Cystic Fibrosis our focus

The sweat test

Factsheet – July 2016

Fighting for a Life Unlimited

The sweat test

Introduction

The sweat test is a test used to diagnose cystic fibrosis (CF). This factsheet explains how the test works, why it is used and what the results mean.

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What is the sweat test?

The sweat test measures the amount of salt (usually measured as chloride) in sweat. This is done by collecting a small amount of sweat from the arm, or sometimes the upper part of the leg, in a small baby.

Why is it used?

In people with cystic fibrosis (CF) there is a problem in the transport of chloride across cell membranes. This results in higher concentrations of chloride (as salt) in sweat compared with those who do not have cystic fibrosis.

If there is a family history or a possibility of CF, the sweat test is part of the special tests that help make, or exclude, a diagnosis of cystic fibrosis.

Screening for cystic fibrosis has been part of the national newborn blood spot screening programme since 2007. The sweat test is done in those babies suspected of having cystic fibrosis, as part of the follow up to the screening process.

As part of the investigations to look for possible causes of illness, the sweat test may be done in children, and in some cases for adults, with no family history of cystic fibrosis, but who are having lots of chest infections, unexplained diarrhoea, or who are not putting on weight or growing normally. In these circumstances the test is often used to exclude a diagnosis of cystic fibrosis. It is also helpful in investigating adults with problems like bronchiectasis, infertility and pancreatitis.

How is the test performed?

A small area of skin on the arm or leg is cleaned with water, and two gels or special pads are attached. These gels/pads contain a substance called Pilocarpine, which will make the skin sweat. In order to get the Pilocarpine into the skin, the area is stimulated by a small current from a battery for about five minutes. This may produce a tingling sensation but does no harm and does not hurt.

The gels/pads are removed, the skin is cleaned and a small coil device or a piece of special paper is placed onto the arm/leg. The sweat is collected into the coil or on the paper for about 20–30 minutes. The sweat in the coil/on the paper is then taken to the laboratory for analysis. The whole test usually takes about 30 minutes.

The area of the arm or leg which was stimulated may stay red for a few hours after the test, but this is normal and nothing to worry about. The test is very safe and the risk of any problems is extremely small.

Occasionally it is necessary to repeat the test if insufficient sweat has been collected or there has been some contamination. This does not necessarily mean that your baby, child or an adult is more likely to have cystic fibrosis. However, sometimes a borderline chloride result is obtained, and a repeat test will be necessary.

The result of the sweat test

The result of the test will usually be available to you within a few days from the doctor who requested the test. It can help your doctor to decide what is wrong, but he/she will also rely on the symptoms and the results of other tests.

If your baby is being tested because of a newborn screening test result, arrangements will be made for the sweat test result to be explained to you by a doctor in your CF clinic, as part of the follow up from the screening results – this will usually be within 24 hours.

If you have any questions about why this test is being performed, you should ask your doctor. You should not telephone the laboratory for results: laboratory staff are not allowed to give out results on the telephone, as they may not know the background for a specific patient.

References

Public Health England (2015) – Clinical referral: National standard protocol for cystic fibrosis

Guidelines Development Group (2014) – Guidelines for the Performance of the Sweat Test for the Investigation of Cystic Fibrosis in the UK 2nd Version: An Evidence Based Guideline

Further information

The Cystic Fibrosis Trust provides information about cystic fibrosis through our factsheets, leaflets and other publications.

Most of our publications are available through our helpline and can be downloaded from our website or ordered using our online publications order form. Visit cysticfibrosis.org.uk/publications.

The Cystic Fibrosis Trust helpline can help you with a range of issues, no matter how big or small. Our trained staff can provide a listening ear, practical advice, welfare/benefits information or direct you to other sources of support. The helpline can be contacted on 0300 373 1000 or helpline@cysticfibrosis.org.uk and is open Monday to Friday, 9am – 5pm.

Calls to 0300 numbers cost no more than 5p per minute from a standard BT residential landline. Charges from other landlines and mobile networks may vary, but will be no more than a standard geographic call and are included in all inclusive minutes and discount schemes. If you are worried about the cost of the call please let us know and we'll call you back.

You can also find more information at our website cysticfibrosis.org.uk.

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More factsheets available at:
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