

Patient and Family Information Leaflet
Calcium Pyrophosphate Deposition
Disease

What is CPPD or pseudogout?

Calcium pyrophosphate deposition (CPPD) disease, also known as pseudogout, is a type of arthritis caused by the build-up of calcium pyrophosphate crystals in the joints.

These crystals cause the joints to become inflamed, leading to joint pain and swelling.

The condition is called pseudogout because it behaves similar to gout, another crystal-related arthritis, but it is caused by a different crystal and may affect different joints.

Common joints affected by CPPD include the knees and wrists. The big toe which is the most common joint affected in gout is less likely to be affected in pseudogout. Over time, untreated pseudogout can lead to joint deformities and disability.

Pseudogout is most common in older adults, usually over the age of 60 years.

What causes CPPD?

Pseudogout is caused by the formation of calcium pyrophosphate crystals in the joints. The exact reason why these crystals form is not always clear, but several risk factors have been identified:

- Age – risk increases significantly with age
- Osteoarthritis (wear and tear of the joints) – joints already damaged are more likely to develop CPPD
- Previous joint injury or surgery
- Acute illness such as an infection
- Genetics – a family history of pseudogout and certain genetic conditions may increase risk
- Other medical conditions:
 - ❖ High parathyroid hormone level (hyperparathyroidism)
 - ❖ Low magnesium level
 - ❖ Low thyroid hormone level (hypothyroidism)

- ❖ Hemochromatosis (iron overload)

How is CPPD diagnosed?

Diagnosis of pseudogout involves taking a thorough medical history, performing a medical examination and investigations.

- **Joint aspiration** – this is the most direct way of diagnosing CPPD. A needle is inserted into a swollen joint to obtain fluid from the joint for examination under a microscope. In pseudogout, calcium pyrophosphate crystals will be seen.
- **X-rays** may be performed to look for crystal deposits (chondrocalcinosis) or joint damage.
- **Blood tests** may be performed to look for causes of CPPD such as low magnesium, high parathyroid hormone or low thyroid hormone levels.

Why is the treatment for CPPD?

Acute attacks of CPPD can be managed by applying ice packs to the affected joints, and one or more of the following medications:

- Nonsteroidal anti-inflammatory drugs (NSAIDs) – like diclofenac or naproxen, to reduce inflammation and relieve pain
- Colchicine
- Steroids (corticosteroids) – these are given as tablets, intramuscular injections or intra-articular injections given directly into the joint to quickly reduce inflammation

Not every medication are suitable for every patient. Factors such as drug allergies and kidney disease may mean that certain medications need to be avoided.

If pseudogout becomes chronic or recurrent, long-term medications such as colchicine may be given to prevent flares.

Any underlying conditions (like thyroid problems or mineral imbalances) that may be contributing to crystal formation should also be treated.

What should I do if I have been diagnosed with CPPD?

Here's how you can manage pseudogout and reduce the impact on your daily life:

- Stay hydrated
- Avoid smoking
- Eat a balanced diet
- Stay active and exercise in moderation
- During acute attacks: rest the affected joint, apply ice packs to reduce swelling and pain, and take medications as prescribed
- Discuss long-term treatment with your doctor if you have frequent or chronic joint pain
- Treat underlying conditions that may increase risk of pseudogout attacks

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