



Manage your pain and enjoy life again

Chronic pain can rule your life, interfering with your ability to work, sleep and enjoy your family and friends. When chronic pain disrupts your quality of life and does not improve with standard treatments such as aspirin or ibuprofen, Cleveland Clinic's Department of Pain Management is here to help. There are many safe, proven and effective treatments available that can help reduce your chronic pain. The sooner you seek treatment, the sooner you can start enjoying life again.

USING THIS GUIDE

Please use this guide as a resource as you learn about treatment options for managing your pain. As a patient, you have the right to ask questions and to seek a second opinion.

Call 216.444.PAIN (7246), or toll-free 800.392.3353 to schedule an appointment with a pain management specialist.



Cleveland Clinic Pain Management specialists are among the most experienced in the world, treating more than 10,000 patients each year. Our board-certified physicians are dedicated to the goal of helping people with chronic pain return to a normal, productive lifestyle. Using the latest in diagnostic technology, paired with medical and interventional therapeutics, they will work with you to identify the source of your pain, reduce the pain, and teach you to manage it.

PAIN MANAGEMENT TREATMENT OPTIONS

For patients who consider other options beyond medications, psychological and physical therapy treatment options may include:

- Facet nerve blocks and radiofrequency ablation
- Cryoablation
- Transforaminal epidural steroid injection
- Alternative medicine including acupuncture
- Vertebroplasty/Kyphoplasty
- Pain pump
- Spinal cord stimulation
- Peripheral nerve stimulators
- Transcutaneous electrical nerve stimulation (TENS)
- Sympathetic nerve blocks
- Neurolytic blocks
- Surgical options
- Osteopathic manipulation

Helping Patients Reclaim Their Lives Through a Collaborative Approach

Because chronic pain affects so many aspects of an individual's life, pain management specialists collaborate with other Cleveland Clinic departments to develop and offer customized care plans for each patient.

Pain conditions we typically treat

Cleveland Clinic's Department of Pain Management treats chronic pain related to any type of disease, injury or accident including:

- Back and neck pain, including herniated discs, spinal stenosis, osteoarthritis and tumors
- Chronic abdominal pain and pelvic pain
- Complex regional pain syndrome (CRPS)
- Muscle and joint pain and arthritis
- Headache
- Sports injuries
- Disorders of the nervous system, including shingles and occipital and trigeminal neuralgia (facial pain)
- Peripheral neuropathy, including diabetic neuropathy and chemotherapy-induced neuropathy
- Cancer pain
- Pain associated with osteoporosis and vertebral compression fractures
- Post-surgical pain syndromes

Back Pain

When oral pain medications or physical therapy fail to help patients with back pain – or when there are ongoing signs of weakness – seeking further evaluation from a pain specialist is the best course of action. Pain management specialists base treatments and therapy on the underlying cause of the patient's back pain.

Here is a rundown of common back pain causes and the interventions that can be done to manage the pain:

- **Lower back pain** is often caused by degeneration of the posterior facet joints. Usually a diagnostic nerve block is done to confirm the diagnosis. If this is the cause of your pain, pain specialists will often do a radiofrequency ablation (RFA) of the nerves for longer term relief. Radiofrequency ablation is a procedure using radio waves, or electric current, to generate sufficient heat to interrupt nerve conduction.



- When the nerve roots in the spine are being compressed or irritated by **herniated or bulging discs** (radiculopathy), this can lead to pain that goes down the leg, with or without weakness and/or numbness. If there is no improvement with oral medications, epidural steroid injections can be considered to alleviate pain and facilitate physical therapy and an earlier return to work.
- Pain emanating from the **sacroiliac (SI) joint** – the joint between the spine and hip bones – can be managed by joint steroid injections and physical therapy to strengthen core muscles. If these injections provide relief but the effect is temporary, RFA may be used.
- **Disrupted discs** – or discogenic pain – can be managed with two newer treatments. Biacuplasty is a minimally invasive procedure that applies radiofrequency heat through probes to destroy painful nerve fibers of the disc. The second option is fibrin sealant (a biologically-based surgical tissue adhesive) injections. These treatments can improve disc stability and encourage tissue repair.
- For persistent pain after spine surgery, called **post-laminectomy syndrome**, diagnostic or therapeutic injections are often the first step if a patient has not responded to oral medications alone. These are usually done in combination with physical therapy and medical management. If these provide temporary or insufficient relief, permanent implantation of a spinal cord stimulator can be considered and trialed.
- For **spinal stenosis**, oral medications are tried first and if there is no improvement, interventions are warranted. The first option is epidural steroid injections along with physical therapy. Decompression surgery also has traditionally been considered. A procedure called mild® (minimally invasive lumbar decompression) is available for certain patients. Cleveland Clinic studies have shown great improvements in standing time and walking distance for patients who have had this procedure.
- For **intractable back pain**, certain pain medications can be infused around the spinal cord through an implanted programmed pump to provide adequate relief of the pain. Typically, this is done as a last resort.



