

LUNG FUNCTION TESTING AND SCLERODERMA

Regular breathing tests can detect early lung involvement in Scleroderma Patients.



scleroderma **australia**

Why test lung function?

The effects of scleroderma can be very different from person to person. This brochure is designed to be a guide, not everything written here will be applicable to everyone - take the advice that is appropriate for you.

People with scleroderma and the related scleroderma variant, Mixed Connective Tissue Disease are at risk of lung complications. Lung function testing is one screening tool used to help identify people at risk of developing lung conditions such as pulmonary fibrosis (scarring of the lungs) or pulmonary hypertension (higher than normal blood pressure in the lungs).

You maybe referred by your healthcare team for a lung function test even if you don't have any respiratory symptoms.

What happens at a lung function test?

The tests will either be on a desktop system with a small handle to blow into for a basic test or in a glass box similar to a phone box for a more detailed test.

The appointment will start with a height and weight measurement as well as some basic questions about your respiratory history. The clinic will send out a letter before the test asking you to withhold any inhaler medications. You will also be asked not to smoke or drink caffeine on the day of testing, as this can influence test results. You will be seated comfortably before starting the tests.

Common lung function tests

Spirometry

In this test you will be asked to take a deep breath in and blow out hard with a big huff until the lungs are empty. This test can tell doctors if you have any issues with lung volumes or narrow airways. You may be asked to take a blue ventolin inhaler/puffer as part of the test and check your spirometry again to look for any improvements after 10 minutes.

Diffusion for Carbon Monoxide test

This test looks at how well the lungs can transfer a sample of gas to the pulmonary capillary blood. This could show signs of possible pulmonary hypertension or fibrosis, but other information will also be needed to make a final diagnosis. This test involves breathing in a sample of gas, holding it in the lungs for 10 seconds and then breathing out fully so the gas can be measured.

Total Lung volumes

This test looks more closely at the size of your lungs. This test maybe used as part of a screening test or to track progress of pulmonary fibrosis. The test is about 5 minutes long and requires you to sit in a glass box called a plethysmograph (looks like a phone box with a chair). The testing scientist will talk through a microphone and ask you to 'pant' or gently puff in and out against a blocked mouthpiece for a few seconds. Once the system unblocks you will be asked to take a full breath in and out.



Photo: An example of the nose peg and mouthpiece used during testing

Tips for lung function tests

- Pick loose clothing that does not restrict your chest movement.
- Choose shoes that are easy to get off and on, as height is taken without shoes.
- Most lung function labs have air-conditioning to maintain a constant temperature for the equipment. If you are sensitive to air-conditioning bring warm layers and hand warmers like gloves
- Let the testing scientist know if you need help putting the nose peg on and off. Also let them know if you have any issues with opening your mouth they may be able to use a child size or extra small mouthpiece. (see above photo for example of nose peg and mouthpiece used).
- Any questions call the testing site a few days in advance incase any asthma or allergy medication needs withholding.

Frequently asked questions

How long will the tests take?

Lung function testing can take anywhere from 30min to an hour depending on what tests are scheduled. Tell the testing scientist if you need more rest time between tests or if you are getting very fatigued and need to stop the test.

Are the tests uncomfortable or painful?

