

Facility Profile

SpineKnoxville Adopts a Unique Approach

Limiting its practice to evaluation and treatment of orthopaedic & musculoskeletal disorders of the spine, SpineKnoxville, has successfully implemented a conservative, layered, and structured methodology in treating spine disorders.



The SpineKnoxville facility in Knoxville, Tennessee.



The comprehensive physical therapy gym for therapeutic exercise and manipulation program.

SpineKnoxville, a Regional “Center of Excellence” for Spine Care in East Tennessee, is a physician practice combined with outpatient physical therapy that focuses exclusively on the evaluation and treatment of orthopaedic disorders of the spine. Many patients’ conditions typically are very complex, often having failed previous therapies.

With the goal of improving non-surgical—and, failing that, surgical—outcomes, the physicians at SpineKnoxville established new guidelines and treatment expectations for their patients. With input from the community, corporate employers, managed care organizations, and workers’ compensation experts, SpineKnoxville developed guidelines that streamlined patient care. Not only did this minimize costs, but the layered, structured approach ensured a consistent and progressive escalation of care depending on the evaluated needs of each patient.

Treatment Philosophy

Given that it is estimated that somewhere around 80 percent of low back pain resolves within two weeks and around 90 percent resolves within one month—regardless of the treatment approach—a conservative, non-invasive approach was adopted as the primary modality. A large study performed by the Swedish Council on Technology Assessment in Health Care in 1991 analyzed over 25,000 studies on neck and back pain and concluded, among other things, that there is strong evidence for the effect of dosed exercise and manipulation for improving outcomes when treating low back pain.

It is estimated that 80% of spine pain is mechanical in nature, being caused and affected by mechanical loading. Therefore, a corrective approach to treatment can be taken by using mechanical force in the form of directionally specific exercise and manual techniques to influence the structure that is originating the patient’s symptoms. SpineKnoxville uses a McKenzie framework for the initial evaluation and treatment and applying other philosophies and techniques of manual therapy as indicated. Hands-on techniques are applied only when it becomes evident that progress on the patient’s symptoms from patient generated force, i.e. directional

preference exercises, has slowed and a progression of manual force is needed to influence the mechanics of what is producing the patient's symptoms.

Patients evaluated as requiring more interventional approaches may be treated with minimally-invasive procedures and, in rare instances, spinal surgery. The layered, structured approach to evaluating and treating patients ensures that the most conservative approaches are exhausted first before considering escalation to surgical modalities.

Treatment Protocols

The model of treatment at Spine-Knoxville is set up as an algorithmic flow chart based on a progressive invasiveness approach. The way the patient presents upon initial evaluation by the physician determines the clinical decision making. For example, in the case where a patient who presents with a two week onset of low back pain with no radicular symptoms, no history of trauma, no cauda equina symptoms (saddle anesthesia, bowel/bladder dysfunction), no progressive weakness of a limb, and no history of metastatic disease, an x-ray or other diagnostic tests may not be indicated or performed. Still following this example, this patient may be prescribed pain and anti-inflammatory medication and referred to physical therapy. Prescribed physical therapy visits usually do not exceed six to nine visits initially.

While certain spinal conditions can be extremely painful and disabling at times, they are typically non-life-threatening and usually self-limiting. Many times today, treatment is over utilized or overly invasive, with many procedures such as surgery being performed unnecessarily. The physicians at SpineKnoxville believe surgery should only be performed as a last resort, barring criteria for immediate surgical intervention such as progressive weakness of a limb, cauda equina symptoms, and severe unrelenting pain that is not responding to conservative management. In these cases, the patient's clinical presentation should correlate with pathology detected from imaging studies.

SpineKnoxville's team of physicians believe strongly in the health benefits of exercise. The physical therapist team members are expertly trained in spine care, using the McKenzie Training Program, and provide education and instruction on specific exercises to effec-

tively relieve pain.

Typically, a physician will see the patient in a private treatment room to assess the response to treatment at each visit and modify or progress as needed. Usually by the third or fourth treatment, the patient will be ready to begin an active exercise program in the gym, frequently with a directionally-specific bias, depending on which direction of exercise their condition is responding. For example, if a patient's low back and leg pain are centralizing, decreasing, and resolving with lumbar extension exercises, they will begin a program initially of walking on the treadmill, lumbar extension resistive machine, and multi-hip extension, all of which encourage lumbar extension-type movement. In this particular case, the patient would avoid exercise that involved flexion positions and movements such as recumbent bicycle, seated hip machines, and lumbar flexion machines.

Eventually, as the patient's symptoms resolve, they may be able to utilize all of these machines. This type of reactivation program tests the stability of the patient's improvement by determining the effect of physical activity on the patient's symptoms, as well as strengthens and conditions the patient to better tolerate return-to-work and recreational activities.

It is also suggested in the literature that large muscle group exercise is effective in reducing chronic pain. Another benefit of a conditioning program is the confidence it instills in the patient—that they can exercise without increasing their pain. In many cases, the patient has become extremely apprehensive about physical activity, exercise or otherwise, because they have always related it to an increase in their pain. If physical conditioning is directionally specific at first, gradually initiated, and progressed slowly, many times the patient is pleasantly surprised at how much better they feel from their exercise routine.

Many different exercises can be used to successfully help people recover from pain of the back, neck, legs or arms without having to undergo surgery. Specific exercises can successfully help reduce discomfort by centralizing the pain and then eliminating it through repeated movements and posture correction. If symptoms do not resolve, surgery may be necessary to remove, for example, a rup-



Dr. White reviewing radiographs and clinical notes for comprehensive spinal evaluation.



