

A new study shows that inadequate levels of vitamin D in the blood are linked to worsening progression of knee osteoarthritis.

Low vitamin D levels linked to osteoarthritis progression in the knee

Osteoarthritis is the most common form of arthritis, affecting millions of people worldwide. It occurs when the protective cartilage on the ends of your bones wears down over time, eventually allowing bones to rub together. Osteoarthritis typically worsens gradually, but maintaining a healthy weight, staying active and some other treatments may help slow disease progression and improve joint function and reduce pain.

A new study published in *AgResearch magazine* indicates that low vitamin D levels may be related to an increased risk of developing osteoarthritis. Researchers at Tuft's University analyzed data from a large study to investigate the possible interaction between blood levels of vitamin D and parathyroid hormone (PTH) on the progression of osteoarthritis. Vitamin D and PTH work together to regulate calcium and phosphorus metabolism.

Study participants were part of a longitudinal study known as the Osteoarthritis Initiative, were between 45 and 79 years of age, and had at least one knee with evidence of osteoarthritis. A total of 418 subjects who met criteria were followed for 4 years, and their knee osteoarthritis progression was tracked using radiographs and related to vitamin D and PTH levels in the blood.

When compared to subjects with healthy vitamin D levels, those with low vitamin D levels (< 15 ng/ml or 37.5 nmol/L) had more than twice the risk of their osteoarthritis worsening throughout the study. Subjects with both low vitamin D and high PTH levels were more than 3 times more likely to have worsening symptoms than participants with normal concentrations of both PTH and vitamin D.

The results of this study indicate that vitamin D deficiency is likely a risk factor for osteoarthritis progression, and that maintaining healthy blood levels through adequate dietary and supplemental intake may be beneficial in adults with osteoarthritis.

Fang Fang Zhang and Sarah Booth. Low Vitamin D Linked to Osteoarthritis. *AgResearch Magazine*. July 2015. Vol. 63 No. 7.