



# Mixed connective tissue disease

## Overview

Mixed connective tissue disease, also called MCTD, has symptoms of more than one rheumatic condition. These conditions include lupus, scleroderma and myositis. Many people who have mixed connective tissue disease also have inflammatory arthritis and Sjogren syndrome. Mixed connective tissue disease is not common.

In mixed connective tissue disease, the symptoms of each condition don't often appear at once. Instead, they tend to happen over years. And some can be more serious than others. This can make diagnosis harder.

Early symptoms often involve the hands. The fingers might get puffy and the fingertips become white and numb, often in response to being cold. Later, the condition can affect organs such as the lungs, heart and kidneys.

There's no cure for mixed connective tissue disease. Treatment depends on how serious the disease is and the organs involved.

## Symptoms

Early symptoms of mixed connective tissue disease can include:

- **Feeling of not being well.** This can include tiredness and a mild fever.
- **Cold and numb fingers or toes.** Also called Raynaud's disease, this happens in response to cold or stress. Fingers or toes might turn white and then blue or gray. After warming, the fingers or toes turn red. Depending on skin color, these changes may be harder or easier to see.
- **Swollen fingers or hands.** Some people have swelling of the fingers.

- **Muscle and joint pain.** Joints can become irritated and swollen, called inflamed. Joints may change shape. This is like what happens with rheumatoid arthritis.
- **Rash.** Red or brown patches can appear over the knuckles. Depending on skin color, these changes may be harder or easier to see.

## When to see a doctor

See your healthcare professional if you have symptoms that worry you.

## Causes

Experts don't know what causes mixed connective tissue disease. It's a condition in which the immune system attacks healthy cells by mistake, called an autoimmune condition. Most often, the immune system fights off diseases.

In connective tissue diseases, the immune system attacks the fibers that provide support for the body. Some people with mixed connective tissue disease have a family history of the condition. But the role of genes isn't clear.

## Risk factors

Mixed connective tissue disease can happen at any age. But it seems to be most common in people assigned female at birth who are younger than age 50.

## Complications

Mixed connective tissue disease can lead to serious complications. Some of them can be fatal. Complications include:

- **High blood pressure in the lungs.** Also called pulmonary hypertension, this condition is a major cause of death in people with mixed connective tissue disease.
- **Interstitial lung disease.** This large group of disorders can cause scarring in the lungs. Scarring makes it harder to breathe. Many people with interstitial lung disease need oxygen for treatment.

- **Heart disease.** Parts of the heart can get larger or not work as they should. There can be swelling and irritation, called inflammation, around the heart. Heart failure can happen.
- **Kidney damage.** Some people with mixed connective tissue disease have kidney symptoms. The symptoms most often are mild. But the kidney damage can lead to kidney failure.
- **Digestive tract damage.** Mixed connective tissue disease often affects the long tube of organs involved with digesting food and liquids. You might have heartburn, belly pain, and trouble swallowing or digesting food.
- **Tissue death.** The tissue in the fingertips of people with serious Raynaud's disease can die. This also is called gangrene.
- **Hearing loss.** One small study reported hearing loss in almost half the people with mixed connective tissue disease. This link needs more research.
- **Dry mouth.** Sjogren syndrome is one of the autoimmune conditions that can be part of mixed connective tissue disorder. It can cause dental issues and loss of teeth.

By Mayo Clinic Staff

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