

# Coping With A Spinal Cord Injury

Where To Turn

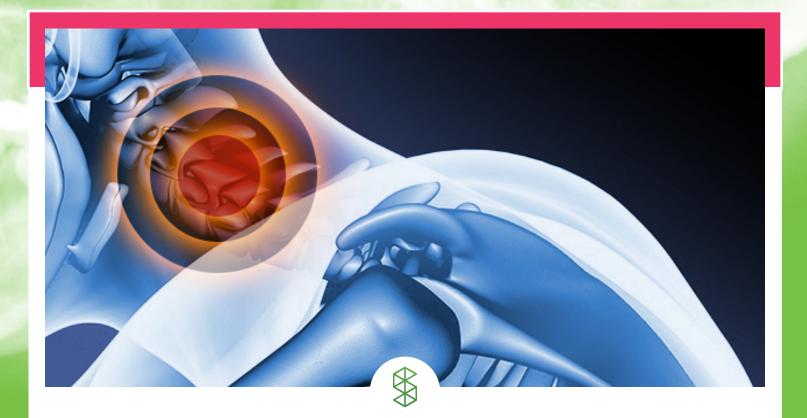


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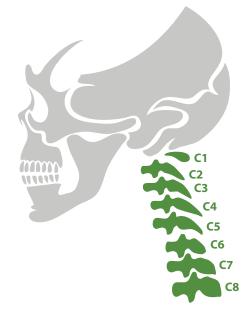


If you're reading this, then chances are that you or someone you care about has suffered a spinal cord injury (SCI). The impacts of SCI can vary from one person to the next, and no two cases are perfectly alike. According to information from the National <u>Spinal Cord Injury</u> <u>Statistical Center</u> (NSCISC), in the USA alone, there are "approximately 17,000 new SCI cases each year." Hundreds of thousands of people live with spinal cord injuries in their daily lives—so you are not alone. In fact, many SCI survivors and their families have either formed or joined special support groups to help one another out.



# A Little About Spinal Cord Injuries (SCI)

There are many different kinds of spinal cord injury, and each one can cause different limitations to those who are injured. This is because there are many variables that can affect the severity of an injury. First, there are 31 separate nerve bundles that run throughout the vertebrae of the spinal column. These nerve bundles are separated into five major sections:



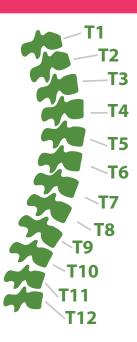
#### **The Cervical Spinal Cord**

There are eight nerve bundles in the first seven vertebrae of the spine. These are listed as the C1-C8 nerves.

# A Little About Spinal Cord Injuries (SCI) (cont.)

#### **The Thoracic Spinal Cord**

The next twelve vertebrae in the spinal column below the cervical vertebrae contain the thoracic spinal cord. These vertebrae have 12 nerve bundles and are labeled T1-T12.



#### The Lumbar Spinal Cord

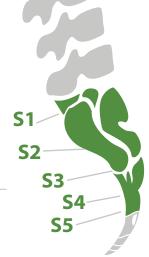
There are 5 large vertebrae near the base of the spine, labeled L1-L5. One interesting thing to note is that the spinal cord itself ends at the L2 vertebrae, although nerve bundles extend from the spine past that point.

#### **The Sacral Spinal Nerves**

L1

L5

The next 5 vertebrae below the lumbar vertebrae are called the sacrum. While technically 5 separate vertebrae, they are fused, so they don't move. There are 5 nerve segments here, labeled S1-S5.



#### The Coccygeal Spinal Nerve

This part of the spine has two vertebrae that are typically fused. However, there is only one spinal nerve here.



Coccygeal

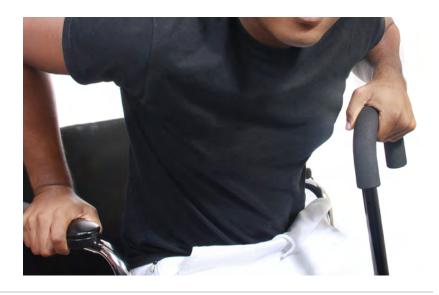
# A Little About Spinal Cord Injuries (SCI) (cont.)

The lower an injury is on the spine, the less limiting it usually is. However, location isn't the only thing that affects a spinal cord injury.

