

Research offers hope in new treatment for spinal cord injuries

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Rutgers researchers have developed an innovative new treatment that could help minimize nerve damage in spinal cord injuries, promote tissue healing and minimize pain.

research is supported by grants from the New Jersey Commission for Spinal Cord Research and Quark.

After a [spinal cord](#) injury there is an increased production of a protein (RhoA) that blocks regeneration of nerve cells that carry signals along the spinal cord and prevents the injured tissue from healing.

Provided by Rutgers University

Scientists at the W.M. Keck Center for Collaborative Neuroscience and Quark Pharmaceuticals Inc. have developed a chemically synthesized siRNA molecule that decreases the production of the RhoA protein when administered to the spine and allows regeneration of the [nerve cells](#).

"It is exciting because this minimally-invasive treatment can selectively target the injured tissue and thereby promote healing and reduce pain," says Martin Grumet, associate director of the Keck Center and senior author of a recent study published in the *Journal of Neurotrauma*.

The neuropathic pain, also known as phantom pain that occurs as a result of a spinal cord injury is often associated with an increased production of RhoA. When researchers injected the chemically synthesized molecular substance into the spinal cords of laboratory rats with spinal cord injury using a procedure similar to a spinal tap, there was an overall improvement in tissue healing and recovery.

More than 250,000 people in the United States are living with a spinal cord injury and currently there is no way to reverse the damage. No drugs for early treatment of spinal cord injury have been approved in over a decade. Based on this joint research, Quark Pharmaceuticals, Inc now has a drug development program for the treatment of spinal cord injury and [neuropathic pain](#). This new

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