

# Fish Oil As One Therapy in Cardiovascular Risk Factor Reduction

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*The New England Journal of Medicine* discussed the possible beneficial effects of fish oil, which are various combinations of Omega-3 fatty acids, EPA (eicosapentanoic acid), and DHA (docosahexaenoic acid). This new therapy was again evaluated by *The Medical Letter*. Many other studies show the efficacy of fish oil, and it is being used by more and more cardiologists. Yet, fish oil alone is unlikely to be a complete therapy except in the case of elevated triglycerides (TG).

I have used fish oil in over 200 cases of elevated TG and cholesterol, reduced HDL, and hypertension, as a useful agent. In three years of using this substance, we have not had one case of stroke or myocardial infarction in individuals who took 6 grams or more despite the patient's very high risk factors. Doses at 6-15 grams rarely have side effects except easy bruisability in individuals over 80, belching, and bad breath. The latter is reduced by taking refrigerated capsules before meals. We have found fish oil by itself to lower TG as high as 1800 to normal and to raise HDL 10-30 points. Yet, even at doses of 15 grams it can produce only a mild blood pressure-lowering effect and mild cholesterol-reducing effect in most patients. Hence, a total program designed to reduce cholesterol and blood pressure (BP) must include other nutrients, i.e. omega-6 oils, magnesium, pyroxidine, garlic, taurine, chromium, selenium, zinc, niacin, antioxidants, and pantetheine. Omega-6 oils are best in lowering cholesterol, while garlic, niacin, and exercise add to fish oil's HDL-elevating effect. Other substances like zinc (lowers serum copper) and taurine may lower pressure slightly, and antioxidants may protect against angina or arrhythmia. Weight loss is probably the single most important factor in lowering blood pressure.

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Low fat, low carbohydrate, high protein, low salt, and high fish and vegetables are the mainstay of the diet. Case histories are below, utilizing this low carbohydrate diet.

## Case History #1

A 59 year-old male, 5'10", 256 1/2 lbs., came to us with atrial fibrillation since 1975 following pericarditis, hypertension since he was a teenager, and TG (1800-2000) for three years. He had been treated with Inderal (160 mg) and Digoxin (0.25 mg) since 1975. We placed him on a total low carbohydrate diet and treated him with 15 capsules of fish oil (356 mg EPA, 226 mg DHA) and 1.8 grams of pantetheine, with other assorted vitamins for BP, i.e. taurine, garlic. His results are as follows:

## See TABLE 1

Fish oil probably accounts for about 90 percent of this patient's dramatic change in HDL and TG, although other factors such as diet (the low carbohydrate diet alone did not lower his triglycerides) and pantetheine (minimal effect) may also be important factors in this patient's dramatic results. We believe this is true because of many patients who have been presented to us with dietary modifications and /or fish oil alone have only minimal improvements in cholesterol. Fish oil is still effective when other factors are not utilized, but is most effective when used in a multimodal type of therapy.

## Case History #2:

### Four Types of Drugs Replaced: Return of Sex Drive

A 49 year-old male on multiple medications, with a 20-year history of hypertension, an elevated cholesterol and TG for 10 years, came to us for help. He was on Lorelco (250 mg) three times a day, Lopressor (B-Blocker) (50 mg) twice a day, Apresoline (100 mg) three times a day, Hydrochlorothiazide

TABLE 1

	Chol.	Trigl.	HDL	LDL	Uric Acid	BP	Wt.
<b>Tested</b>							
10/18/86	283	1715	10		10.2	140/90	256 <sup>1/2</sup>
Inderal 160 Digoxin 0.25							248
11/7/86	183	554				140/80	247
12/2/86	210	395	26	101	9.0	130/80	241 1/2
Inderal 120 1/5/87	219	690	18	63	9.1	140/80	237
Inderal 80 2/3/87	152	205	28	86	9.4	138/74	232
2/25/87	164	234	31	85	7.8	120/80	231

(diuretic) (50 mg) daily, and Anturane (200 mg) twice daily. His sex drive was greatly diminished.

Initially, he had a BP, while on the medicine, of 150/95. He had a benign physical exam as well. He was asymptomatic at this time, and we immediately stopped his Lorelco, because we knew that we could substitute the Lorelco-type drugs with fish oils. We immediately stopped the patient's diuretic as well as his Anturane, which protected him from diuretic-induced gout.

Instead, we put him on 8 gms fish oil, 3 gms of Evening primrose oil (EPO), 1 gm Mg, 1 gm carnitine, 500 mg of vitamin B-6, and some multi-vitamins.

Despite his being on the low calorie diet, this 5'9 1/2" man at 164 pounds, lost only two pounds when he returned 11 days later with a BP of 130/90.

