

HELP FOR DIABETICS

Borage Oil Prevents and Reverses Nerve Damage

Clinical trials show that supplementation with this GLA-containing oil is a useful adjunct to conventional therapy

By Artur Klimaszewski, MD

Today, more than **18 million** North Americans have diabetes.¹

The American Diabetes Association reports that between 60 and 70 percent of those patients (approximately 10 to 13 million people) have some form of diabetic neuropathy – nerve damage caused by a prolonged imbalance in blood glucose levels.

Symptoms of diabetic neuropathy include **numbness** and sometimes



pain in the hands, feet, or legs.

Nerve damage can also affect

internal organs such as the digestive tract, heart, and sexual organs, leading to symptoms such as diarrhea, constipation, indigestion, dizziness, and bladder infection. **Neuropathy** can also lead to impotence, which afflicts approximately 9% of all diabetic men,

and 50-60% of those over



50. In severe forms, neuropathy can lead to lower

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limb amputations. In fact, diabetes is the most frequent cause of non-traumatic lower limb amputations. Each year, more than 56,000 amputations are performed among people with diabetes.²

The cost of diabetic neuropathy is enormous not only in terms of direct medical costs such as in-patient care, but also in terms of personal suffering and debilitation, decreased productivity due to absence from work, decreased earning potential due to disabilities, and increased accidents.

Conventional medicine offers no satisfactory treatment for diabetic neuropathy. Physicians generally recommend close monitoring of blood glucose levels over time as the best way to prevent the onset of neuropathy. In practice, however, it is extremely difficult to keep the glucose level

in an acceptable range at all times. Even the most conscientious diabetics therefore experience considerable fluctuation of blood glucose levels.

However, in the last 20 years, research with both animals and humans has demonstrated that supplementation with a natural source of Gamma Linolenic Acid (GLA) is an important factor contributing to prevention and improvement of neuropathy.

GLA is a naturally occurring fatty acid found in “good” oils such as Borage (also known as Starflower), Evening Primrose, and Black Currant. A healthy body may obtain GLA by converting dietary Linoleic Acid (LA) found in many processed foods, margarine, and vegetable oils. The body then uses GLA for building nerve structure. The metabolites of GLA are required for healthy nerve function.

In diabetes, characterized by fluctuations of glucose levels, the initial conversion of dietary Linoleic Acid to GLA is often impaired. The result is a lower level of GLA and its metabolites in the tissue.

The key is to restore GLA to normal levels through dietary supplementation.

The effects of GLA on diabetic neuropathy

To date, there have been three placebo-controlled human studies on the use of GLA in diabetic patients.

The studies consistently concluded that GLA has a beneficial effect on the course of diabetic neuropathy, as measured by peripheral nerve function, nerve conduction velocity, nerve capillary blood flow, and other factors.

Human trials began in 1986, when a group of researchers conducted a double-blind, placebo-controlled study with 22 patients.³ The treatment group received 360 mg of GLA per day for 6 months. All tested variables improved in the treatment group and worsened in the placebo group.

These results sparked further scientific interest in the subject. Two subsequent multicenter studies, including more than 400

A Case Study of Diabetic Neuropathy

While visiting her grandfather, a young girl played with miniature plastic toys around her grandfather's shoes. When called to the dinner table, the child left a tiny plastic toy inside his shoe. The grandfather had diabetes and was in poor control. He had neuropathy but tried to tough it out and not tell even his doctor.

The next morning, he put his shoes on as usual, and, for the next

several days, he walked with the plastic toy in the toe of his left shoe. He did not examine his feet every day, and the toy caused a wound that became infected. The infection progressed and entered the bone. Eventually, this man had to lose his leg to save his life.

– From the *Canadian Diabetes Association*

patients, obtained consistently positive results.

The first included 111 patients in 7 centers⁴, while the second included 293 patients in 10 centers⁵. The patients received 480 mg of GLA per day for one year. The researchers measured 16 parameters in all, including nerve conduction strength and speed, hot and cold thresholds, sensation, reflexes, and muscle strength.

After a full year of treatment, all 16 parameters showed favorable improvement as compared to the placebo group.

Laboratory research indicates that recovery of patients may be even more complete when GLA is used in conjunction with antioxidants.⁶

GLA will not eliminate the need to monitor glucose levels – but it is, without question, a helpful adjunct to conventional treatment of diabetic neuropathy.

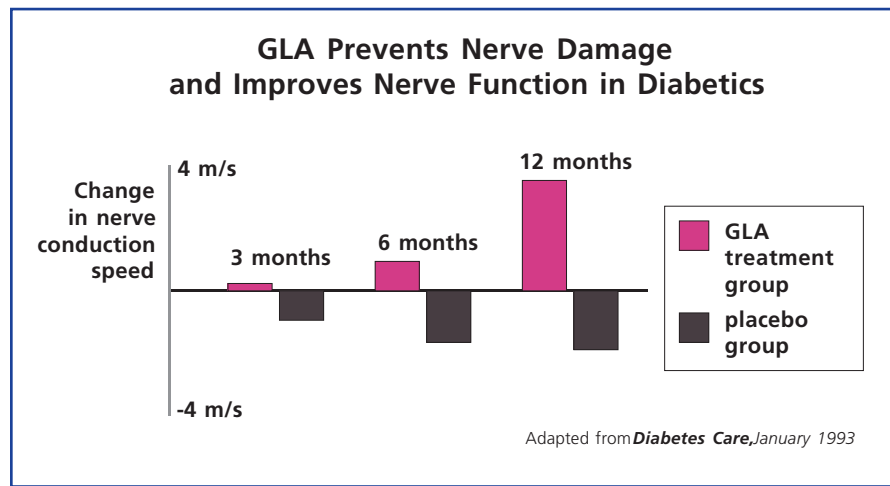
Getting the GLA you need

The best source of GLA is Borage (or Starflower) Oil, which contains up to 23% GLA. Evening Primrose Oil (8-10% GLA) and Black Currant Oil (15-17% GLA) are other sources of GLA. Because of the higher concentration of GLA in Borage, a patient may consume fewer capsules overall to achieve the

required dosage. This allows the patient to consume the least amount of supplemental calories and fat possible, which is of the utmost importance in diabetes. It also makes Borage Oil the most economical source of GLA. Clinical research indicates that a dosage of 500 mg GLA per day is effective – that's only 2 grams

of Borage Oil daily. Studies have shown that Borage Oil is safe and non-toxic, even in large amounts.

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