Injuries to the spine can fall into one of two categories:

#### **Incomplete Injuries**

Incomplete injuries mean that the spinal cord has only been partially severed or damaged. This means that the injured person could retain some function in nerves located below the injury site.



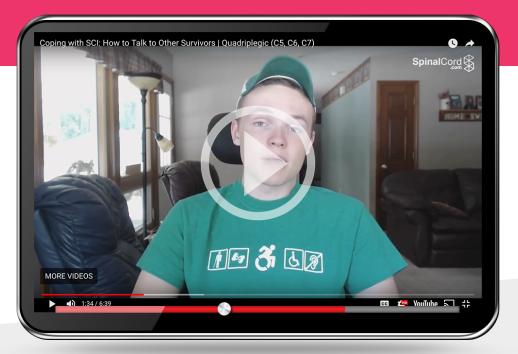


#### **Complete Injuries**

Complete injuries mean the spinal cord has been totally severed at the injury site—eliminating function for nerves located below the injury site. However, some treatments have helped people with "complete" injuries regain some lost function.

Generally speaking, a "complete" injury higher up on the spine is more limiting than an "incomplete" injury lower on the spine.

Life can be very different for incomplete and complete SCI survivors, so the specific methods required to cope can also be different. So, how can you cope if you or a loved one has suffered a spinal cord injury? While there is no one-size-fits-all solution, there are some things that others have done which could help you adapt to and overcome your injuries.



See how Mason and other survivors are able to modify their lives to better cope with a spinal cord injury.

# Watch Now

# **Coping with a Spinal Cord Injury**

Thousands of people have found ways to cope with their spinal cord injuries. From making modifications to their homes and routines to new technologies and treatments, to attending support groups and activity centers, these SCI survivors have found many great ways to deal with spinal injuries and lead healthy, active, and fulfilling lives.

Here are a few examples of coping strategies that others have used:

# **Daily Life Modifications**

Mason Ellis, a SCI survivor who was injured in a vehicular accident in January of 2015, spent a lot of his free time since his injury simply trying to figure out how to do many of the basic tasks he used to take for granted prior to his injury. In this, he was a lot like many other people who suffered a spinal cord injury. However, while he was figuring things out, he decided to create video logs about what he does and uploaded them to YouTube. Through these videos, Mason helps countless other SCI survivors make the daily life modifications that make coping with SCI a little bit easier. Some of the daily life modifications that Mason has suggested that you might find useful include:

#### Getting into a Routine

In the first year or so after being injured, you probably won't be used to how the injury affects you. This can leave you feeling a little overwhelmed. Also, this can lead to increased risk of harm from infections and injuries as you learn to adapt.



Mason recommends getting into a routine with activities such as catheterizing, taking medications, planning restroom breaks, eating, etc. to make things easier to manage. Creating a routine and sticking to it can make managing your condition easier. Also, the sooner these routines become a habit, the easier they'll be to maintain.

How does setting a routine help, exactly? Well, creating a routine for daily tasks helps make sure you don't forget something important like cleaning or replacing your catheter so you can avoid urinary tract infections (UTIs). Making health maintenance tasks like catheterization and taking your medications routine is vital to preserving your physical well-being.

### Learning to Rely on Your Support System

A spinal cord injury doesn't just change the life of the injured person; it changes the lives of everyone they're close to. It can take time for friends and family to learn how to deal with your injury—such as how they can help without being overbearing or figuring out what they should and shouldn't talk about with you.

The support system of friends, family, and caregivers that you have can play a vital role in your ability to recover and cope with a spinal cord injury. These people will help provide not just physical care and support, but the emotional support that makes all the difference in the world on those days where finding the motivation to get out of bed is tough.

Having a support system of loved ones and caregivers can help you build your positivity and sense of self-worth after an injury. This, in turn, makes it easier to get through the depression and anxiety that often accompanies a spinal cord injury.

Besides, having someone there to help you stay on your routine can make it easier to hold to it. So, don't feel you have to take everything on yourself. You can share your burden to make it easier to bear.

## Modifying Your Home for Easier Access

Getting around in a wheelchair is very different from walking from place to place. To make your dayto-day easier, you might want to make some major modifications to your home. Some helpful home modifications that Mason recommends to other SCI survivors include:

- Replacing your gravel walkway/driveway with pavement. Wheelchair caster wheels can get stuck in loose gravel—so replacing it is a good idea.
- Remodeling your kitchen. Removing the kitchen cabinets from under the sink and replacing the stovetop/oven combo with an independent cooking range lets your wheelchair roll under these objects, increasing accessibility. Also, using an oven that's designed to be put on an elevated surface can make it easier to use.





