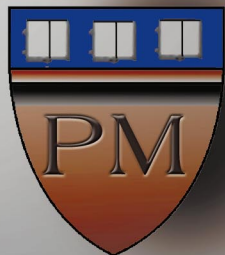


the painless messenger



The practitioner's
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pain management

The newsletter for Pain and Wellness Center Fall 2004

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10 Centennial Drive (East Entrance)
Peabody, MA 01960
Telephone: 978.826.7230
Fax: 978.826.7237
www.pain-and-wellness.com

Dear Colleague:

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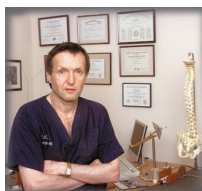
It is my distinct pleasure to launch the first issue of our quarterly newsletter dedicated to the diagnosis and treatment of chronic pain. As part of Pain and Wellness Center's commitment to our professional community, we recognize the need to better educate our primary care providers and specialists, since pain management has continued to evolve over the past 20 years as a new and distinct specialty in medicine.

We are also acknowledging that you are ultimately the very first to evaluate these complex patients. Therefore, you become responsible for their well being. By sharing with you the basic principles, theories and newest trends in the field of pain management, I believe that it is the patient who will actually benefit from better care.

It is my hope that this publication will dissipate the commonly held perception that every pain clinic is a "block and needle shop" and rather grasp the multidisciplinary flavor of our specialty including alternative therapies. It is our intention to bring up various topics of interest and to discuss some case reports that will illustrate the clinical thought process behind each intervention.

Our current location, including the ambulatory surgical center, is at 10 Centennial Drive in Peabody. If you have comments or any topics of interest, please do not hesitate to contact us. Go to our website from where you can choose various methods of contacting us: www.pain-and-wellness.com.

Thank you for your ongoing support and trust,



Julien Vaisman MD

CHRONIC PAIN OF THE LUMBAR SPINE

by *Julien Vaisman MD*

Julien Vaisman MD, is board certified in anesthesia, internal medicine and pain management

Despite great advancements in understanding the mechanisms of pain, making the correct diagnosis pertinent to spinal chronic pain remains the greatest challenge facing the pain providers. To achieve this task, one has to consider and blend a number of findings such as: clinical data, imaging and laboratory studies, physical examination and precise diagnostic block with local anesthetics injected at the targeted spinal structures. In this issue we will discuss just two spinal pain generators.

FACET SYNDROME

This diagnosis is suggested on clinical grounds: tenderness and muscle spasm on deep tissue palpation and worsening of pain after forced lumbar extension. The diagnosis value of MRI, CT scan, bone scan or SPECT studies is rather poor. In order to decrease the false positive response rate, two diagnostic blocks are performed. In patients with a significant arthritic component, simple intra-articular joint injection may yield a favorable outcome. The other patients will benefit from a radiofrequency thermal denervation of the nerves supplying these structures. One or more facets can be treated at the same time. Following the procedure a rehabilitation program is implemented.

DISCOGENIC PAIN

Lumbar discogenic pain remains controversial in respect to both treatment and diagnosis. The patients usually present with mid axial pain and seldom radiation in the lower extremity. The gold standard test for this condition is considered to be provocative lumbar discography. The test consists of pressurizing the suspected and adjacent discs via a needle which is placed in the center of the nucleus pulposus. The pressure inside the disc is recorded and the data is corroborated with the clinical findings and MRI images.

Once diagnosed, the treatment itself remains very controversial. Some treatment alternatives include either spinal fusion (arthrodesis) or a minimal invasive procedure such as intradiscal electrotherapy (IDET). In our pain clinic we perform IDET in carefully selected patients who are young, failed all types of conservative management (physical therapy, exercises and medications) and had a clear-cut positive discographic study.

Based on evidence analysis, it appears that IDET therapy meets the criteria for moderate evidence for short term relief and limited evidence for long term (more than six months) relief. Next issue, we will review segmental pain and sacroiliac joint pain.



HERNIATED LUMBAR DISC

by *Joe Ordia MD*

Joe Ordia MD, is a board certified neurosurgeon at Pain and Wellness Center.

The spinal column is made up of many bony vertebrae which are separated by soft, rubbery, oval cushions called the intervertebral discs. The discs align the joints (which allow the spine to bend), act as shock absorbers, and prevent one bony vertebra from grinding against another. The spinal cord and nerves descend through the spinal canal, and the nerve roots exit through the neural foramina.

