

## **Spinal Cord Stimulation in Peripheral Vascular Disease**

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The treatment of chronic peripheral vascular disease (PVD) is a challenge in vascular medicine, as morbidity and mortality are high in these patients. Vascular reconstructive surgery is the therapy of choice in patients with ischemic rest pain, nonhealing ischemic ulcers and gangrene. Nevertheless, patients remain in whom vascular surgery has no realistic chance of success, despite technical progress, an aggressive surgical approach and repeated vascular reconstructions. In these patients, ischemic pain is often disabling – adversely affecting their quality of life and severely limiting their activity level – and this, in turn, hinders treatment of their underlying disease. Such patients are at a high risk for amputation.

We retrospectively analyzed the data of 258 patients who received spinal cord stimulation for the treatment of peripheral vascular disease as a result of arteriosclerosis. The patients' clinical outcomes were monitored over a period of 18 months.

In patients with a low baseline transcutaneous oxygen pressure (TcPO<sub>2</sub>) value of <10 mmHg, limb survival at 18 months of follow-up (estimated using Kaplan–Meier survival analysis) was 77.8%, and this was even higher, at 89.5%, in patients with a medium baseline TcPO<sub>2</sub> value of 10–30 mmHg. This successful treatment was accompanied by a sustained increase in TcPO<sub>2</sub> values to approximately 30 mmHg in both of these groups. When looking at diabetic and nondiabetic patients, there is no difference in limb survival as a result of the treatment.

It is concluded that SCS is an effective therapy in improving limb survival in patients with peripheral vascular disease. In addition, TcPO<sub>2</sub> values at baseline may be a useful predictor of treatment outcome.