Dr. Kahn reviewing clinical notes for upcoming surgical procedure.



Dr. Uzzle reviewing radiographic films with a patient as part of comprehensive pain management program.



Dr. Pinzon performing interventional spinal injections under fluoroscopic guidance in the outpatient surgery center.

tured disc's herniated tissue.

Patient Education

For the over 40-year-old patient, the recurrence of back, neck, leg or arm pain is highly probable. For these patients, SpineKnoxville offers patient education that focuses on eliminating the discomfort and avoiding future injury. SpineKnoxville employs many different mediums for patient education including a booklet, *Exercise Program for Pain Related to the Spine*, which provides many pain-relieving exercises. SpineKnoxville educates the patient on the cause and effect of their pain, teaching basic principals of biomechanics and pathology, as well as pain avoidance behaviors such as posture and body mechanics.

Outcome Measurements

When all treatment options have been explored and delivered on a patient's case, a point is reached where the physician considers the patient at maximal medical improvement (MMI).

SpineKnoxville tabulates clinical outcome data yearly and prints a Clinical Outcome Report Card. Here are a few examples of physical therapy outcome results from 2002:

- 94% of our patients were very or somewhat satisfied with their overall care provided,
- average number of physical therapy visits was 9.5 visits, and
- using Roland-Morris questionnaire data for patients treated in physical therapy:
 - 80% improved in terms of symptom reduction and function
 - 10% regressed in terms of symptom exacerbation and function
 - 10% were unchanged in terms of symptoms and function

Team Approach

SpineKnoxville has established the first physician team of orthopedic surgeons and physical medicine specialists in East Tennessee. SpineKnoxville's orthopaedic surgeons are board-certified with extensive experience in spine surgery. Specializing in the non-surgical and surgical treatment of back and neck pain, their expertise is in health care for disc problems, spinal fractures, spinal tumors, and spinal deformities. In addition to the physicians, the team includes two full-time physical therapists and one part-time PT, all of

whom are certified in the McKenzie method of diagnosis and treatment of spinal disorders. SpineKnoxville's physical therapists, expertly trained in spine care, provide education and instruction on specific exercises to effectively relieve pain. Because pain in the back, neck, legs or arms is often related to some type of soft tissue injury, exercise over a period of time will usually help pain go away.

SpineKnoxville's physician 'team concept' affords patients access to operative and non-operative specialists providing an organized continuum of care for axial spine pain, radicular pain, spinal deformity, spinal tumors and spine features. Using binary path protocols and clinical outcome measurement tools, the staff can measure patient severity, return to work and patient satisfaction. These patient outcome statistics are regularly measured to track the effectiveness of the treatment methodology in reducing disability levels, improving movement, reducing dependence on pain relievers and avoiding surgery if possible.

Physician Staff Members

P. Merrill White, III, M.D. attended medical school at Medical College of Georgia in Augusta. He completed his residency at North Carolina Baptist Hospital in Winston-Salem and is board certified in orthopaedic surgery. He was fellowship-trained in adult spine surgery at Rothman Institute in Philadelphia, Pa. He is experienced in the most advanced instrumentation and minimally invasive techniques for spinal surgery.

Dr. White believes in a conservative, non-surgical approach in treating back and neck pain and feels it is important to realize there are options for treating pain other than pills or surgery. But, as a surgeon, that also means knowing when surgery is the treatment that will do the most good.

Edward K. Kahn, M.D. is a board-certified orthopaedic surgeon who specializes in spine surgery. He received his doctorate of medicine from the University of Miami and completed his residency in orthopaedics at the University of California in Irvine. Dr. Kahn specializes in adult degenerative spinal conditions, both operatively and non-operatively.

Jeffrey A. Uzzle, M.D. is a board-certified physical medicine and rehabilitation specialist. He received his bachelor of

science degree in chemical engineering and medical degree from the University of Kentucky. He completed his residency in physical medicine and rehabilitation at the University of Louisville Frazier Rehabilitation Center in Louisville, Ky. He is a certified member of the National Board of Medical Examiners. Dr. Uzzle is experienced in epidural injections and electrodiagnostics.

Elmer "Al" Pinzon, M.D. is a board-certified physical medicine and rehabilitation specialist and has completed a twelve-month subspecialty physical medicine and rehabilitation fellowship in non-surgical interventional spine, musculoskeletal medicine and pain management at Georgia Pain Physicians in Atlanta. His residency in physical medicine and rehabilitation was completed at Baylor College of Medicine in Houston, Texas.

Dr. Pinzon believes, as a physical medicine specialist, the role of a physiatrist is to help patients manage pain and to restore musculoskeletal function. To accomplish this a variety of diagnostic and treatment options are used including medication, physical therapy, electromyography and spinal injections. Clinical treatment can include intradiscal procedures (diagnostic and therapeutic) including diagnostic lumbar discography, intradiscal decompressive nucleoplasty, and IDET annuloplasty, selective spinal injections (diagnostic/therapeutic), spinal cord dorsal column stimulation, and radiofrequency ablation procedures, among others. He also serves on the Editorial Advisory Board of the *Practical Pain Management* journal.

The Physical Facility

The SpineKnoxville clinic, in keeping with its philosophy of conservative, exercise-centric treatment modalities, is laid out with physicians' offices on one side, the physical therapy clinic on the other side, and a large exercise area in between. The exercise area consists of resistive and cardiovascular exercise machines.

For more information, contact: Spine Knoxville, 10321 Kingston Pike, Knoxville, TN 37922; 865-694-8353; pinzoneg@ortholink.net ■