

Diabetic peripheral neuropathy: What role do biofactors play?

Diabetic peripheral neuropathy (DPN) is one of the most common secondary diseases of diabetes mellitus. Early diagnosis and holistic treatment strategies, including targeted supplementation with essential biofactors, can slow down the progression of the disease and improve quality of life.

DPN often develops gradually. Symptoms such as tingling, numbness, burning pain or increased sensitivity to touch - especially in the feet - are warning signs that should be taken seriously. The American Diabetes Association (ADA) recommends a structured approach to diagnosis that combines clinical examinations with simple screening tools.¹ Early diagnosis can help prevent secondary damage.

The role of biofactor deficiency and oxidative stress

The development of DPN is closely linked to oxidative stress, mitochondrial dysfunction and chronic hyperglycemia. This throws important cellular processes out of balance - particularly in the peripheral nerves. Studies show that patients with diabetes mellitus often have deficits in certain biofactors that are crucial for the function of the nervous system. These include above all:

- **Vitamins B1 and B12:** Essential for the regeneration and function of peripheral nerves. Deficiencies are associated with an increased risk of neuropathies.
- **Alpha-lipoic acid:** An endogenous, antioxidant substance that neutralizes free radicals and supports energy metabolism.
- **Vitamin D:** Plays a role in nerve conduction and immune modulation - low levels are frequently observed in people with DPN.
- **Magnesium and zinc:** Involved in numerous enzyme systems, antioxidant processes and insulin sensitivity.

In its current compendium, the ADA emphasizes the importance of an individualized therapeutic approach - especially for painful forms of DPN. Social and nutritional factors are becoming increasingly important in this context. Biofactors have the potential to positively influence the course of the disease and therefore play an important role in the therapeutic spectrum of DPN.

Literature:

¹ Pop-Busui R et al.: Diagnosis and Treatment of Painful Diabetic Peripheral Neuropathy. Arlington (VA): American Diabetes Association; 2022 Feb