

## Scoliosis

**Condition:** Scoliosis means there is an abnormal curve in the spine. The curve is usually side- to-side or “S” shaped.

**Background:** There are 5 types of scoliosis. The most common type is idiopathic, meaning the cause is not known. It is found in 2-3% of people and is usually associated with mild curves of the spine. Neuromuscular scoliosis occurs when abnormalities in the muscle cause a curve in the spine. Congenital scoliosis when the bones of the spine do not form correctly before birth. The final two types are syndrome-related and tumor-related.

**Risk Factors:** The majority of cases of idiopathic scoliosis (80-90%) are seen in girls over age 10. In younger children, both boys and girls may be affected. Even babies (primarily boys) may have scoliosis. Scoliosis sometimes runs in families. Disorders of the muscle or nerves increase the risk of developing neuromuscular scoliosis

**History and Symptoms:** Spinal curves tend to get worse during a girl’s growth spurt and at the beginning of puberty. It can continue to worsen even into the adult years. Pain is typically not present in idiopathic scoliosis. When scoliosis develops quickly or the curve is very large, it is probably not the idiopathic type. Similarly, if there is pain, weakness, changes in walking, or other neurologic symptoms, an underlying neurologic or other musculoskeletal process may be present and should be evaluated.

**Physical Exam:** The physical medicine and rehabilitation (PM&R) physician will perform a thorough inspection of the skin to look for markings that would indicate an underlying condition and look for signs of puberty. He or she will also compare leg length and shoulder height and evaluate for any tilt of the hips. The physician will also perform the Adam forward-bend test, where the patient bends forward at the waist with straight legs to look for asymmetry. The PM&R physician will also perform a neurologic exam (assessing strength, sensation, and reflexes) and a musculoskeletal exam (assessing joint range of motion and deformity).

**Diagnostic Process:** Scoliosis is diagnosed with x-rays of the spine. The amount of curve in the spine is measured on the X-ray using the Cobb angle. The PM&R physician will also look at the hip bones to try to assess the maturity of bone (called the Risser classification). Other tests may be done if other underlying conditions are suspected. MRI is not indicated in most cases.

**Rehab Management:** Bracing is the primary way to manage scoliosis, and the PM&R physician will help in determining when a brace is needed and in prescribing the right type of bracing for the patient. The PM&R physician will also guide a therapeutic exercise program to prevent other issues from developing, such as muscle loss. If the curve becomes severe, the PM&R physician will help with referral to a surgeon to discuss possible surgical management

**Other Resources for Patients and Families:** Children and teens may be unhappy or self-conscious about how they look or about wearing a brace. A psychologist or social worker can help deal with these issues. The Scoliosis Research Society has more information for patients and families ([www.srs.org](http://www.srs.org)).

## 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.