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Cleveland Clinic

Managing Pain

A newsletter on treating chronic pain from the
Pain Management Department at Cleveland Clinic

A Letter from
Nagy Mekhail, MD, PhD, Chairman, Pain Management

Nagy Mekhail, MD, PhD

Welcome to the summer issue of *Managing Pain*. In this issue you'll read the latest news, medical treatments and clinical research trials that can help you significantly reduce and/or eliminate your back pain.

About 80 percent of Americans experience back pain. Fortunately, with a little rest and over-the-counter medications, most back pain episodes will fade away. Nevertheless, in this issue of *Managing Pain*, you'll learn how to spot symptoms that should prompt a call or visit to your physician.

But for back pain that never goes away, there are new and promising treatments that could help you.

For example, a minimally invasive procedure called balloon kyphoplasty can offer pain relief for patients with vertebral compression fractures. What's more, in a small pilot study conducted at our Department of Pain Management, another minimally invasive procedure using radiofrequency waves significantly cut back pain and improved functionality for patients suffering from chronic lower back pain, otherwise known as discogenic pain.

We're also recruiting patients for research studies for new and developing clinical treatments to diagnose or treat back pain and pancreatitis. For more information, please call us at 800.392.3353 or visit us at www.clevelandclinic.org/painmanagement.

In this issue, you'll also read about the growing body of research showing complementary medical treatments such as acupuncture can substantially reduce pain in the lower back. Likewise, studies also have shown that an anti-inflammatory diets coupled with regular exercise can also reduce lower back pain.

At the Department of Pain Management, we are always investigating, researching and working for new and promising ways to treat pain so that you can live life pain free.

Sincerely,
Nagy Mekhail, MD, PhD

Inside

New Procedures Show Promise for Discogenic Pain Patients

Pilot study patients reduced their lower back pain by more than 50 percent

Leonardo Kapural, MD, PhD

Pain that originates from the intervertebral discs of the spine, also called discogenic pain, occurs in 40 percent of patients who suffer from chronic lower back pain. Most patients with this condition start to feel intense pain with prolonged or changing position from sitting to standing.

"For physicians, discogenic pain has always been difficult to treat," says Dr. Leonardo Kapural, MD, PhD, of the Department of Pain Management.

"We think discogenic pain may be present in few patients with disc degeneration that occurs as with aging or as a direct consequence of an injury," Dr. Kapural explains.

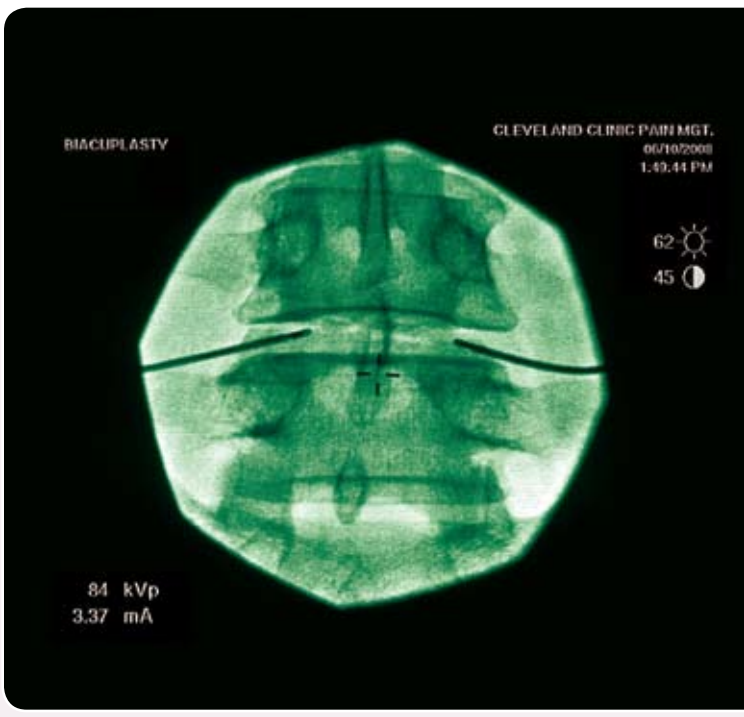
Conservative management for discogenic pain is not effective for many patients, and invasive procedures including spinal fusion and artificial disc replacement have shown variable rates of success.

> Discogenic pain is the cause of lower back pain in a large number of patients.