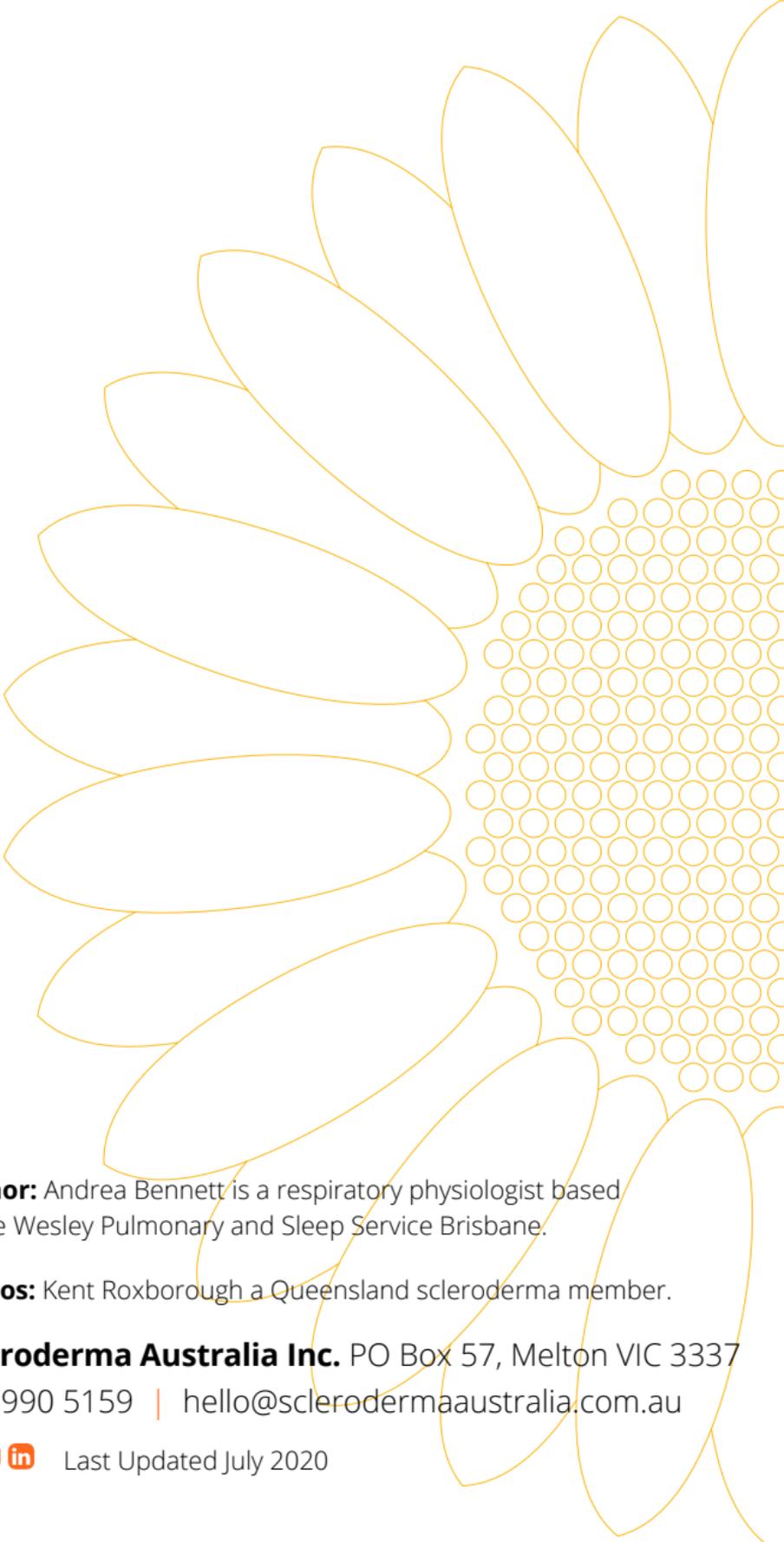
The tests are non invasive apart from a small finger prick blood test (only some sites do this call your testing lab for information). You may find the test tiring so it is best to book it on a day when you can rest after the test or have light tasks only. The tests involves a lot of big breathing in and out and some people with back or muscle pain find this a little uncomfortable. Pain medication can be taken as normal on the day of the test. Most people don't find the test uncomfortable at all.

Should I go to the same testing site every time?

If you are to attend for regular testing such as yearly testing try to go back to the same testing centre using the same equipment. This will reduced any equipment variations and make your lung function information as accurate as possible so small changes can be traced over many years if required.

When will I get my results?

Most clinics and respiratory laboratories will have results available on the same day of testing. Some respiratory laboratories can take 1-2 weeks to report and send out results. Tell your testing scientist if you need a more urgent report or copies to multiple specialists.



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