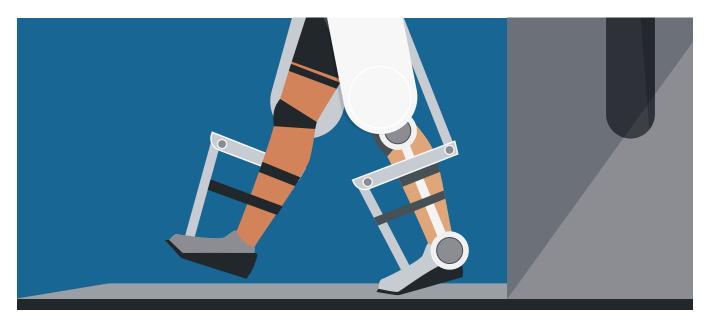
- Replacing deep carpet with tile. Just like loose gravel, wheelchair casters can get stuck in deep carpeting—making it very hard to move. So, consider removing your deep carpet and replacing it with tile or hardwood flooring.
- Widening doorways. A lot of standard doors—especially in older homes designed before the Americans with Disabilities Act was passed—just aren't wide enough to comfortably allow you to roll a wheelchair through. This is especially important if you have a manual wheelchair and don't want to constantly bang your knuckles on the doorframes of your home.

Making these and other modifications to your home can make your day-to-day routine a bit easier.

# Consider Using Technology to Help You Adapt

Thankfully, modern technology is continuing to advance—creating new solutions to the problems that people with paralysis in one or more limbs face. While many of the most exciting technologies are still undergoing development, they have enormous potential.

Some new technology innovations that could make life easier include:



# Mobility-Improving Exoskeletons

Companies like Hyundai are working on <u>exoskeletal robotic suits</u> that are offering those who are paralyzed from the waist down the chance to walk again. The Hyundai Medical Exoskeleton is a project that is currently in development with three major variations:

The HUMA (Hyundai Universal Medical Assist). This is the most "advanced" of the suits and provides aid to every limb—helping weak muscles. The HUMA is intended for the elderly who still have muscle control and suffer from weakened bones or muscles.

#### **⊘** The H-MEX (Hyundai Medical

**Exoskeleton).** This device is designed to help those with lower spinal cord injuries walk, stand, climb stairs, and sit. The lower-

leg exoskeleton allows users to control it via a pair of control sticks (canes)—basically replacing lost leg function with a pair of robot legs.

#### **⊘** The H-WEX (Hyundai Waist Exoskeleton).

This device is less robust than the H-MEX and is designed to merely assist the lower region of the body rather than replace lost function. The H-WEX is designed mostly as a support & safety device, not an aid for the paralyzed to walk again.

### Coping with a Spinal Cord Injury (cont.)

Of all these devices, the H-MEX is the most exciting for many paraplegics—as it's specifically designed to help them walk again. However, there is still a lot of research and development to be done, and the manual controls the device uses mean it can only be used by those who retain the use of their arms.

#### New-Generation Wheelchairs



Traditional "manual" wheelchairs have a lot of problems. Not only are they not very mobile (making it impossible to climb stairs and other uneven surfaces), they can cause repetitive motion stress disorder (i.e. carpal tunnel) in your arms and shoulders if you're not careful.

Electric wheelchairs that can move on their own have helped to alleviate the problem of carpal tunnel from trying to move around, though they still suffer from some severe mobility limitations. However, this is something that many innovative engineers are working to fix.

New-model wheelchairs are currently in development that introduce creative solutions to the mobility challenges faced by traditional wheelchairs. For example, a group of Master's degree students from the Swiss Federal Institute of Technology has been developing <u>a</u> <u>device called the Scewo</u> that can climb stairs with a retractable set of rubber treads.

This next-gen wheelchair can do a few other cool things, such as adjusting the seat height so you can be eye-level with people who are standing, or self-balance so you can get over bumps and curbs without falling or getting stuck.

The Scewo is still under development, and the team hopes to have it ready for mass production by the end of 2018. You can support the development right now <u>on Patreon</u>.

By supporting the research and development of exciting new technologies such as medical exoskeletons and next-gen wheelchairs that improve mobility rather than limiting it, we can help make coping with SCI a bit easier for everyone.



