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Raising the Bar for Minimally Invasive Pain Management

By Iris Goldberg

For patients seeking a way to control or manage their pain, the search for the right physician and/or facility can become a frustrating and often, disappointing and ultimately, futile endeavor. Unfortunately, the correct solution for each individual differs and therefore, might prove to be elusive for some. Additionally, prolonged pain may cause some patients, who are desperate for relief, to make hasty decisions about a course of treatment or pain management approach without undertaking the proper investigation, at times, resulting in a less than desirable outcome.

This month, in an effort to present some of the factors to consider when choosing a treatment option for prolonged, severe pain, our focus is on Thomas P. Ragukonis, M.D., a New Jersey double board-certified pain management physician and anesthesiologist who specializes in minimally invasive pain management. Dr. Ragukonis

serves as Medical Director of **Bergen Pain Management** and **Columbia Pain Management** with four conveniently located offices in Northern and Central New Jersey. Joined by his experienced and highly-trained associates, Dr. Ragukonis adheres to an unwavering philosophy that an individualized approach must be devised for each and every patient he treats. Equally important to Dr. Ragukonis, is providing the safest environment possible in which to perform the numerous innovative procedures which he has expertly mastered during his impressive career.

A great number of patients who consult with Dr. Ragukonis suffer chronic back or neck pain. There are many types of back pain, the causes of which range from simple muscle strain or sprain to misalignment of the spine, to loss of disc material rendering a specific disc or discs incapable of acting as a “shock absorber” between vertebral bodies. Each of these conditions

While watching the fluoroscopy screen for proper location, Dr. Ragukonis places a needle into the disc space.



can result in agonizing pain that interferes with a patient's ability to function normally and certainly impacts upon the quality of one's life. Although some patients will require a major surgical procedure and must be referred to a spine surgeon, Dr. Ragukonis is known for achieving a dramatic improvement in pain without major surgery for a great many of the individuals who come to him for treatment.

In determining the etiology of pain, Dr. Ragukonis relies on a variety of imaging studies and tests including MRI, CT scanning and EMG testing, as well as an extensive history and physical examination. Then and only then can the correct origin of pain be accurately identified and an appropriate, individualized treatment plan be formulated. Sometimes, Dr. Ragukonis will devise a multi-disciplinary approach. With pain that is found to be muscular, for example, physical therapy, which re-educates the patient and strengthens muscles in the back, can be an important adjunct to oral medication and minimally invasive pain management techniques. "I work with any discipline that has something to bring to the table when it comes to helping a patient," Dr. Ragukonis shares. There are times when he will refer a patient on to another specialty if he believes this to be the best alternative. "You have to approach each patient, individually," he emphatically states. Besides working closely with other disciplines, when appropriate, such as, physical therapists, chiropractors, orthopaedists and doctors specializing in acupuncture, Dr. Ragukonis also collaborates with spine surgeons in performing minimally invasive percutaneous lumbar interbody fusion procedures, as well as endoscopic discectomies.

Some conditions respond well to the use of steroids, which are anti-inflammatory drugs. For appropriate patients, Dr. Ragukonis injects steroid medication percutaneously into the epidural space using fluoroscopic guidance, allowing the medication to be placed exactly where the inflammation is believed to be. The advantage of injecting epidural steroids is that Dr. Ragukonis can deliver a higher concentration in and around the inflamed area than would be possible with the administration of oral medication. A great many of the patients who present to Dr. Ragukonis respond to injection therapy alone and do not require additional treatment. There are those, however, who, because of the nature and extent of underlying disease, may be candidates for other procedures which are slightly more invasive than the steroid injection but still far less invasive than traditional surgery.



In performing a discogram, the needles are placed into adjoining disc spaces for comparison when pressure is applied.

For the non-surgical treatment of herniated discs, Dr. Ragukonis performs endoscopic discectomy to remove herniated disc material. Using local anesthesia and with the help of x-ray fluoroscopy and magnified video for guidance, Dr. Ragukonis, percutaneously, inserts a small, specially designed endoscopic probe between the vertebrae and into the herniated disc space. Tiny surgical attachments are sent down the hollow center of the probe to remove a portion of the affected disc. These microsurgical attachments are used to remove disc fragments and small bony spurs, as well as decomposed nerve roots. Taking about an hour, on average, this procedure involves little, if any, discomfort. Upon completion, the probe is removed and a small band-aid is placed over the incision. The amount of nucleus tissue removed varies but the supporting structure of the disc is not affected. The size of the access route to the disc consists only of the probe's small puncture site, usually about $\frac{1}{4}$ of an inch.