Normal disc consists of a firm, fibrous outer ring, the annulus and a soft central nucleus that is made of water and a gel-like material.

The disc degenerates as we get older. The water content of the nucleus decreases, and the disc shrinks. Hence, we tend to get shorter as we get older. Tears occur in the annulus and it becomes weak, allowing the nucleus to herniate through and compress the nerve root. Tears of the annulus, disc herniation or rupture can also be produced by obesity, improper lifting, and sudden pressure (such as from coughing or sneezing). The compressed nerve becomes inflamed

and swollen. Depending on the level of the disc and the size, the herniation may result in lower back pain that radiates into one or both legs and may be associated with weakness, numbness and tingling. A large herniation or rupture can compress the multiple nerve roots of the cauda equina and cause loss of bladder and bowel control and sexual dysfunction. Cauda equina syndrome may demand urgent surgery.

Another consequence of age-related changes in the intervertebral discs is spondylosis. Dehydration and collapse of the discs causes increased stress on the cartilage end plates at the lips of the adjacent vertebrae. This process results in the formation of bone spurs (osteophytes). As the spurs become larger, they can compress the nerve roots to produce radiculopathy.

TREATMENT OF HERNIATED DISC

Most patients with a herniated disc respond well to conservative measures and do not require surgery. In the acute phase, analgesic or anti-inflammatory medication, muscle relaxant and a brief period of rest are usually effective. Walking and gentle stretching exercises help to prevent muscle atrophy and deconditioning.

Epidural steroid injection should be considered if conservative measures fail to provide adequate pain relief. It can reduce nerve root inflammation and swelling and decrease pain and paresthesia. Over time the herniated disc may shrink as it becomes dehydrated and eventually resorb.

Surgery may be required if pain is excruciating, neurological deficits are severe (such as foot drop or cauda equina syndrome) or progressive, or if conservative measures are ineffective.

Lumbar discectomy is the most common neurosurgical operation. In this country, most of the 300,000 annual operations are performed by neurosurgeons and the others are done by spine orthopedic surgeons. The two most common techniques are standard discectomy and

microdiscectomy. Both approaches involve the removal of small portions of the adjacent laminae, medial facet and the ligamentum flavum to gain access to the disc. Spinal fusion is often not indicated. Most surgeons use a microscope or surgical loupes for both standard discectomy and microdiscectomy. Less tissue is removed in microdiscectomy and some surgeons also spare the ligamentum flavum. The rationale is to maintain structural integrity and to prevent post-operative epidural fibrosis around the nerve root. Several clinical trials have found no significant difference in outcome between the two techniques. The long term success rate is about 80 to 90 percent.



INTRATHECAL PUMPS

by Leslie Lezell NP

Intrathecal pumps are implantable devices used to deliver continuous medication directly into the spine to achieve a high concentration of medication at a low dose. The device contains a septum, a reservoir, a filter and a tunneling catheter. It is programmable for titration and the pump has a battery. Intrathecal pumps are primarily used for the treatment of chronic forms of pain or spasticity. Intrathecal drug delivery is indicated only when conservative treatments have failed to achieve adequate symptom reduction or oral medication doses that do achieve symptom reduction yield intolerable side effects.

Indications for intrathecal pain medication include chronic forms of cancer and non-cancer pain, such as discogenic pain, failed back syndrome, severe forms of visceral pain and some forms of somatic pain (ie, complex regional pain syndrome). Indications for antispasmodic intrathecal medications include multiple sclerosis, spinal cord injury associated with muscle spasm and some familial and genetic forms of spasticity.

Before implanting an intrathecal pump, clients must undergo a trial period

whereby a non-permanent catheter is placed and delivers a bolus of intrathecal medication. Patients are then closely monitored for their response. Those patients who report a 50-percent reduction of symptoms after the bolus without side effects that worsen their quality of life will likely continue to respond well to intrathecal drug delivery. An implanted device is then warranted.

The pump is surgically implanted in the subcutaneous tissue of the abdominal wall. It is approximately 87.5 mm in diameter and 19.5 mm in thickness, or the size of a standard hockey puck. A catheter tunnels into the intrathecal space at the approximate level of injury or level of their pain generator and is sutured in place.

Once the device is implanted, the client must return for medication refills, which are done externally, via a small access port in the center of the pump itself. A needle punctures the port superficially, allowing for the remaining medication to be extracted and replaced by new medication. Delivery rates are programmed and determined by titrating the medication to achieve symptom reduction without concomitant sedation or overmedication. Most clients require medication refills every three months, as a maximum of 40 milliliters can be stored in the device. Between refill dates, and except for routine pump maintenance, clients can achieve full independence with intrathecal pumps. Clients can swim, travel, exercise and even return to work.

