

## Update on the Cardiovascular Benefits Fish Oil and Vitamin D

In November 2018 the New England Journal of Medicine published the results of the REDUCE-IT and VITAL trials. The efforts of these trials were to examine the potential cardiovascular benefit of omega-3 fatty acid and Vitamin D use.

The REDUCE-IT trial aimed to determine the cardiovascular benefit of the daily administration of 4 grams of pure icosapent ethyl (Vascepa), an ester of the omega-3 fatty acid, eicosapentaenoic acid (EPA.) They found that Vascepa use had an absolute risk reduction of composite serious cardiovascular events by 4.8% with a number needed to treat = 21. However, it's not known whether all individuals would benefit from ingesting 4 grams of icosapent ethyl daily. The REDUCE-IT trial combined the results of patients that qualified for primary prevention and very specific patients that qualified for secondary prevention, limiting both the applicability and generalizability of Vascepa use. Most patients were already on moderate to high-intensity statin therapy, had LDL cholesterol levels between 41-100 mg/dL, and had fasting triglyceride levels between 135-499 mg/dL, characteristics not necessarily seen in the general public.

The VITAL trial solely examined primary prevention and was published in two separate papers: one reporting the results of OTC fish oil use on cardiovascular disease and the other reporting the results of Vitamin D use on cardiovascular disease (as well as cancer.) Vitamin D was dosed at 2000 IU daily. Neither demonstrated prevention of cardiovascular disease. In contrast to the daily 4 grams of icosapent ethyl in the REDUCE-IT trial, the VITAL trial used only 1 gram of fish oil, which contained 460mg of EPA and 380mg of DHA (For comparison: a typical OTC fish oil supplement will contain approximately 500mg EPA+DHA total in approximately 3:1 ratio.)

### References:

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