

Is Your Dog's Blood Calcium Too High? Here's Why

Calcium is an important mineral that impacts many biological processes in pets. Research shows high calcium levels in dogs can create symptoms that point toward an underlying condition.

Reviewed by Dr. Tracy Duffner

STORY AT-A-GLANCE

- High calcium (hypercalcemia) in dogs often indicates underlying health issues like cancer, parathyroid problems, kidney disease, or Addison's disease that require veterinary attention
- Common signs include excessive thirst and urination, loss of appetite, vomiting, lethargy, and weight loss, though some dogs show no signs
- Diagnosis involves confirming calcium levels through blood tests, checking hormone levels, imaging studies, and tissue biopsies to identify the cause
- Treatment varies by underlying cause and may include emergency intravenous fluids, surgery, dietary changes, hormone therapy, or medication adjustments for supplements
- Prognosis depends on the root cause, with conditions like Addison's disease having better outcomes when caught early versus cancer-related hypercalcemia

Are high calcium levels in your dog bad? At first, this might sound harmless. After all, calcium is good, right? It is what makes bones and teeth strong. But when there is too much calcium in their blood — a condition called hypercalcemia — it can be a sign of hidden health problems that need attention.

The Role of Calcium in Your Dog's Health

When you think of calcium, bones and teeth are likely the first things that come to mind, and for good reasons. About 99% of your dog's calcium is stored in bones to keep them strong. But the other 1% plays critical roles throughout the body, such as:^{1,2}

- **Muscle movement** — Makes sure muscles, including the heart, contract properly.
- **Nerve signals** — Helps messages travel from one nerve to another.
- **Blood clotting** — Without calcium, your dog would not stop bleeding from even a small cut.
- **Hormone and enzyme activity** — Helps release important chemicals that keep body systems running.

Because calcium is found in so many systems, levels are kept under tight control by three main hormones:³

1. **Parathyroid hormone (PTH)** raises calcium if it is too low.
2. **Calcitonin** lowers calcium if it is too high.

3. **Vitamin D (cholecalciferol which is metabolized into the active form called calcitriol)** helps the intestines absorb calcium from food.

What Does High Calcium Mean for Your Dog?

High blood calcium does not appear out of nowhere. It usually means there is an underlying condition that has not been diagnosed yet. Some causes are mild and easily fixed, while others are more serious and need urgent care. Here are the most common reasons:^{4,5}

1. **Cancer** — Some tumors release a hormone-like substance called parathyroid hormone-related protein (PTHrP), which tricks the body into raising calcium.⁶ The most common cancers linked to this include:
 - Lymphoma (a cancer of the lymph nodes)
 - Anal sac adenocarcinoma (a tumor in the anal glands)
 - Bone tumors (like osteosarcoma)
 - Carcinomas of the skin, pancreas, thyroid, lung, and kidneys
 - Thymoma (thymus gland tumor)
 - Multiple myeloma
2. **Parathyroid gland problems** — Your dog has tiny parathyroid glands in the neck. If one grows a benign tumor (adenoma) or, rarely, a cancer, it may pump out too much PTH (parathyroid hormone). This condition is called primary hyperparathyroidism, and it directly raises calcium levels.
3. **Kidney disease** — Healthy kidneys help filter and balance minerals, and help to convert vitamin D into its active form called calcitriol. When kidneys fail, calcitriol is not produced at sufficient levels. This leads to an imbalance of parathyroid hormone production, which eventually leads to high amounts of calcium flowing in the blood.⁷
4. **Addison's disease** — This hormonal condition happens when your dog's adrenal glands do not produce enough aldosterone and/or cortisol. The exact link is not fully understood, but is thought to be due to changes in filtration through the kidneys coupled with increased absorption of calcium from the gut and increased bone resorption.
5. **Vitamin D overload** — Calcitriol, the active form of vitamin D, helps increase calcium and phosphorus levels in the body. Thus, having the right vitamin D level is crucial, and too much can be toxic. Dogs may get excess vitamin D from:
 - Eating rat poison containing cholecalciferol
 - Exposure to toxic plants, such as day jessamine
 - Licking prescription creams containing vitamin D or consuming human supplements accidentally
 - Excess intake from pet supplements
6. **Bone disease** — Bone and bone marrow infections (osteomyelitis) or rapid bone breakdown from tumors can flood the bloodstream with calcium.
7. **Granulomatous disease** — This refers to infections or inflammation that create nodules in the body. Fungal or parasitic infections sometimes trigger immune cells to release calcitriol, raising calcium levels.