In some cases, pain can be coming from a malignancy. A pain specialist can help to rule this out or help to manage it effectively with other treatments.

Having different options to manage pain is key to successfully helping patients. And so is collaboration among providers, including specialists within Cleveland Clinic's Center for Spine Health. Patients can be referred to a physical therapist to supplement most medical interventions, or they can be seen by a pain psychologist for behavioral modification or stress-coping techniques.

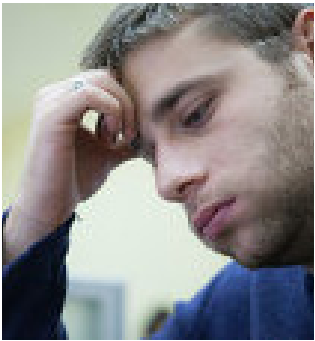


Headaches

Pain management and headache specialists work with the patient to determine the type of headache – tension, migraine, cluster or cervicogenic – and to identify potential causes. This approach to treating headaches may include prescription medication to abort or reduce the frequency and/or severity of headaches, psychotherapy and stress reduction techniques. When the type of headache is diagnosed correctly and the factors that contribute to it are identified, treatment can be highly effective in reducing the frequency and severity of headache and helping people return to their normal activities.

Depending on the source and type of headache, treatment procedures include:

- Specialized nerve blocks
- Medication injections
- Epidural blood patches
- Stimulation therapy



These highly sensitive procedures, done near the nerves causing the pain, can alleviate headaches in some patients for six months or more.

In some instances, pain management specialists will do blocks in conjunction with radiofrequency ablation (RFA). RFA uses an electric current to heat up a needle, which creates a targeted lesion on the nerve to help block the sensation of pain. In some cases, a couple of diagnostic block procedures are performed to assure that the headache pain is relieved. If pain relief is successful, RFA is an ongoing treatment option.

Botox® injections are another procedure that can be done to alleviate pain. In 2010, the FDA approved Botox for the treatment of migraine headaches. This involves Botox injections in different areas of the head and neck as needed. Pain relief typically will last three to four months after a treatment, and the procedure can be done three to four times a year. Pain management specialists often work in collaboration with neurological specialists who also perform Botox treatments.

Other treatment options for headaches may include the implant of peripheral nerve stimulators. This is a technique using electrodes along the course of peripheral nerves to control pain. These devices are a safe and effective way to help alleviate severe pain.

Complex Regional Pain Syndrome (CRPS)

Most cases of CRPS develop after an injury to a limb. Up to 7 percent of children who suffer a traumatic arm or leg injury can develop CRPS shortly afterward. That rate is even higher in adults: about 8 to 10 percent after bone fracture, particularly wrist (i.e., Colles).

Because CRPS can cause the arm or leg to stiffen over time, the pain usually worsens without treatment and makes movement more and more difficult. For these reasons, early diagnosis and the right treatment are critical.



Using innovative procedures, specialists from Cleveland Clinic's Department of Pain Management collaborate with the Chronic Pain Rehabilitation Program for children and adolescents to provide sophisticated diagnosis and design a comprehensive pain management plan.

Both programs integrate a range of physical, occupational and psychological therapies – such as biofeedback, relaxation techniques and group therapy – on an inpatient and day-care basis over a three-week period. The pediatric program emphasizes psychological approaches for patients and their parents alike, because of the importance of developmental changes in children's responses to pain.

The techniques learned in these programs, sometimes together with well-chosen medications, enable some patients with CRPS to successfully manage their pain and lead active, "normal" lives. Other patients require additional interventions, such as nerve blocks or spinal cord stimulators to modulate the pain.



Pediatric Pain

According to The American Pain Society, 15 to 20 percent of children experience chronic pain. This includes children with chronic diseases such as cancer or cystic fibrosis who experience pain related to their disease or its treatment. Treating pediatric pain is complex. The most effective programs target the underlying disorder causing the pain, relieve symptoms such as sleep disturbances, anxiety or depression, and restore function so that children can return to normal activities.

The Pain Management staff collaborates with specialists from the Pediatric Pain Rehabilitation Program at Cleveland Clinic Children's to determine the best treatment plan for children with chronic pain.