# Coping with a Spinal Cord Injury (cont.)

# Medical Treatments to Improve Mobility



Every day, pioneers in the field of medicine work to create new treatments for SCI survivors—or improve existing ones to be more effective. Some recent developments in medical treatments for spinal cord injuries are offering people with spinal cord injuries hope for the future.

For example, consider <u>epidural electric</u> <u>stimulation</u>. This procedure is a relatively new one where a special device is implanted below the site of a spinal cord injury between the vertebra and the spinal cord. An electrical current is emitted by the device, which can be modified using a separate remote control.

Early clinical trials have shown promising results. In one <u>Mayo Clinic & UCLA joint study</u>, a previously paralyzed patient was able to voluntarily move their legs for the first time in years.

David Hill, a SCI survivor of a C4/C5 injury that left him a quadriplegic, recently found out about epidural stimulation treatments—a treatment option that gave him hope and motivation to keep up with his physical therapy. Here at Spinalcord.com, we got the opportunity to talk with David about this new treatment and his hopes for the future.

Every day, David does an exercise routine with a Functional Electric Stimulation (FES) bike that uses electro pads to stimulate the muscles in his paralyzed arms and legs. This helps to both improve his physical health and keep his arms and legs from atrophying in the hopes that he will be able to use them to some degree once he is able to undergo the epidural stimulation treatment.





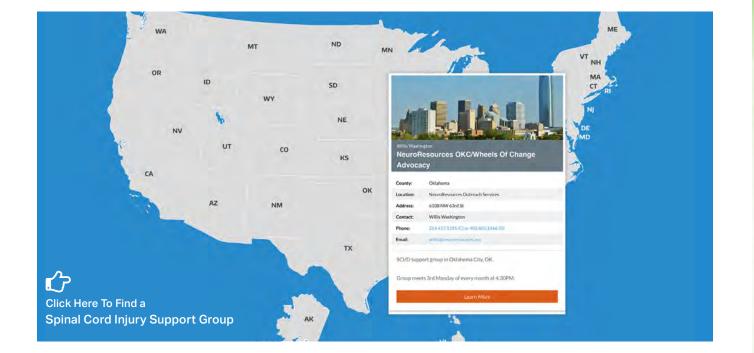
### Coping with a Spinal Cord Injury (cont.)

Unfortunately, David and many others who live with spinal cord injuries face one major challenge: getting access to and paying for treatment—especially new ones like epidural stimulation—is extremely difficult. All told, David needs to <u>raise nearly \$100,000</u> to pay for the procedure since his insurance provider won't cover it. As this and other medical treatments continue to evolve and become more accessible, there is hope that there will one day be a cure for paralysis. However, until then, it's important to learn more about how to cope with the limitations that spinal cord injuries force on survivors.

# Joining a Support Group

Sometimes, you really need to be able to talk to someone who really understands what you're going through. Thankfully, there are many support groups for SCI survivors that can provide not only helpful advice for coping with life after a spinal injury, but also a sense of camaraderie and community.

The existence of these groups helps prove that you are not alone. Many SCI survivors have found that joining these groups helps them stay positive, connected, and strong. While many hospitals and rehabilitation centers have support programs for both inpatients and outpatients, some areas might not have a local support group that can meet on a consistent basis. However, there are online groups as well that allow you to connect with others and share stories from the comfort of your home



# **Engaging in Activity-Based Therapy**

Being confined to a wheelchair day in and day out is not very conducive to recovery. Many people who have injuries to their spinal cord report frustration with being stuck in a chair for most of the day. However, SCI survivors like Todd Krieg and David Hill have found something that helps them both physically and mentally adapt to their injuries—activity-based therapy.

For David, attending activity-based therapy sessions is more than simple health maintenance. In fact, David once said in an interview that "Just getting out of the chair is such a relief. It's just really great for my mental state too."

Of course, attending activity-based therapy sessions has some physical benefits too. As David told Spinalcord.com when he was asked about how the therapy helped him: "I definitely gained more control of my trunk. Because, I wasn't able to hold myself up, but I can now if I have my arms to my side."





Todd Krieg is another SCI survivor who found activity-based therapy to be integral for not only his physical recovery/rehabilitation, but also for his emotional recovery. During his time at Project Walk (now NextStep), Todd learned the tips and tricks for getting around in his wheelchair, staying active, and being healthy, true. However, he also met his future wife, Amanda Diesen, who was a trainer working with Project Walk at the time.

