



Understanding mineral and bone disorder

Mineral and bone disorder happens when damaged kidneys can't keep minerals like calcium and phosphorus in balance. This can weaken your bones and affect your heart. Taking care of your kidneys, eating the right foods, and working with your care team can help keep your bones and heart healthy.



Mineral and bone disorder and kidney disease

Healthy kidneys keep the right amount of minerals in your blood. When you have kidney disease, your kidneys have a hard time balancing these minerals. This can make your bones brittle and weak. Kidney disease can affect minerals and hormones, including:

- **Calcium and phosphorus**
In advanced kidney disease, the kidneys cannot filter the blood as well as they should. This can cause phosphorus levels to rise and calcium levels to drop. These changes often get worse as kidney function declines.
- **Vitamin D**
The kidneys help balance calcium and phosphorus by making active vitamin D. With kidney disease, the kidneys cannot turn vitamin D from food and sunlight into its active form. Low vitamin D levels make it harder for the body to absorb calcium.
- **Parathyroid hormone**
Parathyroid hormone (PTH) helps keep the right balance of calcium in your bones and blood. Levels of PTH usually rise as CKD worsens, mostly due to low calcium levels. Your kidney care team will likely check levels of PTH in your blood at least 1-2 times per year, along with your calcium, phosphorus, and vitamin D levels.





Signs and symptoms

Signs of mineral and bone disorder can include:

- Itchy skin
- Bone pain
- Weak bones that break easily
- Calcified, or hardened, blood vessels



Mineral and bone disorder and your heart

Mineral and bone disorder can cause calcium and phosphorus to build up in your heart valves and blood vessels. As a result, your heart valves and blood vessels can become stiff and narrow, which can cause or worsen heart disease or increase your chances of a stroke.



Treating mineral and bone disorder

Finding and treating mineral and bone disorder early will help you keep your bones and heart as healthy as possible. Your treatment will be based on the results of regular blood tests, but could include:

- **Replacing active vitamin D**

There are several types of vitamin D choices. Your provider will help you choose the type that is best for you.

- **Eating a lower phosphorus diet**

Eating a lower phosphorus diet can help keep your levels balanced. An Interwell Health dietitian can help you make changes to your diet and explain how to read food labels to get the right amount of phosphorus for you.

- **Taking phosphate binders**

If diet changes are not enough to lower phosphorus levels, your provider may prescribe medicine to help keep phosphorus under control.



We are here to help

Your care team can help answer your questions about mineral and bone disorder. Reach out for any support you need.