Chronic Health Conditions in Persons with Spinal Cord Injuries

Spinal cord injury (SCI) is a traumatic disorder resulting in changes in physical function. Besides changes in mobility, persons with SCI are at risk for developing chronic health conditions (CHC). CHC in SCI is often associated with the rapid onset of disorders such as coronary artery calcification, stroke, cancer, hypertension, cardiovascular disease, and diabetes. These disorders occur with aging, but people with SCI show “premature aging” — a more rapid onset of age-associated CHC. Given the lack of research on the onset of CHC in persons with SCI, researchers aimed to measure the lifetime rate of CHC among adults with chronic SCI. Researchers predicted that CHC will increase with injury severity, and that there would be more CHCs with age and time living with SCI.

A total of 1,678 people with chronic SCI from a rehabilitation hospital in the southeastern United States took part in this study. As seen in the graph above, researchers found an increased risk of developing diabetes as the individual aged. Yet, as injury severity increased, the chance of developing hypertension and high cholesterol decreased. This is most likely related to the lack of mobility associated with more severe SCI, which is more associated with lower blood pressure. It was also found that those living longer with SCI were more likely to report having cancer and hypertension. Finally, the rate of CHC increased with age.

Although more research is needed, we found rates of CHCs in SCI to be like those found in the general population. While this risk increased with age, researchers did not see a relationship between CHC and years’ post-injury. Clinicians should be aware of the risk of CHC in persons with SCI and screen for those conditions related to SCI.
5,000th Participant Announcement

We would like to share a couple of milestones with you from our research on spinal cord injury (SCI). The first milestone is from our work on the Longevity after Injury Project, which focuses on health, function, and quality of life, and the second is from our Beyond 90 Days program of research focused on employment.

Study of spinal cord injury reaches 5,000 participants!

We are very excited to share that our study of health outcomes and longevity after SCI now exceeds 5,000 participants. This study includes people who were enrolled in Georgia, South Carolina, and Minnesota. This is a tribute to the partnership among our funding agents, staff, and our research participants, all of whom are working together to help us better understand and promote the best possible health among people with SCI.

New study has begun on quality employment throughout the lifecycle after spinal cord injury!

Last month, we began collecting data for a new study on quality employment outcomes throughout the lifecycle after SCI. The unique aspect of this study is the focus on the quality of employment, rather than simply whether someone is employed. We hope to identify the role of facilitators and barriers to employment, as well as learn from those who have had great success vocationally throughout their lifetime. The information will be used to help policymakers allocate resources to help people with SCI and other disabilities to achieve the best possible outcomes.

NARRTC Best Paper Award Finalist

Dr. Yue Cao has been selected as one of the three finalists for the NARRTC Best Paper Award for his paper, “Environmental barriers and subjective health among people with chronic spinal cord injury: A cohort study”. Moreover, former employee and current PhD candidate at MUSC, Elizabeth Brown, was a co-author on this manuscript. The winner will be announced during the awards ceremony at the conference. Congratulations on this great accomplishment, Dr. Cao!
Where Are They Now?

**Jasmine Lucas**

Jasmine is currently a graduating senior at Spelman College, where she is obtaining her Bachelor of Arts degree in psychology, with a minor in public health. Jasmine was recently accepted, and plans to attend, the Masters of Public Health program at Emory University’s Rollins School of Public Health. Upon attaining her MPH, Jasmine plans to continue her education by pursuing a PhD program in Epidemiology. As a result of her participation in the MUSC Summer Undergraduate Research Program, under the direction of Dr. James Krause and Dr. Chao Li, Jasmine gained valuable experience in refining her writing skills, gaining further understanding of statistics, and continuing to develop her skills in writing professional manuscripts. Jasmine will be presenting her research findings from this summer internship at the Annual Biomedical Research Conference for Minority Students, located in Seattle, Washington, as well as at the Minority Access Conference in Baltimore, Maryland.

**Anne Gregory**

Anne participated in the Summer Undergraduate Research Program under the mentorship of Dr. Krause and was conducting research on depression rates among different racial-ethnic groups with spinal cord injury. During the summer program, Anne gained valuable experience learning about the process of academic research and getting involved in the spinal cord injury community. Her favorite part of the program was collaborating with MUSC faculty and other SURP students. After completing the SURP program, Anne graduated in December of 2015 from the University of Wisconsin-Madison with a Bachelor of Science in Rehabilitation Psychology. Beginning in the Fall of 2016, she will be pursuing her Doctorate of Physical Therapy at Northwestern University in Chicago, Illinois. She looks forward to starting her program and becoming a licensed physical therapist.
Welcome to the team!

We are happy to announce that we have four new team members, Aaron Haas, Alana McMichael, Jameka Rembert, and Laura Kline!

Aaron Haas is a new Program Coordinator, working with grant deliverables management and literature research. He obtained his masters degree in Experimental Psychology, with a concentration in social psychology, from Morehead State University.

Alana McMichael is a new Program Coordinator, working with data management and collection. She obtained her masters degree in Clinical Health Psychology from Appalachian State University.

Jameka Rembert is a new Program Assistant, working with data management and participant recruitment. She graduated from Webster University in 2009 with a masters in Counseling.

Laura Kline is a new Program Assistant, working with social media and data management. She graduated from Johnson State College with dual-bachelor degrees in Fine Studio Arts and Psychology.

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RRTC Grand Rounds

On Tuesday, January 19, 2016, we hosted our quarterly SCI Grand Rounds for the Rehabilitation and Research Training Center (RRTC) grant. Our speaker was Dr. David J. Powell, MD, a Physical Medicine & Rehabilitation specialist at Roper St. Francis Rehabilitation Hospital.

Dr. Powell presented on “Non-traumatic Spinal Cord Injuries: Etiology and Outcomes”. He explained the details regarding identifying common causes of non-traumatic SCI, various outcome and complications differences between traumatic and non-traumatic SCI, as well as the morbidity and mortality of common causes associated with non-traumatic SCI.

The next SCI Grand Rounds presenter will be delivered by our own Dr. Chao Li on the topic of “The association between metabolic syndrome and pressure ulcer among people living with spinal cord injury” on April 26th, 2016! Make sure to regularly visit our website, Facebook, and LinkedIn pages for updates!

To view Dr. Powell’s PowerPoint slides, click here.
We are in the planning stages of several new important studies, many of which relate directly to issues raised by our participants. We hope to learn more about bone health, maintaining respiratory function, avoiding negative health spirals, and changing high risk behaviors such as smoking. Thank you all for your support!

**Websites:**
- Health, Employment, and Longevity Project
- Longevity After Injury Project
- Beyond 90 Days
- Facebook
- Blog
- LinkedIn

**Recent Publications**


