Cystic Fibrosis our focus

The sweat test

Factsheet – March 2013

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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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Last updated 2010 (currently under review).

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

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

Screening for cystic fibrosis is part of the national newborn blood spot screening programme. 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 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 or child 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.

Further information

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

Most of our publications can be downloaded from our website ordered using our online publications order form.

Visit **www.cysticfibrosis.org.uk/publications**.

Alternatively, to order hard copies of our publications you can telephone the CF Trust on 020 8464 7211.

If you would like further information about cystic fibrosis please contact:

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We would welcome your feedback on this or any other of our publications. Please email publications@cysticfibrosis.org.uk.

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cysticfibrosis.org.uk/publications