

## Research In Focus: A Weekly Digest of New Research from the NIDILRR Community

### Complications Are Common During the First Year After a Spinal Cord Injury

A spinal cord injury (SCI) is damage to the spinal cord from an accident or other trauma. Depending on which part of the spinal cord is injured, people with SCI may lose some or all movement in their arms and legs (tetraplegia) or only in their legs (paraplegia). People with SCI may experience serious complications after completing their inpatient rehabilitation and moving back into the community. Some of the most common complications include urinary tract infections (UTIs), autonomic dysreflexia (AD, a dangerous rise in blood pressure), and pressure sores. In a recent NIDILRR-funded study, researchers looked at the rates of complications that people experienced during the first year after completing inpatient rehabilitation following an SCI. They wanted to find out which complications were more common and how many complications, on average, an individual developed during that first year. They also wanted to find out if people with tetraplegia or more severe spinal cord damage developed complications more frequently than those with paraplegia or milder damage.

Researchers at the [Northwest Regional Spinal Cord Injury System Center](#) looked at data from 169 people with SCI who were enrolled in a larger study between 2007 and 2010. All of the participants were at least 18 years old and had completed inpatient rehabilitation at the Northwest Regional SCI System within 1 year of their injury. The participants were classified as having either tetraplegia with motor limitations; paraplegia with motor limitations; or only mild motor limitations. The participants were interviewed by phone every three months during the first year after they finished inpatient rehabilitation. During each interview, they were asked whether or not they had developed any of eight different complications in the past three months: UTI, pressure sores, AD, blood clots, abnormal bone growth, muscle or bone injuries, other infections, and other bladder or bowel problems. The researchers counted the total number of complication events that each participant reported during the four interviews.

The researchers found that:

- The participants reported an average of 4.7 complication events and 2.33 complication types during the first year after discharge from the inpatient rehabilitation program. This means that on average, the participants experienced each type of complication twice.
- The most common complications were UTIs (62%), AD (43%), and pressure sores (41%). A third of the participants reported having at least one muscle or bone injury, or at least one bowel problem (such as constipation or blockage).
- The participants with tetraplegia and paraplegia experienced more frequent complication events than the participants with mild motor limitations, especially

UTIs and other bladder problems, AD, and pressure sores. The participants with tetraplegia had higher rates of AD than the participants with paraplegia.

The authors noted that, based on the results of this study, complications during the first year after an SCI may be more common than once thought. These complications can be serious, leading to rehospitalization. The authors noted that clear communication between a patient's primary care doctor and SCI specialists may help build a monitoring and treatment plan to prevent complications once the patient leaves an inpatient SCI rehabilitation program. This may be particularly important for people with more significant motor limitations. Educating patients about the early signs of complications while they are still in the rehabilitation program may also empower them to stay on top of their health.

### To Learn More

The Model Systems Knowledge Translation Center (MSKTC) offers a wealth of information resources for people with SCI and their care teams, including factsheets on these common complications:

- Autonomic Dysreflexia  
[http://www.msktc.org/sci/factsheets/autonomic\\_dysreflexia](http://www.msktc.org/sci/factsheets/autonomic_dysreflexia)
- Bladder Management Options Following SCI  
<http://www.msktc.org/sci/factsheets/bladderhealth>
- Urinary Tract Infection After SCI <http://www.msktc.org/sci/factsheets/urinary-tract-infection>
- Skin Care and Pressure Sores in SCI  
<http://www.msktc.org/sci/factsheets/skincare>

The University of Alabama at Birmingham SCI Model System Center offers an 11-part video series on secondary conditions of SCI: <http://www.uab.edu/medicine/sci/uab-scims-information/secondary-conditions-of-sci-health-education-video-series>

For medical and rehabilitation professionals, the Spaulding Hospital-New England Regional SCI Center offers the New England SCI Toolkit, designed as an educational tool for use after acute rehabilitation to help improve functional outcomes while decreasing the frequency of complications associated with paralysis for people with SCI. <https://www.gaylord.org/Our-Programs/Spinal-Cord/Spinal-Cord-Injury-Model-System/Spinal-Cord-Injury-Toolkit>

### To Learn More About This Study

Stillman, M.D., Barber, J., Burns, S., Williams, S., and Hoffman, J.M. (2017) [Complications of spinal cord injury over the first year of discharge from inpatient rehabilitation](#). Archives of Physical Medicine and Rehabilitation, 98(9), 1800-1805. This article is available from the NARIC collection under Accession Number J76873.

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