or to confirm the first results.

Further questions

The laboratory staff will be able to answer questions on how the test is performed but will not be able to speculate on the possible diagnosis. If you have further questions regarding the need for a sweat test in yourself or your child, please speak to the doctor who has referred you for this test.

Other sources of information

Cystic Fibrosis Trust

The Cystic Fibrosis Trust provides information about cystic fibrosis through their factsheets, leaflets and other publications which can be downloaded from their website.

www.cysticfibrosis.org.uk

Lab Tests Online UK

Lab Tests Online-UK is written by practicing laboratory doctors and scientists to help you understand clinical laboratory tests that are used in diagnosis, monitoring and treatment of disease

www.labtestsonline.org.uk

(Websites checked 11 April 2022)

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How to contact us

Clinical Biochemistry Department

General laboratory call centre

Monday – Friday, 9am – 5.00 pm

0121 507 5162

If you are unable to keep your appointment please telephone the above number as soon as possible so the appointment can be rearranged. If you do not attend your appointment, you will have to return to your doctor who will make another referral for you.

Sources used for the information in this leaflet:

Association for clinical biochemistry & laboratory medicine (2014). *Guidelines for the performance of the sweat test for the investigation of cystic fibrosis in the UK 2nd version: an evidence based guideline*. Available at: <https://www.acb.org.uk/resource/guidelines-for-the-performance-of-the-sweat-test-for-the-investigation-of-cystic-fibrosis.html> (Accessed 11 April 2022).

Cystic fibrosis trust (2016). *The sweat test*. Available at: <https://www.cysticfibrosis.org.uk/sites/default/files/2020-11/Sweat%20Test%20factsheet%20Jan%202019.pdf> (Accessed 11 April 2022).

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