Joining an activity-based therapy center offers a few different benefits. First, it promotes health and wellness. Second, taking the body through repeated everyday motions can help promote neuroplasticity to increase control over partially paralyzed limbs. Finally, it can improve mood by providing some freedom from the chair for a while.

# Learning from Other Survivors

Learning from what others have done after experiencing a spinal cord injury can help you make your own strategies for coping with this traumatic event. Our contributors, alongside many, many more, have been where you are and found ways to not only cope with their injuries, but also inspire others to overcome their injuries.

Every SCI survivor has a story worth sharing something that makes their experience unique, inspiring, and/or important.

This is something that Kelsey Peterson and Madeline Brown highlight in their documentary "The Cure Map." In this documentary, the two women travel the country talking to people in the SCI community as well as researchers who are working on treatments for spinal injuries. Through the film, the duo hopes to promote awareness of spinal cord injuries and inspire others to take action to end paralysis once and for all.

So, don't hesitate—reach out and join a support group, share your story, and get advice from someone who's been where you are now. There are plenty of SCI communities you can join.

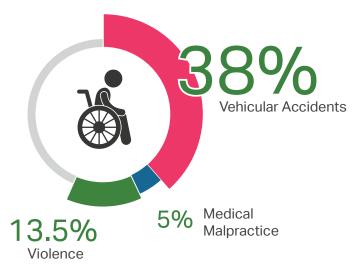




# Legal Options Following a Spinal Cord Injury

# Get the Compensation You Deserve

While it isn't always the case, many spinal cord injuries are the direct result of the negligence (or outright malevolence) of others. According to NSCISC data, vehicular accidents (38%), violence (13.5%), and medical malpractice (5%) are among the leading causes of spinal cord injury—accounting for 56.5% of all SCI cases when combined.



If you've suffered a spinal cord injury because someone else was irresponsible or actively meant to harm you, it's only natural to want compensation in return. They are the ones at fault for your medical bills, lost work, and other impacts from your injury, after all.

It may be possible to recover some of your expenses after suffering a spinal cord injury if it was the result of someone else's actions (or inaction). A lawyer that specializes in traumatic injuries will know exactly the questions to ask, the statute of limitations for your state, and can take a deep analysis of your specific situation. There may be details associated with the cause of your injury that you may not even realize make for a case.

# Legal Options Following a Spinal Cord Injury (cont.)

Collecting compensation for your injuries can lead to an improved quality of life postinjury by giving you the resources needed for better care, technology, home modifications, and more. With proper compensation, you'll have the resources to help you adapt to your condition. There are many legal issues that have to be considered before filing a spinal injury claim, including:

# The Statute of Limitations

After you've been injured, you only have a limited amount of time to file a claim against the responsible party. This statute of limitations varies from one state to the next, but missing this deadline can cause a case to be dismissed out of hand.

This means missing out on compensation that would otherwise help pay for expensive medical care. It's extremely unfortunate when a case could have been made sooner.



# **Collecting Evidence**

Proving a spinal cord injury case often involves a small mountain of paperwork and evidence. Without sufficient evidence, it can be difficult to receive proper compensation for your injuries. However, it takes time to collect this evidence. Some of the evidence you'll need to collect includes:

- Extent of the injury
- Ocause of the injury
- Damages incurred as a result of the injury (medical bills, lost wages, etc.)
- Tortfeasor's (person/organization being sued) liability for the injury

# Legal Options Following a Spinal Cord Injury (cont.)

# Determining if a Lawsuit is Feasible

Personal injury cases involving spinal cord injuries are incredibly complicated, with a lot of moving parts that have to be considered. Not only do you need evidence, it's important to be familiar with spinal cord injury claim law and recent legal rulings that might create new precedents.

Determining whether or not you have a feasible case can be difficult, which is why it's so important to talk to a lawyer who specializes in SCI cases—one who is willing to go into the minor details of your case to determine if there was negligence on the part of anyone involved.

For example, in an auto accident, it's possible that the guard rail that was hit was actually supposed to have been removed by the state. Or, maybe a tree that fell should have been removed earlier to prevent such an incident. These are some non-obvious instances of negligence that could be cause for legal action that an experienced attorney might be able to uncover.



Getting some input from an experienced spinal cord injury attorney is crucial for determining whether or not you have a case for filing a personal injury claim.

Don't wait until it's too late. Speak to a spinal cord injury specialist lawyer as soon as possible.



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