Welcome

Welcome to the fall issue of spine news from Indiana Spine Group. Our quarterly e-newsletter, *The Spine Segment*, will provide you with a brief update on news, research, and the treatments related to the spine as well as any major news from Indiana Spine Group.

**Back Talk Conference Was a Success!**

Thanks to all who attended the recent Back Talk conference (August 24 and 25) to learn more about the diagnosis and treatment of spinal disorders. More than 100 attendees and 16 exhibitors were present. Additionally, conference attendees heard Landon Turner’s inspirational story. Watch for details about the 2008 conference, Back Talk II.

**Spine Health Tips**

**How Smoking Weakens the Spine**

According to the Indiana State Medical Association, Indiana has the fourth highest smoking rates in the nation; 26% of males and 22% of females in Indiana smoke. Even more troubling — rates of young adults smoking is on the rise. In 2004, 28.2% of young adults were smokers; in 2006 that number rose to 34.6%. Not all the mechanisms are well understood as to how smoking weakens bones, however widespread research shows a clear correlation between smoking and poor spine health.

Of course, there are a myriad of health problems related to smoking. Often overlooked by the patient is back pain, especially low-back pain (LBP). Data shows that:

- Smokers are 2.7 times more likely to have LBP.
- Smokers have more symptoms of back pain, and their symptoms are present for longer periods of the day.
- Women smokers are much more likely to develop LBP than women who are nonsmokers.
- Smoking causes decay of the spinal discs.
Nicotine changes the pathological makeup of the disc—weakening it. Smoking decreases vascular blood supply and changes the vessel walls. Smoking disrupts the disc's cell function and the ability to repair itself. Smokers have lower physical and mental health status scores than nonsmokers.

Spinal health improves substantially after smoking is stopped. "Speaking for Indiana Spine Group, we ask all physicians to encourage patients in cessation efforts, and encourage community efforts to discourage smoking," says spine surgeon Kenneth L. Renkens, M.D.

**Obesity and Back Pain**

You may be seeing fewer and fewer patients with a normal BMI level these days (less than 25 kg). That’s because 65% of U.S. residents now have a BMI at or above 25 kg. Thirty percent have BMI’s over 30 kg, and 5% are considered morbidly obese.

Despite troubling links between obesity and increased back pain, there have been no studies to show causality between the two. For instance, does pain cause immobility that leads to obesity? Or does obesity lead to stress on the spine and to pain? Research is needed to clarify.

“What is known is that obese patients have more severe back pain symptoms,” says Jonathan P. Gentile, M.D., minimally invasive spine specialist at Indiana Spine Group. Individuals who are obese are more likely to have chronic symptoms and lumbosacral disease. The very obese have more radicular pain.

No controlled studies have shown that weight loss relieves back pain or reduces recurrences of pain. Exercise, on the other hand, has been shown to improve symptoms.

In addition to any discussions of weight loss you have with your patients also recommend that they use specific types of exercises to strengthen the core muscles in the abdomen and back. Their goal should be to increase the strength and stability of the spine, arms and legs.

Aerobic exercise will also increase blood flow to the vascular structure, increase heart rate and increase blood flow to the spine (which also increases nutrients diffused into the discs). Simple aerobic exercises, such as walking, running, biking and swimming are good choices.

**How to Feed Bones through Good Nutrition**

Good preventive medicine as well as recommendations for patients with poor spine health should include a discussion about nutrition. Good nutrition along with aerobic activity can improve bone health.

Provide these nutrition tips to help patients for good bone health and overall health:
- Drink lots of water
- Eat more food, but with fewer calories (hint: avoid most fast food, which packs on calories)
- Increase fruits and vegetable intake (get those antioxidants)
- Eat healthy fats in moderation
- Eat less salt
Limit soda and sugary drinks
Go easy on the protein
Include calcium and vitamin D in the diet

Patient Fact Sheet
Preventing Falls at Home

About 60% of falls occur at home, and most are preventable. Common hazards include slippery or wet surfaces, cluttered walkways, poor lighting or improper footwear. Potentially serious falls can occur during everyday activities like climbing stairs, working in the kitchen or using the shower or bathroom. [Click here](#) for a safety checklist to provide to your patients.

Pain Management Update
Minimally Invasive Options

“Data has shown that several minimally invasive disc treatments improve pain levels,” says John W. Arbuckle, M.D., minimally invasive spine specialist at Indiana Spine Group. “The following are three procedures performed at Indiana Spine Group that have had exciting results.”

1. **Nucleoplasty** uses coblation technology to remove a small amount of the disc, which decompresses the nerve. It’s indicated for low-back pain, contained protrusion or herniation. The patient must have a positive discogram, no stenosis or instability.

At 24 months after nucleoplasty, patients without previous surgery have an 80% success (20% failure) rate. This is compared with a failure rate of 50% for any other level of surgery. ([Source: Barreto World Spine Society, 2006](#)).

