

# VITAMIN D SHOWN TO DOUBLE BREAST CANCER SURVIVAL RATES

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Many doctors and researchers are convinced that vitamin plays an important role in preventing various cancers, including breast cancer. Over the past 20-25 years various studies have shown that women who have higher blood levels of vitamin D have an associated lower incidence of breast cancer (1,2,3). In recent years (2007) a large 4-year clinical trial, involving 1179 healthy postmenopausal women (over the age of 55), reported that the women given vitamin D supplementation (1100 IU per day) and calcium supplementation (1400-1500 mg per day) showed a 77% reduction in incidence of all combined invasive cancer, including breast cancer, compared to women given the placebo (4).

But what about women who have already experienced breast cancer? Can vitamin D supplementation help prevent breast cancer recurrence, progression and related fatality? A study published in March 2014 in the journal *Anticancer Research* has now shown that breast cancer survivors would be well advised to keep their vitamin D blood level within the ideal range. The study by B. Sharif et al showed that breast cancer patients with high levels of vitamin D in their blood were twice as likely to survive the disease compared to women with low levels of vitamin D (5).

These researchers analyzed data from five large breast cancer studies, involving a total of 4,443 breast cancer patients, with an average follow-up period of nine years. The data showed that women who had an average vitamin D blood level of 30ng/ml experienced survival rates double that of women who had an average blood vitamin D blood level of 17ng/ml. The researchers pointed out that the average vitamin D blood level in patients with breast cancer in the United States is 17ng/ml (5). The form of vitamin D measured in the blood is 25-hydroxycholecalciferol. Upon ingestion of vitamin D supplements (cholecalciferol) the liver converts this form of vitamin D to 25-hydroxycholecalciferol and releases it to the blood stream. Likewise, the vitamin D made in the skin upon exposure to sunlight is also converted to 25-hydroxycholecalciferol by the liver.

In Canada blood levels of vitamin D is usually reported in nmol/L, not ng/ml. Thus, for Canadians it is worth noting that 30ng/ml is equal to about 75nmol/L, whereas 17ng/ml is equal to about 42nmol/L. In their concluding statements B. Sharif et al suggest that breast cancer patients may be well advised to increase their blood level of vitamin D to 80ng/ml (approximately 200nmol/L), based on all available evidence (5).

## **How Does Vitamin D Prevent Breast Cancer?**

Vitamin D has been shown to reduce cancer development and progression in a number of ways. Vitamin D slows down the rate of cell division, which reduces the likelihood that cancerous mutations will emerge. Vitamin D promotes maturation (differentiation) of newly formed cells, which reduces transformation to a cancerous state. Vitamin D favourably modulates the function of immune cells, many of which are responsible for identifying and destroying emerging cancer cells (1,2,3,4,5).

In addition, vitamin D is responsible for increasing the cell's production of a surface receptor (antennae) known as E-cadherin, which enables the cell to bind to and communicate with adjacent cells or supporting tissues. Very aggressive cancer cells tend to have low levels of E-cadherin, which enables them to replicate unchecked by adjacent cells, giving themselves the green light to invade adjacent

tissues and spread into the blood and lymphatic system in their quest to metastasis throughout the body (6,7,8).

Studies show that many cancer cells maintain vitamin D receptors on their cell surface. When vitamin D (25-hydroxycholecalciferol D) attaches to this receptor it stimulates the synthesis of E-cadherin, which in turn puts the brakes on the ability of cancer cells to invade adjacent tissues and metastasize. (5,6) B. Sharif and fellow researchers suggest that it is the expression of E-cadherin by cancer cells that likely explains why breast cancer patients with higher blood levels of vitamin D are less likely to have further progression of their disease after standard medical treatment (6).

In a follow-up interview regarding the study (March 2014), coauthor Dr. Cedric F. Garland, professor in the Department of Family and Preventive Medicine at the University of California, San Diego School of Medicine, pointed out that “a 2011 meta-analysis by Garland and colleagues estimated that a serum vitamin D blood level of 50 ng/ml (about 125 nmol/L) is associated with a 50 percent lower risk of breast cancer. “While there are some variations in absorption, those who consume 4,000 IU per day of vitamin D from food or a supplement normally would reach a serum level of 50 ng/ml. Garland urged patients to ask their health care provider to measure their levels before substantially increasing vitamin D intake” (9).

Vitamin D toxicity is not known to occur until reaching a vitamin D blood level at or above 100 ng/ml (250nmol/L), so there is a large margin of safety when taking vitamin D supplements (3).

Note that **Adeeva [All-in-One Multi-Vitamin & Mineral](#)** now contains 1000 IU of vitamin D (as vitamin D3).

When taken along with 2 caplets of **Adeeva [Bone Support Formula](#)**, the total vitamin D amount is 1800 IU, along with 1100 mg of elemental calcium

### **BIO: Dr. James Meschino, DC, MS, ND, ROHP**

Dr. Meschino is the Director of Wellness and Health Promotion for SEB (Smart Employee Benefits), a publicly traded company (TSX VENTURE: SEB), in which he designs and delivers employee wellness programs, along with his team at Meschino Health and Wellness Corporation. Dr James Meschino is an Associate Professor at the Canadian Memorial Chiropractic College in Toronto, where he has taught courses in the biochemistry, nutrition and natural medicine courses since 1984. He also teaches continuing education courses on nutrition and natural medicine to medical doctors, naturopaths, pharmacists, chiropractors and other health care providers.

He is also the author of four nutrition/wellness/anti-aging books, including “*The Meschino Optimal Living Program – 7 Steps to a Healthy, Fit, Age-resistant Body*”, and has been the Director of Nutritional Therapy at the Canadian Cancer Immunotherapy Centre in Toronto. Dr Meschino is the formulator for Adeeva nutritional supplement products, which are dispensed by health professionals throughout North America.

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