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HEALTH MATTERS

Nonsurgical treatments can benefit adults with scoliosis

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M.D. in Collaboration with Gloria N. Beck

Why scoliosis occurs is often a mystery.

Scoliosis, defined as a lateral curvature of the spine, affects people of all ages.

Although the normal spine, when viewed from the back, appears straight and symmetrical, all spines contain natural curves, apparent in a side view. The gently rounded contour of the upper trunk is called kyphosis and the lower trunk's contour is called lordosis, which follows a reverse direction.

To help the spine maintain balance over its position atop the pelvis, certain amounts of cervical (neck) lordosis, thoracic (upper back) kyphosis and lumbar (lower back) lordosis are present. If the spine deviates from this normal alignment and displays side-to-side curves, this is termed scoliosis.

A scoliotic spine, when X-rayed, looks more like the letters "S" or "C" and may be rotated slightly, causing the person's waist or shoulders to appear uneven. It also often results in a rib hump deformity. Unfortunately, these curves cannot be corrected by straightening one's posture.

Why scoliosis occurs is often a mystery. It is not due to poor posture or the result of carrying heavy loads or involvement in sports.

According to the Scoliosis Research Society, certain conditions such as congenital spinal column abnormalities, neurological disorders or genetic conditions can cause spinal deformity, but in more than 80 percent of patients (particularly adolescent girls), no specific cause is found.

In adults, scoliosis may be present since childhood with the spinal curve increasing with age, or it can develop in patients who begin to develop a curvature as they age. Adolescent scoliosis is usually diagnosed either by school examinations or pediatrician visits and confirmed by X-ray findings.

Adult scoliosis, more commonly, is diagnosed after a visit to the doctor's office; it usually follows complaint of back pain or deformity and again, is confirmed with X-ray diagnosis.

For adults with scoliosis, pain can be a way of life, stemming from osteoarthritis and muscle fatigue to instability and spinal stenosis (a narrowing of spaces in the spine that results in pressure on the spinal cord and/or nerve roots).

Haim D. Blecher, M.D., fellowship-trained spine surgeon at University Medical Center at Princeton, notes that treating adults with scoliosis challenges the spine care team — the surgeon, physiatrist, physical therapist and pain management experts — to explore nonoperative treatments, whenever possible, to alleviate pain.

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By Haim D. Blecher, M.D., Spine surgeon, Princeton HealthCare System

Fortunately, there are a variety of nonsurgical treatment options.

Physical therapy programs improve muscle strength, flexibility, aerobic capacity and posture, greatly enhancing function and reducing pain. Epidural steroid injections and selective nerve root blocks may also help some patients. While nonoperative management does not halt curve progression, it certainly alleviates the pain and improves function in many patients.

It is only when these options fail to provide relief that a patient and his or her team should consider surgery. Dr. Blecher likens his treatment philosophy to that of a train ride — nonoperative treatments are station stops along the way with surgery being the last stop at the end of the run. The majority of patients do not remain on board until the last stop.

Surgical treatment of adult scoliosis is often more extensive and the rate of complications higher when compared to the treatment that occurs with adolescents. The natural history of scoliosis suggests that curves greater than 50 degrees at skeletal maturity (which occurs during the teenage years) progress at an average of one degree every year. Although the rate of back pain in those with scoliosis is comparable to the general population, the intensity and persistence of pain is often greater.

While surgery is the final stop, surgical treatment of scoliosis in 2004 is a vast improvement over surgical treatment that was the norm just 25 years ago.

Today's intra-operative techniques have great implications on the post-operative course of the patient. Addressing each part of the deformity with newly developed instruments produces better results and virtually eliminates post-operative casting or bracing for the majority of patients.

Most patients who require surgery need some type of long segment correction and fusion. Many will require combined anterior and posterior spinal fusion and some will also need decompression to alleviate central stenosis.

After surgery, patients enter a post-operative rehabilitation period. This occurs in three stages: immediate, intermediate and long-term. In the immediate phase, patients will remain in the intensive care unit (ICU) and receive aggressive pain management. Within seven to 10 days after surgery, patients will work on out-of-bed activities including commode training and independence. They will also transition from intravenous medications to oral medications and pain patches.

During the intermediate phase (eight days to six weeks after surgery), patients will slowly begin to return to daily activities. While most patients go home after the immediate post-operative period, some require a stay in a short-term rehab facility.

The long-term post-operative rehabilitation period occurs when the soft tissues have healed and the fusion is well on its way to healing. This period can last from three to six months, sometimes up to nine months. At this point, patients should begin more specific physical therapy and rehab.

Statistics concerning post-operative scoliosis patients are quite positive, with high patient satisfaction reported in more than 85 percent of patients. Seventy to 85 percent of patients experience pain relief, 70 to 90 percent experience improved ability to perform activities of daily living, and 60 to 80 percent experience improved ability to sleep and return to exercises and recreational activities.

Dr. Blecher concludes, "Adult scoliosis is not an uncommon entity. Despite the great challenge it poses, a team approach combining the surgeon and the rehabilitation team may yield very good results, helping patients improve their quality of life."