

SUMMER 2023



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## South Carolina Spinal Cord Injury Outcomes Database Study Health, Employment and Longevity Project NEWS & UPDATES

### Governor McMaster Awards SCI Researcher Prestigious Award

Our team members traveled to the state capital where James Krause, Ph.D, MUSC Associate Dean for Research and Distinguished Professor, received the Governor’s award for Excellence in Scientific Research. We wanted to take a moment to talk to the award recipient.

**Interviewer:** First of all, congratulations. Tell us what this award means to people with SCI and to you, personally.

**Award Recipient:** It’s hard to overstate the importance of the award to people with SCI because it puts SCI research on the same playing field as neurobiology, engineering, and physics. It supports the importance of the South Carolina SCI research fund: identifying the needs of people with SCI in South Carolina and conducting research geared toward better understanding the impact of SCI. Personally, it is gratifying to know, in the eyes of so many other professionals, that our research is making a difference.



**Interviewer:** There is a lot of focus on curing SCI, but over 200,000 are affected by it today in the United States alone. How does your work help those people right now?

**Award Recipient:** We identify the types of problems people experience from SCI injury-onset throughout their life cycle, and factors that may either facilitate or serve as barriers to leading a full, long life. That information is shared with people with SCI to help them make the best decisions for themselves. It informs people who are clinicians to work more effectively with people with SCI and gives policymakers a better understanding of SCI needs.

**Interviewer:** What do you hope to accomplish over the next several years?

**Award recipient:** Given our current projects, I am hopeful that we can better understand how opioids and other medications impact people with SCI. Life changes affect those with SCI differently than they do people in the general population. We are seeking to better understand and promote higher quality employment opportunities and to help people avoid negative health spirals that may become life changing or, worse, life-threatening. We particularly wish to do more to share our findings with those who have SCI so they may ultimately benefit from our work.

<https://www.abccolumbia.com/2023/07/19/excellence-in-science-awards-presented-at-state>



**”Over half (53%) of the individuals filled an opioid prescription in years 2–3 after injury (66% were male, 57% were white, 59% had cervical SCI, and 44% were aged 40–64 years, 31% were younger than 40 and 25% were older than 65”**

## Research Highlight

### Assessment of high-risk opioid use among individuals with spinal cord injury: A brief report

#### Here’s What we Found

Prescription opioid use (POU) in the general population is roughly 12% and increases with those who report chronic and high-impact chronic pain, up to about 42%, according to a 2023 study by Zajacova and colleagues. We found over 50% of our participants use opioids, highlighting a need to continue to examine the drug’s use among those with spinal cord injury (SCI) and how to improve prescription practices and identify individuals at risk of serious negative outcomes. Continued study is necessary to improve our understanding of prevalence, patterns, predictors, and consequences of opioid and high-risk opioid use, as well as interactions with other medicines such as benzodiazepines (for example, xanax, valium), sedatives, and hypnotics.

Opioids are a class of drugs that reduce pain. They can be very effective but also dangerous. *High-risk opioid use* is defined by dose and duration. Using other medicines like benzodiazepines, sedatives, or hypnotics can increase the dangers of opioid use. High-risk opioid use is associated with increased likelihood of unwanted outcomes including misuse, overdose, and death. Our goal was to examine high-risk opioid use among individuals with SCI living in South Carolina. We used two statewide population-based databases, the SCI Surveillance Registry and the State Prescription Drug Monitoring Program. We included 503 individuals who were injured in 2013 or 2014 and who survived at least 3 years post-injury.

#### Key Findings

- Over half (53%) of the individuals filled an opioid prescription in years 2–3 after injury.
- Of those, 66% were male, 57% were white, 59% had cervical SCI, and 44% were aged 40–64 years, 31% were younger than 40 and 25% were older than 65.
- Nearly half (47%) of those who filled an opioid prescription had a fill for *chronic opioids*, defined as  $\geq 60$  day supply in the quarter. In any given quarter over the study period, 52%–63% were prescribed chronic opioids, and that percentage increased over time.
- In any given quarter, 39%–49% of the individuals prescribed chronic opioids had a daily morphine milligram equivalent (MME)  $\geq 50$ , and approximately 25% (range 23%–31%) of the individuals had daily MME  $\geq 90$ .
- 38% of those with opioid prescriptions also had a concurrent prescription for benzodiazepines, sedatives, or hypnotics. Benzodiazepines were the most commonly filled together with opioids (76%).
- In any given quarter, 34%–40% of individuals prescribed chronic opioids ( $\geq 60$  days) also had chronic concurrent benzodiazepines, sedatives, or hypnotics prescriptions ( $\geq 60$  days).



