



Prostate Cancer and Fish Oil Supplementation - Absolutely No Association Demonstrated by Dr. David Seaman

Recently there has been a surge in media coverage regarding a study that allegedly examined the effects of fish oil supplementation on prostate cancer expression.¹ Quite to the contrary, the subjects [in this study](#) were not supplemented with fish oil or put on a fish-rich diet, which means it is completely inappropriate to suggest that such would cause prostate cancer.

The authors explain that they did a blood test on 834 subjects who developed prostate cancer in the SELECT Trial and measured fatty acids in plasma phospholipids.¹ The SELECT Trial examined how supplemental selenium and vitamin E would impact the expression of prostate cancer.² **Table 1** outlines the outcome of that study. At most, there is a 1 percent greater risk of developing prostate cancer if one supplements with vitamin E. However, news reports that came out after SELECT was published implied that vitamin E and selenium supplements are a *cause* of prostate cancer. The appropriate conclusion is that these supplements are ineffective as a monotherapy for prostate cancer prevention.

A look at the details of the new prostate cancer-fatty acid study reveals that a more appropriate conclusion is needed as well. As stated above, the subjects were 834 individuals who developed prostate cancer in [the SELECT Trial](#). After a blood draw, the fatty acids were measured as a percentage of

Table 1: Original SELECT Trial Outcomes		
Supplement	# of Subjects	% Who Developed Cancer
Placebo	8,696	6.08
Vitamin E / Selenium	8,707	6.37
Selenium only	8,752	6.56
Vitamin E only	8,737	7.09

total fatty acids in plasma phospholipids, and included omega-3, omega-6 and trans-fatty acids. **Table 2** outlines the average omega-3 fatty acid levels, which included eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

While the .04 percent higher level of EPA and the .1 percent higher level of DHA in cancer subjects may be statistically significant, the clinical relevance of such small differences remains unknown and was *not* discussed in the paper. Despite this unknown, news reports irresponsibly suggested that consuming fish and fish oil supplements may be a cause of prostate cancer and that men should be careful not to eat too much fish.

Table 2: Omega-3 Fatty Acids and Prostate Cancer?		
Fatty Acid	% Subjects With Cancer	% Subjects w/o Cancer



EPA	.65%	.61%
DHA	3.01%	2.91%

The more appropriate conclusion would be that since controls and prostate cancer patients have nearly identical plasma phospholipid levels of omega-3 fatty acids, it is not likely that an association between fatty acids and prostate cancer can be identified in this study. Other dietary and lifestyle factors are likely to be involved. Consider that prostate cancer is rare [in Inuit Eskimos](#) consuming a traditional diet that includes extremely *large amounts* of omega-3 fatty acids.³

Unfortunately, the media scare about eating fish and taking fish oil has been pervasive. Why would the media be so irresponsible? Either it is due to ignorance and/or perhaps a new prostate-cancer treating / preventing medication may be in the works. This notion may not be so far-fetched; consider that [statins](#) are now often recommended as a preventive strategy for people with total cholesterol *below* 200 mg/dl.

References

1. Brasky TM, Darke AK, Song X, et al. Plasma phospholipid fatty acids and prostate cancer risk in the SELECT Trial. *J Natl Cancer Inst*, 2013 Jul 10. [Epub ahead of print]
2. Klein EA, Thompson IM, Tangen CM, et al. Vitamin E and the risk of prostate cancer. The Selenium and Vitamin E Cancer Prevention Trial (SELECT). *JAMA*, 2011;306(14):1549-56.
3. Dewailly E, Mulvad G, Pedersen HS, et al. Inuit are protected against prostate cancer. *Cancer Epidemiol Bio Prev*, 2003;12:926-27.