



## Pseudogout

Pseudogout may be one of the most misunderstood forms of arthritis, often mistaken for gout and other conditions. Proper diagnosis is important, though, because untreated pseudogout may lead to a severe form of joint degeneration and on-going inflammation, resulting in chronic disability. Some treatment options do exist, but are less targeted than those for [gout](#).

### Fast facts

- Anyone can develop pseudogout; risk greatly increases with age.
- Proper diagnosis depends on identifying the causative calcium pyrophosphate crystals found in the fluid of an affected joint
- Anti-inflammatory medications may be prescribed to prevent or control joint symptoms.

### What is pseudogout?

Pseudogout is a type of arthritis that, as the name implies, can cause symptoms similar to [gout](#), but in reaction to a different type of crystal deposit. Pseudogout, sometimes referred to as calcium pyrophosphate deposition disease, can cause severe episodes of localized pain and swelling resulting in incapacitation for days or weeks. It also can cause more chronic arthritis that mimics osteoarthritis or rheumatoid arthritis. Knees most often are involved, but wrists, shoulders, ankles, elbows or hands can be affected.

### What causes pseudogout?

Pseudogout develops when deposits of calcium pyrophosphate crystals accumulate in a joint. Crystals deposit first in the cartilage and can damage the cartilage. The crystals also can cause a reaction with inflammation that leads to joint pain and swelling. In most cases it is not known why the crystals form, although crystal deposits clearly increase with age. Because the condition sometimes runs in families, genetic factors are suspected of contributing to the disorder, as can a severely underactive thyroid (hypothyroidism), excess iron storage (hemochromatosis), low magnesium levels in blood, an overactive parathyroid gland, and other causes of excessive calcium in the blood (hypercalcemia).



### Who gets pseudogout?

The calcium crystal deposits seen in pseudogout affect about 3 percent of people in their 60s and as many as 50 percent of people in their 90s. Any kind of insult to the joint can trigger the release of the calcium crystals, inducing a painful inflammatory response. Attacks of pseudogout also can develop following joint surgery or other surgery. However, not everyone will experience severe attacks.

### How is pseudogout diagnosed?

Diagnosis is made on the basis of symptoms and medical tests. The physician will use a needle to take fluid from a swollen or painful joint to determine whether calcium pyrophosphate crystals are present. An X-ray of the joint may be taken to determine whether calcium-containing deposits are present in the cartilage, creating a condition known as chondrocalcinosis. Other potential causes of symptoms, such as [gout](#), [rheumatoid arthritis](#), or infection, must be ruled out. Pseudogout often is present in people who have osteoarthritis.

### How is pseudogout treated?

The doctor may prescribe nonsteroidal anti-inflammatory drugs (NSAIDs) such as indomethacin (*Indocin*) and naproxen (*Naprosyn*) to treat pain and disability during severe episodes of pseudogout. Then, to prevent further attacks, low doses of colchicine or NSAIDs may prove effective. However, no treatment is available to dissolve the crystal deposits, and those with poor kidney function, a history of stomach ulcers and/or on blood thinners often cannot take NSAIDs. These patients may find a corticosteroid injection into the affected joint a useful option.

Treatments such as hydroxychloroquine, methotrexate and an interleukin 1 beta-antagonist (*Anakinra*) that can decrease inflammation may be used to help patients with severe pseudogout. Surgery to repair and replace damaged joints is an option should joint degeneration occur with time.

### Prevention

It is not known how to prevent pseudogout. If the condition has developed because of some other medical conditions, such as hemochromatosis (too much iron stored in the body), or parathyroid problems, treatment of that condition may prevent progression of other features of that potentially dangerous illness and may, in some cases, slow the development of pseudogout.

### Points to remember

When a patient complains of joint pain, physicians often do not consider pseudogout because it can be confused with [gout](#) and other types of arthritis. Diagnosis is confirmed by microscopic identification of calcium pyrophosphate crystals. Anti-inflammatory agents can help lessen symptoms, but there is currently no way to eliminate the crystals themselves.





### The rheumatologist's role in the treatment of pseudogout

Rheumatologists actively are engaged in research into the causes of pseudogout to better prevent and treat this form of arthritis. Because people with pseudogout tend to be older and more susceptible to side effects from anti-inflammatory medications, they benefit from seeing rheumatologists, who offer valuable expertise in using such drugs.

Rheumatologists are experts at diagnosing pseudogout and directing a team approach to the chronic, degenerative consequences of crystal deposits. This is important, because the patient may need advice about surgery or may require additional information and support from physical and occupational therapists and nurses.

### To find a rheumatologist

For more information about rheumatologists, [click here](#).

Learn more about [rheumatologists](#) and [rheumatology health professionals](#).

### For more information

The American College of Rheumatology has compiled this list to give you a starting point for your own additional research. The ACR does not endorse or maintain these Web sites, and is not responsible for any information or claims provided on them. It is always best to talk with your rheumatologist for more information and before making any decisions about your care.

The Arthritis Foundation

[www.arthritis.org](http://www.arthritis.org)

National Institute of Arthritis and Musculoskeletal and Skin Diseases Information Clearinghouse

[www.niams.nih.gov](http://www.niams.nih.gov)

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Written by H. Ralph Schumacher and reviewed by the American College of Rheumatology Patient Education Task Force.

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