However, a recent Cleveland Clinic pilot study performed on 15 patients showed transdiscal biacuplasty, TDB, a novel radiofrequency procedure, appeared to be an effective, minimally invasive procedure for the treatment of intervertebral discogenic pain. Following TDB treatment, over 50 percent of the pilot study patients reduced their pain and improved their functionality more than 50 percent.

"Approximately 200 procedures of TDB have been performed around the world so this treatment is fairly new, but it is a safe and straightforward procedure," says Dr. Kapural, who was the lead investigator for the pilot study. "The outcomes, according to our pilot study, are very positive."

The procedure is done under mild sedation and entails two needle punctures in the lumbar area. Patients are encouraged to wear a back support for a few weeks after the procedure, then get involved in physical therapy programs. The patient is asked to minimize activity for about a week and gradually work up to normal activity over three to four weeks.



Transdiscal biacuplasty technique to treat discogenic pain.

"The idea behind this new procedure is that the heat destroys the overgrowth of the nerve fibers in the disc, which significantly reduces the pain," explains Dr. Kapural. "The radiofrequency heat also may change or modify the structure of the collagen fibers in the outer part of the disc, increasing the stability of the disc."

For more information, please visit www.clevelandclinic.org/painmanagement or call the Pain Management Center at 216.444.7246 or 800.223.2770 ext. 47246

Degenerative Disc Clinical Trial

Cleveland Clinic Pain Management is participating in a multicenter clinical trial utilizing OP-1 (Recombinant Osteogenic Protein 1) for patients with degenerative disc disease.

Eligible patients must be at least 18 years of age, having back or buttock pain attributed to degenerative lumbar disc disease. Qualified subjects should not have had previous back surgeries.

For more information or to enroll, please contact Sonya Parker, with Cleveland Clinic Pain Management at 216.445.9859.

Improving Quality of Life: Kyphoplasty

More than 700,000 people are diagnosed every year with vertebral compression fractures, the majority of which are caused by osteoporosis. Typical patients with this condition are between 65 and 80 years old and tend to be more female than male. For some patients, the fractures can become progressively worse and pain results whenever they move. As a result, patients remain immobile, which causes the loss of bone mass making them more vulnerable to additional fractures.

Commonly used treatments such as bed rest and pain medications are counterproductive, and surgery does not offer viable options in part because the patient's bones are typically too fragile.

"Over the past few years, however, a procedure called kyphoplasty can offer patients long term pain relief," says Nagy Mekhail, MD, PhD, chairman of the Cleveland Clinic Department of Pain Management. Kyphoplasty is minimally invasive and can be performed under local or general anesthesia.

Through a small incision in the back, specialized tubes are inserted directly into the fractured vertebra. Through the tube, a special balloon is inserted in the collapsed vertebra. The balloon is inflated to create a cavity in the vertebra and to restore some of the lost vertebral height. Once the cavity has been created, the surgeon removes the balloon and injects a semi-solid medical cement under low pressure to repair the fracture and maintain the vertebra height, a major advantage because it prevents further collapse of the vertebra and allows the fractures to heal. Restoring the height of the vertebra can prevent an increase in spinal deformity and improve spinal alignment that can make the patient's posture better.

"As far as pain relief, balloon kyphoplasty is really a modern medical miracle," says Dr. Mekhail. "After waking up from anesthesia the back pain is gone. The surgery works best for patients who have been recently diagnosed with vertebral compressed fractures because we have a better chance at restoring most of the original vertebral height. But if the fractures are old, we might not be able to regain some of the lost vertebral height. Nevertheless, the procedure will bring the patient much relief from pain."

Dr. Mekhail also says kyphoplasty is safer than other available techniques like vertebroplasty because when the medical cement is injected into the vertebra cavity under low pressure, there is less chance that the cement will leak out and trigger serious complications.

Generally, the kyphoplasty procedure takes about 30 to 45 minutes and patients are released from the hospital within 24 hours.

IBT (Inflatable Bone Tamp) Inserted
Through two small incisions, a narrow pathway into the fractured bones is created to insert the balloon.

IBT (Inflatable Bone Tamp) Inflated
The balloon is carefully inflated in an attempt to raise the collapsed vertebra, returning it to its normal position. This process creates a cavity (void) within the vertebra. The balloon is then deflated and removed.

