

MRN helps quantify peripheral nerve involvement in MS

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(HealthDay)—Patients with multiple sclerosis (MS) have peripheral

nerve involvement that can be visualized and quantified by high-resolution magnetic resonance neurography (MRN), according to a study published online Oct. 10 in the *Annals of Neurology*.

Johann M.E. Jende, M.D., from Heidelberg University Hospital in Germany, and colleagues compared 36 patients diagnosed with MS with and without disease-modifying treatment to 35 healthy age- and sex-matched volunteers. All patients underwent detailed neurological and electrophysiological examinations, and 3 Tesla MRN was performed.

The researchers found that all MS patients had T2w-hyperintense [nerve](#) lesions, with a mean lesion number at thigh level of 151.5 ± 5.7 versus 19.1 ± 2.4 in controls. Compared with controls, MS patients had higher nerve proton-spin-density (tibial/peroneal: $371.8 \pm 7.7/368.9 \pm 8.2$ versus $266 \pm 11/276.8 \pm 9.7$). Controls had significantly higher T2-relaxation time (tibial/peroneal: $82 \pm 2.1/78.3 \pm 1.7$ versus $64.3 \pm 1/61.2 \pm 0.9$). Compared with controls, MS patients had higher proximal tibial (52.4 ± 2.1 versus 45.2 ± 1.4 mm²) and peroneal nerve caliber (25.4 ± 1.3 versus 21.3 ± 0.7 mm²).

"Peripheral nerve lesions could be visualized and quantified in MS in vivo by high-resolution MRN," the authors write. "By showing involvement of the peripheral nervous system in MS, this proof-of-concept study may offer new insights into the pathophysiology and treatment of MS."

Alnylam Pharmaceuticals partially funded the study, and one author disclosed financial ties to Siemens Healthcare.

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