

Your Calcium and Phosphorus Levels

Balancing Minerals in the Blood

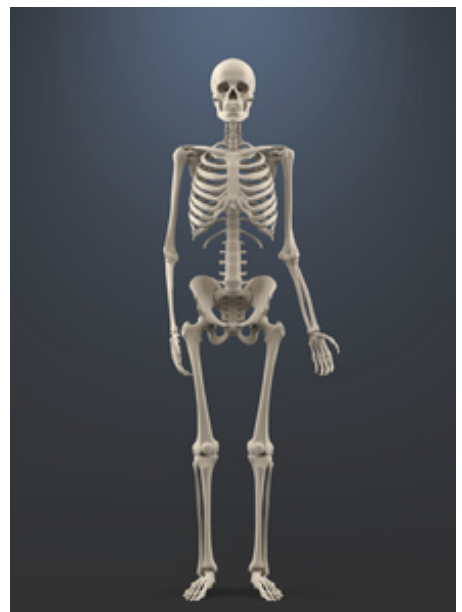
Chances are you haven't given a lot of thought to the levels of calcium or phosphorus in your blood. When your kidneys work well, you really don't need to think about them. Your kidneys take care of keeping your blood levels where they should be. But if your kidneys *don't* work as well as they should, your blood levels of these key minerals could change, and that can cause problems for you.



Kidneys Help Build Strong Bones

Your kidneys work with your bones and your gut to keep the right amount of calcium and phosphorus in your blood all the time. Healthy kidneys help your bones in two ways:

1. They convert Vitamin D from your skin or from Vitamin D supplements you take into its *active* form. Your gut needs active Vitamin D to absorb calcium from what you eat and drink. Without active Vitamin D, it doesn't matter how much calcium you get.
2. Kidneys control levels of the minerals calcium and phosphorus in your blood, too.



Sources of Calcium

You take in calcium mainly through dairy foods and leafy green vegetables. Calcium and phosphorus make up most of your bones and teeth. Having the right level of calcium in your blood helps control your blood pressure. Calcium also helps blood to clot.



Calcium is an Electrolyte

In your blood, tiny but precise amounts of dissolved calcium help your cells talk to each other. Calcium is an electrolyte. It helps carry electrical signals between your muscles and nerves. Having the right amount of calcium in your blood is key to good health.



What YOU Can Do About Your Calcium

To absorb calcium from foods you eat, you need active vitamin D. Your kidneys help convert vitamin D into its active form. When your kidneys don't work well, your doctor may prescribe active vitamin D for you to make up for what you are missing. To learn more about active vitamin D, visit the Bone Disease Topic.



U.S. Navy photo by Scott A. Thornbloom

Where Do You Get Phosphorus?

Phosphorus is a mineral. Like calcium, it is very common in the earth—and in your own cells. Phosphorus is stored in your bones and teeth, and is part of each cell membrane. In your blood, phosphorus plays a vital role in your use of energy. And, it is an electrolyte, which helps carry nerve signals. It is found in most foods.



What Does Your Serum Phosphorus Level Mean?

Do you know your serum phosphorus level? If you do, plug it into our [Phosphorus Calculator](#) to see how you're doing with your phosphorus.



Click on image to enlarge

- **Too high!** If your phosphorus level is above 5.5 mg/dL, you might have severe itching. Or, you might not feel any different. But, in the long run, phosphorus levels that are too high can lead to bone and other health problems if your calcium level is high, too. If you are taking active vitamin D, your doctor may lower your dose.
- **Just right.** Good for you if your phosphorus level is in the target range. This is right where your care team likes to see it. Keep up the good work.
- **Too low!** If your phosphorus level is below 3.5 mg/dL, talk to your care team to see if this needs treatment.

What Can You Do About Your Phosphorus?

Keeping your phosphorus in the normal range may mean changing what you eat and drink. To learn more about how to eat right, visit the Nutrition Room. You may also need to take phosphate binders with meals and snacks to keep some of the excess phosphate from getting into your blood. Visit the Pharmacy to learn more about binders and other medicines.



Calcium + Phosphorus Can Harden Blood Vessels

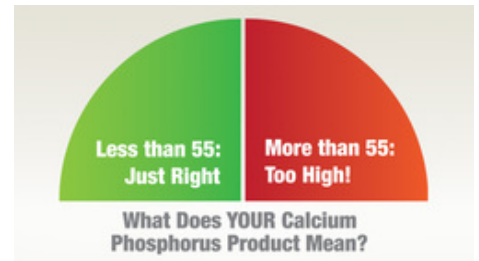
When your kidneys don't work, having too much calcium and phosphorus in your blood is a problem. The two minerals can join and form deposits in your skin, causing painful itching. Or, deposits can form in your blood vessels where they may cut off blood flow to a limb. Your doctor may prescribe phosphate binders for you so your blood levels don't go too high.



Calcium Phosphorus Product

Do you know your serum calcium and your serum phosphorus? If you do, plug them into our

[Calcium Phosphorus Calculator](#) to see what your calcium phosphorus product (Ca x P) is.



Click on image to enlarge

More than 55: Having a calcium phosphorus product that is higher than 55 puts you at higher risk for blood vessel calcification. Bone is vital to have—in your skeleton. But when bone forms in your blood vessels, it can cut off the blood supply to your limbs. Keeping your calcium and phosphorus in the target range your care team sets is one way to prevent this problem.

Less than 55: Good for you! Your calcium phosphorus product is in the range that can help prevent blood vessel calcification. Bone is vital to have—in your skeleton. But when bone forms in your blood vessels, it can cut off the blood supply to your limbs. You could get gangrene or even lose a limb. This is rare, but it can happen. Keeping your calcium and phosphorus in the target range your care team sets is one way to prevent this problem.