2. **IDET** places a thermoresistive coil along the inside of the annulus with an aim of destroying nociceptors and coagulation of proteins. It is indicated for patients with a positive discogram, less than 25% disc height loss, no stenosis or instability, and no radicular symptoms or herniation.

At two years, 54% of patients with IDET had at least a modest pain improvement, and 20% were pain-free.

3. **Dekompressor** uses a high-speed titanium drill to decompress the disc nucleus and obtain a specimen. The results at 12 months were that 90% of patients had functional improvement after the procedure. The VAS score (pain measurement score) was reduced by 5, and 88% of patients were satisfied.

Vertebroplasty Provides Relief for Patients with Compression Fractures

The outpatient procedure vertebroplasty provides increased mobility and pain relief without traditional surgery. “For the approximately 800,000 adults with back pain that is caused by vertebral compression fractures, the procedure can substantially restore quality of life,” says Indiana Spine Group spine surgeon Thomas M. Reilly, M.D. “Vertebroplasty also protects against further collapse of the vertebra.”
Using the image-guided, minimally invasive procedure, physicians inject bone cement into the spaces within the vertebra (or the fractured bone), which stabilizes the vertebral body. Pain relief is experienced within 24 hours. The procedure is done under conscious sedation.

“We have had some dramatic successes with this procedure,” says Kevin Macadaeg, M.D., a minimally invasive spine specialist at Indiana Spine Group. “Many patients find that their pain level has reduced substantially after having this procedure performed.”

Information about these procedures was presented at the recent Back Talk conference. The above minimally invasive procedures are available at Indiana Spine Group. For more information or to make a patient referral, call our office at (317) 228-7000.

**Research Update**

**Computer-Assisted Spinal Navigation Studied**

Image guidance has become increasingly accepted for many valid reasons. A recent study was completed to compare the surgical time differences between image-guided spinal surgery and standard serial radiography. Indiana Spine Group spine surgeon Rick Sasso, M.D., co-authored an article in the *Journal of Spinal Disorders & Techniques* April 2007 with the study results.

The article concluded that image-guided spinal surgery did not cause an increase in operative time. In the best scenario, image navigation saved a statistically significant amount of time in the operating room. At its worst, image-guided navigation is not statistically different from standard serial radiography.

**Out and About**

In June, Kenneth Renkens, M.D., participated in the Garceau Wray Lectureship series at the Indiana University School of Medicine and gave a presentation entitled, “Artificial Disc vs Fusion: A Prospective, Randomized Study.” Additionally, he co-authored an article with Neil Singla, Joseph Cheng, M.D., Harry Lockstadt, M.D., and Thomas Reynolds, M.D., PhD. This article entitled “Topical Recombinant Human Thrombin for Surgical Hemostasis in Subjects Undergoing Spine Surgery,” was published in the supplement to *The Spine Journal, A Multi-Disciplinary Journal of Spinal Disorders*, September/October 2007, Volume 7 Number 5S.

The following are a few continuing education programs that Rick Sasso, M.D. presented at:

- Synthes Spine Forum at the University of Washington Harborview Medical Center located in Seattle Washington in October 2007. A few topics included: “Biomechanical Comparison of Upper Cervical Fixation Techniques,” “The Case for Posterior Treatment of Subaxial Subluxation in Inflammatory Spinal Disease,” and “Optimizing Fixation in Osteopenia.”

Additionally in July, Dr. Sasso presented the “Pivotal United States FDA IDE Study of the Bryan Total Cervical Disc Prosthesis” to the United States Food and Drug Administration Orthopedic and Rehabilitation Devices Panel of the medical devices advisory committee.

Office News

Holiday Schedule

In an ongoing effort to meet our patient needs, our offices will be open throughout the upcoming holiday season. Our offices will only be closed on:

- November 22, Thursday
- November 23, Friday
- December 25, Tuesday
- January 1, Tuesday

Referrals

To refer patients or schedule appointments for our Indianapolis and Anderson offices call (317) 228-7000 or toll-free (866) 947-7463. To schedule an appointment for our Kokomo office, call (765) 236-8700.

Indiana Spine Group is a Center of Excellence for comprehensive spine care. Providing comprehensive diagnosis and treatment for all spinal disorders, our spine specialists are experts in using the most advanced diagnostic and treatment tools, with a focus on minimally invasive non-operative spine treatments. Our comprehensive patient care team includes board-certified minimally invasive spine specialists and spine surgeons.

Physicians with Indiana Spine Group include Rick C. Sasso, M.D., Kenneth L. Renkens, M.D., Kevin E. Macadaeg, M.D., Thomas M. Reilly, M.D., Jonathan P. Gentile, M.D. and John W. Arbuckle, M.D.