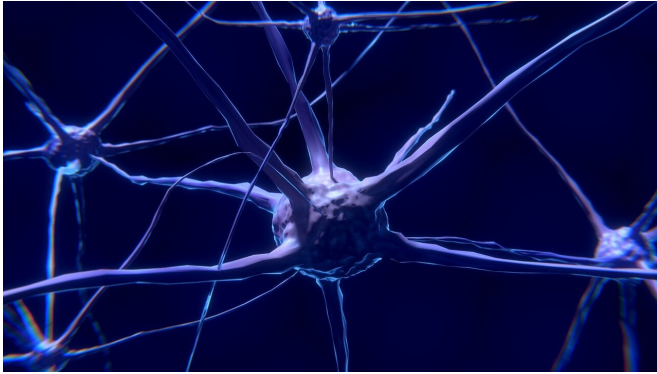


Imaging nerve regeneration provides insight to success of repair

31 January 2020, by Leigh MacMillan



regeneration, distinguish successful from unsuccessful repairs earlier and identify cases that require reoperation.

More information: Isaac V. Manzanera Esteve et al. Probabilistic Assessment of Nerve Regeneration with Diffusion MRI in Rat Models of Peripheral Nerve Trauma, *Scientific Reports* (2019). [DOI: 10.1038/s41598-019-56215-2](https://doi.org/10.1038/s41598-019-56215-2)

Provided by Vanderbilt University

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When peripheral nerves are injured and surgically repaired, regeneration must occur in a timely fashion to restore sensory and motor function. Current methods for following nerve regeneration provide only limited information and may delay a needed second surgical intervention and lead to poor outcomes.

Richard Dortch, Ph.D., (Radiology and Radiological Sciences), Wes Thayer, MD, Ph.D., (Plastic Surgery), and colleagues evaluated the ability of diffusion [magnetic resonance](#) imaging (MRI) methods to monitor nerve regeneration after injury and repair in an animal model. The investigators compared cut injuries that were surgically repaired to crush injuries that spontaneously heal.

They determined that diffusion MRI distinguished successful from unsuccessful repairs and validated their model against behavioral and pathological findings.

The study, published in *Scientific Reports*, suggests that diffusion MRI may provide a noninvasive approach to assess nerve

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