



Dr. Shari Lieberman

Protocol Formulations

Phyto SkinScience

Dr. Shari Lieberman
Dedicated to the Scientific Pursuit of Better Health

October, 2003 Newsletter

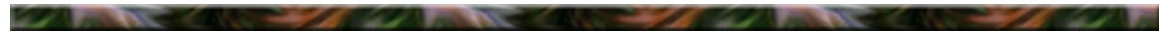
Dr. Shari Lieberman's Nutritional & Integrative Therapy Review Newsletter

Welcome to my newsletter. Each month I review the cutting-edge research in the field of nutritional and integrative medicine and give you my commentary. At the end of each newsletter, I give a specific nutritional protocol for a specific disorder. The newsletters and nutritional protocols can also be found on my website. You may also visit my website to view my numerous Powerpoint presentations given at medical conferences and visit my Q & A, library and more. As an ongoing commitment to excellence in product development, you can also view products I have developed and co-developed with leading experts all over the world.

Visit Dr. Shari's website at www.drshari.net

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1. Therapeutic effects of psyllium in type 2 diabetic patients

Sierra M, Garcia JJ, Fernandez N, Diez MJ, Calle AP. Eur J Clin Nutr. 2002 Sep;56(9):830-42.

Abstract: The effect of psyllium was evaluated in twenty (12 men, 8 women) type 2 diabetic patients. The study included three phases: phase 1 (1 week no fiber), phase 2 (treatment, 14 g fiber/day, 6 weeks) and phase 3 (4 weeks no fiber). At the end of each phase a clinical evaluation was performed after the ingestion of a test breakfast of 436 calories. Measurements included concentrations of blood glucose, insulin, fructosamine, HbA(1c), C-peptide and 24 h urinary glucose excretion. In addition, uric acid, cholesterol and several mineral and vitamin concentrations were also evaluated. Glucose absorption decreased significantly in the presence of psyllium (12.2%); this reduction is not associated with an important change in insulin levels (5%). HbA(1c), C-peptide and 24 h urinary glucose excretion decreased (3.8, 14.9 and 22.5%, respectively) during the treatment with fiber (no significant differences) as well as fructosamine (10.9%, significant differences). Psyllium also reduced total and LDL cholesterol (7.7 and 9.2%, respectively, significant differences), and uric acid (10%, significant difference). Minerals and vitamins did not show important changes, except sodium that increased significantly after psyllium administration. The results show a beneficial therapeutic effect of psyllium in the metabolic control of type 2 diabetics as well as in lowering the risk of coronary heart disease without any negative impact on vitamin or mineral status.

Commentary: It is a well-established fact that soluble fiber lowers glucose levels, HbA1C, total cholesterol levels and LDL cholesterol levels. Yet this is rarely part of any therapeutic approach in conventional medicine. It's just too cheap and simple! Subjects were not given massive amounts of fiber – just 14 grams per day. Our government recommends 25 grams of fiber each day – yet this is rarely achieved by most Americans. In addition to psyllium, other water-soluble fibers include: oat, glucomannan, pectin and flax. Rich food sources include legumes such as beans and lentils. The interesting outcome about this study is a significant lowering of uric acid simply by adding dietary fiber without any other dietary change. It is very simple to add soluble fiber through foods, dietary supplements and commercially available powders. If you want to have a revelation – ask your patients to fill out a 7-day diet record and do one yourself to assess fiber intake.

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2. Whole grain intake is associated with lower body mass and greater insulin sensitivity among adolescents.

Steffen LM, Jacobs DR Jr, Murtaugh MA, Moran A, Steinberger J, Hong CP, Sinaiko AR. Am J Epidemiol. 2003 Aug 1;158(3):243-50.

Abstract: The authors tested the hypothesis that consumption of whole grain is associated with greater insulin sensitivity and lower body mass index (BMI) (weight (kg)/height (m)²) in adolescents and that this association is stronger among the heaviest adolescents. Two food frequency questionnaires were administered to 285 adolescents between the ages of 13 and 15 years. These Minnesota adolescents also underwent two euglycemic insulin clamp studies 2 years apart as part of a protocol evaluating the influence of insulin resistance on development of adverse cardiovascular disease risk factors. Mean BMI was 23.6 for adolescents consuming less than serving/day of whole-grain foods, 22.6 for -1 servings/day, and 21.9 for more than 1 servings/day. The whole grain intake groups also had significantly improved insulin sensitivity. Whole grain intake was associated with greater insulin sensitivity and lower BMI in adolescents, especially among the heaviest persons.

