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Spine and Orthopedic Practice Management

The History of Texas Back Institute

Written by [Laura Dyrda](#) | February 13, 2019 | [Print](#) | [Email](#)



This article is a portion of a book titled "[Challenges, Risks and Opportunities in Today's Spine World](#)" edited by Stephen Hochschuler, MD, Frank Phillips, MD, and Richard Fessler, MD. You can find links to the previous chapters at the end of this article.

In 1971 Dr. Ralph Rashbaum and I met while stationed in the Air Force in Wichita Falls, Texas. At that time, we were not orthopedic spine surgeons but were functioning as general medical officers.

We rapidly became aware that a large number of our patients presented with the complaint of back pain. Unfortunately, at that time all back pain was viewed similar to how abdominal pain had been viewed 70 years earlier; that is, abdominal pain was abdominal pain. There was not a clear definition between a ruptured appendix, a ruptured gall bladder, intestinal torsion or multiple other diagnoses. These evolved over time.

Likewise, in regard to back pain, back pain was back pain was back pain. There was no clear etiology as to whether the symptoms were facet pain, discogenic pain, radicular pain or the cause of radicular pain. Spinal stenosis was just beginning to be described, and people really did not know what it was. There were also questions

concerning whether one could get pain secondary to soft tissue, such as ligamentous hypertrophy as compared to disc herniation, or some other tissue abnormality. No diagnostic category for internal disc derangement existed.

I had 3 years formal training in general surgery at Harvard Medical School, and Dr. Rashbaum had a year or two of general surgery training. As we finished our military experience we both went into full orthopedic residencies.

Once completed, I developed the spine program at the VA hospital at The University of Texas Southwestern Medical School at Dallas. Dr. Rashbaum completed two fellowships, one with Dr. Henry Bohlman, for 18 months. Thereafter, he became the first spine surgery fellow of Dr. Richard Rothman in Philadelphia. Dr. Rashbaum and I had become friends in the military, stayed in touch, and I was able to convince him to come back to Texas from Philadelphia to start a spine institute.

In 1977 we began this process. Dr. Rashbaum and I visited Dr. Vert Mooney at Rancho Los Amigos Hospital in California. We saw a model that we thought was the appropriate model for dealing with back pain patients: an integrated multispecialty model that included prevention, conservative care, surgical care, rehabilitation, research and development. We returned to the Dallas area and started to implement the plan. Our goal was to take the narrow niche of spine and integrate it vertically; i.e., we wanted to do everything from ergonomic analysis, industrial back school and prevention through to fellowship training, research, new product development, and everything in between.

In 1982 Dr. Richard Guyer became our third founding partner. Our growth process was one of evolution, not revolution. We were, however, proactive, not reactive. We made several mistakes along the way; but because we moved slowly but progressively toward our goal we survived the evolutionary process.

Now more than 40 years later we are what we had hoped to become: the most academic private practice in spine. Texas Back Institute is the largest independent multidisciplinary academic spine practice in the world.

Lessons Learned

Along the way we learned many lessons. In the early days of the institute very few diagnostic techniques were available for evaluating a person with back pain. As in most specialties, one relied heavily on the history the patient gave followed by the physical examination.

When Texas Back Institute first started, oil soluble myelography was the only thing available. It was not until several years later that water soluble myelography became available. Initially, we had to do all of our own diagnostic and therapeutic procedures such as myelography, facet joint injections, facet blocks, selective nerve root injections

selective nerve root blocks and epidural steroid injections. The only implants available at that time were Harrington instrumentation or what was coming onto the scene called Knodt rods. We felt obligated to implement new protocols for conservative care and physical therapy as well as new surgical approaches to the spine.

Texas Back Institute became the second center in the United States to do multiplanar reconstruction of CT scans. We visited with Dr. William Glen in California who initiated this whole process. We learned much along the way from physical therapists including Dr. Stanley Paris and Robin McKenzie. We adopted their protocols early on and have used their treatment procedures throughout the history of Texas Back Institute. Other physical therapy procedures have been incorporated as we progressed.

In San Francisco we visited Dr. Art White who developed the first back school in the United States. We rapidly incorporated this treatment concept into our program and became the second back school in the United States. We had a 12-hour back school program, and we charged on \$120. The program was taught by a physical therapist, an occupational therapist, a psychologist and a surgeon.

Blue Cross Blue Shield, meeting with us at the time, was amazed at the cost and asked how we could do that. We related that we made no money on the program and were doing it solely for the benefit of our patients and, hopefully, differentiating Texas Back Institute from other facilities. When we asked if that meant they were impressed and would pay for it, they said they were impressed but they had no means of paying for it since there was no CPT code. This turns out to be the story each time improvements are made in medical care. Insurance companies are reluctant to embrace new treatments.

As things progressed, we became the first institution in the country to prescribe outpatient myelography. At the time we instituted this, we unfortunately lost two of our best nurse practitioners since they felt this was malpractice. It is always interesting when you innovate and apply new techniques how there is a hesitancy for change. As we all know, if one does a myelogram today, it is performed as an outpatient procedure as are many other spine procedures.