On occasion, internal maintenance is necessary. The device has a battery life of five to seven years, and the pump must be surgically replaced after this time. Complications with the pumps, although rare, can include the catheter itself becoming kinked, dislodged, occluded, or even migrating. Clients who experience any symptoms of withdrawal, inconsistent analgesia or symptom management, or an increase or decrease in the amount of expected medication retrieved when refilling the device may need operative revision of the catheter. A rare but very serious complication is the forma-

tion of a granuloma from tissue overgrown at the tip of the exiting catheter. Early detection signs include decreased perineal sensation, incontinence, weakness, and decreased analgesia. Emergent evaluation and surgical removal of the granuloma is necessary, as complications can include paralysis and even death. The catheter itself may also need to be evaluated and possibly revised.

While the Food and Drug Administration has only approved two medications for intrathecal pump delivery (morphine and baclofen), there are other medications widely used for intrathecal therapy. These include hydromorphone and fentanyl (opioids), clonidine (alpha-adrenergic agonist), bupivacaine (local anesthetic) and neostigmine (acetylcholinesterase inhibitor). The inclusion of non-opioid medications delivered intrathecally continues to be researched and the clinical benefits continue to show promising results for symptom reduction. Economically, an intrathecal drug delivery device provides a cost-effective means of drug delivery over time for the management of chronic pain or spasticity. Initial surgical costs are mitigated once the device is implanted, as the cost to maintain the pump will sharply decrease to the cost of the refill medication, or roughly four to six syringes of compounded medication per year.



OPIOIDS: Their Place in Chronic Pain Management

by Karen A. Little NP

Without question, opioids can provide significant analgesia for patients experiencing pain, both acute and chronic. Despite this fact, many healthcare practitioners are hesitant or uncertain as to when opioids should be prescribed for patients with chronic nonmalignant pain, including failed back syndrome, osteoarthritis and post herpetic neuralgia, among others. This point comes as no surprise given the fact that opioid abuse, particularly involving heroin and oxycodone, in Massachusetts is widespread

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according to 2004 data from the Drug Enforcement Administration (see <http://www.usdoj.gov/dea/pubs/states/massachusetts.html>).

The American Academy of Pain Medicine and the American Pain Society support the use of opioids for chronic pain using standardized guidelines. By following these protocols, healthcare practitioners can reduce the risk of misuse and treat chronic pain successfully with opioid medications. Our office at Pain and Wellness, uses the standardized approach outlined below.

First of all, a firm diagnosis and the etiology of the pain must be established prior to prescribing long-term opioids. This includes a full diagnostic evaluation, including appropriate referrals to specialists (ie, rheumatology, neurology and pain management) and tests such as magnetic resonance imaging (MRI), electromyography (EMG) blood work, etc. Once a diagnosis is established, patients

are considered for opioid therapy once they have failed conservative and interventional treatments. Interventional treatments may include epidural steroid injections and facet blocks. Conservative treatments include: 1) lifestyle modification (exercise program and weight loss, if indicated), 2) non-opioid analgesics (non-steroidal anti-inflammatory drugs [NSAIDs] and acetaminophen), 3) as-needed short-acting opioids (ie., oxycodone, hydrocodone) and 4) adjuvants (anticonvulsants, muscle relaxants, tricyclic antidepressants).

Patients are then screened for current or past substance abuse, realistic goals of therapy, psychological comorbidities and coping skills.

If any of the above screens produce questionable results, patients are then referred to a psychologist for further screening using a standardized format. Patients are also drug tested (either urine or serum) to assess for compliance with medications and to evaluate for any other

undisclosed substances that may interfere with a prescribed opioid.

Once a patient undergoes the above screening, they are presented with a opioid agreement that outlines our expectations during therapy. Our protocol includes monthly visits, no early refills and filling prescriptions at one pharmacy only, among other points.

Patients are often started on short-acting medications for the purpose of titration. These medications include oxycodone, immediate-release morphine, and hydrocodone. A second option is to start an opiate-naïve patient on a very low dose of a long-acting analgesic.

No particular protocol can completely eliminate the misuse and abuse of opioid medication. However, they can reduce the risk and provide patients experiencing significant pain with safe and effective treatment using these useful analgesics.

Pain and Wellness Center

10 Centennial Drive
Peabody, MA 01960