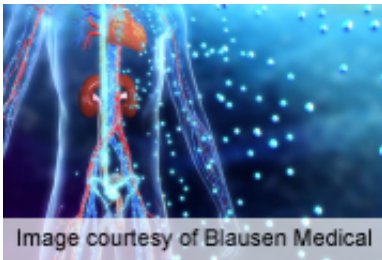


# Exercise can up reinnervation capacity in metabolic syndrome

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(HealthDay)—For patients with metabolic syndrome, supervised exercise can improve cutaneous regenerative capacity, according to a study published online Nov. 12 in the *Annals of Neurology*.

The study authors note that capsaicin application for 48 hours induces cutaneous fibers to die back into the dermis and re-growth can be monitored by intraepidermal nerve fiber density (IENFD). With this in mind, J. Robinson Singleton, M.D., from the University of Utah in Salt Lake City, and colleagues used the capsaicin axotomy technique to examine the effects of [exercise](#) on cutaneous regenerative capacity in patients with [metabolic syndrome](#).

The authors compared baseline ankle IEFND and 30-day cutaneous regeneration after thigh capsaicin axotomy among 35 participants with type 2 diabetes and 32 with metabolic syndrome. Thirty-six participants

(17 with metabolic syndrome) underwent an exercise intervention, including twice weekly observed exercise and lifestyle counseling. In month four during the intervention, axotomy regeneration was repeated.

The researchers found that for participants in both metabolic syndrome and diabetes groups, baseline distal leg IEFND was significantly reduced. Participants significantly improved [exercise capacity](#) and lower extremity power with exercise. The 30-day reinnervation rate improved following exercise ( $P = 0.002$ ). A greater degree of 30-day reinnervation was seen for those who achieved improvement in more metabolic syndrome features ( $P$

"The results underscore the potential benefit to peripheral nerve function of a behavioral modification approach to metabolic improvement," the authors write.

**More information:** [Abstract](#)  
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