Commentary: This follows the results of the study above. This demonstrates that whole grain – a mix of both soluble and insoluble fiber improves insulin sensitivity and lowers body mass. It is estimated that 20% of adolescents are very overweight or obese and it is now estimated that one in three children will acquire type 2 diabetes. Americans are feeding their children what they wouldn't feed their dog. Although this is changing. A new report estimates that 1 in 3 pets are very overweight. We need to spend more time educating the public on what to eat and the serious consequences associated with a poor diet. If the public doesn't get it – how will their children? If the parents don't set a good example – where will their children learn the truth? We need to push schools to spend more time on nutrition education and to clean up their act in what they are feeding our children. Fast food restaurants have made their way into our schools, airlines and other places as well – and have done their damage. Now it needs to be undone. No one is saying that you cannot have your occasional indulgences – but what children are eating day in and day out is dangerous. Another study looked at the arteries of a group of adolescents and found a significant number of them had significant arterial occlusion – similar to 70 year olds. We need to become more vocal about this and force attention to this issue into all areas of health care.

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3. Relation of aggressiveness of lipid-lowering treatment to changes in calcified plaque burden by electron beam tomography.

Hecht HS, Harman SM. Am J Cardiol. 2003 Aug 1;92(3):334-6.

Abstract: The comparative effects of more versus less aggressive low-density lipoprotein (LDL) cholesterol lowering (to 80 mg/dl) on calcified coronary plaque progression by electron beam tomography were evaluated in 182 consecutive asymptomatic patients after

1.2 years of treatment with statins alone or in combination with niacin. Despite the greater improvement in lipids there were no differences in calcified plaque progression (9.3%/year vs 9.1%/year). We conclude that, with respect to LDL cholesterol lowering, "lower is better" is not supported by changes in calcified plaque progression.

Commentary: No one has been able to answer the question, "why do just as many people die from heart attacks with high cholesterol levels as with low cholesterol levels?" Perhaps now we can. The total amount of cholesterol or LDL cholesterol is not the issue. The issue is – what happens to those forms of cholesterol in your body. Cardiology is one of the branches of medicine with the best pre-diagnostic tests thus far. Yet how many of you have had: C-Reactive Protein (CRP), homocysteine, oxidized LDL, fasting insulin as part of your regular physical exam? Also, the electron beam tomography (EBT) is an excellent non-invasive test for coronary artery disease. How many of you have been offered that as part of an exam? We have known for years that the cholesterol issue is really not the predictor of heart disease. Even though the LDL was lowered in this study – was anything done to improve antioxidant status? No. Also, we do know that statins deplete coenzyme Q10 from the heart and other muscles. That is why the use of statins may also be associated with heart disease and muscle weakness. Anyone taking a statin must take at least 100 mg of CoQ10 along with it. Yet measurements of CoQ10 status were not done in the study. Anyone with oxidized LDL should be taking natural vitamin E and beta-carotene, vitamin C, selenium, vitamin A and CoQ10 for starters. Anyone with high CRP needs to lose weight – in particular that dangerous intra-abdominal fat and take fish oil supplements along with antioxidants. Anyone with high homocysteine levels needs to be taking high dose B-vitamins in particular B12, B6, and folic acid. Also, some lack the enzyme to convert these B-vitamins to their active form thus they do not get a lowering of homocysteine. Therefore, they need the active forms of B6 (pyridoxal-5-phosphate) and folic acid (metafolin and calcium folinate). That is not to say that statins are ineffective in certain situations. But to simply prescribe them based on LDL, HDL and total cholesterol is bad medicine.

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4. Multivitamin supplements are inversely associated with risk of myocardial infarction in men and women--Stockholm Heart Epidemiology Program (SHEEP).

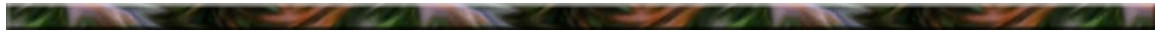
Holmquist C, Larsson S, Wolk A, de Faire U. J Nutr. 2003 Aug;133(8):2650-4.

