Welcome

Welcome to the fall issue of spine news from the Indiana Spine Group's quarterly enewsletter The Spine Segment. Each issue will provide you with a brief update on news, research and treatments related to the spine as well as any major news from Indiana Spine Group. If you are not yet a subscriber but wish to be, link to subscribe me.

Announcements

New Physician Joins Indiana Spine Group

Indiana Spine Group is excited to announce the addition of a new specialist to our team, Jonathan P. Gentile, II, M.D.

Dr. Gentile, a specialist in interventional pain management, will provide spinal diagnostics and therapeutics to patients. He is board certified in anesthesiology and pain management. Dr. Gentile received his medical degree from Indiana University School of Medicine, where he also completed a residency in anesthesiology and a fellowship in pain management. He has been in private practice since 1996.

Dr. Gentile’s office is located at 7250 Clearvista Drive, Suite 350. For more information or to schedule a patient consultation, call 317.228.7000.

Our Anderson Office Has Moved

Kenneth L. Renkens, Jr., M.D., a board-certified spine surgeon with Indiana Spine Group, will now be seeing patients at a new Anderson location as well as in Indianapolis. Our new Anderson office is located in the Medical Arts Building on the campus of Saint John’s Health System. Dr Renkens will continue to perform surgery at both Saint John’s Health System and Community Hospital Anderson.

Our new location is: 2101 Jackson Street, Suite 203
Anderson, IN 46016

To schedule an appointment at our Anderson office or for more information, call 317.228.7000 or toll-free 866.947.7463.
Cutting Edge

New Technology Stabilizes the Spine: Dynesys Spine Stabilization System

In July, Indiana Spine Group’s neurosurgical spine surgeon Kenneth L. Renkens, Jr., M.D., performed one of the first spine stabilization surgeries in Indianapolis since its FDA approval. This procedure used the recently FDA-approved Dynesys Spine Stabilization System. This system uses flexible materials to stabilize the spine while preserving the spine’s natural anatomy and allowing some motion in the spine. “Basically, a splint is placed internally that will act to stabilize the spine,” says Dr. Renkens.

This treatment is for patients with lower back pain and leg pain caused by grade one spondylolisthesis or stenosis. Developed in Switzerland in 1994, this procedure provides an alternative treatment where previously fusion or a disc implant were the only surgical options. An estimated 400,000 people in the U.S. undergo fusion procedures each year.

The Dynesys Spine Stabilization System uses flexible materials with polyurethane tubing. External spacers are used to create a push/pull relationship, which stabilizes the spine. The system is unique, but it is implanted using a familiar surgical approach.

Similar to a disc implant, the patient does not need to have bone removed, which reduces the risk of infection, reduces recovery time and allows the patient to return to normal activities sooner. “This new technology provides patients a minimally invasive procedure to eliminate their back pain when nonoperative treatments are ineffective,” says Dr. Renkens.

Injections Successfully Treat Sacroiliac Joint Syndrome

Once over-diagnosed, today sacroiliac (SI) joint pain is often overlooked as a cause of low-back pain. More common in young, pregnant or middle-aged women, SI joint pain usually results in unilateral pain very low in the back or in the buttocks. It can also be characterized by pain in the thigh, pelvis or sciatic-like pain. Additionally, the individual may have difficulty sitting in one place for too long due to pain.

The SI joint is one of two joints in the pelvis that connect sacrum to the ilium and connect the spine to the pelvis. Unlike any other joint, it is covered by two different types of cartilage—hyaline (slick) and fibrocartilage (spongy). The joint has many pieces that fit together but can become stiff as we age.

Injury to the joint or surrounding ligaments is the most common cause of SI joint problems. There can also be an abnormality in the sacrum bone. During pregnancy, women are at risk for SI joint problems because the hormones released during pregnancy allow connective tissues to relax and make the joints overly mobile. Fortunately SI joint pain generally goes away after pregnancy.
During diagnosis, the physician should inquire about recent serious injuries, location and duration of pain, weakness or numbness. Also ask the patient if the pain is keeping them up at night or causing any problems going to the bathroom.

A physical examination will assist in the diagnosis. The joint can be gently pushed together or pulled apart slightly to determine if the joint is painful. There are several tests that can be performed during an office examination, and a CT-scan can be useful in determining if the joint is inflamed. (For more details on tests, call our office.)

SI joint injections can be helpful in both diagnosis and treatment of SI joint pain. Using fluoroscopic guidance, a needle is inserted into the SI joint where the lidocaine is injected. “If the injection relieves pain, we can infer that the SI joint is causing the pain,” Dr. Macadaeg says. He adds that a steroid can be added to the injection, which may provide more long-term relief and is used as an adjunct to PT and/or suggested exercises.

Physical therapy (PT) is often useful in the treatment of SI problems, and patients can be taught certain exercises to mobilize the joint. For patients who do not experience relief of symptoms through exercise and PT, injections are generally the next suggested treatment. Physical therapy may also continue after the injection. Patients who are unable to perform PT may have underlying issues or other diagnoses.

SI joint block injections are provided by Indiana Spine Group interventional spine specialists, including Dan K. Nordmann, M.D.; Kevin E. Macadaeg, M.D.; and Jonathan P. Gentile, M.D.

**Minimizing Back Pain While Driving**

Do you have patients who complain of back pain after driving? A number of studies have shown associations between driving and back pain, and the association seems to be stronger in men. One study showed that drivers of heavy vehicles can be exposed to risk of spinal disorders due to prolonged vibrations and fixed postures. The strain of sitting, combined with the motion and swaying of the vehicle and the foot action on the pedals can cause considerable pain. However, there are simple actions that can help alleviate symptoms. Link to our fact sheet that provides helpful tips for your patients.

