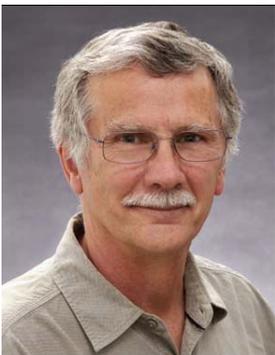


PROJECT FACT SHEET

Improving Reflex Bladder Function in People with Spinal Cord Injuries

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John Downie

After a spinal cord injury, new nerves sprout below the level of the injury. Recent research links these nerves to problems with reflex bladder function in people who have suffered a spinal cord injury. Two scientists from Dalhousie University have found that chemically disrupting the nerves that develop post-injury may help restore reflex bladder function in Canadians with spinal injuries.

People who have had severe spinal cord injuries develop new nerves that change how the bladder is emptied. However, this new process of reflex emptying does not always efficiently empty the bladder and can lead to additional health problems.

The failure of the bladder reflex in people who have experienced a spinal cord injury was explored recently by John Downie, professor in the Departments of Pharmacology and Urology, and Victor Rafuse, an associate professor in the Department of Anatomy and Neurobiology, both at Dalhousie University. In their study, which involved transected rats, the researchers discovered that reduced efficiency in reflex emptying correlates to the sprouting of afferent nerves (nerves that send messages from the organs and tissues of the body to the central nervous system) below the level of a spinal cord injury.



Victor Rafuse

They found that by chemically disrupting areas of these newly sprouted nerves in the animals, they were able to improve the efficiency of bladder emptying. “While still in experimental stages, this research opens a line of investigation with great potential for helping those with spinal cord injuries by managing the development of new circuits that develop below a spinal cord injury,” notes Dr. Rafuse.

“While we are still a long way from being able to ‘reconnect’ the spinal cord, animal research like this can lead to improved health outcomes for Nova Scotians that have experienced a spinal cord injury,” notes Dr. Downie.

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