Abstract: Researchers examined the association between self-selected use of low dose multivitamin supplements and the risk of myocardial infarction (MI). Results were based on data from a large population-based, case-control study of subjects aged 45-70 y residing in Sweden, a country in which consumption of fruits and vegetables is relatively low and foods are not fortified with folic acid. The study included 1296 cases (910 men, 386 women) with a first nonfatal MI and 1685 controls (1143 men, 542 women) frequency-matched to the cases by sex, age and hospital catchment area. Among controls, 57% of the women and 35% of the men used dietary supplements. Of those taking supplements, 80% used multivitamin preparations. After adjustment for major

cardiovascular risk factors, There was a 21% reduction of MI in men taking the multivitamin and a 34% reduction of MI in women taking the multivitamin compared to non-users. This inverse association was not modified by such healthy lifestyle habits as consumption of fruits and vegetables, intake of dietary fiber, smoking habits and level of physical activity, although never smoking appeared to outweigh the association in women. Findings from this study indicate that use of low dose multivitamin supplements may aid in the primary prevention of MI.

Commentary: This is an excellent study that demonstrated that simply taking a low dose multivitamin significantly reduced the risk of a heart attack in the absence of dietary changes, exercise or lifestyle modification. It was disappointing that laboratory measurements such as homocysteine, oxidized LDL and C-reactive protein were not performed to assess the difference in these lab values between the users and non-users of supplements. My guess is that there would have been a significant difference for some of these measurements. This study echoes the results of the famous JAMA paper, "Vitamins for Chronic Disease Prevention in Adults," where hundreds of studies were analyzed between 1966-2002 to assess the impact of vitamins on disease prevention. The authors concluded that inadequate intake of several vitamins has been linked to chronic diseases such as coronary heart disease, cancer and osteoporosis. What is the down side of taking a multivitamin or a multivitamin-mineral supplement? Absolutely none!

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5. Effects of a dietary portfolio of cholesterol-lowering foods vs lovastatin on serum lipids and C-reactive protein.

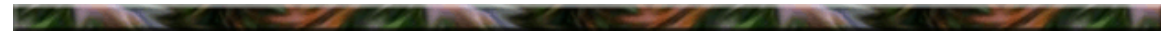
Jenkins DJ, Kendall CW, Marchie A, Faulkner DA, Wong JM, de Souza R, Emam A, Parker TL, Vidgen E, Lapsley KG, Trautwein EA, Josse RG, Leiter LA, Connelly PW. JAMA. 2003 Jul 23;290(4):502-10.

Abstract: To enhance the effectiveness of diet in lowering cholesterol, recommendations of the Adult Treatment Panel III of the National Cholesterol Education Program emphasize diets low in saturated fat together with plant sterols and viscous fibers, and the American Heart Association supports the use of soy protein and nuts. This randomized controlled trial compared the use of statins to dietary intervention in lowering LDL cholesterol and C-Reactive Protein (CRP). Forty-six healthy, hyperlipidemic adults (25 men and 21 postmenopausal women) were randomly assigned to undergo 1 of 3 interventions on an outpatient basis for 1 month: (1) a diet very low in saturated fat, based on milled whole-wheat cereals and low-fat dairy foods; (2) the same diet plus lovastatin, 20 mg/d; (3) or a diet high in plant sterols, soy protein, viscous fibers, and almonds. Compared to the control group, the statin, and dietary portfolio groups had significant decreases in low-density lipoprotein cholesterol of 8.0% (2.1%), 30.9% (3.6%), and 28.6% (3.2%), respectively. Compared to the control group, the statin and dietary portfolio groups had significant reductions in C-reactive protein of 10.0% (8.6%), 33.3% (8.3%), and 28.2% (10.8%). The significant reductions in the statin and dietary portfolio groups were all significantly different from changes in the control group. There were no

significant differences in efficacy between the statin and dietary portfolio treatments. In this study, diversifying cholesterol-lowering components in the same dietary portfolio increased the effectiveness of diet as a treatment of hypercholesterolemia.

Commentary: This is a landmark study that demonstrates dietary intervention can be just as effective as statins in lowering LDL cholesterol and CRP. The protective effect of statins against heart disease applies mostly to lowering CRP. Studies on statins demonstrate that simply lowering LDL does not translate into reduced risk. Statins do have an anti-inflammatory effect but they also carry the risk of cardiomyopathy, myopathy and an increased risk of certain types of cancer. These side effects associated with statins may be prevented by taking CoQ10 – at least 100 mg per day. However, this study clearly demonstrates that a physician must either take the time themselves or refer patients to a professional (preferably a Certified Nutrition Specialist) who holds at least a graduate degree in the field of nutrition to spend the time going over this diet intervention. Simply handing a patient a piece of paper just won't do it. Imagine the results if they also added exercise and perhaps some stress reduction as well.