At that time, we added to his program 2 gms taurine, 1 gm garlic, 30 mg zinc, and 400 mg of time-released niacin. We reduced Lopressor to 1/2 pill (25 mg) twice a day. He returned in one month with a BP of 160/88. We again put him on a stricter low carbohydrate diet, discontinued Lopressor, and eventually tapered off his Apresoline dose, substituting one pill of Vasotec for it (Vasotec has less side-effects).

He returned six weeks later with many home of basal BP readings between 120-140/70-80. We had previously added two inositol 650 mg, one GTF 200 mcg, and one selenium 200 meg pill. Blood pressure well

under control, off Lopressor and Apresoline, he was just using Vasotec. Initially, he had an HDL of 41, TG at 394, and a normal cholesterol at 205. In two months his HDL had jumped to 55, while his TG had fallen from 394 to 224, and his cholesterol remained essentially the same. Over the next few months we will try to stop the Vasotec. Importantly, this patient's sex drive is now normal.

There was a tremendous improvement in his HDL fraction and a reduction in his TG. Therefore, without lipid-lowering drugs his treatment was a complete success. His one pill dosage of Vasotec does not produce any symptoms. Once a high-risk patient for heart disease and stroke, he is now becoming a low cardiovascular risk patient.

### Case History #3:

#### Removal of Multiple Drugs

A 51 year-old male was presented to us on multiple medications, weighing 265 pounds, with a 25-year history of smoking two packs of cigarettes per day. He had stopped smoking three years ago. His BP was between 150/100 and 140/100 with a pulse of 74. He was taking Aldomet, Klotrix, and Hydrochlorothiazide for 10 years and Nitropatch nightly. He was put on a weight-reducing, low carbohydrate diet, and started on a multi-vitamin 6/day, vitamin B-6 (500 mg), magnesium Orotate (3 gms), garlic (1440 mg), taurine (3 gms), primrose oil (dihomogammalinoleic acid 3 gms), fish oil

(6 gms), magnesium oxide (1.5 gms) per day, and Klotrix 4/day. Blockodrin was reduced to two (100 mg) and Aldomet (250 mg) to one.

After one month, his BP was 144/104 (a slight increase in BP can occur in early removal of drugs), weight 248 pounds, and on 1/28/86 his BP was 120/88 and weight 249. Aldomet was stopped and Blockodrin was maintained. On 2/11/86 his BP was 140/90, pulse 78, and weight 235 pounds. Blockodrin (50 mg) was reduced to one pill, but he still used Nitropatch. On 3/11/86 his BP was 140/94 and weight 226; Blockodrin was stopped. Taurine was reduced to 2 gms and garlic to 960 mg. He was no longer on any medications except Nitropatch for BP. Klotrix was reduced to three tablets, and fish oil was switched to Mega-EPA, a more potent brand of EPA. On 4/10/86 his BP was 150/90, pulse 78, and weight 216. On 5/23/86 his BP was 130/70, pulse 80, and weight 214 pounds, and Nitropatch was stopped. Nutrients were reduced to 4 multivitamins, 4 garlic (1200 mg), taurine (3 gms), primrose oil (2 gms), fish oil (6 gms), and his multivitamin formula was stopped. From 3/11 on he was taking two zinc pills a day, magnesium oxide (1000 mg) (substituted for the less potent magnesium Orotate), and niacin (1 gram/day). Safflower oil 2 tbsp./day was also prescribed from 3/1 on, and vitamin C (2 gms/day) from 4/10 on. Chromium (200 mcg) was taken from 5/22 on.

This patient, through the use of mega-nutrient therapy, was completely removed from drugs. His BP remains stable at 130/70. On 12/19/85 his cholesterol was 290 and TG 280. On 3/27/86 TG were 122 and cholesterol 223. He occasionally drank Vodka, coffee and tea. His sex drive was increased gradually throughout the treatment, and exercise (walking) gradually increased.

#### **Cholesterol in 400's Transformed**

A 58 year-old female, with a long history of high cholesterol, 5'1", 140 pounds, normal BP, normal physical exam, was put on a hypertensive diet. Her regimen included 6 gms fish oil, 3 gms evening primrose oil, 500 mg vitamin B-6, 4 tbsp. olive oil per day, multivitamins, 2 gms arginine (has a slight cholesterol-lowering effect) per day, and antioxidant vitamins, i.e. cysteine and beta-

carotene (anti-oxidants may have anti-arrhythmia properties).

In the next six months, she went from 138 pounds to as low as 125. During that period, she had significant improvement on her blood tests. In April, she had an HDL of 78, LDL of 329, and TG of 95, and a cholesterol of 426.

In early November her HDL was 108, LDL 106, TG 50, and cholesterol 224.

