

# Lung Diseases associated with Rheumatologic Disorders

## Patient Handout

Rheumatologic disease can cause inflammation in different parts of the body. Structures like the joints, tendons, ligaments, bones, skin, kidneys, blood cells, brain, heart and lungs may be affected. Some of these diseases occur when your body's immune system starts attacking parts of the body it was designed to protect.

### The Lungs:

There are a wide range of problems that can happen in the lungs with rheumatologic disorders. Any part of the lung can be involved, such as the airways (tubes that carry air in and out of the body), the tissue itself, the pleura (lining around the lungs), the muscles that help you breathe, or the blood vessels.

Identifying when the lungs are involved is important. Sometimes lung issues are the first clue of a bigger issue going on throughout the whole body. Other times, lung problems arise later in the disease.

### Examples of rheumatologic diseases in kids that may have lung involvement:

- Systemic lupus erythematosus
- Juvenile arthritis
- Dermatomyositis/polymyositis
- Scleroderma
- Mixed connective tissue disease
- Sarcoidosis

### Symptoms:

When the lungs are involved, symptoms may include:

- Shortness of breath
- Cough
- Chest pain
- Reduced exercise function

### Screening & Diagnosis

If not found early, your illness could get worse. For that reason, your doctor may recommend certain tests to be performed at your initial diagnosis, at certain time points for screening, or other times depending on your symptoms. The cause of inflammation in your body often determines how often screening is needed. Pulmonary function tests and pictures of the chest are the most common tests performed.

**Chest x-ray** – a picture of the lungs. This test is fast and painless.

**Chest CT** – a test that combines an x-ray with a computer to create detailed pictures of the lungs. CT scans do not hurt, but your child does need to be still for this test.

**Pulmonary Function Tests** – This test tells us how well your child can get air in and out of their lungs.

**Echocardiogram** – a picture of the heart obtained by ultrasound.

**Six- minute walk test** – measures how far you can walk in a six-minute period. The person can walk as fast or slow as they want and can take a break if needed.

Based upon your child's symptoms, along with certain patterns on these tests, a diagnosis can often be made.

### Management

Each form of lung disease requires different treatment. In most cases though, gaining better control of the ongoing reason for inflammation throughout the body is the most important part. For this reason, taking the medicines prescribed by your rheumatologist is very important. If lung symptoms are still not controlled, additional medicines may be added.

Corticosteroids are a common treatment for many children to reduce lung inflammation. Other medicines that work by affecting the immune system may also be used.

### Ongoing monitoring:

Ongoing monitoring with a lung doctor is essential for these diseases if the lung is involved. Tests such as PFTs and the six-minute walk test are helpful in following the progress of the disease and response to treatment. Repeat chest imaging may be needed as well.

Vanderbilt Children's Pulmonary Team works closely with our Pediatric Rheumatology team to screen, diagnose, and manage kids with rheumatologic and lung concerns.

### Contact Us:

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