

# Cancer drug study gives hope for improving spinal cord injuries

On behalf of Johnston, Moore & Thompson

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A preliminary but very exciting medical research study could provide hope for many victims of [spinal cord injuries](#). At low doses, the cancer drug Taxol (paclitaxel), which is already approved at high doses for human use in chemotherapy, was shown to stimulate the growth of nerve cells and reduce nerve scarring in rats whose spinal cords had been injured.

After a spinal cord injury, nerve cells known as axons are damaged and they can't be healed or re-grown with current medical knowledge. What that means for people who have suffered spinal cord trauma is that there is typically an upper limit to the amount of improvement they can expect from medical treatment and physical therapy. Since a serious injury to the spine can cause paralysis, paraplegia or even quadriplegia, a traumatic spinal cord injury is often a permanent, life-changing event.

Researchers at the Max Planck Institute of Neurobiology in Germany theorized that Taxol might be able to change that by taking away some of the factors that inhibit re-growth of spinal axons. When they treated rats with spinal injuries with Taxol, the researchers found that the drug both reduced nerve scarring and stimulated re-growth more than a placebo.

## **Injured rats' ability to walk improved on Taxol, but researchers urge caution**

After six weeks of Taxol treatment, the researchers tested the ability of the rats to walk over sticks, which is a task healthy rats can perform easily but rats with specific spine injuries cannot. The rats treated with Taxol showed significant improvement in their ability to walk.

However, the researchers do not believe the effect of Taxol alone was dramatic enough to be used as a stand-alone treatment. Also, it is not known whether human spinal nerves would respond the same way and, if they did, if human patients could expect improvements in mere weeks or months.

Nevertheless, the research is exciting because it is a novel approach to treating [spinal cord injuries](#) and opens up a whole new area of potentially promising study. Even marginal improvements show that the strategy could work, even if Taxol does not ultimately turn out to be the best drug to carry out that strategy.

The fact that Taxol is effective is also exciting because it is already approved for use in humans, which means that its effect on humans is relatively well established. If scientists decide to test

Taxol on human beings with spinal cord injuries, the process for getting clinical trials approved could go faster than with an experimental drug.

**Source:** msnbc.com, "[Cancer drug may help spinal cord injuries](#)," Rachael Rettner, January 27, 2011