

# What Is Multiple Myeloma? Doctors Explain This Plasma Cell Cancer

Rogue cells in the bone marrow crowd out healthy cells and leave people vulnerable to infections.



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Most of the time, multiple myeloma lurks quietly until it's discovered during routine lab work, although sometimes people may experience bone pain, fatigue, or other signs of trouble.

In either case, a diagnosis of multiple myeloma can be unsettling, but know this: treatment can lessen symptoms, slow disease progression, and prolong survival while preserving quality of life, says the [Leukemia & Lymphoma Society](#) (LLS).

Here's what else to know about multiple myeloma.

## What is multiple myeloma?

This type of [blood cancer](#) starts in the bone marrow—the birthplace of new blood cells. It's distinct from other blood cancers like leukemia and [lymphoma](#) in that it specifically impacts the plasma cells.

Plasma cells are special types of white blood cells that produce antibodies, and they play a crucial role in [your immune system](#) by helping to combat invaders like bacteria and viruses, says Gary Schiller, MD, professor of hematology/oncology and director of the UCLA Hematological Malignancies/Stem Cell Transplant Unit. In people with multiple myeloma (often just called "myeloma"), however, the plasma cells produce antibodies that are abnormal. That can leave you extra vulnerable to infections.

Myeloma is also dangerous because too many cancerous plasma cells in the bone marrow means there isn't enough room for other healthy cells to grow, per [LLS](#). People with myeloma often lack red blood cells (which carry oxygen), platelets

(necessary for blood clotting), and healthy white blood cells (including lymphocytes like plasma cells), which can lead to a cascade of health problems.

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## What are the types of multiple myeloma?

Most myelomas produce abnormal antibodies (immunoglobulins), but they don't all make the same kind. Immunoglobulins are made of two "heavy" protein chains and two "light" chains. The heavy immunoglobulin chains could be one of five varieties: gamma (IgG), alpha (IgA), delta (IgD), epsilon (IgE), or mu (IgM), according to the [International Myeloma Foundation](#) (IMF). The light chains could be characterized as kappa or lambda.

The most common myeloma types are IgG kappa, IgG lambda, IgA kappa, and IgA lambda, says the [IMF](#).

Your oncologist should also tell you what stage (1, 2, or 3) your cancer is.

There is also a precancerous condition called "smoldering myeloma;" about half of people who have it will have full-blown myeloma within 5 years, according to the [National Cancer Institute](#).

## What are the risk factors for multiple myeloma?

Anyone can get multiple myeloma, says Dr. Schiller, but it's most often found in Black men over the age of 60. He adds that people who are [immunocompromised](#) due to a condition like HIV are also at higher risk.

[American Cancer Society](#) (ACS) lists family history, obesity, and having other plasma cell diseases among the factors that may increase risk of developing myeloma.

## What are the symptoms of multiple myeloma?

As with other blood cancers, multiple myeloma rarely causes obvious symptoms, says Omar Nadeem, MD, clinical director of the Myeloma Cellular Therapies Program at Dana-Farber Cancer Institute. Bone pain is possible, but it's most apt to occur with advanced cancer. Some people get severe, acute [back pain](#) due to a fracture, but again that tends to happen most frequently with advanced disease.

Other myeloma symptoms include nausea, constipation, constipation, and frequent infections, according to the [Mayo Clinic](#). Severe fatigue is another possible symptom; the exhaustion comes thanks to anemia. (Lack of red blood cells deprive your body of oxygen.) More than 60% of people with myeloma are anemic by the time they're diagnosed, per the [IMF](#).

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## How is multiple myeloma diagnosed?

For most people with myeloma, the first clue that they have cancer arises when they get abnormal results from routine blood tests. Myeloma causes what's known as "CRAB" criteria: Calcium (higher than normal in the blood), Renal (liver) failure, Anemia, and Bone disease, though not everyone has all these issues at the time of diagnosis.

"Usually several of these problems show up in blood work," says Dr. Nadeem. "Patients could present with any or all of these." Some abnormal proteins might also show up in urine tests.

If your doctor suspects you might have myeloma, your blood samples will be analyzed to check for the presence of abnormal proteins. To confirm the diagnosis, you will likely need a bone aspiration and biopsy, which entails removing a small amount of bone marrow so it can be analyzed in a lab. You might also need imaging tests like an X-ray, MRI, or CT scan, according to the [Mayo Clinic](#).

## How is multiple myeloma treated?

Many myelomas are slow growing. If yours is in an early stage and doesn't appear to be aggressive, you might not need treatment right away, says Dr. Nadeem. If

your doctor says it's OK to hold off, expect to be closely monitored; you'll probably get checkups and blood tests every three months.

If you require imminent treatment, you should know that there are many different options. Your cancer team will conduct tests to determine the kind of myeloma you have as well as see whether your cancer has any genetic mutations that suggest you're apt to benefit from certain treatments.

Myeloma is different from other cancers in that there is a wide variety of drug therapies that patients can be on, says Dr. Nadeem. "Treatment has improved a lot in the last couple of decades. Now there are tons of drugs on the market and every year it seems like we get a handful of new drug approvals," he says.

Many myeloma patients are given some kind of targeted therapy (which homes in on a specific part of the cancer cells), immunotherapy (which harnesses the power of your immune system and uses it to fight cancer), or chemotherapy (drugs that kill fast-growing cancer cells), according to the [Mayo Clinic](#). Corticosteroids (like dexamethasone) are very often used in combination with one or more chemotherapy drugs, per [Memorial Sloan Kettering Cancer Center](#).

"Typically, several drugs will be given together," says Dr. Nadeem, who notes that a patient might be on a combination of oral pills, injections, and infusions.

Some patients are also treated with radiation or stem cell transplants, according to the [Multiple Myeloma Research Foundation](#).

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## What is the prognosis for multiple myeloma?

Right now there's no cure for myeloma, but treatment is helping patients live longer than ever before. Officially, the disease has an average 5-year survival rate of 54%, according to the [ACS](#). However, the organization notes that recent advances mean that the outlook for newly-diagnosed patients is likely better.

"There are already some long-term survivors who have been living with the disease for 15-20 years, though it's unclear if they'll relapse at some point," says

Dr. Nadeem. "There are a lot effective therapies for myeloma—far more than for many other types of blood cancer—and while they're not curative they have significantly prolonged life," adds Dr. Schiller. "You just need to find a doctor who knows how to use them."

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