Filling the Cavity
The cavity is filled with bone cement to stabilize the fracture.

New Technology Treats Pain from Sacroilitis

Cooled Radio-Frequency Ablation May Offer Long-Term Pain Relief

New technology described as cooled radio frequency ablation is being used to treat patients with sacroiliac joint pain (SI), reports Leonardo Kapural, MD, director of clinical research in the Pain Management Department.

The symptoms of sacroiliac joint pain include pain in the lower back, buttocks, groin or in the front area of the thighs. It may account for 30% of all back pain, and is one that is frequently over-looked by physicians. The most common treatment for SI patients is cortisone injections, which provide only short-term pain relief. However, cooled radio-frequency ablation may become an option for long-term pain relief.

"The cooled radio-frequency ablation technology localizes the heat to the specific nerve branches that we target for ablation, which makes the lesions much more efficacious and provides patients with long-term pain relief," explains Dr. Kapural.

During the minimally invasive outpatient procedure, an introducer is placed at the point between the sacral forminal openings and the sacroiliac joint. A probe is inserted through the introducer and into the tissue just superficial to the pelvic bone. Although radio-frequency waves create heat in the surrounding tissue, the probe and the electrode at the tip of the probe is cooled by circulating water, which minimizes surrounding tissue damage.

This combination results in large volume lesions without overheating the surrounding tissues. Additional lesions are created by repositioning the introducer and electrode caudally in a step-wise manner, until all lateral nerve branches between the sacral foramina and the sacroiliac joint have been ablated. Patients are given a sedative, but they are awake and able to communicate with the physician during the 40-minute procedure. Most patients return to regular activities the next day.

Although it is a new procedure, Dr. Kapural adds that it "is safe, and is a promising treatment for patients who have no other options for long-lasting relief from the sacroiliac pain."

"A number of our chronic pain patients with sacroiliac joint pain underwent this new radiofrequency ablative procedure with very good outcomes in pain relief, improvements in quality of life, and daily functional activities", says Dr. Kapural.

Clinical Trial for Patients with Lower Back Pain Available at Cleveland Clinic

Cleveland Clinic Pain Management is participating in a clinical trial utilizing transdiscal biacuplasty.

Eligible patients must be between 18–55 years of age, and have been recommended by a physician for either disc fusion, IDET or disc replacement surgery. Qualified patients will have not had any previous back surgeries.

For more information or to enroll, please contact Sonya Parker, with Cleveland Clinic Pain Management at 216.445.9859.

Have You Considered a Complementary Treatment?

Hong Shen, MD

William Welches, DO, PhD

A growing body of research shows complementary medical treatments such as acupuncture can substantially reduce pain in the lower back. Likewise, studies also have shown that an anti-inflammatory diet coupled with regular exercise can significantly decrease lower back pain.

The Cleveland Clinic Department of Pain Management offers acupuncture and diet programs as complementary medical options to treat patients.

"Usually, when a patient decides to try acupuncture, they have explored all other options first to manage their pain," says Hong Shen, MD, a physical medicine and rehabilitation specialist, who is a certified acupuncturist. "Acupuncture can work very well for back pain, and many other types of pain."

Indeed, a recent German medical study showed that acupuncture is more effective than conventional lower back pain treatments, but it was no more effective than a sham needle procedure. Nevertheless, study patients experienced reduced pain intensity and improvement in the disability that often results from back pain.

In addition to body acupuncture, practiced in China for more than 2,000 years, Dr. Shen uses scalp acupuncture, a relatively new technique developed during the 1960s, at both Hillcrest and Lutheran hospitals.

"For many patients, I've found that scalp acupuncture can work very well, it works very fast and the pain relief last longer," Dr. Shen observes. "In addition, scalp acupuncture can relieve back pain in some patients."

Did you know that what you eat might be triggering your pain?

Processed sugars and flour, trans fat and other ingredients in today's diet contribute to the body's inflammation process that is a common symptom of pain.

Can we make changes in the diet that will result in substantial lower levels of pain? The answer is yes, says William Welches, DO, PhD. Research studies show the Mediterranean diet — rich in fruit, vegetables and deep-water fish — is anti-inflammatory.

South Pointe and Euclid hospitals provide programs that offer a full range of education, support and medical follow-up services that show patients how to follow and use the Mediterranean diet. The programs also involve regular exercise.

