

Cryoglobulinemia: Causes, symptoms, and treatment

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Cryoglobulinemia may only appear in cold weather.

Cryoglobulinemia is a disease caused by an abundance of a protein called cryoglobulin in the blood.

Cryoglobulins are proteins found in the blood stream that clump together in colder temperatures. These clusters cause blood plasma to become very thick, which can block normal blood flow to tissue and organs.

Cryoglobulinemia is most common in adults over the age of 50. Some people experience continuous symptoms while others go through periods of flares. As cold temperatures play a role in cryoglobulinemia, people may experience flares during colder months and fewer symptoms in the summer.

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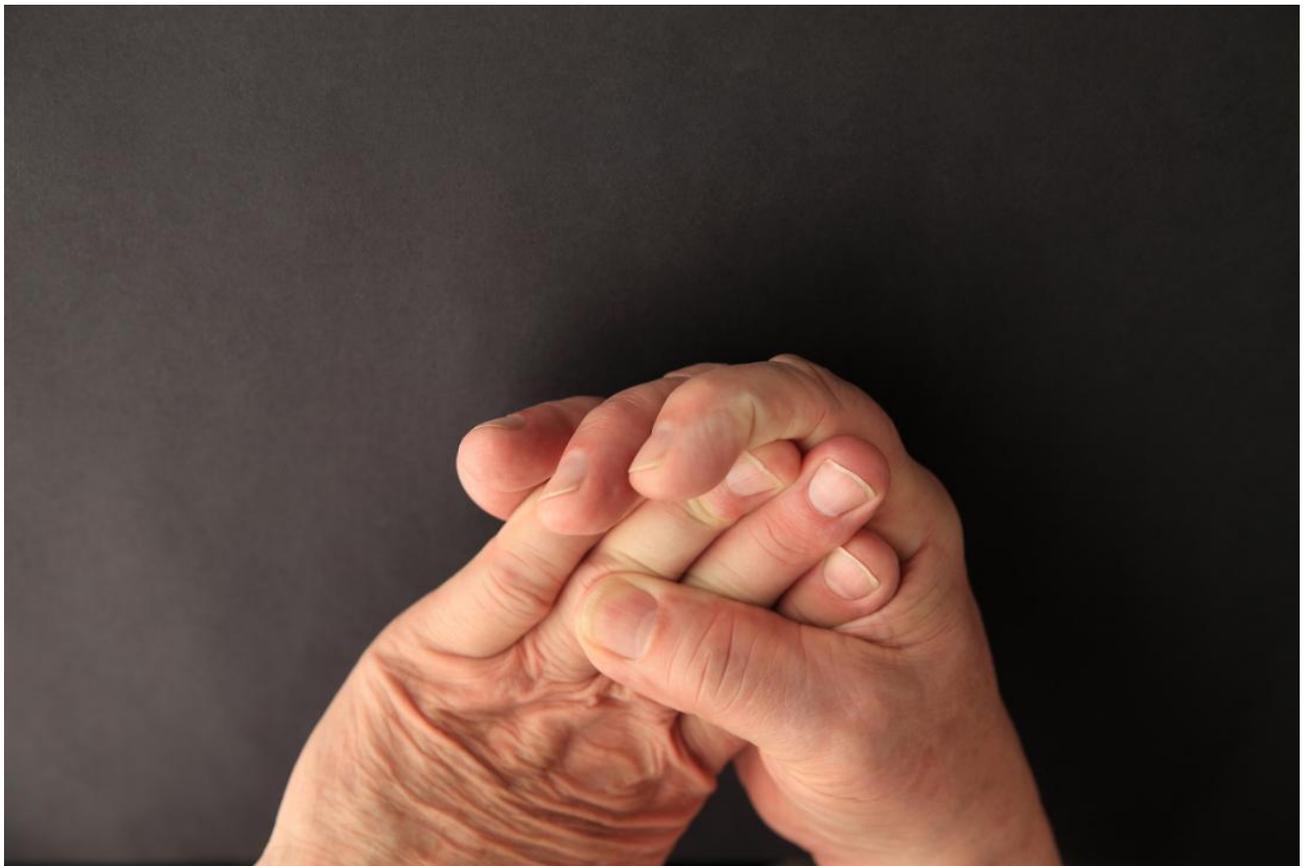
What causes cryoglobulinemia?