We were also asked to help in the development of the MRI scan. We worked with Dr. Ken Miravela from The University of Texas Southwestern Medical School at Dallas and also had multiple discussions with Dr. Leon Wiltse in California. Although the initial impression was that it was very difficult to get an image that was of any value, MRI subsequently has turned out to be the study of choice.

Along the way we became very interested in discography. We published a paper on the Dallas discogram description along with Dr. Dave Selby, and this became pretty much the standard of care for those who believed in discography. Unfortunately, discography in and of itself became a battle due to the fact geographically people either believed it had value or believed it had no value. To this day, it is still

controversial depending on who you speak with and their criteria for performing the evaluation.

Research Foundation

Early in our development, we realized a desire to have an academic component to our private practice. This was accomplished by the establishment of a non-profit research foundation. Texas Back Institute Research Foundation was formed in 1985 with Dr. Barton Sachs. Dr. Donna Ohnmeiss joined the Foundation in 1986. TBIRF's mission is to improve care for individuals with spine problems through research and education.

We became actively involved in any and all spine meetings with podium presentations and chairing symposia. We had a key role in the formation of the North American Spine Society, and several of our group became members of the International Society for the Study of the Lumbar Spine. In addition, we found it important to have each of our partners involved in each of the major spine societies. These included the Scoliosis Research Society, Cervical Spine Research Society, American Spinal Injury Association, International Association for the Study of Pain, and we played an integral role in the formation of the Spine Arthroplasty Society to become the International Society for the Advancement of Spine Surgery.

The primary focus of the research program has been on diagnostic evaluations and treatment outcomes. These clinical studies have involved discography, MRI, pain drawings, presurgical psychosocial screening, minimally invasive procedures, and total disc replacement. Biomechanical projects have also been performed. Currently, TBIRF is involved with numerous clinical outcome studies evaluating long-term results of various treatments. About 4 years ago, we added a spine performance lab dedicated to research. The lab has the capability to analyze gait, balance, and muscle activity as measured by EMG. These studies have resulted in our publishing extensively in the peer-reviewed medical literature since 1987. In addition to publications, the research studies have led to numerous presentations at national and international spine conferences.

The Foundation has been involved in the publication of spine-related medical textbooks and monographs including Rehabilitation of the Spine, The Spine in Sports, Lumbar Disc Disease, Cervical Disc Disease, and Spinal Arthroplasty: A New Era in Spine Care.

Programs

Under the leadership of Dr. Richard Guyer, the Texas Back Institute Spine Surgery Fellowship program was initiated in 1986. Currently, Dr. Guyer and Dr. Jack Zigler are directors of the Fellowship. To date we have trained 118 surgeons from all over the United States. The creation of the Fellowship sparked the development of our weekly Neuroscience conference which is CME accredited. The Fellowship program also

includes a weekly interesting case conference and a monthly journal club. In addition to the formal year-long fellowship program, we have visitors from all over the world who come to observe the latest in new technology being developed in the United States.

We have created automated patient education programs and an interactive informed consent process. All the responses are documented automatically, signed and placed in the EMR record.

In addition to the back school, we have also initiated other patient education programs. Approximately 15 years ago we developed a series of ten videotapes. In most operative procedures we perform, the patient is taught preoperatively by watching the tapes with a nurse clinician and then answering questions related to their understanding of the procedure. Naturally, the surgeon reviews the proposed surgery with the patient as well and answers any questions that may still linger.

More recently we have created an automated, interactive informed consent process. The patients view high-quality computer graphics accompanied by text and audio. At the end of the program, the patient is asked to respond to questions concerning their understanding of the risks related to surgery; verifying that all their questions have been answered to their satisfaction; and giving their consent to have the surgery. All the responses are automatically documented, signed and placed in the chart. A nurse educator is available throughout the process to answer questions.

We have authored numerous books for the lay public including Back in Shape and two editions of Treat Your Spine Without Surgery. In addition, we have been on public television and have participated in educational symposia for the public. Our goal has been to utilize all the new information technology potential for educating patients. We are involved in both Spine Universe and Spine-Health and have been integral in preparing content as well as helping to develop these web sites.

Texas Back Institute has been involved every step of the way in regard to new product development. The initial pedicle screw and rod fixation system developed was first conceived by Dr. Ralph Rashbaum on a napkin that he gave to Dr. Art Steffee of Acromed. Dr. Steffee called this first construct the Texas Connection. Since that time, many other systems have evolved.

It should be noted that from 1980 to 1981 we played a role in the formation of bone banks. The initial concept for cross sections of femur bone to be used in anterior lumbar interbody fusion is something I had taken to Osteotech.

