

What is Multiple Myeloma?

Multiple myeloma is a disease that arises from the abnormal and uncontrolled growth of plasma cells in the bone marrow.ⁱ It is the second most common form of blood cancer.ⁱⁱ

Healthy plasma cells, a type of white blood cell, come from the bone marrow and play a vital role in the immune system by producing antibodies that help the body attack and kill germs. However, with multiple myeloma, the plasma cells become cancerous and accumulate in the bone marrow, crowding out healthy blood cells. The cancerous cells then produce an abnormal antibody called M protein, which can cause damage to the body.ⁱⁱⁱ

After initial or several lines of treatment, the disease often changes and comes back (called relapse) or does not respond to medication (called refractory). As a result, there is a need for newer, effective treatments for relapsed/refractory multiple myeloma.^{iv}

Signs & Symptoms

Although some affected with multiple myeloma will not exhibit any signs of the disease (asymptomatic), common symptoms include:^{i, iii}



Breakdown of the bone resulting in high levels of calcium in the blood (hypercalcemia), which causes dehydration, excessive thirst, nausea, constipation and confusion



Weakened bones making patients more susceptible to fractures



Poor kidney function



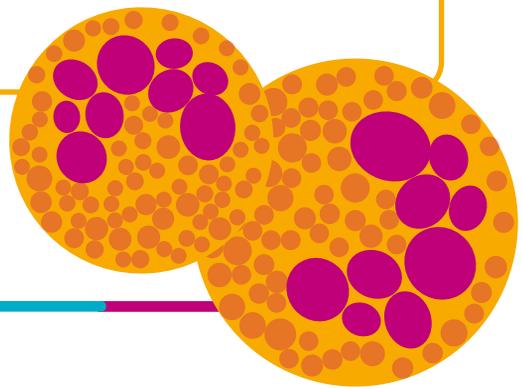
Weakened immune system causing more infections such as pneumonia



Anemia that may result in weakness, dizziness and shortness of breath



Fatigue



Patients & Prevalence

2nd

most common
blood cancer

Multiple myeloma is the second most-common form of blood cancer in the USⁱ



Slightly more
common in
men

Multiple myeloma is slightly more common in menⁱⁱⁱ

>66

years old

The risk of developing multiple myeloma increases as one ages. The average age range at diagnosis is >66 years oldⁱⁱ

about 53%

survival
rate

The 5-year survival rate for multiple myeloma patients is about 53% in the US^v

↑ 16%

nationally

Incident cases from 1999 to 2016 increased by 16% in the US^{vi}

32,270

estimated new
cases in the
US in 2020ⁱ

32,270 new cases of multiple myeloma are estimated to be diagnosed in the US in 2020ⁱ

Diagnosis

Several exams and tests may be used to help diagnose multiple myeloma.ⁱⁱⁱ

- Specialized blood tests
- Bone marrow examination
- X-rays and other imaging tests



Despite recent treatment advances, there remains a need for new approaches for multiple myeloma patients who have relapsed or become resistant to available therapies or have poor responses in later lines of treatment.^{iv}

Treatment

Over the course of their disease, patients may be treated with one or more of these therapies:ⁱ

- Chemotherapy
- Corticosteroid medications
- Targeted therapy
- Stem cell transplant
- Biological therapy
- Radiation therapy
- Surgery



References

- ⁱ Multiple myeloma. Genetic and Rare Diseases Information Center. <https://rarediseases.info.nih.gov/diseases/7108/multiple-myeloma>. Published 2016. Accessed March 2019.
- ⁱⁱ Kazandjian D. Multiple myeloma epidemiology and survival: A unique malignancy. *Semin Oncol.* 2016;43(6):676–681. doi:10.1053/j.seminoncol.2016.11.004.
- ⁱⁱⁱ Gertz MA. Multiple Myeloma. NORD (National Organization for Rare Disorders). <https://rarediseases.org/rare-diseases/multiple-myeloma/>. Published 2016. Accessed March 2019.
- ^{iv} Nooka AK, Kastritis E, Dimopoulos MA. Treatment options for relapsed and refractory multiple myeloma. *Blood.* 2015;125(20).
- ^v Noone AM, Howlander N, Krapcho M et al. Cancer Stat Facts: Myeloma. Surveillance Epidemiology and End Results – National Cancer Institute. <https://seer.cancer.gov/statfacts/html/mulmy.html>. Published April 2018. Accessed April 2019.
- ^{vi} U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on November 2018 submission data (1999–2016): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; www.cdc.gov/cancer/dataviz. Published June 2019. Accessed March 2020.