

# Vitamin D And...Kidney Disease?

## The Hidden Connection With Serious Consequences

(NAPSA)—You may know that the sun and certain foods are good sources of vitamin D. But did you know that due to chronic kidney disease, millions of Americans can't convert the form of vitamin D produced by the sun or found in food and over-the-counter vitamins into the active form of vitamin D used by the body? This means that even if you're taking vitamin D pills, getting adequate sunlight or eating foods rich in vitamin D, your bones and organs may be at risk due to a deficiency in "active" vitamin D.

### Chronic Kidney Disease

Chronic kidney disease (CKD) is a condition in which kidney function slows and the kidneys stop doing critical jobs such as filtering toxins from the bloodstream.

The severity of CKD is classified in stages, with stage 5, also known as kidney failure or end-stage renal disease (ESRD), being the most severe. Patients with ESRD require dialysis, a procedure where several times a week for several hours their bloodstream is routed through a machine that filters toxins.

### 40 million Americans with or at risk for chronic kidney disease

Early-stage CKD—before dialysis is necessary—is often undetected and can worsen with declines in kidney function.

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- Diabetes and high blood pressure are responsible for up to two-thirds of CKD cases.
- Vitamin D needs to be "activated" before your body can use it—many people with CKD can't activate enough vitamin D. The result? SHPT
- About 65 percent of CKD patients in stages 3 and 4 have SHPT.
- Patients in the final stage of kidney disease have an average life expectancy of five years.



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### So what does CKD have to do with vitamin D, let alone your bones?

Before the body can use vitamin D, it has to be "activated." Inactive vitamin D—the vitamin D you get in the form of over-the-counter pills, food or sunlight—is activated by two steps, one in the liver and the other in the kidneys.

Then, much like a key fits into a car ignition and starts the engine, activated vitamin D fits into vitamin D receptors located in numerous tissues and systems throughout the body and triggers processes that help maintain bone, the heart, the immune system and so on.

For people with CKD, however, their kidneys' ability to activate adequate amounts of vitamin D

deteriorates as their overall kidney function decreases. In fact, people with kidney disease may eventually lose the ability to activate vitamin D altogether.

### Secondary hyperparathyroidism

When levels of active vitamin D are low or inadequate within the body, a serious complication of CKD called secondary hyperparathyroidism (SHPT) can occur. SHPT can lead to a wide range of problems, including damage to bones and many vital organs.

### How is SHPT prevented and treated?

When CKD and SHPT are detected early, the conditions may be managed and disease progression may be slowed.

Remember, people with stage 3 or 4 CKD who develop SHPT cannot convert vitamin D into its active form within their own kidneys. Experts suggest that these patients with stage 3 or 4 CKD and SHPT take an activated form of vitamin D medication—which is available only by prescription—to correct their vitamin D deficiency and thereby treat SHPT. Managing SHPT lowers risk for bone loss or fracture, cardiac complications and dangerous mineral and hormonal imbalances.

For more information on the risks of CKD and SHPT, and how current treatments can help, visit the National Kidney Foundation at [www.kidney.org](http://www.kidney.org) or call (800) 622-9010.