Another minimally invasive outpatient procedure performed by Dr. Ragukonis for discogenic back pain management is intradiscal electrothermal annuloplasty (IDET). This is a fairly advanced procedure that utilizes special electrothermal catheters that allow for careful and accurate temperature control. The procedure works by cauterizing nerve endings within the disc wall to help block pain signals. Taking approximately one hour, IDET is performed with a local anesthetic and mild sedation. A hollow introducer needle is inserted into the painful disc space using x-ray guidance. Next, the electrothermal catheter is passed through the needle and positioned along the back inner wall of the disc (annulus). The catheter is slowly heated to 90 degrees Celsius. The heat contracts and thickens the collagen fibers making up the disc wall. This promotes the closure of tears and cracks. The tiny nerve endings within these tears are cauterized, resulting in less sensitivity. The catheter and

needle are then removed and after resting for a short while, the patient is able to return home. Recovery takes a few weeks to allow adequate healing of the disc and physical therapy can then be undertaken. The goal with IDET, as with all of the pain management procedures performed by Dr. Ragukonis, is to get patients back on their feet and resuming their normal activities as quickly as possible.

Spinal cord stimulation (SCS) is a procedure that uses an electrical current to treat neuropathic chronic back and limb pain. During SCS, Dr. Ragukonis implants a tiny programmable generator and electrical leads beneath the patient's skin. Small electrical currents are applied to the areas of the spinal cord that are thought to be involved. These electrical impulses interfere with the transmission of pain signals to the brain and relieve pain without causing the unpleasant side effects associated with some narcotic pain medications. A pleasant tingling sensation is substituted for the pain and blocks the brain's ability to sense pain in the stimulated areas. New technology has allowed for the development of more sophisticated neurostimulators that can sufficiently reduce pain in some individuals, thereby eliminating the need for strong pain medications altogether.

To perform SCS, Dr. Ragukonis first numbs the skin with a

local anesthetic. Soft, thin wires with electrical leads at the tip are then placed through a needle into the back near the spinal column, without the need for an incision. Dr. Ragukonis determines the best location based upon each individual's pain. The leads are then connected to a programming device that can be used to program the electrical current in a pattern to specifically target the painful areas for each patient. At first, a temporary system is implanted to be tried for a week or so. For the trial period, the leads are placed beneath the skin and attached to a small generator which the patient carries. If the SCS trial is successful, Dr. Ragukonis can then place a permanent system with the leads inserted the same way as in the trial and the small generator surgically implanted just beneath the skin in the upper buttock or abdomen. The wires are connected and nothing is visible on the body.

Using a programming device outside the body, the system can be programmed in a way similar to using remote control to adjust a television. The area or intensity of stimulation can be changed and the system can be adjusted to provide the best pain relief. The initial programming is done by Dr. Ragukonis and patients can learn how to control the stimulation at home and adjust it to their pain as need dictates.

When performing these procedures or utilizing any of the

Dye is injected into the disc area under pressure. If the space does not hold the pressure, the dye will be seen leaking out of the space and the pressure will fall, indicating disc deterioration in order to perform a discogram that is used to identify the pain source.



numerous minimally invasive pain management techniques with which he has gained considerable expertise (see list of additional procedures provided), Dr. Ragukonis is affiliated with outpatient surgery centers that are recognized as among the finest in our state.

Paramus Surgical Center, which is located in the same building as Bergen Pain Management and where Dr. Ragukonis performs the vast majority of his procedures, is the first free-standing ambulatory surgery center in our region to have been awarded both the highest accolade possible by the Accreditation Association for Ambulatory Health Care (AAAHC) and the Gold Seal of Approval by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). It also has the distinction of being the first to be recognized by J.D. Power and Associates (a global marketing information firm) and receive its award for providing “*An Outstanding Patient Experience.*” These honors are important indicators for patients and referring physicians to consider when choosing a pain management physician who, besides providing treatment, will determine the outpatient facility in which that treatment will be delivered.

Joint Commission standards are developed with input from health care professionals, providers, measurement experts, consumers, government agencies and employers. These standards are the basis of an objective evaluation process for health care organizations that can help measure, assess and improve performance. JCAHO standards focus on important patient care and facility functions that are essential to providing care in a safe environment. Accreditation provides a visible commitment by a facility to improve the quality of patient care and to continually work to reduce risks to patients and staff.

The AAAHC is a private, non-profit organization formed in 1979. It is the preeminent leader in developing standards to advance and promote patient safety, quality and value for ambulatory health care through peer-based accreditation processes, education and research. Accreditation is ultimately awarded to those organizations that are found to be in complete compliance with the Accreditation Association standards.

Accreditation is a voluntary process undergone by Paramus Surgical Center (PSC) to be able to measure the quality of its services and performance against nationally recognized standards. The accreditation process involves self-assessment by PSC, as well as a thorough review by the AAAHC’s expert surveyors, who themselves have extensive experience in the ambulatory environment. The Certificate of Accreditation is a symbol that PSC has committed to providing high-quality patient care and that it has demonstrated this commitment by measuring up to the AAAHC’s stringent standards.

