

## Autonomic Dysreflexia in Spinal Cord Injury

**Condition:** Autonomic dysreflexia (AD) in spinal cord injury is a potentially life-threatening condition characterized by an intense response of the involuntary (autonomic) nervous system to any insult below the level of spinal injury, resulting in a sudden increase in blood pressure.

**Background:** Although any painful, irritating, or strong stimulus below the level of injury may cause increased blood pressure, the most common causes are bladder or bowel distention. Other causes include reflux disease, stomach ulcers, ingrown toenails, pressure ulcers, sunburn, blood clots, and broken bones.

**Risk Factors:** AD in spinal cord injury most often occurs in patients with injury at the mid-thoracic (T6) level or higher, although patients with lower injuries are also susceptible. The incidence of AD ranges from 48-90% of spinal cord injury patients.

**History and Symptoms:** AD typically first occurs 6 months to 1 year after spinal cord injury. This condition is characterized by the sudden onset of severe high blood pressure, which is sometimes accompanied by intense pounding headaches, sweating, nasal stuffiness, blurry vision, flushing of the skin, abnormal heart rate, anxiety, and cognitive impairment.

**Physical Exam:** Physical examination will reveal increased blood pressure, an abnormally fast or slow heart rate, and dilated pupils. Physicians will also exam patients to identify the underlying causes of this response.

**Diagnostic Process:** Imaging studies such as x-rays (for fractures or gallstones) or ultrasound (for blood clots in the leg) are used to evaluate the patient after an episode of AD but only after common causes, such as bladder or bowel issues, have been ruled out. Laboratory analysis of blood or urine may be necessary depending on the suspected causes.

**Rehab Management:** Medications can be used to lower blood pressure, but the most important treatment for this condition is prevention. Educating patients to recognize its signs and symptoms and to avoid factors (such as bladder overdistention, bowel problems, and bedsores) that contribute to AD is critical.

**Other Resources for Patients and Families:** Spinal cord injury patients at risk for AD can carry a wallet-sized card to provide information about the condition to health care providers. Patients and families should receive education to understand the signs and symptoms as well as potential causes of this condition.

## 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.