

- **Echocardiogram** uses ultrasound waves to create images of the heart to evaluate the involvement of the heart.
- **Pulmonary Function Test (PFT)** is a series of five tests that measure how effectively the lungs are functioning and assists the physician to determine the extent of lung involvement.

C. Other Tests

There are many other specialized tests that a physician may order depending upon the extent of the progression of scleroderma as well as the organs that may be involved. These may include

- **Barium studies** of the gastrointestinal tract which may be done every five years.
- **Skin and renal biopsy** are very invasive and may not be necessary. These biopsies are often used to assess disease complications.
- **Antibody Tests** are often used to differentiate between the diffuse and limited forms of scleroderma. Tests include those that detect the antientromere antibody, the anti-Scl-70 antibody, the anti-Ro antibody and the anti-La antibody.

These tests are by no means a complete list. There are many other specialized tests that may be used depending upon the extent of the progression of scleroderma as well as the organs which may be involved.



Scleroderma Society of Canada

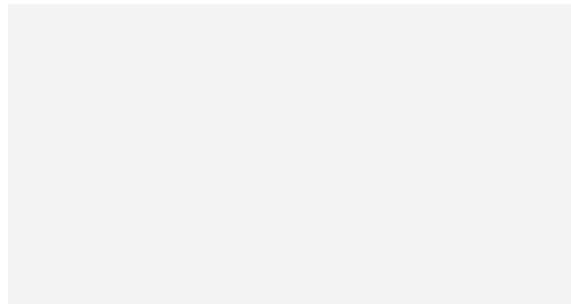
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We would like to thank **Dr. S. Edworthy, FRCPC** for his advice with this information pamphlet.

DISCLAIMER: THIS PAMPHLET IS MEANT TO PROVIDE INFORMATION ON SCLERODERMA AND IS NOT MEANT TO BE USED AS A DIAGNOSTIC TOOL OR TO SUGGEST TREATMENT OR MEDICATIONS. ALWAYS CONSULT YOUR PHYSICIAN REGARDING DETAILS OF SYMPTOMS, DIAGNOSIS, AND TREATMENT.

Your Local Scleroderma Group



Scleroderma

Medical Tests

Medical Tests



Scleroderma Society of Canada

Why Medical Tests Are Necessary

Scleroderma is a highly individualized disease and is very difficult to diagnose. Specialists, as well as a general practitioner, are often involved in diagnosis and treatment. Tests are ordered at the discretion of the attending physicians and are done when the doctor needs results to guide diagnosis or treatment.

Communicating honestly with the doctor is always very important. To better communicate with the practitioner, keep accurate medical records including

- list of doctors
- list and description of medical conditions
- list of medication which should be updated as medications or doses change
- date, description and results of procedures.

Tests

A. Initial Tests

Initial tests are needed to

- determine if scleroderma is present
- categorize and define the extent of the disease
- measure and establish base lines.

Initial tests may include

- **Antinuclear Antibodies (ANA)** are auto antibodies that attack the core of the body's own cells. Scleroderma patients with systemic sclerosis have a positive test. The ANA test is used to support or refute a diagnosis.
- **Extractable Nuclear Antibodies (ENA)** is a test that helps the physician to more accurately diagnose a patient with suspected scleroderma who has a positive ANA.

- the routine tests listed in Part B below
- careful clinical observation of skin to determine the extent of and changes in skin thickening
- careful clinical observation of the lungs, heart, and joints
- other specialized tests depending on the organs involved.

B. Ongoing Tests - Routine

After a patient has been diagnosed with scleroderma, tests should be performed to

- monitor progression
- determine response to the prescribed medication
- monitor the side effects of the prescribed medications. All medications have side effects, some of which may cause serious damage.

Tests which may be performed every six months

Blood Tests

- **CBC (Complete Blood Count)** includes tests for hemoglobin (red blood cells), WBC (white blood cell count), and platelets.

The **Hemoglobin test** measures the number and quality of red blood cells. Low counts may indicate chronic inflammation or that medication is causing a loss of blood or a decrease in red blood cell production.

WBC may be elevated because an infection tends to increase the production of WBC. Some medications may lower the WBC, which could increase the chances of getting an infection.

Platelets help the blood to clot. Some medications can lower platelet counts. Low platelet counts may indicate internal bleeding.

- **Muscle Enzymes Tests (CPK, aldolase)** measure the amount of muscle damage present. In some rheumatic diseases, damaged muscles may release certain enzymes into the blood. These tests may be helpful because they can detect these enzymes.

- **Liver Enzyme Tests (Bilirubin) and Alkaline Phosphatase** indicates the presence and amount of liver damage.

- **Creatinine and Blood Urea Nitrogen (BUN) Tests** measure overall kidney function. Creatinine is a normal waste product of the muscles. A high level indicates that the kidneys are not working well enough to remove waste products from the body.

Urinalysis

- Urine Test (urinalysis) detects blood cells, protein, or a variety of abnormal substances which may indicate kidney damage.

Tests which may be performed annually

- **Extractable Nuclear Antibodies (ENA)** - see initial tests.
- **Erythrocyte Sedimentation Rate (SED)** determines the presence and level of inflammation. The higher the SED rate the greater the amount of inflammation.
- **Chest x-rays** can determine abnormal heart and lung activities and thus determine the extent of inflammation and fibrosis caused by scleroderma.
- **Electrocardiogram (ECG/EKG)** uses a graphic record of the heart's electrical activity to determine heart involvement.

scleroderma