

# The Facts about Multiple Myeloma

Multiple myeloma (MM) is a cancer of plasma cells—a type of white blood cell that produces antibodies.<sup>1</sup>

In MM, important components of the immune system replicate uncontrollably and accumulate in the bone marrow. Rather than making normal antibodies, myeloma cells tend to overproduce a useless antibody known as M protein.<sup>2</sup>

## QUICK FACTS

- **114,251** new cases are diagnosed annually and **229,468\*** people are living with myeloma worldwide, according to GLOBOCAN<sup>3</sup>
- It is estimated that more than **26,000** new cases will be diagnosed in the United States in 2015, and more than **11,000** deaths are expected to occur<sup>4</sup>
- **Third most common** blood cancer in the United States, after non-Hodgkin's lymphoma<sup>5</sup>
- The incidence of MM increased by nearly **30 percent** between 1975 and 2010<sup>7</sup>
- Most people are approximately **65** years old at the time of diagnosis<sup>8</sup>
- The five-year relative survival rate is **44.9%**<sup>7</sup>

\*5-year prevalence

## CAUSES AND RISK FACTORS

The exact cause of MM is unknown, and most people with MM have no known risk factors other than age.<sup>8</sup> Several factors, however, may increase risk for myeloma:

- Viral infections, such as the human immunodeficiency virus (HIV) or hepatitis C virus (HCV)<sup>9</sup>
- Gaucher disease, a hereditary metabolic disorder<sup>10</sup>
- Being of African-American descent<sup>8</sup>
- Relatives who also have MM<sup>8</sup>

## SYMPTOMS<sup>2,8</sup>

Sign or symptom	Impact on patient
<b>Anemia (shortage of red blood cells)</b>	Fatigue, weakness, shortness of breath, dizziness
<b>Thrombocytopenia (shortage of platelets)</b>	Serious bleeding, bruising
<b>Leukopenia (shortage of white blood cells)</b>	Decreased ability to resist and fight infections, frequent fevers
<b>High protein level in the serum and/or urine</b>	Abnormal thickening of blood leading to confusion, dizziness and symptoms of stroke, possible kidney damage
<b>Bone problems and damage</b>	Bone pain, bone lesions, fracture of bone (most common in the vertebrae of the spine)
<b>High blood calcium</b>	Mental confusion, dehydration, constipation, fatigue, weakness, loss of appetite, kidney damage
<b>Kidney problems</b>	Weakness, shortness of breath, itching, leg swelling

## References

1. National Cancer Institute. Multiple Myeloma/Other Plasma Cell Neoplasms. <http://www.cancer.gov/cancertopics/types/myeloma>. Accessed February 11, 2015.
2. National Comprehensive Cancer Network. NCCN Guidelines for Patients | Multiple Myeloma. <http://www.nccn.org/patients/guidelines/myeloma/>. Accessed February 10, 2015.
3. World Health Organization. GLOBOCAN 2012: World. [http://globocan.iarc.fr/Pages/fact\\_sheets\\_population.aspx](http://globocan.iarc.fr/Pages/fact_sheets_population.aspx). Accessed February 10, 2015.
4. American Cancer Society. Multiple Myeloma Key Statistics. <http://www.cancer.org/cancer/multiplemyeloma/detailedguide/multiple-myeloma-key-statistics>. Accessed February 11, 2015.
5. National Cancer Institute. A Snapshot of Myeloma: Incidence and Mortality. <http://www.cancer.gov/researchandfunding/snapshots/myeloma>. Accessed February 11, 2015.
6. World Health Organization. GLOBOCAN 2012: WHO Europe Region. [http://globocan.iarc.fr/Pages/fact\\_sheets\\_population.aspx](http://globocan.iarc.fr/Pages/fact_sheets_population.aspx). Accessed February 10, 2015.
7. National Cancer Institute. SEER Stat Fact Sheets: Myeloma. <http://seer.cancer.gov/statfacts/html/mulmy.html>. Accessed February 11, 2015.
8. American Cancer Society. Multiple Myeloma. <http://www.cancer.org/acs/groups/cid/documents/webcontent/003121-pdf.pdf>. Accessed February 10, 2015.
9. Becker N. Epidemiology of Multiple Myeloma. *Recent Results in Cancer Research*. 2011;183: 25-35.
10. Rosenbloom BE, Becker P, Weinreb N. Multiple myeloma and Gaucher genes. *Genet Med*. 2009;11(2):134.