8. **Lab errors or temporary changes** — Sometimes, high calcium is just a false alarm. Dehydration, fatty blood samples, or lab handling mistakes can cause results to look higher than they are. That is why veterinarians often repeat the test before moving forward.
9. **Idiopathic hypercalcemia** — This means the cause is unknown. This is rare in dogs but more common in cats.

Symptoms of High Calcium in Dogs

Some dogs show no health problems at all, which is why hypercalcemia is often found on routine blood tests. When symptoms do appear, they may look like vague, everyday problems. Here is what you need to look for:⁸

- Excessive thirst and urination (you may see your dog drinking more of the water bowl or asking to go out more often)
- Loss of appetite or being pickier with food
- Vomiting or diarrhea
- Constipation
- Lethargy or weakness
- Muscle-wasting or stiffness
- Weight loss
- Seizures or abnormal heart rhythms in severe cases

Over time, untreated hypercalcemia can also cause:

- Kidney stones or bladder stones
- Kidney failure
- Mineral deposits in other organs (like the heart, lungs, or stomach)

How to Diagnose the Cause

Because high calcium can mean so many different things, your veterinarian will pursue several steps to find an accurate diagnosis. Here is the typical process:⁹

1. **Confirm the result**

- A second blood test checks if the high calcium was real or just a fluke; this may be done as a fasted blood test.
- An ionized calcium test may follow, since this measures the "active" calcium, not just the total.

2. **Check hormone levels**

- Measuring PTH shows if the parathyroid glands are involved.
- Measuring PTHrP helps detect cancer.
- Testing vitamin D levels can uncover toxicity.

3. **Look inside the body**

- Radiographs ("X-rays") may reveal tumors, bone disease, or metastasis (spread of cancer).
- Ultrasound can show structural changes in organs like the kidneys, liver, or lymph nodes.
- Computerized tomography (CT) scans may be used for more detail.

4. **Take samples if needed**

- If a lump, a swollen lymph node, or a suspicious area shows up, the veterinarian may recommend a fine needle aspirate or biopsy to check for cancer.

Treatment Options

The treatment depends on the underlying cause. There is no one-size-fits-all fix, but here are common approaches:^{10,11}

1. **Emergency care** — If calcium levels are dangerously high, your dog may need:

- Hospitalization and IV fluids to flush calcium out through the kidneys
- Medications to quickly lower calcium levels

2. **Long-term management** — Once the cause is identified, treatment may involve:

- Surgery, such as removing a parathyroid tumor or anal sac cancer
- Dietary changes, especially for kidney disease or nutritional imbalances
- Hormone replacement therapy for Addison's disease
- Changing supplement dosages if vitamin D overdose is the cause

What Is the Prognosis?

How well your dog does depends on the cause behind hypercalcemia:¹²

- **Good prognosis** — Addison's disease or vitamin D overdose, if caught and treated early.
- **Fair** — Kidney disease, since the damage may already be advanced.
- **Poor** — Cancer-related hypercalcemia, especially if the cancer has spread.

Even so, many dogs can bounce back if the underlying cause is treated quickly. According to Dr. Julie Buzby, one patient of hers, a dog named Walter, had high calcium due to an anal sac tumor. Thankfully, the cancer did not metastasize. After surgery, Walter's calcium levels returned to normal, and he got to enjoy more quality time with his family.¹³

What You Should Do if Your Dog Has High Calcium

Here is a step-by-step guide to keep in mind once hypercalcemia has been confirmed:¹⁴

1. **Ask your veterinarian questions** — What tests are planned? What do they suspect?
2. **Follow the treatment closely** — Whether it is medication, surgery, or diet, sticking to the plan is key.

- 3. **Monitor at home** — Watch for changes in thirst, appetite, energy level, and bathroom habits.
- 4. **Go to follow-ups** — Regular bloodwork helps catch problems early.

Do Not Panic When Your Pet Gets Diagnosed with Hypercalcemia

Hypercalcemia may sound scary, but remember, it is treatable or manageable. The most important thing is working side by side with your veterinarian. They will help untangle the cause, treat your dog's symptoms, and give you the best options for your furry friend's health and comfort.

Sources and References

^{1,10} [TVP, December 8, 2023](#)

^{2,3,8,9} [VetHelpDirect, August 12, 2025](#)

^{4,11,12,13,14} [Toe Grips, October 16, 2023](#)

⁵ [World Small Animal Veterinary Association World Congress Proceedings, 2001](#)

⁶ [Michigan State University, Veterinary Diagnostic Laboratory, Calcium Disorders](#)

⁷ [World Small Animal Veterinary Association World Congress Proceedings, 2014](#)
