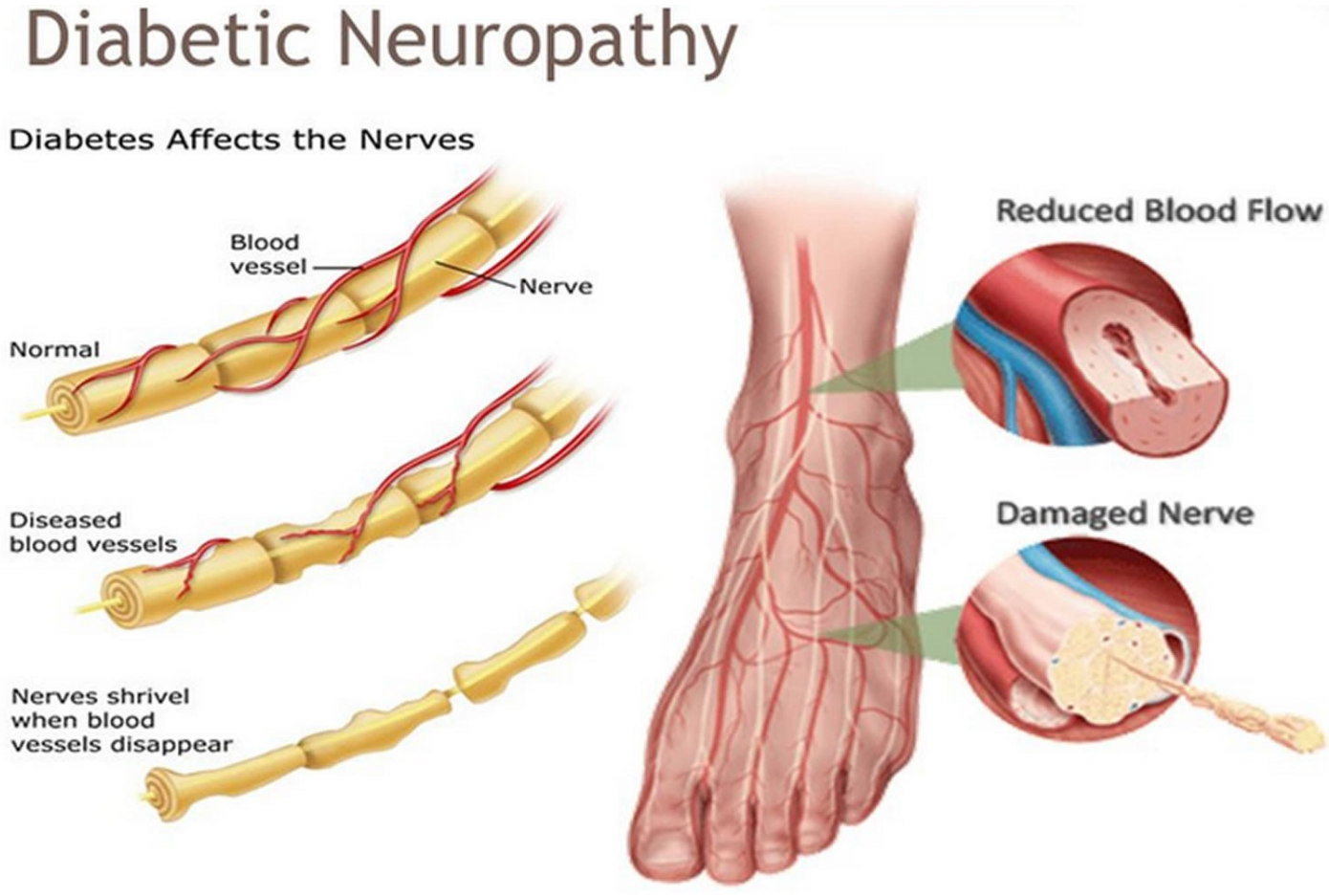
Medical PEMF Studies

DIABETES

The use of pulsed electromagnetic fields with complex modulation in the treatment of patients with diabetic polyneuropathy.



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Clinical and electroneuromyographic studies were performed in 121 patients with diabetic polyneuropathy (DPN) before and after courses of treatment with pulsed electromagnetic fields with complex modulation (PEMF-CM) at different frequencies (100 and 10 Hz). Testing of patients using the TSS and NIS LL scales demonstrated a correlation between the severity and frequency of the main subjective and objective effects of disease and the stage of DPN. The severity of changes in the segmental-peripheral neuromotor apparatus--decreases in muscle bioelectrical activity, the impulse conduction rate along efferent fibers of peripheral nerves, and the amplitude of the maximum M response--depended on the stage of DPN and the duration of diabetes mellitus. The earliest and most significant electroneuromyographic signs of DPN were found to be decreases in the amplitude of the H reflex and the Hmax/Mmax ratio in the muscles of the lower leg. Application of PEMF-CM facilitated regression of the main clinical symptoms of DPN, improved the conductive function of peripheral nerves, improved the state of Ia afferents, and improved the reflex excitability of functionally diverse motoneurons in the spinal cord. PEMF-CM at 10 Hz was found to have therapeutic efficacy, especially in the initial stages of DPN and in patients with diabetes mellitus for up to 10 years.

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