Low vitamin D linked to osteoarthritis in the knee
15 July 2015, by Rosalie Marion Bliss

vitamin D metabolism. Booth is the associate
director at the Jean Mayer USDA Human Nutrition
Research Center on Aging at Tufts University,
Boston, Massachusetts and Zhang is assistant
professor of epidemiology at the Friedman School
of Nutrition Science and Policy at Tufts University.

The scientists looked at a subset of data collected
during a longitudinal study called the Osteoarthritis
Initiative, or OAI, which is a large study of
individuals with, or at risk of, knee osteoarthritis.

The OAI study participants were between the ages
of 45 and 79 years and had at least one knee with
evidence of osteoarthritis. The researchers focused
on a total of 418 volunteers for whom blood serum
concentrations of vitamin D and PTH were
available and for whom radiographs to assess knee
osteoarthritis progression were available. The
volunteers' were followed for a total of 4 years,
during which time knee osteoarthritis progression
was tracked and related to vitamin D and PTH
levels in the blood.

As you get older, chances are you may have
noticed your knees are less forgiving when it
comes to jaunting up and down the stairs. Now, a
study supported in part by USDA-funded
researchers suggests if you're not getting
adequate vitamin D in your diet, you may be at
increased risk of developing the painful condition
known as osteoarthritis in your knees.

Osteoarthritis occurs when the natural cushioning
between joints in the body wears away—allowing
bones to rub together. With an estimated 27 million
people succumbing to osteoarthritis, there is
significant interest in finding ways to prevent or
treat the condition.

The team of researchers, led by epidemiologist
Fang Fang Zhang and including nutritionist Sarah
Booth, investigated the possible interaction
between circulating blood levels of both vitamin D
and parathyroid hormone (PTH) on the progression
of knee osteoarthritis in adults. PTH is involved in
Compared to volunteers with healthy levels, participants with low vitamin D levels had more than double the risk of their knee osteoarthritis worsening during the study. People who had both low vitamin D and high PTH concentrations were more than three times more likely to get worse during the study than those with normal levels of both.

Inadequate vitamin D was defined as those with less than 15 nanograms per milliliter of blood serum, consistent with the Institute of Medicine (IOM) of the National Academies, which publishes references and requirements for vitamins, minerals, and other nutrients for healthy people. The IOM's recommended dietary allowance is at least 600 International Units (IU) daily for those aged 4 through 70 and 800 IU for adults over 70.

The scientists concluded that vitamin D deficiency is a risk factor for increased knee osteoarthritis progression, and that increased, adequate dietary intake may be beneficial in those with knee osteoarthritis.

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