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6. Fish consumption is associated with lower heart rates.

Dallongeville J, Yarnell J, Ducimetiere P, Arveiler D, Ferrieres J, Montaye M, Luc G, Evans A, Bingham A, Hass B, Ruidavets JB, Amouyel P. Circulation. 2003 Aug 19;108(7):820-5.

Abstract: Fish consumption decreases risk of sudden death. A cross-sectional analysis was conducted of 9758 men, age 50 to 59 years, without coronary heart disease (CHD) who were recruited in France and Belfast, Ireland, from 1991 to 1993. Heart rate and CHD risk factors were compared among 4 categories of fish consumption, as follows: (1) less than once per week (n=2662), (2) once per week (n=4576), (3) twice per week (n=1964), and (4) more than twice per week (n=556). Fatty acid profiles of erythrocyte phospholipids were determined in a random subsample of 407 subjects. In erythrocyte phospholipids, eicosapentaenoic acid, docosahexaenoic acid, and total n-3 fatty acid significantly increased across the categories of fish intake. Triglycerides, systolic blood pressure, and diastolic blood pressure were significantly lower and HDL cholesterol levels were higher significantly in fish consumers than in nonconsumers. Similarly, heart rate decreased significantly across the categories of fish intake. After adjustment for age, center, education level, physical activity, smoking habit, alcohol consumption, body mass index, and antiarrhythmic medications, heart rate remained statistically lower among fish consumers than among nonconsumers. Docosahexaenoic acid content of erythrocyte phospholipids was inversely correlated with heart rate. Fish consumption is

associated with decreased heart rate in men. Because heart rate is positively associated with risk of sudden death, this association may explain, at least in part, the lower risk of sudden death among fish consumers.

Commentary: We have hundreds of studies demonstrating that fish oil is effective in preventing many forms of heart disease. This study focused on the heart rate association with sudden death. Studies have also compared aspirin alone vs aspirin plus fish oil and the protective effect against heart disease of fish oil and aspirin was significantly greater than aspirin alone. Other studies have demonstrated that fish oil is superior to aspirin in preventing heart disease. In any event, don't you think it's time that at least fish oil is recommended along with aspirin? This should be standard protocol if aspirin is recommended unless the patient does eat fatty fish a few times each week. Fish oil supplements are inexpensive and effective and insure that EPA and DHA are being consumed each day.

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7. NUTRITIONAL PROTOCOL FOR HEART DISEASE

Many dietary supplements such as antioxidants, vitamins and fish oil have been shown to be beneficial for patients with heart disease and may also prevent many forms of heart disease as well. These recommendations are for nutritional support only and **must** be combined with diet and exercise. They are not intended to replace any medical care. Be responsible – if you are under the care of a physician, please check with your doctor before starting the protocol. If you are interested in the scientific support for the use of some of the specific supplements, please visit my website: drshari.net where you can view my presentations given at numerous national and international medical conferences. I have put a range for each supplement since you can often find several of them combined in multinutrient formulas by various companies that may dramatically reduce the number of capsules/tablets you may need. I have also put this protocol together with Vitamin Research Products to dramatically reduce the cost and number of supplements needed. It is your choice to order them through VRP at 888-303-6151 or elsewhere. These formulas should be taken with a high potency multivitamin-mineral formula that is a 4-6 per day supplement as suggested below.

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8. HIGH POTENCY MULTI-VITAMIN-MINERAL FORMULA

These are approximate amounts found in some multinutrient formulas (usually 4-6 per day), Optimum Protection or they can be obtained through several supplements or other multis:

