

Chronic Kidney Disease and Vitamin D

Why is vitamin D important to chronic kidney disease (CKD)?

Vitamin D holds great promise in treating patients with CKD. Medical complications of CKD can cause severe bone damage and cardiovascular disease (CVD). Encouraging evidence reveals that vitamin D may play a critical role in preventing and treating these complications.

What does CKD have to do with my bones?

CKD affects the bones by changing the balance between phosphorus and calcium.

- Excess phosphorus in the body is removed by the kidneys, but with CKD this mineral tends to build up in the blood, leading to a loss of calcium from bones.
- Four small hormonal glands (the parathyroid), located in the neck, normally regulate calcium in the body. They can become overly active and result in further loss of calcium from bones.
- These changes lead to problems.
 - softening of hard bones that can lead to fractures
 - hardening of soft tissues such as heart and blood vessels that can lead to cardiovascular disease and even death

How does vitamin D help?

Vitamin D improves calcium balance in patients with CKD and decreases parathyroid hormone (PTH) overactivity. Most people get enough vitamin D through food, supplements and exposure to sunlight. This vitamin D is then normally converted by the kidneys to an “active form” which can be used by the body. In patients with CKD, vitamin D cannot be converted, and so the body is essentially deficient in vitamin D.

What can I do?

Renal Specialists of Houston nephrologists will talk to you about vitamin D therapy. Blood levels of vitamin D and PTH will help determine your need for treatment. Options may include:

- Vitamin D3 prescription
- IV therapy for dialysis patients
- Exercise program
- Phosphate binder prescription
- Surgical removal of one or more parathyroid glands

What does this have to do with heart disease?

There is mounting evidence that vitamin D therapy not only reduces atherosclerosis, but also may decrease the risk of death from CVD. It is clear that vitamin D therapy can be an effective tool in the battle against CKD in the early and advanced stages of the disease, improving both bone function and heart health.

Patients should **always** consult with their physicians before taking vitamin D or other supplements.