This is an example of another incredible transformation of a high-risk cardiovascular-diseased individual to an extremely low risk individual. Olive oil, which in part accounts for the success, can in some cases raise BP. Individuals with extremely high cholesterol and hypertension must have high BP lowered first and then address the high cholesterol. An individual with isolated high cholesterol, paying particular attention to a low fat diet, no fried foods, no cooking with oil, no use of salt, and eating primarily a high fish, high whole-grain, high vegetable diet, can have tremendous transformation of cholesterol and overall cardiovascular risk factors.

#### **Mild Diastolic High Blood Pressure and Cholesterol of 400 Lowered to Normal in Six Weeks**

A 55 year-old male, with a family history of high cholesterol and palpitations, had been tried on typical cholesterol-lowering drugs, like Cholestyramine and Neomycin, without success.

He had a normal physical exam and EKG. At 5'10", he weighed 174 pounds with BP of 130/90. He was put on a nutrient regimen of 4 1/2 gms of evening primrose oil, 4 gms offish oil, 1 gm Mg, 400 mg of niacin, and assorted multivitamins. On 8/15, he had an HDL of 45, an LDL of 330, and a cholesterol of 405, with BP 130/90. On 8/28 his BP was 124/82, and his weight had fallen from 172 to 168 on the low carbohydrate diet. At that time, we added to his regimen another gm of Mg, 3 gms arginine, and up to 7 tbsp. olive oil per day.

On 9/26/86 his BP had fallen to 110/70. On doing a repeat of his heart profile, his cholesterol LDL had fallen from 330 to 124, HDL had also fallen from 45 to 36, but his cholesterol had gone from 405 to 181. Rapid reductions in cholesterol can on rare occasions

reduce HDL; usually HDL increases while LDL decreases. Off caffeine, his palpitations (anxiety) had stopped.

With continued use of fish oil, his HDL level will rise, and we will be able to keep this patient's cholesterol at normal levels. His TG also fell from 146 to 105. This is an incredible example of what nutrition and vitamins can do for high cholesterol disease and mild hypertension. The vitamin program and a diet are not easy, but its incredible results include reversal of high-risk individuals for heart attack and strokes. This man now has a low risk for cardiovascular disease, is drug free and feels good about the treatment.

### Summary

All these exemplary cases show fish oils are very useful in the treatment of hypertriglyceridemia (Type IV hyperlipidemia) as well as mildly effective in treating hypercholesteremia (Type II hyperlipidemia) and raising HDL levels. In addition, none of our patients taking more than 6 gm of fish oil per day had a stroke or myocardial infarction in the past two years. This is probably due to the anti-platelet aggregation effect of the omega-3 fatty acids. TG levels over 1800 have been reduced substantially to the low 200's by using Mega-fish oil treatment. HDL's have been raised over 30 points in one of the above cases and have gone even higher with other patients.

When HDL is as especially low as 10, raising their levels to higher than 35 with fish oils alone is difficult. LDL also seems to be decreased by fish oil as seen in one of the above patients. Cholesterol in the 400 and 500's have been reduced to near normal of about 180 with the entire protocol. Cholesterol lowering by omega-6 primrose oils and TG lowering by fish oils are very important actions, because most drugs designed for this purpose are resisted by patients. High doses of nutrients with diet can produce these elevated levels, which are very serious risk factors for stroke, myocardial infarction, and other cardiovascular disease.

Yet in our clinical experience fish oil alone is insufficient except in treating elevated TG and HDL. In reducing risk factors and lowering BP, fish oil is one of the major keys of therapy. However, weight loss, exercise, and additional

supplementation is necessary. Fish oils alone are insufficient treatment (except at about 15 gms) of most mild or moderate HTN and have associated risk factors at very high doses. Taurine, antioxidants, zinc, Mg, primrose oil, calcium, vitamin B-6, etc. are essential parts of our hypertension protocol. Weight loss diets alone lower BP and add synergistically to the overall program. Low Na, low sugar, high complex carbohydrates, high polyunsaturated fat, high protein, and a no junk food diet (sugar, alcohol, etc.) is especially effective. Low carbohydrate, ketosis diets have important diuretic effects. Along with exercise, stress reduction techniques, such as biofeedback, can play a role. Overall, a multi-modal approach can help reduce or eliminate the need for powerful drugs with dangerous side-effects. Even the *Journal of American Medical Association* (3/20/87) says: "Nutritional therapy may substitute for drugs in a sizable proportion of hypertensives or, if drugs are still needed, can lessen some unwanted biochemical effects of drug treatment." Mild hypertension diastolic less than 105 should be treated only by nutrients and diet. This is because studies using drugs between 90-104 show no benefits of treatment in reducing mortality and morbidity. (1) The enclosed protocol has produced 95% success in patients with BP less than 180/105. A bibliography of references that helped develop the protocol are enclosed.

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