Undergoing even a minimally invasive ambulatory procedure is a serious undertaking. Patients need to make carefully considered choices about who will provide treatment and where



In this scan, the needles are clearly shown in place, with the lowest space showing the dye spreading beyond the disc area.

this care will be administered. Besides his impressive personal credentials and extensive training, Dr. Ragukonis is equally proud of the level of excellence achieved by the facilities in which he works and what this means in terms of achieving the most successful outcomes for his patients. “Quality care

Additional Pain Management Procedures Performed

- Intradiscal Electrothermography
- Disc Decompression
- Implantable Spinal Devices
- Endoscopic Discectomy
- Sacroiliac Joint Injection
- Sciatic Nerve Block
- Stellate Ganglion Block
- Epidural Blood Patch
- Cervical & Lumbar Epidurogram
- Lumbar Sympathetic Block
- Epidural Steroid (Lumbar/Caudal) Injections
- Discography (Lumbar)
- Bier Block
- Greater Occipital Nerve Injection
- Supra Scapular Nerve Injection
- Intercostal, Single & Multiple Block
- Ilioinguinal/Iliohypogastric Block
- Nerve Root Injection, Single
- Facet Block, Single & Additional Levels
- RF
- Spinal Cord Stimulator Implant
- Intrathecal Pump Implant
- Ankle Nerve Block
- Axillary Brachial Plexus Block
- Cervical Facet Radiofrequency Neurotomy
- Cervical Selective Nerve Root Block
- Cervical Transforaminal Epidural Steroid Injection
- Myelography (Myelogram)
- Thoracic Epidural Steroid Injection
- Thoracic Facet Radiofrequency Neurotomy
- Thoracic Transforaminal Epidural Steroid Injection
- Trigger Point Injections

that is above and beyond is what it's all about as far as I'm concerned," explains Dr. Ragukonis. He is eager to discuss the frequent external monitoring by the various organizations that Paramus Surgical Center opens itself up to, in order to keep the high standards of excellence required to achieve positive recognition constantly in place. "We are definitely raising the bar for other centers that wish to provide the same level of patient care," Dr. Ragukonis proudly shares.

Affiliation with an ambulatory center such as PSC, for example, which has received the sanction of organizations such as AAAHC, JCAHO and J.D. Power and Associates, gives Dr. Ragukonis the assurance that protecting the rights and ensuring the welfare of his patients will be of utmost importance during each procedure he performs. Specifically, he knows first and foremost, that his patients will be treated with respect, consideration and dignity. Also, the facility has utilized appropriate procedures to validate the qualifications of every individual involved in providing care before, during and after a procedure is performed to make certain that the safety and well-being of patients is guarded at all times. In the unlikely event that an emergency arises, Dr. Ragukonis can be confident that the facility has the necessary personnel, equipment and procedures to handle any situation and that there are proper mechanisms in place to transfer a patient to a hospital, if necessary. These are just a few of the crucial criteria that must be met, according to Dr. Ragukonis, to ensure a quality of patient care that is consistently superb.

During his career, Dr. Ragukonis has focused on premier minimally invasive pain management with an emphasis on spinal techniques. Of paramount importance to him is to deliver care in a sensitive and compassionate manner and the expectation that the same philosophy will be observed by his entire staff. He continues to update his skills in the most innovative and cutting edge spinal interventions including, disc decompressor, nucleoplasty, IDET and radiofrequency neurolysis, as well as spinal implantable devices and endoscopic discectomy. Dr. Ragukonis looks forward to implementing new technology as it develops, in order to continue to provide the highest level of pain management available.

Dr. Ragukonis grew up in New Jersey and earned his BA degree from Rutgers University, where he graduated Phi Beta Kappa. He then attended the University of Medicine and Dentistry of New Jersey (UMDNJ), where he obtained his medical degree. After completing his residency at Columbia



PHOTOS BY KEN ALSWANG, AT HOME STUDIOS

The Paramus Surgical Center is the first free standing ambulatory surgery center in our region to be recognized by J.D. Power and Associates. They have received this recognition two years consecutively for providing "An outstanding patient experience."

Presbyterian Medical Center in New York, Dr. Ragukonis began his private practice in New Jersey.

Serving as Clinical Assistant Professor at UMDNJ, Department of Anesthesiology, which brings him full circle with his alma mater and affords him the privilege to "pass the torch," Dr. Ragukonis' credentials also include: Diplomate American Board of Pain Medicine, Diplomate American Board of Anesthesiology and Diplomate American Academy of Pain Management. Additionally, Dr. Ragukonis is a member of the American Association of Clinical Directors. ■

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