**“We are analyzing the data to identify SCI outcomes related to COVID-19”**

## South Carolina SCI Study Updates

### South Carolina Spinal Cord Injury Outcomes Database Study

We continue to **collect new data** for the South Carolina SCI Outcomes Database. During the current data collection cycle, which began on February 9, 2022, we have enrolled 34 baseline participants with recent SCI (1.5 to 2 years post injury), identified through the state surveillance system. There have been 221 follow-up assessments completed (3, 4, 5, 10, 15, 20 and 25 years post-injury) by people with SCI who have been tracked since COVID-19 started in March 2020. We are analyzing the data to identify any SCI outcomes related to COVID-19.

For example, in one of our previous studies, we found that 51.4% of participants reported that COVID-19 restrictions negatively impacted their community participation.

We continue to partner with you and ask you help by continuing to complete the surveys we send. In turn, we will analyze the data, share our findings and continue to find ways to positively affect life quality for those with SCI and their loved ones.

We post newsletters and other types of research materials on our website:

<https://chp.musc.edu/research/help/tools>

We can't do it without you!

## ADA Anniversary

### Straight from The White House Website

“Thirty-three years ago, the Congress passed the Americans with Disabilities Act (ADA) — one of the most important civil rights laws in our history. Its tireless champion, Senator Tom Harkin of Iowa, celebrated with a speech on the United States Senate floor in American Sign Language. His remarks were not only a tribute to his brother, who was deaf, but a message to the millions of Americans with disabilities that, in this country, everyone is equal and deserves to be treated with dignity and respect. I was proud to co-sponsor that landmark law back then, and I am proud to celebrate its lasting legacy with a renewed push for opportunity and justice today.”

Celebrate. Learn. Share.  
**ADA 33** ★ ★ ★ ★ ★  
 ★ 1990 - 2023 ★ ★ ★ ★ ★  
 Americans with Disabilities Act

## Recent Publications

The following manuscripts were recently accepted for publication in upcoming professional journals:

DiPiro, N. D., Murday, D., & Krause, J. S. (2023). Assessment of high-risk opioid use metrics among individuals with spinal cord injury: A brief report. *The journal of spinal cord medicine*, 46(4), 687–691. <https://doi.org/10.1080/10790268.2022.2084931>

Krause, J. S., & Jarnecke, M. (2023). Perceived impact of the COVID-19 pandemic among people with spinal cord injury: A descriptive study. *Archives of rehabilitation research and clinical translation*, 100271. Advance online publication. <https://doi.org/10.1016/j.arrct.2023.100271>

## EPOC Seminar to Improve SCI Functioning: Really Cool!

“...to understand the human central nervous system’s plasticity (ability of the nervous system to change its neuron-to-neuron connections and thereby its function) as it relates to movement control...”



The above-quote from the EPOC lab suggests neurological injuries may be more dynamic than we once thought: that the body is an incredibly adaptive machine. Let’s hear from the EPOC Team:

“The Evoked Potential Operant Conditioning (EPOC) Laboratory, led by Dr. Aiko Thompson, held an SCI Retreat on Saturday, June 24 at New Realm Brewing. The event was organized to show appreciation for participants and clinicians who volunteer time to contribute to research in the EPOC Lab, open dialogue about the lived experience of SCI with the community, and invite participation in research. Speakers informed the audience about state and local resources, including South Carolina Spinal Cord Injury Association, Lowcountry Breeze Support Group, and MUSC’s NRI and NEXT; and Dr. Krause and Dr. Thompson presented information about their ongoing research. About 50 people attended the event.”

### SCI Association of South Carolina

The Breeze Peer Support group brings together people who are experiencing or have experienced SCI. It provides opportunities to get out of the house, fellowship, meet new people, and learn about things pertaining to spinal cord injury. Breeze groups also gather for fun activities and outings.

For information about SCI support groups in your area, push your control button and click on this link:

<https://www.scspinalcord.org/peersupport>