

Calcium Level

- The body's normal calcium level is maintained through a very complex interaction involving many of the body's organs.
- Calcium level can be affected by many things, including certain medications and a variety of illnesses.
- If the calcium level is dangerously low or high, hospitalization may be recommended while the problem is being corrected.
- If your pet's calcium level is abnormal, additional tests may be recommended to determine the cause.

What Is the Calcium Level?

Calcium is an important nutrient that the body needs to maintain many of its organs. Bones, the heart, intestines, and muscles are just a few of the organs that rely on a healthy blood calcium level in order to function properly. If the calcium level in the blood drops too low or goes up too high, serious illness can result.

The calcium level is an important part of a blood test known as a *chemistry panel*, so it is often evaluated during routine wellness checkups or pre-surgery screening in healthy pets. Because a variety of medical conditions can affect the calcium level, your veterinarian may recommend testing your pet's calcium level if your pet has any of the following signs of illness:

- Vomiting
- Appetite loss
- Lethargy (tiredness)
- Increased drinking and/or urination
- Restlessness
- Muscle twitching
- Seizures
- Irregular heart rate
- Constipation
- Weakness or difficulty walking

How Is the Calcium Level Measured?

To test your pet's calcium level, your veterinary team must obtain a small blood sample. This procedure is

usually very quick; it may take only a few seconds if the patient is well behaved. For patients that are very frightened or not well behaved, your veterinary team may want to use a muzzle, towel, or other gentle restraint device. In some cases, such as in patients with very thick fur, it may be necessary to shave the hair from the area where blood will be drawn. The hair will grow back, and this is often a good way to find the vein quickly.

Some veterinary offices have in-house blood analysis equipment, so they can perform the test for the calcium level in the office and have results the same day. Other offices send blood samples to an outside laboratory for the test to be performed. If an outside laboratory is used, results are generally available within 1 to 2 days.

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Because a recent meal changes the blood and may affect the calcium level, your veterinarian may recommend that your pet not receive any food for 12 hours before drawing blood to perform the test. In most cases, water can still be offered. Please let your veterinarian know if this temporary fast will be a problem for you or for your pet.

Be sure to tell your veterinarian about any medications or supplements your pet may be receiving, as some products can alter the calcium level in the blood.

What Does the Calcium Level Tell Your Veterinarian?

Supplementing a pet's diet with too much calcium or administering certain medications (such as steroids) can affect the results of a calcium level test. However, an abnormal calcium level (whether too low or too high) can also indicate a serious medical problem.

Tests and Procedures

Because so many of the body's organs depend on calcium or are involved in maintaining normal blood calcium levels, abnormalities in the blood calcium level can affect the body in a variety of ways. The following are a few conditions that can cause an abnormal calcium level:

- Kidney failure
- Bone infection
- Dehydration
- Pancreatitis (inflammation of the pancreas)
- Cancer
- Addison's disease (a disease of the adrenal glands)
- Young or growing dog (usually large-breed dogs)
- Ingestion of rat poison or antifreeze

If your pet has an abnormal calcium level, your veterinarian will combine that information with other vital information about your pet to decide if further diagnostic testing is recommended to

investigate the abnormal result. Additional tests may include a *urinalysis* (a screening test to evaluate components in the urine), *radiographs* ("x-rays"), or additional blood testing.

Depending on your pet's overall condition, your veterinarian may recommend medications or other management. If the blood calcium level is dangerously low or high, hospitalization may be recommended while the problem is being corrected through fluid therapy and medications.

Are There Risks Associated With Testing the Calcium Level?

There are very few risks associated with testing the calcium level. Drawing blood usually takes only a few seconds, and your veterinary team will take precautions to ensure that your pet is not injured during this procedure. Once blood is obtained, all further processing is performed at the veterinarian's office or at a diagnostic laboratory, so there is no risk of harm to your pet.