"We spend a lot of time on the Mediterranean diet because it takes time to train people to make the necessary changes in their eating habits," says Dr. Welches. "We cannot take their pain away but we can have a dramatic impact on their pain levels. It takes about six weeks to three months before you start noticing the effects of the Mediterranean diet."

Diagnosing Pain in a Timely Manner

Functional Anesthetic Discography May be a Solution

Diagnosing discogenic pain is difficult because an MRI might show the deteriorated disc but does not tell anything about painful disc discomfort. Discography, on the other hand, is designed to identify the painful disc. However, the evaluation of pain is subjective and individualized, explains the department's chairman, Nagy Mekhail, MD, PhD.

But a new diagnostic procedure called Functional Anesthetic Discography (FAD), may help physicians achieve an accurate diagnosis. Simply after doing the discogram in normal fashion, a tiny plastic tube with a balloon on the end is inserted at the middle of the disc. Patients are allowed to go to recovery, sit on a chair, and once they feel their back pain, a very small amount of local anesthetic is injected through the tube. Immediate pain relief will confirm the diagnosis of discogenic pain. What differentiates FAD from other diagnostic testing is that it allows physicians to test for a patient's disc pain while he or she is in the sitting position. This is important because the most common pain experienced by patients occurs in the lower back while they are sitting.

"We think this FAD technique will help us get the appropriate diagnosis, which in turn will help us determine the best pain management option for our patients," says Dr. Mekhail. "The options include surgical fusion or minimally invasive procedures such as intradiscal electrothermic therapy (IDET), or a newer procedure, transdiscal biacuplasty, (TDB), a novel radiofrequency procedure." Both procedures use different types of heat to destroy the overgrowth of pain receptors in the disc, which can significantly reduce lower back pain.

Clinical Trial for Chronic Pancreatitis

Cleveland Clinic Pain Management and the Digestive Disease Institute are recruiting patients for a chronic pancreatitis study.

Eligible patients must be between 18–55 years of age, have continuous abdominal pain, and no recent history of alcohol use.

For more information or to enroll, please contact Sonya Parker, with Cleveland Clinic Pain Management at 216.445.9859.

New Physician Update

The Pain Management Department welcomes…

Fady Nageeb, MD, is seeing patients at Main Campus, Lakewood Hospital, Lutheran Hospital and Westlake Pain Management. His special interests include back pain, abdominal pain, CRPS/RSD and regional anesthesia.

Dr. Nageeb is a graduate of Ain Shams University Faculty of Medicine, Cairo, Egypt. He served a residency in anesthesiology followed by a fellowship in Pain Management, both at Cleveland Clinic.

Cleveland Clinic

Pain Management Department
The Cleveland Clinic Foundation
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Jennifer Cherni, Marketing Manager

The Cleveland Clinic is an independent, not-for-profit, multispecialty academic medical center. It is dedicated to providing quality specialized care and includes an outpatient clinic, a hospital with more than 1,000 staffed beds, an education division and a research institute.

Free Community Events

Mark your calendar for these upcoming Pain Management events.

Pain in Women: What Makes Us Different
September 16 • 6:30 – 8:30 p.m.
Hillcrest Hospital, Ross Auditorium
6780 Mayfield Road, Mayfield Heights
Free back screenings will also be available on a first-come, first-served basis.
For reservations, call 866.924.3583.

Community Pain Assessments
September 25 • 5 – 7 p.m.
Euclid Hospital
18901 Lakeshore Boulevard, Euclid
For reservations, call 216.692.7543.

When to See Your Doctor for Back Pain?

Lokesh Ningegowda, MD

Back pain is as common as the common cold.

Nevertheless, back pain accompanied by certain symptoms should prompt a call or a visit to your primary care physician.

"The causes of back pain are multifactorial," explains Lokesh Ningegowda, MD, a pain management specialist. "The pain can be caused by an injury such as a fall; it can be related to old age, or due to degeneration of the spine."

You should call your doctor if you get back pain that is accompanied by shooting pain down the legs, or by any weakness or numbness in the legs, or if you are experiencing any loss of control of the bladder or bowel.

"For this type of back pain problem it could indicate a herniated disc that is pressing against a nerve, or for older patients it could be spinal stenosis, or any other irritation to the nerve roots in the spine," says Dr. Ningegowda.