**Data & Findings**

**Selective Nerve Root Injections Can Predict Surgical Outcomes**

Indiana Spine Group physicians Rick C. Sasso, M.D., Kevin E. Macadaeg, M.D., and Daniel K. Nordmann, M.D., recently participated in a study of patients undergoing lumbar or cervical decompression for radiculopathy. The study also compared the ability to determine surgical outcomes between those who had MRIs to those who had selective nerve root injections (SNI).

Of 101 patients, 91% of the patients with positive SNIs had good surgical outcomes,
while 60% of the patients with a negative SNI had good outcomes. Of patients with a positive MRI result, 87% had good surgical outcomes, while a similar number (85%) of patients with a negative MRI result had a good outcome. Of the patients with a negative outcome, surgery was most often performed at a level inconsistent with the SNI finding.

“Our study found that a diagnostic SNI can safely and accurately discern the presence or absence of cervical or lumbar radiculopathy. This can persuade surgeons from operating on initially suspicious, but incorrect level of radiculopathy,” said Dr. Nordmann. (Read the complete article.)

**Research Summary**

**Artificial Lumbar Disc Replacement Shows Improvement Over Fusion**

According to Orthopaedics Today, new research comparing circumferential fusion to artificial lumbar disc replacement in patients with degenerative disc disease and discogenic pain showed significant improvement for those receiving the artificial disc.

Indiana Spine Group physician, Rick C. Sasso, M.D., was cited in the article as having presented the preliminary results from a randomized, multicenter trial. Researchers found no evidence of spontaneous fusion across the segment in patients who underwent artificial disc replacement, and all of the discs showed movement. “It is a major advancement for individuals with degenerative disc disease,” says Dr. Sasso.

Traditionally, degenerative disc disease has been treated with fusion. The FlexiCore disc, still in FDA trials, is an alternative now being used at Indiana Spine Group. The uniarticular ball-and-socket device has a fixed axis of rotation and surfaces made of a cobalt chrome alloy. The device has features to promote bone on-growth formation and stability for the lumbar spine.

**Prevalence of Spinal Stenosis Expected to Increase Substantially**

Between 250,000 and 500,000 Americans have symptoms of spinal stenosis. The number is expected to spike dramatically during the next 10 years, along with the rise in seniors in the U.S. While some cases of spinal stenosis are congenital, patients generally become symptomatic at age 50 or older.

Spinal stenosis is a narrowing of the spinal canal. The degenerative condition is a part of the aging process that cannot be prevented – but can be treated. During aging, the discs dehydrate and become less spongy. They can compress or bulge, affecting the vertebrae, shortening the spinal column and compressing the spinal sac and nerve roots. As the spine narrows, there is subsequent ischmia of the nerve. Increased physical activity causes increased oxygen demand and pain.
Some patients with spinal stenosis may be asymptomatic. Other patients may be symptomatic for years before presenting, because they believe symptoms are a part of aging and must be endured. However, early treatment is critical to provide optimal outcomes.

Spinal stenosis generally occurs at either the cervical or lumbar segments, with lumbar being more predominant. Symptoms of cervical stenosis include radiating arm pain with numbness, occasional weakness, and if severe, symptoms of myelopathy (finger numbness, clumsiness or difficulty walking) and bowel/bladder dysfunction. Symptoms of lumber stenosis include lower back pain, radiating leg pain, pain when walking that is relieved by rest or by bending forward, pain in the buttocks or thighs when walking or standing, possible bowel/bladder problems. (Bending forward increases room in the spinal canal and reduces pain.) Other symptoms of spinal stenosis may include burning or tingling sensations in the extremities.

To make a correct diagnosis, imaging studies are needed. MRI is generally used, however a CT myelogram may be indicated in some instances. Physical therapy, anti-inflammatory drugs and exercise are the first line of treatment. If these simple, non-invasive measures don’t work, patients commonly respond to either epidural steroid injections or selective nerve injections. Indiana Spine Group physician Kevin E. Macadaeg, M.D., says spinal injections can often bring significant relief to patients with spinal stenosis.

Surgical decompression is urgently indicated for patients with symptoms of myelopathy, spinal cord compression, or significant muscle weakness. Surgery may be indicated for those experiencing radicular pain, the most common symptom of spinal stenosis. Quality of life must be compared with surgical risks.

When surgical intervention is indicated, the surgeon opens up the spinal column using either decompressive laminarthrectomy or techniques such as laminectomy or laminoplasty.

“If you have aging patients who are suffering from symptoms of spinal stenosis, available treatments may alleviate their symptoms,” says Indiana Spine Group orthopaedic spine surgeon Thomas M. Reilly, M.D.

Out & About
This May, Rick C. Sasso, M.D. participated in the Spine Arthroplasty Society 5th Annual Global Symposium on Motion Preservation Technology in New York, New York. His presentations included: “Artificial Disc versus Fusion for the Treatment of Cervical Radiculopathy: A Prospective, Randomized Study” and “Metal-on-Metal Artificial Lumbar Disc Replacement versus Circumferential Fusion for the Treatment of Discogenic Pain: A Prospective, Randomized Study.”
Referrals
To refer patients or schedule appointments for our Indianapolis and Anderson locations, call 317.228.7000 or toll-free 866.947.7463. For our Kokomo office, call 765.236.8700.

Indiana Spine Group is a premier provider of medical and surgical care of the spine. Using the most advanced diagnostic and treatment tools available, we treat young children, adults and seniors. We provide comprehensive spine treatment, including orthopaedic spine surgery, neurosurgical spine surgery and non-operative spine treatments.