



# Spinal Cord Injury Overview & Practical Guide

A comprehensive resource designed for newly injured patients, families, and caregivers seeking practical guidance and hope. This guide covers essential information about spinal cord injuries, common complications, and tools to help navigate your journey toward recovery and adaptation.

Whether you are in the hospital or transitioning home, this resource provides clear, compassionate information to help you understand what lies ahead and how to take control of your health and well-being.

# Understanding Your Spinal Cord

The spinal cord is your body's main communication highway between your brain and the rest of your body. Think of it as a complex cable carrying three types of signals: **motor** signals for movement, **sensory** signals for feeling and sensation, temperature and pain, **autonomic** signals which regulate the function of internal organs and glands, and reflex arcs which allow for involuntary responses to stimuli.

Originating at the brainstem, at the base of the skull, the spinal cord runs down the center of the spine and ends in the lower back in a cone shape called the conus medullaris.

The spinal cord is organized into three segments that control different parts of your body. Understanding these segments helps you know what functions might be affected by injury at different levels.



01

## Cervical (C1-C8)

Controls neck, shoulders, arms, and hands

02

## Thoracic (T1-T12)

Controls trunk and abdominal muscles

03

## Lumbar (L1-L5)

Controls lower back, hips, and legs

04

## Sacral (S1-S5)

Controls pelvic organs and lower extremities



# Key Terms Made Simple

Medical terminology can feel overwhelming when you're already dealing with so much. Here are the most important terms you'll hear, explained in plain language to help you communicate effectively with your healthcare team.

## Complete vs. Incomplete

**Complete:** No sensation or movement below injury level

**Incomplete:** Some feeling or movement remains

## Paralysis Types

**Paraplegia:** Both legs affected

**Quadriplegia:** All four limbs affected

*-paresis* means partial paralysis or weakness

## Recovery Phases

**Acute:** Right after injury in hospital

**Spinal shock:** Temporary loss of reflexes

**Spasticity:** Involuntary muscle tightness later

# Autonomic Dysreflexia: A Medical Emergency

For injuries at T6 and above, autonomic dysreflexia (AD) is a life-threatening condition you must know about. Your blood pressure can spike dangerously high due to triggers below your injury level.

## ⊗ Emergency Warning Signs

- Severe pounding headache
- Flushed, sweating skin above injury
- Goosebumps below injury
- Vision changes or slow pulse



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### Call 911 Immediately

Don't wait - this is a medical emergency

2

### Sit Up at 90°

Helps lower blood pressure; loosen tight clothing

3

### Find the Trigger

Check catheter, bowel, skin, tight shoes or bands

# Common Complications: What to Watch For

Knowledge is power when it comes to preventing complications. Here are the most common issues after spinal cord injury and practical steps you can take to prevent or manage them.



## Infections (UTIs)

Watch for cloudy, foul-smelling urine, increased spasms, or fever. Stay well-hydrated and follow catheter care instructions carefully.



## Blood Clots (DVT)

Look for unequal leg swelling, warmth, or increased spasms. Use compression stockings and stay as active as possible.



## Pressure Injuries

Check your skin daily for red areas that don't fade when pressed. Change positions regularly and use proper cushioning.



## Spasticity

Muscle stiffness can be triggered by infections, tight clothing, or temperature changes. Daily range-of-motion exercises help.



# Managing Pain and Nerve Sensations



Nerve pain after spinal cord injury can feel like burning, tingling, or pins and needles. These sensations, called dysesthesias, happen because injured nerves become hypersensitive.

The pain often gets worse when you're tired, stressed, or fighting an infection. Understanding this helps you and your healthcare team develop better management strategies.

## Medication Options

Nerve pain medications work differently than regular pain relievers. Your doctor may prescribe anticonvulsants, antidepressants, or other specialized medications.

## Non-Drug Approaches

TENS units, relaxation techniques, biofeedback, and therapeutic exercises can all help manage chronic pain and improve quality of life.

## Comprehensive Care

The best pain management combines multiple approaches. Work with your healthcare team to find what works best for your specific situation.

# Circulation and Blood Pressure Issues

Spinal cord injury affects your body's ability to regulate blood pressure and circulation. Understanding these changes helps you manage symptoms and stay safe.

## Orthostatic Hypotension

Blood pressure drops when sitting up, causing dizziness or fainting. Rise gradually and use compression garments when upright.

## Temperature Regulation

Difficulty controlling body temperature. Layer clothing, avoid extreme temperatures, and never use heating pads on areas without sensation.

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## Poor Circulation

Weakened muscle pumps lead to swelling in legs and feet. Elevate legs above heart level during the day and use compression stockings.



### If You Feel Dizzy or Faint

Lie down immediately and raise your legs above heart level, or recline your chair to about 45 degrees with brakes locked. This helps blood flow back to your brain.

# Essential Equipment and Adaptive Tools

The right equipment can dramatically improve your independence and quality of life. Here's a practical overview of essential items and adaptive tools that many people find helpful. Visit our page to find some recommendations and where to get them.

## Kitchen & Eating

Built-up utensils, rocker knives, automatic jar openers, and one-handed cutting boards make meal preparation easier and safer.

## Mobility Accessories

Cup holders, phone mounts, push cuffs, and storage bags attach to your wheelchair to increase convenience and independence.

## Adaptive Clothing

Magnetic closures, seated-fit designs, and easy-access openings make dressing simpler while maintaining style and comfort.

## Bathroom Safety

Grab bars, shower chairs, handheld showers, and raised toilet seats provide safety and independence in the bathroom.

Remember: inclusion of any product doesn't equal endorsement. Always ask your occupational therapist or healthcare provider which items are appropriate and safe for your specific needs and level of injury.



# When to Seek Urgent Medical Care

Knowing when to seek immediate medical attention can be life-saving. Don't hesitate to call for help when you notice these warning signs - your safety comes first.



## Call 911 Immediately

- Autonomic dysreflexia symptoms (severe headache, flushing, high BP)
- Sudden chest pain or shortness of breath
- Signs of pulmonary embolism



## Seek Urgent Care

- New unilateral leg swelling or pain
- Fever with increased spasms or fatigue
- Pressure sores that don't improve in 24-48 hours



## Contact Your Team

- Cloudy or foul-smelling urine
- Persistent pain or discomfort
- Questions about medications or care

"Trust your instincts. You know your body better than anyone. If something feels wrong or different, don't hesitate to reach out for help. Your healthcare team is there to support you."

# Resources and Moving Forward

Recovery and adaptation after spinal cord injury is a journey, not a destination. You don't have to navigate this path alone - there are extensive resources, support networks, and expert guidance available to help you thrive.

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## Primary Resource Hub

Memorial Hermann TIRR provides comprehensive SCI resources, educational materials, and support services. Visit their website for the most current information and tools.

[Memorial Hermann TIRR Resources](#)

2

## Specialized Guides

Craig Hospital and University of Washington offer detailed factsheets on specific complications, equipment guides, and practical living tips written for patients and families.

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## Ongoing Support

Connect with peer mentors, join support groups, and stay informed about new research and treatment options. Your journey continues with hope and possibility.

✔ **Remember:** This guide is educational and not a substitute for personalized medical care. Always follow your healthcare team's recommendations and don't hesitate to ask questions about your specific situation.