



**FRANKLIN
CARDIOVASCULAR
ASSOCIATES, PA**

Autonomic dysfunction disorders
High risk primary and secondary prevention of cardiovascular
disorders and complicated dyslipidemia specialization

Nicholas L. DePace, Sr. MD, FACC
Professor of Clinical Medicine
Hahnemann Hospital /Drexel Medical College
NJ/PA 856.589.6034

Board Certified
Cardiology (ABIM)
Internal Medicine (ABIM)
Transthoracic and Stress Echocardiography (ASE)
Nuclear Cardiology (ABNC)
Lipidology (ABL)

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The Six-Prong Lifestyle

We have recently developed a six-prong lifestyle and supplement approach for treatment of autonomic dysfunction. This includes patients with chronic fatigue, chronic muscle aches, sweating disorders, significant dizziness on standing up, brain fog, and many orthostatic intolerance symptoms. The six-prong approach incorporates principals of biochemistries and theories of biological feasibility. It is partly based on valuable information through medical literature, including many significant studies. The program basically promotes wellness and is not used to diagnose or treat specific diseases. We do not use a combination of commonly used pharmacologic agents such as statins and cholesterol-lowering agents, or antihypertensive prescription agents in this program, but that is left to the discretion of the treating physicians. Various nutraceuticals including vitamins, minerals and potent antioxidants are used. The antioxidants that we use are alpha lipoic acid, coenzyme Q10 and L-carnitine. We also use a nitric oxide-boosting supplemental approach with beet root extract, which operates through nitric oxide and amino acid precursors L-arginine and L-citrulline, which we also use. The concentrations that we have used we have found empirically to cause less side-effects and still give feelings of well-being and efficacy to our patients. Again, we emphasize that we do not use these supplements to diagnose or treat disease.

In addition, we add fish oil, which is an antiinflammatory or a membrane-stabilizing agent. Recently, what we consider a landmark paper was published in the New England Journal of Medicine on December 7, 2018. This showed high dose of fish oil, specifically the portion that contains the component of EPA, prevented eicosapentaenoic acid and was beneficial in reducing cardiac deaths and cardiac events in patients already being protected with statin medication. This worked in both patients without vascular disease and with vascular disease in a large population of patients of over 8,000, followed for a period of approximately five years. We are very confident prescribing fish oils to our patients that prefer agents that are purely or predominately EPA based at high dose.

Another component of our program employs a Mediterranean diet which is a plant-based diet consisting of three major components, olives, grapes and wheat. We allow small quantities of wine as well as small quantities of dairy such as yogurt. There have been epidemiologic studies that show that this diet maintains wellness and demonstrates the advantages of preventing diabetes, affecting weight loss, having cardioprotective and cancer protective affects and improving insulin sensitivity.





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In our approach, we use exercise as a key component as it reduces inflammation, helps to maintain proper weight and enhances the good cholesterol or HDL cholesterol in the body. It also reduces blood pressure, reduces stress, improves parasympathetic and sympathetic nervous system function and potentially improves the millions of mitochondria at the cellular level. Exercise is not a bad word, and, in fact, exercise can do all the beneficial things in the blood stream and vital signs that many pharmacologic agents would need to be taken at one time to give the same results. Also, one need not aggressively exercise. Simply doing 150 minutes per week of mild or moderate exercise can be significantly beneficial.

Specifically, when we find evidence of small fiber disease, either by testing sweat gland function, or even with skin biopsies, we oftentimes will attempt to make the nerve fibers healthier, or in essence regenerate them, or if they are inflamed reducing the inflammation with compounds that contain folic acid and various B vitamins, especially methylated folic acid compounds. Also, our antioxidants as we discussed above, coenzyme Q10, alpha lipoic acid and L-carnitine we have found to be effective empirically with these patients.

One if not the strongest antioxidant in the human body, alpha lipoic acid, has many special properties. It can recycle antioxidants such as vitamins A, C and E. Many studies have shown negative effects with vitamins A, C and E in high doses in populations of patients for cardiovascular protection and for cancer protection. We have reviewed articles on alpha lipoic acid, which show significant improvements in autonomic nervous system function with its use, and it may be that this is a powerful antioxidant that also incorporates recycling levels of other natural endogenous antioxidants, such as A, C and E. It is possible that those studies that show negative effects with vitamins A, E and C may have been influenced by the fact that there were low levels of alpha lipoic acid in one's body, which is a naturally-occurring cofactor. Also, ALA like nitric oxide reduces with age and sickness.

In summary, we have devised a six-prong approach of lifestyle changes with exercise and a Mediterranean diet, stress reduction, which we also find to be extremely important, antioxidant and anti-inflammatory supplements and nitric oxide-producing supplements for endothelial and blood vessel wellness. We have found this to be beneficial in patients who have many constitutional symptoms consistent with autonomic dysfunction, as noted above.

Sincerely,

Nicholas L. DePace, M.D., F.A.C.C.
Clinical Professor of Medicine, Hahnemann Hospital/Drexel University



1919 Greentree Road • Cherry Hill, New Jersey 08003
438 Ganttown Road, Suite B 8-9 • Sewell, New Jersey 08080
2300 S. Broad St. Suite 201 • Philadelphia, PA 19145