

## Traumatic Spinal Cord Injury: Treatment and Practice Concepts

**Condition:** Traumatic spinal cord injury (SCI) means there is damage to spinal cord or nerves that run through the backbone (spine). Depending where the injury is and how severe it is, partial or complete loss of feeling and loss of control in just the legs (paraplegia) or both the arms and legs (tetraplegia) may be present.

**Background:** Over 12,000 SCIs occur each year, mostly from auto accidents. Other common causes of SCI include acts of violence, falls, and sports injuries.

**Risk Factors:** Men between the ages of 15 and 35 are most likely to have an SCI. The number of SCIs in persons over 65 years of age is increasing because of falls.

**History and Symptoms:** Details about how the injury occurred may help to determine injury severity and if there are other associated injuries. The paralysis that follows an SCI is usually sudden. There may also be problems with breathing, blood pressure, sexual function, mood or problems controlling the bladder and bowel.

**Physical Exam:** A physical medicine and rehabilitation (PM&R) physician, also known as a physiatrist, receives extensive training on how to examine and treat people with SCI. Your physician will perform a thorough examination including checking muscle strength, reflexes, and sensation.

**Diagnostic Process:** Imaging of the spine may include X-rays, CT scans and/or MRIs. Blood tests are usually obtained to assess if bleeding, infection or chemical abnormalities are present.

**Rehab Management:** PM&R physicians typically direct rehabilitation for SCI. The primary goals of rehab are to provide the patient and their families with education about SCI, improve function, maintain health and prepare for return to their community. Prevention of further injury or complications is crucial. This may include surgery to maintain spine stability very soon after the injury occurred, breathing devices or specialized programs and equipment to prevent injury to the skin while in bed or sitting. Problems with controlling urinating or bowel movements are addressed by giving patients and family education and training on how to manage that safely and effectively. Problems with sexual function are addressed and many people with SCI are able to have children. Physical therapy and occupational therapy work to increase strength, maintain joint flexibility, improve ability to mobilize and to care for themselves. Special devices, ramps, and other changes in the environment may be helpful. Medications may be used to address disorders that may be associated with SCI such as spasticity, depression and pain. Relatively new treatments and devices are being studied, such as specialized robotics and electrical stimulation that offer some promise to help people with SCI do more for themselves in their homes and communities. Regular long-term follow up appointments with a physiatrist will help identify potential late problems and permit early treatment.

**Other Resources for Patients and Families:** There are numerous associations that provide support and information for patients and families. The Paralyzed Veterans of America (PVA) provides support

and other resources on their website ([www.pva.org](http://www.pva.org)) for people with SCI and their caregivers. Your physician or care team may provide you with additional resources based on your needs.

## Frequently Asked Questions

### **What is PM&R?**

Physical medicine and rehabilitation (PM&R), also known as physiatry, is a primary medical specialty that aims to enhance and restore functional ability and improve quality of life to those with injuries, physical impairments or disabilities affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles and tendons. PM&R physicians, known as physiatrists, evaluate and treat the whole body, maximize patients' independence in their daily life and are experts in designing comprehensive, patient-centered treatment plans to empower patients to achieve their goals. By taking the whole body into account, they can accurately pin-point problems, decrease pain, assist in recovery from devastating injuries and maximize overall outcomes and performance with non-surgical and peri-surgical options. To learn more, visit [www.aapmr.org/aboutpmr](http://www.aapmr.org/aboutpmr).

### **What makes PM&R physicians unique?**

PM&R physicians' training focuses not just on treating medical conditions, but on enhancing the patient's performance and quality of life in the context of those medical conditions. They focus not only on one part of the body, but instead on the development of a comprehensive program for putting the pieces of a person's life back together – medically, socially, emotionally and vocationally – after injury or disease. PM&R physicians make and manage medical diagnoses, design a treatment plan and prescribe the therapies that physical therapists or other allied therapists perform or that are carried out by the patients themselves. By providing an appropriate treatment plan, PM&R physicians help patients stay as active as possible at any age. Their broad medical expertise allows them to treat disabling conditions throughout a person's lifetime.

### **Why see a PM&R physician?**

A PM&R physician will thoroughly assess your condition, needs, and expectations and rule out any serious medical illnesses to develop a treatment plan. By understanding your condition and goals, you and your PM&R physician can develop a treatment plan suited to your unique needs.

### **How do I find a PM&R physician near me?**

Visit [www.aapmr.org/findapmrphysician](http://www.aapmr.org/findapmrphysician) or contact your primary care physician for a referral.