| | |
|---|---------------------------------|
| Vitamin A and Beta Carotene | 10,000-20,000 IU |
| Vitamin C (Ascorbic Acid (Coated)) | 500-1000 mg |
| Vitamin D (Cholecalciferol) | 400-800 IU |
| Vitamin E (d-Alpha Tocopheryl Succinate) | 400-800 IU |
| Thiamin (Vitamin B1) | 25-50 mg |
| Riboflavin (Vitamin B2) | 25-50 mg |
| Niacin (Vitamin B3 from Niacin & Niacinamide) | 25-50 mg |
| Vitamin B6 (Pyridoxine HCl) | 50-100 mg |
| Folic Acid | 400-800 mcg |
| Vitamin B12 (Cyanocobalamin) | 100-250 mcg |
| Biotin | 50-100 mcg |
| Pantothenic Acid (Vitamin B5 from Calcium Pantothenate) | 50-100 mg |
| Choline | 10-25 mg |
| Inositol | 10-25 mg |
| PABA | 10-25 mg |
| Calcium (Carbonate, Citrate) | 400-1000 mg |
| Iodine (Potassium Iodide) | 50-150 mcg |
| Magnesium (Oxide, Citrate, Malate) | 200-500 mg |
| Iron (optional) | 8-15 mg |
| Zinc (Monomethionine) | 22.5-30 mg |
| Selenium (Selenomethionine) | 100-250 mcg |
| Copper (optional) | .05-2 mg |
| Manganese | 5-15 mg |
| Chromium (Polynicotinate, GTF or similar) | 100-200 mcg |
| Molybdenum (Amino Acid Chelate) | 100-300 mcg |
| Vanadium | 100-300 mcg |
| Boron | 1-3 mg |
| Fish Oil Supplement | 1500-4000 mg (4-6 capsules/day) |
| Additional Vitamin C | 2000-4000 mg |
| Natural Vitamin E (d-alpha with mixed Tocopherols) | 400-1200 IU |

For elevated cholesterol, LDL, you may consider one or more of the following:

| | |
|--|--------------------------------------|
| Flush free niacin (inositol hexanicotinate) | 2000-4000 mg |
| Gugulipid Extract (providing 75 mg guggulsterones) | 3-6 per day (follow label direction) |

For low HDL levels you may consider one or more of the following:

| | |
|---|-------------|
| Chromium (polynicotinate, picolinate, GTF, etc.) | 400-600 mcg |
| Flush free niacin (see above - however, do not take more than 2000-4000 mg per day total) | 2000-4000mg |

For elevated triglycerides you may consider one or more of the following:

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|---|----------------------|
| Chromium (polynicotinate, picolinate, GTF, etc.) | 400-600 mcg |
| Flush free niacin (see above - however, do not take more than 2000-4000 mg per day total) | 2000-4000mg |
| L-carnitine | 2000-4000 mg |
| Fish Oil (as listed above this is the total dose) | 4-6 capsules per day |

For elevated homocysteine levels you may consider one or more of the following:

| | |
|--|--------------|
| Vitamin B12 | 500-2000 mcg |
| Folic acid (you can take several folic acid capsules or levels above 800 mcg – 5 mg one mg are only available by prescription) | |
| Vitamin B-6 (pyridoxine) | 100-300 mg |

****Please note:** if homocysteine levels do not significantly decrease you may have an enzyme deficiency to convert either B6 or folic acid to their active forms. Therefore you may want to consider switching to:

| | |
|-----------------------------------|----------|
| Metafolin and/or calcium folinate | 800 mcg |
| Pyridoxal-5-phosphate | 10-25 mg |

If your C-Reactive Protein is elevated you may consider one or more of the following:

Fish Oil (as listed above this is the total dose) 4-6 capsules per day

Antioxidants as found in a multi with additional vitamin E and C as described above.

Dietary Recommendations:

Low glycemic index (GI) diet is imperative. It improves insulin resistance, blood lipids and other risk factors. It will also reduce body fat (a risk factor for CRP). For in-depth information you may consult my book, "Dare To Lose: 4 Simple Steps to a Better Body." book has an in-depth diet and exercise program. There is also an excellent website: www.mendosa.com/gilists.htm where you will find an extensive listing of the GI of foods. It is also important to increase fiber intake through beans, lentils, legumes, nuts and seeds and/or dietary fiber supplements (psyllium, oat bran, etc.). Lastly, it is imperative that aerobic exercise is done on a weekly basis – at least 3 days per week for a minimum of 30 minutes each time. You should start with less time if you are really out of shape – perhaps 2-3 minutes and add 1-2 minutes each week. Brisk walking, treadmill, indoor or outdoor bike and exercising together with a low-impact aerobics tape are some examples of aerobic exercise. You should also consider strength training for the upper body and abdominals at least twice per week. If you are unfamiliar with using weights, bands, or other types of equipment it is important that you either consult with a trainer or get a videotape that clearly explains how to do the movements. **Most important: if you have a medical condition or have not engaged in exercise for a long time consult with your physician before starting a program. You must also let your practitioner know the diet, exercise and supplement plan you are on so they may monitor your progress.**

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