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MADISON NEUROLOGY LLC

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Neurology Care 7 days a Week. Because Your Brain Matters.

Spinal Cord Injury

Patient education guide · Brain & Spine Injury and Other · Madison Neurology LLC

What is it?

A spinal cord injury (SCI) is damage to the cord within the spinal column — from trauma (vehicle collisions, falls, diving, violence) or non-traumatic causes (compression by stenosis, tumors, infection, or loss of blood supply). It causes loss of movement, sensation, and bladder/bowel/sexual function below the injury level. 'Complete' injuries spare no function below the level; 'incomplete' injuries preserve some — and carry better recovery potential.

How does it happen?

Trauma is the leading cause (vehicle crashes, falls — increasingly common in older adults with spinal stenosis who fall, gunshots, sports). Non-traumatic causes include severe cervical stenosis compressing the cord (cervical myelopathy), disc herniation, bleeding, infection, and spinal cord stroke. Osteoporosis and stenosis lower the threshold for injury.

Common symptoms

- Weakness or paralysis below the injury level (legs — paraplegia; all four limbs — tetraplegia/quadriplegia)
- Loss of sensation below the level
- Loss of bladder, bowel, and sexual function
- Breathing difficulty with high cervical injuries
- Autonomic dysreflexia in injuries at T6 and above: sudden dangerous blood pressure spikes triggered by bladder or bowel distension — patients and families must know this emergency

How is it diagnosed?

Emergency CT and MRI define the bone and cord injury. Neurological examination classifies the injury level and completeness (ASIA scale), which guides prognosis. Bladder, respiratory, and autonomic

assessments complete the picture.

How is it treated?

Acute care: surgical decompression and stabilization (ideally early), intensive management of blood pressure and breathing. Chronic care is a lifelong system: bladder and bowel programs (intermittent catheterization, scheduled routines) prevent kidney damage; skin care and pressure relief prevent wounds; spasticity and neuropathic pain are managed with medications (baclofen, gabapentin) and therapy; autonomic dysreflexia protocols are taught to every patient and family. Rehabilitation — physical, occupational, psychological, vocational — rebuilds maximal independence, with modern assistive technology (power mobility, environmental controls, exoskeletons, nerve-transfer and stimulation advances).

What does the future hold?

Recovery is greatest in the first 6-12 months and continues more slowly for 2+ years, especially in incomplete injuries, some of which regain substantial function. Life expectancy has improved enormously with modern bladder, skin, and respiratory care. Research — spinal stimulation, nerve transfers, regenerative approaches — is advancing, and specialized SCI centers deliver measurably better outcomes.

Questions patients commonly ask

Q: Will I walk again?

A: It depends on completeness and level: incomplete injuries often regain meaningful function; complete injuries rarely do — but intensive rehabilitation and technology maximize independence at every level, and research is genuinely progressing.

Q: What is autonomic dysreflexia?

A: A dangerous blood-pressure surge triggered below the injury level (usually a full bladder) in injuries T6 and above — pounding headache and sweating are warnings; sit up, find and fix the trigger, and seek emergency care if it doesn't resolve.

Q: Why is bladder care so emphasized?

A: Kidney damage from poorly managed bladders was historically the leading cause of death in SCI; modern bladder programs have changed that.

National support groups & resources

- **Christopher & Dana Reeve Foundation** — christopherreeve.org — 1-800-225-0292
- **United Spinal Association** — unitedspinal.org
- **Brain Injury Association of America** — biausa.org — 1-800-444-6443

(Organization contact details were current at the time of compilation; please verify online.)

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