

## DIABETIC NEUROPATHY SUFFERERS HELP YOURSELF

Dr. Nelson Mane, a board certified Chiropractic Orthopedist and Neurologist has a large practice treating Diabetic Peripheral Neuropathy with a multimodal approach including High Power Laser Therapy. He states that many patients suffering with Diabetic Peripheral Neuropathy are not aware of simple things they can do to help themselves. Patients are often looking to participate in their treatments if it will improve their results. Whenever a patient can do some simple homework that increases the effectiveness of our High Power Laser treatments, everyone wins. Alpha lipoic acid is a nutritional supplement which has been known to not only decrease neuropathic symptoms but can also help with insulin resistance.

***Alpha-lipoic acid: a multifunctional antioxidant that improves insulin sensitivity in patients with type 2 diabetes.***

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Alpha-Lipoic acid (LA) is a disulfide compound that is produced in small quantities in cells, and functions naturally as a co-enzyme in the pyruvate dehydrogenase and alpha-ketoglutarate dehydrogenase mitochondrial enzyme complexes. In pharmacological doses, LA is a multifunctional antioxidant. LA has been used in Germany for over 30 years for the treatment of diabetes-induced neuropathy. In patients with type 2 diabetes, recent studies have reported that intravenous (i.v.) infusion of LA increases insulin-mediated glucose disposal, whereas oral administration of LA has only marginal effects. If the limitations of oral therapy can be overcome, LA could emerge as a safe and effective adjunctive antidiabetic agent with insulin sensitizing activity.

***Oral treatment with alpha-lipoic acid improves symptomatic diabetic polyneuropathy: the SYDNEY 2 trial.***

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**OBJECTIVE:** The aim of this trial was to evaluate the effects of alpha-lipoic acid (ALA) on positive sensory symptoms and neuropathic deficits in diabetic patients with distal symmetric polyneuropathy (DSP). **RESEARCH DESIGN AND METHODS:** In this multicenter, randomized, double-blind, placebo-controlled trial, 181 diabetic patients in Russia and Israel received once-daily oral doses of 600 mg (n = 45) (ALA600), 1,200 mg (n = 47) (ALA1200), and 1,800 mg (ALA1800) of ALA (n = 46) or placebo (n = 43) for 5 weeks after a 1-week placebo run-in period. The primary outcome measure was the change from baseline of the Total Symptom Score (TSS), including stabbing pain, burning pain, paresthesia, and asleep numbness of the feet. Secondary end points included individual symptoms of TSS, Neuropathy Symptoms and Change (NSC) score, Neuropathy Impairment Score (NIS), and patients' global assessment of efficacy. **RESULTS:** Mean TSS did not differ significantly at baseline among the treatment groups and on average decreased by 4.9 points (51%) in ALA600, 4.5 (48%) in ALA1200, and 4.7 (52%) in ALA1800 compared with 2.9 points (32%) in the placebo group (all P < 0.05 vs. placebo). The corresponding response rates (>=50% reduction in TSS) were 62, 50, 56, and 26%, respectively. Significant improvements favoring all three ALA groups were also noted for stabbing and burning pain, the NSC score, and the patients' global assessment of efficacy. The NIS was numerically reduced. Safety analysis showed a dose-dependent increase in nausea, vomiting, and vertigo. **CONCLUSIONS:** Oral treatment with ALA for 5 weeks improved neuropathic symptoms and deficits in patients with DSP. An oral dose of 600 mg once daily appears to provide the optimum risk-to-benefit ratio.

Some patients like to become more active and often ask if exercise will help their Diabetic Neuropathy, some will not but if they add exercise to their routines it will improve their outcomes.

***Exercise training can modify the natural history of diabetic peripheral neuropathy.***

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*BACKGROUND: Diabetes is the most important cause of peripheral neuropathy (DPN). No definitive treatment for DPN has been established, and very few data on the role of exercise training on DPN have been reported. AIM OF THE STUDY: We sought to examine the effects of long-term exercise training on the development of DPN in both Types 1 and 2 diabetic patients. PARTICIPANTS AND METHODS: Seventy-eight diabetic patients without signs and symptoms of peripheral DPN were enrolled, randomized, and subdivided in two groups: 31 diabetic participants [15 f, 16 m; 49+/-15.5 years old; body mass index (BMI)=27.9+/-4.7], who performed a prescribed and supervised 4 h/week brisk walking on a treadmill at 50% to 85% of the heart rate reserve (exercise group: EXE), and a control group of 47 diabetic participants (CON; 24 f, 23 m; 52.9+/-13.4 years old; BMI=30.9+/-8.4). Vibration perception threshold (VPT), nerve distal latency (DL), nerve conduction velocity (NCV), and nerve action potential amplitude (NAPA) in the lower limbs were measured. RESULTS: We found significant differences on Delta ( $\Delta$ ) in NCV for both peroneal and sural motor nerve between the EXE and CON groups during the study period ( $P<.001$ , for both). The percentage of diabetic patients that developed motor neuropathy and sensory neuropathy during the 4 years of the study was significantly higher in the CON than the EXE group (17% vs. 0.0%,  $P<.05$ , and 29.8% vs. 6.45%,  $P<.05$ , respectively). In addition, the percentage of diabetic patients who developed increased VPT (25 V) during the study was significantly higher in the CON than the EXE group (21.3% vs. 12.9%,  $P<.05$ ). Change on Hallux VPT from baseline to the end of the study was significantly different between the EXE and CON groups ( $P<.05$ ); no significant change in Malleolus VPT between the two groups occurred. CONCLUSIONS: This study suggests, for the first time, that long-term aerobic exercise training can prevent the onset or modify the natural history of DPN.*

For more information about the treatment of Diabetic Peripheral Neuropathy with High Power Laser Therapy or about Dr. Nelson Mane please visit our website at <http://www.manecenter.com/neuropathy.htm>.

Dr. Mane offers one on one consultations as well as Group Seminars for Diabetic Peripheral Neuropathy Sufferers. If you are interested in scheduling a consultation or to attend a seminar please call 813-935-4744.