



Granuloma

A granuloma is an area of tightly clustered immune cells, or inflammation, in your body. They form around an infection or foreign object in your body. They can form almost anywhere, but they're most often found in your lungs. Granulomas can be a symptom of a chronic condition or an infection.

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Overview

What is a granuloma?

A granuloma is an area of inflammation (the way your body protects itself from something harmful) in your body. Granulomas are clusters of white blood cells that “wall off” bacteria, a foreign object or something else it thought was harmful from the rest of your body.

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What is a caseating vs. noncaseating granuloma?

A caseating granuloma has dead cells (necrosis) inside. If a granuloma contains dead cells, it gives your provider important clues about what caused it. [Tuberculosis](#) and some other [infectious diseases](#) cause caseating granulomas. Noninfectious causes (like sarcoidosis or foreign objects) create noncaseating granulomas.

Who do granulomas affect?

Granulomas are more common in people with chronic (long-lasting) infections or inflammation, like tuberculosis, histoplasmosis or [Crohn's disease](#). People with [sarcoidosis](#) get granulomas for unknown reasons.

How serious are granulomas?

Granulomas on their own usually aren't serious. They're an immune response and aren't cancerous. But sometimes, they're a symptom of an underlying condition.

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Symptoms and Causes

What are the symptoms of granulomas?

Granulomas often don't cause symptoms on their own. For those who do have symptoms, they depend on where in your body the granuloma forms. You may also have symptoms of an infection that causes granulomas. Symptoms can include:

- Fever.
- [Shortness of breath \(dyspnea\)](#).
- Cough.
- Swollen [lymph nodes](#).
- [Night sweats](#).
- Eye redness or pain.
- Vision problems.
- Painful, hard lumps on your skin.
- Headaches.

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Granulomas on your skin are hard lumps that can be lighter or darker than the surrounding skin, often in shades of pink or purple. Sometimes, they're painful to touch.

Under a microscope, granulomas contain cells that are tightly packed together, so it can be hard to tell where the edges of one cell ends and another begins.

What causes a granuloma to form?

Granulomas form when cells of your [immune system](#) (macrophages) aren't able to destroy something they see as dangerous. This could be an infection (like bacteria or a fungus) or material your body doesn't recognize (like stitches or a splinter in your skin).

Macrophages are special immune cells that "swallow" things that don't belong in your body and destroy them. If they aren't able to destroy something, it might trigger more and more immune cells to come to the area. They eventually form a tight cluster of cells.

Granulomas also sometimes form when your immune system overreacts and causes inflammation, even when there's nothing to fight off. This can happen in some [autoimmune disorders](#).

What infections cause granulomas?

The most common infectious cause of granulomas is tuberculosis. But other [bacterial infections](#), [fungal infections](#), parasites and viruses can also cause granulomas, including:

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- Blastomycosis.
- [Candidiasis](#).
- [Cat scratch disease](#).
- [Coccidioidomycosis \(Valley fever\)](#).
- [Cytomegalovirus](#).
- Dirofilariasis.
- [Epstein-Barr virus](#).
- Histoplasmosis.
- [Leishmaniasis](#).
- [Leprosy \(Hansen's disease\)](#).
- [Measles](#).
- *Mycobacterium marinum* (fish tank granuloma).
- [Schistosomiasis](#).

What are autoimmune and noninfectious causes of granulomas?

Sarcoidosis, an illness where granulomas form for unknown reasons, is the most common noninfectious cause of granulomas. Other causes include:

- [Aspirating food or other substances into your lungs](#).
- [Berylliosis](#).
- [Chronic granulomatous disease \(CGD\)](#).

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- Foreign body in your skin, like stitches, tattoo ink or splinters.
- [Granulomatosis with polyangiitis](#).
- [Rheumatic fever](#).
- [Rheumatoid arthritis](#).
- Sperm granuloma, a complication of [vasectomy](#).

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Diagnosis and Tests

How is a granuloma diagnosed?

Depending on where it is in your body, your provider may think you have a granuloma based on a physical exam or imaging (such as an [X-ray](#), ultrasound or [CT scan](#)). The only way to know for sure if it's a granuloma is

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As most granulomas are harmless, your provider may not do a biopsy right away. They may wait to see if it stays the same size or goes away on its own.

Management and Treatment

How do you treat granulomas?

Providers don't often treat individual granulomas. If you have an underlying condition that causes granulomas to form, your provider will treat you for that condition.

What medications are used to treat granulomas?

Depending on the cause, possible treatments for granulomas include:

- [Corticosteroids](#) to reduce inflammation.
- [Immunosuppressants](#) if you have an autoimmune condition that's causing granulomas.
- Antibiotic, antifungal or antiparasitic medications to treat infections.

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How do I manage symptoms?

If you have a painful granuloma, acetaminophen (Tylenol®) or ibuprofen (Advil®, Motrin®) might help. Ask your provider about what you can do to relieve your symptoms and whether it's OK for you to take over-the-counter medications.

Prevention

How can I prevent granulomas?

Most people can't do anything to prevent granulomas. They're a part of your body's defenses. If you have an underlying condition, like an autoimmune disorder or a chronic infection, managing it will reduce your risk of developing granulomas.

Outlook / Prognosis

What can I expect if I have granulomas?

Granulomas are usually harmless. They often go away on their own without treatment. Calcified granulomas (ones that have formed calcium deposits) might be less likely to go away. You may notice the same calcified

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Your provider can tell you what to expect if you have an underlying condition that causes granulomas to form. They can help you manage your symptoms if you frequently get granulomas.

Living With

How do I take care of myself?

The best way to take care of yourself is to manage any underlying conditions that cause granulomas to form. Talk to your provider about treating your specific condition.

When should I see a healthcare provider?

See a provider if you:

- Are concerned about an underlying condition that's causing granulomas to form.
- Have questions or concerns about a granuloma that your provider found during imaging, like on an X-ray or CT scan.
- Have new or worsening symptoms, like fever or breathing problems.

What questions should I ask a provider?

You might want to ask your provider:

- Is an underlying condition causing granulomas?

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- How can I prevent granulomas?
- What can I do about symptoms of granulomas?

A note from Cleveland Clinic

Granulomas are part of your body's natural defense system. Many people have them as lung nodules or bumps on their skin around a foreign object. They usually don't need treatment and can go away on their own.

If you have certain conditions, like sarcoidosis or an autoimmune disorder, you may get granulomas frequently. Talk to your provider about any concerns you have. There may be additional options to help you manage your condition.



✓ Medically Reviewed

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References ▼

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