Lower back pain that persists but is not accompanied by any shooting pain, numbness or weakness in the legs could indicate that the problem is originating from a disc, or from joints in the disc. Joint disc pain is usually triggered by unusual twisting of the back, heavy lifting or whiplash that occurs during a car accident.

But for most people who get back pain, it usually can be resolved by resting or limiting activity for a day or two, applying a heat pad to the back, and taking over-the-counter medications.

"If the back pain worsens after that conservative treatment, then you should be examined by your primary physician," Dr. Ningegowda says.

Pain Management Locations

within the Cleveland Clinic Health System

To request an appointment with a Cleveland Clinic Pain Management specialist near you, please call 216.444.PAIN (7246) or toll-free 800.392.3353.

Main Campus
9500 Euclid Avenue
Cleveland
216.444.7370

Cleveland Clinic Health System Hospitals

Euclid Hospital
18901 Lakeshore Boulevard
Euclid
216.692.7543
Pasha Saeed, MD, Medical Director
Jill Mushkat, PhD
Timothy Rhudy, MS, LAc
Samuel Samuel, MD
William Welches, DO, PhD

Hillcrest Hospital
6803 Mayfield Road, Suite 200
Mayfield Heights
440.312.7246
Teresa Dews, MD, Medical Director
Riad Laham, MD
Jill Mushkat, PhD
Hong Shen, MD
Sameh Yonan, MD

Huron Hospital
13951 Terrace Road
Cleveland
216.761.3501
Hinda Abramoff, DO, Medical Director
Charanjit Bahniwall, MD
Coveda Stewart, MD

Lakewood Hospital
14519 Detroit Road
Lakewood
216.529.7246
Emad Daoud, MD, PhD, Medical Director
Fady Nageeb, MD

Lutheran Hospital
1730 West 25th Street
Cleveland
216.363.2391
Emad Daoud, MD, PhD, Medical Director
Fady Nageeb, MD
Hong Shen, MD
Michael Stanton-Hicks, MD

Marymount Hospital
12300 McCracken Road,
Suite 259
Garfield Heights
216.587.8830
Samuel Samuel, MD, Medical Director
Lokesh Ningegowda, MD
Pasha Saeed, MD

South Pointe Hospital
4110 Warrensville Center Road
Warrensville Heights
216.491.6433
Sherif Salama, MD, Medical Director
Jill Mushkat, PhD
Lokesh Ningegowda, MD
William Welches, DO, PhD

Cleveland Clinic Family Health Centers

Avon Lake Family Health Center
450 Avon Belden Road
Avon Lake
440.930.6800
Philippe Berenger, MD, Medical Director

Beachwood Family Health and Surgery Center
26900 Cedar Road
Beachwood
216.839.3000
Sherif Salama, MD, Medical Director
Timothy Rhudy, MS, LAc

Lorain Family Health and Surgery Center
5700 Cooper Foster Park Road
Lorain
440.204.7400
Philippe Berenger, MD, Medical Director
Kenneth Grimm, DO

Solon Family Health Center
29800 Bainbridge Road
Solon
440.519.6925
Timothy Rhudy, MS, LAc

Strongsville Family Health and Surgery Center
16761 SouthPark Center
Strongsville
440.878.2500
Kenneth Grimm, DO, Medical Director

Willoughby Hills Family Health Center
2570 SOM Center Road
Willoughby
440.943.2500
Sameh Yonan, MD, Medical Director
Pasha Saeed, MD

Additional Locations

Broadview Heights Pain Management Center
2001 East Royalton Road
Broadview Heights
216.986.4000
Samuel Samuel, MD, Medical Director

Twinsburg Pain Management Center
2365 Edison Boulevard, Suite 500,
Twinsburg
330.425.2266
Sherif Salama, MD, Medical Director
Lokesh Ningegowda, MD

Westlake Pain Management Center
805 Columbia Road, Suite 105
Westlake
440.835.8233
Emad Daoud, MD, PhD, Medical Director
Fady Nageeb, MD

OPENING SOON

Brunswick Family Health Center

Elyria Pain Management Center at Chestnut Commons

Our staff is available to speak to area community groups. To request a speaker, e-mail us at painmanagement@ccf.org or call 216.444.1174.

For more information about any of the stories in this newsletter or for answers to your questions or concerns about pain management, **please contact us at 800.392.3353 or visit us on the web at www.clevelandclinic.org/painmangement.**