One problem we encountered with this bone was that it was somewhat eburnated, and the concept thereafter was to cross hatch the bone with tire treads and see if this would help. Unfortunately, it did not make much difference, and Dr. Steffee and I considered using a curved nail that would go from the superior vertebral body through

the medullary canal of the femur bone into the vertebral body below. This seemed a little difficult, and Dr. Will Smith from Atlanta had the idea of using a screw in front of the graft that would serve as a doorstep. This turned out to be the simplest solution, and consequently, has been incorporated since then.

Clinical Trials / New Technology

We participated in the clinical trials of the first two threaded fusion cages – the BAK™ and the Ray TFC™. Personally, I was concerned as to how one of these cages would be extracted if it became infected. There was also some concern about the potential for subsidence of the metal cages into the vertebral bodies.

In our Research Foundation, we tested the first cylindrical threaded femur bone. This was presented to the North American Spine Society in a poster presentation in 1992, and several years later this technology was picked up by the Florida Bone Bank. They manipulated the technology somewhat and came out with a femur bone dowel that was thereafter marketed by Medtronic.

Due to concerns of the threaded metallic cages cutting into the toughest part of the bone, the endplates, we worked with Spinal Concepts to design a product called InFix. It basically rests on the endplates and preserves lordosis, while avoiding the potential complication of positioning a cylindrical cage too deeply and perhaps hitting a nerve root. This product has recently received FDA approval for vertebrectomy. In addition, we have been instrumental in the development of various cervical plates, percutaneous systems and vertebroplasty systems.

In 1989 we became very interested in the artificial disc and invited Dr. Karin Büttner-Janz, co-inventor of the first total disc replacement, to visit the Texas Back Institute. We were intrigued by the fact that surgeons in the United States continued to do fusions of the spine, and yet in regard to the hip and the knee, this was not the case. Fusions had become passé, and people were replacing hips and knees. Consequently, we worked with Dr. Büttner-Janz to translate text related to the development of the prosthesis from German to English and to publish this with her in the United States. Almost ten years later we were able to work with the Link company to start the FDA clinical trial on the Link SB Charité prosthesis. Almost simultaneously, we were the initial site for the investigation of the Spine Solutions ProDisc.

Our goal several years ago was to become one of the major arthroplasty spine centers in the world, and consequently, we have been very active in the whole arthroplasty realm. We do this not just for the sake of doing things, but it truly keeps our level of interest high in regard to the intellectual challenge of the development of the science of spine and to ultimately improve care for back pain patients.

Texas Back Institute is presently focused on five major areas for downstream development of the science of the spine:

- Arthroplasty, which is subcategorized to total disc replacement, nuclear replacement, annular repair, extraligamentous repair, and facet joint replacement
- Minimally invasive surgery of the spine
- Image guidance and robotics
- Genetics and biomaterials
- Nanotechnology and MEMS (microelectromechanical systems)

We are positioned with relationships with various academic and private institutions to maximize our knowledge in these realms.

Recently, we also formed a for-profit product development company which was called Innovative Spinal Technologies to more rapidly develop some of our intellectual properties and thereafter, as many universities have done, bring these to the public marketplace.

In 1992 *Fortune Magazine* featured Texas Back Institute in a five-page spread. As a result, Dr. Reggie Herslinger, a professor at Harvard Business School, sent three of her MBA fellows to study us as the focus factory in spine similar to the Scholdeis clinic for hernias or certain cancer institutes that deal with a narrow niche but are integrated vertically.

Integrating multiple specialties within Texas Back Institute has been a labor of love but not easy. There are always turf battles. When we first brought in an exercise physiologist, the physical therapists did not accept him. It became a process of slow integration. When we elected to bring in chiropractors, we had turf battles and much concern. The way we have successfully gotten around this has been by doing it slowly – bringing in the best of the best, and consequently having the opportunity to have members of our group learn from these distinguished people in their own realms.

We have also integrated within Texas Back Institute neurology, occupational medicine, physical medicine and rehabilitation, physical therapy, occupational therapy, nursing, psychology, exercise physiology, chiropractic, orthopedic spine surgery, neurosurgery, general surgery and internal medicine.

New Challenges

Over the years, physicians have had to deal with consistently decreasing revenues and increasing costs of malpractice insurance and health insurance for employees. They have had to become HIPAA compliant, cope with the time required to get insurance approval for various procedures and deal with other management issues. This has driven an increased need to address the business aspects of delivering quality spine care to patients.

One method of addressing the problem is the creation of boutique hospitals in which physician groups partner with hospitals to create specialty hospitals. This allows the

physicians more control, reduces the amount of time wasted and provides revenue sharing. Input from the owner/physicians can also improve the quality of care for their patients in the hospital setting.

One must improve care while cutting costs is the incorporation of technology into all aspects of daily practice. New specialty hospitals can be designed to incorporate a paperless computer-based system. In the clinic, technology such as electronic medical records and digital imaging systems improve service and greatly decrease costs by eliminating or significantly reducing the need for record storage, record staff, transcription services and the processing of radiographic images. Technology also can help streamline processes related to coding and billing.

Throughout our history our goal has been and continues to be to perform as a center of excellence, integrating the best of science and education with the best business practices for the wellbeing of patients.

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