Cryoglobulinemia causes clumps of abnormal proteins in the blood stream that can block blood flow. The blockages can, in turn, cause tissue, joint, nerve, and organ damage.

The causes of cryoglobulinemia vary from person to person. Some of the most common causes include:

- having an abundance of cryoglobulin in the blood
- certain blood cell [cancers](#)
- having a connective tissue disease
- having an infection, most often [hepatitis C](#)

Symptoms



Symptoms of cryoglobulinemia may include numbness and joint pain.

A person with cryoglobulinemia may or may not experience any symptoms.

Some people may have low numbers of cryoglobulin in their blood and experience no symptoms. Others discover they have a large number of cryoglobulins in the blood after having blood tests for an unrelated condition.

For others, symptoms may include:

- joint pain
- [fatigue](#)
- numbness
- weakness
- rash with red spots or purple bruises

Less common symptoms include:

- kidney damage
- enlarged spleen or liver
- swelling, particularly around ankles and legs
- discoloration of the hands in the cold
- weight loss
- skin ulcers and [gangrene](#)
- numbness or tingling
- [high blood pressure](#)

Just as symptoms will vary among individuals, so will the number of flares a person experiences throughout the year.

Diagnosis

To diagnosis cryoglobulinemia, a doctor will run a specific blood test that checks for cryoglobulins. From the blood test, a doctor will be able to determine:

- if there are cryoglobulins in the blood
- what type of cryoglobulins are in the blood

There are four main types of cryoglobulinemia:

- **Type 1** is referred to as simple cryoglobulinemia and is the result of a single protein in the blood.
- **Types 2 and 3** are considered mixed cryoglobulinemia, meaning they contain other proteins including rheumatoid factor (RF). RF is a protein produced by the immune system that attacks healthy tissues in the body. RF is often linked to autoimmune diseases, and hepatitis C. Types 2 and 3 cryoglobulinemia make up the majority of cases of cryoglobulinemia.
- **Essential cryoglobulinemia** has no association with a disease or underlying condition. The presence of type 2 and 3 cryoglobulinemia and their association with hepatitis C lead some researchers to believe there may not be such thing as essential cryoglobulinemia.

- **Secondary cryoglobulinemia** indicates a connection between the disease and other underlying conditions.

Determining the type of cryoglobulins present will help a doctor determine how best to treat the disease. The type may also help the doctor identify what underlying condition or disease is causing the cryoglobulinemia.

Treatment



A doctor may prescribe corticosteroids or other immunosuppressors to treat cryoglobulinemia.

A doctor will treat cryoglobulinemia based on the type, the severity of the damage, the parts of the body affected, and the underlying disease or condition present.

A doctor will probably discuss the options with a person prior to starting treatment.

In mild cases without symptoms, a doctor may not treat the condition at all. Instead, they may advise people to avoid cold weather or simply monitor them and recommend that they return for a further assesment if they develop any new symptoms.

In more moderate to severe cases, a number of treatment options are available. These include:

- Corticosteroids or other immunosuppressors, which help stop the immune system from attacking healthy cells.
- Plasmapheresis, which filters out the clumps of cryoglobulins and helps prevent blocked arteries and organ damage.
- Newer biologic medications, such as rituximab (Rituxan), which is an artificial antibody that can prevent the protein forming [clumps](#).

In cases of secondary cryoglobulinemia, treatment involves correcting the underlying condition. When the underlying cause is treated, the symptoms of cryoglobulinemia should improve as well.

If a doctor determines that the cryoglobulinemia is caused by hepatitis C, the treatment will center on antiviral medication and the person will likely be referred to a liver specialist. Pegylated interferon alfa and a combination of sofosbuvir and ribavirin have [shown success](#) in treating cryoglobulinemia and its complications associated with hepatitis C.

Outlook

The outlook for people with cryoglobulinemia varies depending on the severity of their symptoms, the extent of any damage done, and what underlying causes might be present. For the mildest cases, no treatment may be necessary.

In more moderate to severe cases, treatment can help keep flares to a minimum and reduce the overall severity of the symptoms. Left untreated, more severe cases can lead to permanent damage to organs, nerves, and tissues.

It is also important to be aware of the potential side effects of some treatments, such as antiviral medications. People can discuss possible side effects with their doctor.

Hepatitis C, blood cancers, and other underlying causes of cryoglobulinemia will require specific treatment and prognosis will vary from person to person.