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Subject: Tips From The Professor: Vitamin D & Cancer

This is the final installment of my "Tips" based on Dr. Michael Holick's book, "The Vitamin D Solution".

The connection between vitamin D and reduced cancer risk is certainly one of the most controversial chapters in his book.

There is certainly ample reason to suspect that vitamin D reduces the risk of cancer. But perhaps to best understand the rationale of that statement I should start by reviewing how cancer develops.

During embryogenesis the embryonic cells differentiate into the distinctive cells of each tissue in the body. Then they adhere together to form the organs of our body and stop dividing.

We can think of cancer as the reverse process. A cancer cell de-differentiates, starts dividing in an uncontrolled manner and loses the ability to adhere to the other cells of the organ from which it originated.

And vitamin D is one of the master hormones that prevents that from occurring. It binds to receptors on the cell surface and activates cellular pathways that put the brakes on cell division, maintains the cell in the differentiated state and causes them to adhere to
other cells.

And this is apparently true of cancer cells as well as normal cells. Dr. Holick and his colleagues have shown that when vitamin D is added to the culture medium of
prostate cancer cells they stop growing and return to normal prostate cells.

But that is a cell culture experiment. What is the evidence that vitamin D reduces cancer risk in people?

There is a lot of evidence, but most of it is indirect.

For example, there are studies that show:

- Men with high sun exposure are 3 times less likely to develop prostate cancer than men with minimal sun exposure.

- Women who are deficient in vitamin D at the time they are diagnosed with breast cancer are 75% more likely to die from the disease than women who had adequate levels of vitamin D in their bloodstream at the time of diagnosis.

- A 2 year intervention study showed that supplementing with 2,000 IU of vitamin D/day in men with prostate cancer reduced the rate at which their PSA levels increased by 50%.

- a 2007 study showed that postmenopausal women who supplemented with 1,400-1,500 mg of calcium and 1,000 IU/day of vitamin D for four years reduced the risk of
developing cancer of all causes by 60% compared to the placebo group.

Based on these and many other studies, Dr. Holick estimates that if people in this country just took an extra 1,000 IU/day of vitamin D it would reduce the risk of developing colorectal, breast, prostate and ovarian cancer by 50%.

What is the bottom line for you?

Not all experts are convinced that vitamin D will reduce the risk of cancer. And I would agree that we don't yet have enough double blind. placebo controlled intervention studies to definitively prove that a little extra vitamin D will prevent cancer or slow its
progression.

However, as I have said previously an extra 1,000 to 2,000 IU of vitamin D is cheap, safe and will help strengthen our bones. Cancer prevention, if it does occur, would just be a side benefit.

To Your Health!
Dr. Stephen G Chaney