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PDF generated on July 21, 2016 from <http://www.cancer.net/navigating-cancer-care/side-effects/hypercalcemia>

## **[Hypercalcemia](#) [1]**

**This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 09/2015**

Hypercalcemia is when a person has a higher than usual level of calcium in the blood. About 10% to 20% of people with cancer develop hypercalcemia. It can be life threatening.

### **About calcium in the body**

Most of the calcium in the body is in the bones. About 1% of the body's calcium is in the blood. Calcium is important for many bodily functions. It helps with bone formation and muscle, nerve, and brain function.

The body controls the level of calcium in the blood in many ways. Both parathyroid hormone and the kidneys play a role. Parathyroid hormone is released by the parathyroid glands. The kidneys remove excess calcium from the blood.

### **Symptoms of hypercalcemia**

The symptoms of hypercalcemia often develop slowly and may be similar to the symptoms of cancer or cancer treatment. How serious a person's symptoms are is not related to the calcium level in the blood. Many patients have no symptoms. And, older patients usually experience more symptoms than younger patients.

People with hypercalcemia may experience the following symptoms:

- Loss of appetite

- Nausea and vomiting
- Constipation and abdominal pain
- Increased thirst and frequent urination
- Fatigue, weakness, and muscle pain
- Confusion, disorientation, and difficulty thinking
- Headaches
- Depression

Symptoms of severe hypercalcemia may include:

- Kidney stones, a painful condition in which salt and minerals form solid masses called stones in the kidneys or urinary tract
- Irregular heartbeat
- Heart attack
- Loss of consciousness
- Coma

Patients and their families should be familiar with the symptoms on this list. Relieving side effects is an important part of cancer care and treatment. This is called [palliative care](#) [3]. Talk with your health care team about any symptoms or side effects you may experience. This includes any new symptoms or a change in symptoms.

## **Causes of hypercalcemia**

Cancer can cause high levels of blood calcium in different ways:

- Cancers that affect the bone, such as multiple myeloma or leukemia, and cancer that has spread to the bone cause the bone to break down. This releases excess calcium into the blood.
- Some tumors produce a protein that acts very similar to parathyroid hormone. This protein causes the bone to release calcium into the blood.
- Some cancers affect the ability of the kidneys to remove excess calcium from the blood.
- Dehydration caused by nausea and vomiting makes it difficult for the kidneys to remove calcium from the blood properly.
- Lack of physical activity can cause bone to break down, releasing calcium into the blood.

Cancers that may cause hypercalcemia include:

- Breast cancer
- Lung cancer
- Multiple myeloma.
- Lymphoma
- Leukemia
- Kidney cancer
- Head and neck cancers
- Gastrointestinal cancers

Learn more about [specific types of cancer](#) [4].

## Diagnosing and managing hypercalcemia

To diagnose hypercalcemia, your doctor will perform a blood test to check the level of calcium. You may also receive other blood tests to check kidney function.

Once hypercalcemia is diagnosed, your doctor will plan the best way to manage the condition based on its severity.

- **Mild hypercalcemia.** Patients who have no symptoms receive extra fluids, usually given through a vein. This helps the kidneys remove excess calcium.
  
- **Moderate or severe hypercalcemia.** For these patients, doctors manage hypercalcemia in different ways:
  - Treating the cancer
  
  - Replacing fluids lost through vomiting, frequent urination, or other reasons
  
  - Giving medicines to help stop the breakdown of bone. These include:
    - Risedronate (Actonel)
  
    - Ibandronate (Boniva)
  
    - Alendronate (Fosamax)
  
    - Zoledronic acid (Zometa)
  
    - Pamidronate (Aredia)
  
    - Calcitonin (Miacalcin)
  
    - Plicamycin (Mithracin)
  
    - Gallium nitrate (Ganite)

- Giving steroids for people with specific cancers, such as lymphoma. Steroids help decrease the breakdown of bone and increase calcium uptake from food. However, steroids may increase the risk of osteoporosis and the breakdown of bone in some situations.
- Using dialysis for patients with kidney failure. Dialysis is a mechanized filtering process that removes excess waste from the blood.

Treatment improves symptoms and quality of life, which may make it easier to complete cancer treatment. However, it is important to understand that unless there is effective treatment for the cancer, hypercalcemia suggests that a patient is [approaching the last weeks of life](#) [5].

## Things you can do to help prevent and manage hypercalcemia

In addition to getting treatment from your doctor, the following tips can help prevent hypercalcemia or keep it from worsening:

- Drink fluids
- Control nausea and vomiting
- Walk and be active, which helps prevent bone from breaking down
- Check with your doctor before taking any medications, as some may make hypercalcemia worse

Note: In people with cancer, hypercalcemia is not related to having too much calcium in the diet. Reducing calcium intake by eating fewer dairy products and other high-calcium foods does not help to resolve the condition.

## More Information

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[Advanced Cancer](#) [7]

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### Links

[1] <http://www.cancer.net/navigating-cancer-care/side-effects/hypercalcemia>

- [2] <http://www.cancer.net/about-us>
- [3] <http://www.cancer.net/node/31921>
- [4] <http://www.cancer.net/cancer-types>
- [5] <http://www.cancer.net/node/25279>
- [6] <http://www.cancer.net/node/25238>
- [7] <http://www.cancer.net/node/25110>