Cancer Pain

Cancer experts estimate that as many as 50 percent of cancer patients may experience pain, and in people with advanced cancer, the percentage could be as high as 90 percent. Yet, cancer pain is often undertreated, mainly because patients and physicians are not aware of all of the effective options available.

Because cancer is a complex progressive disease, treating cancer pain is challenging.

Cleveland Clinic Pain Management specialists work hand in hand with oncologists and palliative care specialists in the Cleveland Clinic Taussig Cancer Institute to diagnose and treat cancer-related pain. They also treat patients referred by other hospitals, cancer centers and community-based physicians.

Cancer pain may result from the tumor itself or from the radiation or chemotherapy used to treat cancer. Today, thanks to advanced pain management techniques, many patients can be spared severe pain and suffering.



In general, 80 percent to 85 percent of patients do respond to narcotic treatment to manage the pain caused by cancer. Different techniques can help the 15 percent to 20 percent of patients who don't respond to these regimens or who have serious side effects from these narcotic medications such as nausea, vomiting, sedation and constipation.

Such interventional pain management modalities aim to target the pain generators or the nerves that transmit the pain signals. Pain Management specialists can use diagnostic nerve blocks followed by therapeutic nerve blocks (ablations) to help patients.

Nerve blocks can help identify pain generators by delivering a very small dose of the medicine directly to the nerve where the pain is generated or transmitted.

Intraspinal drug delivery systems (IDDS) may be implanted in cancer patients to deliver the pain medications directly into the spinal fluid within the spinal cord. With IDDS systems the amount of medication is 1/300th of the equivalent of an oral dose.

The ISDD systems have been around since the early 1990s, but they have advanced greatly over the last decade. Today, patients can have an implanted pump which allows the patients themselves to administer on-demand doses of the medication with the guidance and prescription of the treating physician.

Many times nerve blocks work, but the duration of relief is relatively short. In these cases, the best way to have long-lasting pain relief is through nerve ablation. The most recent technique is to use cooled radiofrequency to ablate metastatic tumors to the vertebral column.

Shingles

This painful rash, caused by the varicella-zoster (chickenpox) virus, ranges from mild to severe. In some people, the pain continues long after the rash has disappeared, a condition known as postherpetic neuralgia. These patients require more intensive treatment to relieve pain and restore quality of life.

Postherpetic neuralgia hurts the same way and in the same places as shingles – usually on the chest or abdomen. The pain can be continuous or come and go. Often it erupts from an extreme sensitivity to touch, even the brush of clothing.

Age is a major factor. After age 60, occurrence of postherpetic neuralgia increases significantly. Shingles are also seen frequently in people with weakened immune systems, such as those with cancer, HIV or organ transplants.

Many live with postherpetic neuralgia for months or even years. Common treatments for shingles include:

Medication. There are several drugs that can calm overstimulated nerves. Lidocaine patches often are the first line of treatment. The patch sticks to the affected area of skin and slowly releases a numbing medicine. Its effect is temporary but is enough for some patients.



Other pain-relief drugs include antidepressants and anticonvulsants, which calm the excitability of nerve cells that process pain. For severe cases, prescription opioids may be an option.

Nerve blocks. Nerve blocks are injections of numbing medication into the nerves sending out pain signals. For some patients, nerve blocks last months. Those patients may need only a few injections per year. But for some patients, the blocks last a few short weeks or days. Pain management specialists recommend alternative treatments if relief lasts only a couple of days.

Neuromodulation (electrical stimulation). For pain that does not respond to other treatments, neuromodulation can be a long-term solution. Electrodes implanted in the spine send impulses to the affected nerve to inhibit the conduction and transmission of pain signals. This treatment can be tested with temporary electrodes placed into the spine and connected to a stimulator outside the body.

Pain management specialists may recommend doing the full implant if after one to two weeks, the patient's pain is reduced by at least half and they are using less pain medication.

The full implant includes a battery-powered, internal stimulator. It can run up to 10 years before the need to replace the battery with another surgery.

To prevent postherpetic neuralgia, you first need to prevent shingles. A shingles vaccine is available – and recommended for adults age 60 and older, even if the patient already had chickenpox or shingles – or the chickenpox vaccine. One shot can reduce the risk of shingles by 50 percent.

If you get shingles, see a doctor – immediately. The sooner you get antiviral medication, the better. It's particularly effective within three days of detecting the pain or rash. Early treatment can reduce the course of shingles and the severity of your symptoms and potentially reduce your chance of getting postherpetic neuralgia.

Chronic Abdominal Pain

Chronic abdominal pain can arise from many contributing factors. Frequently the cause for the pain is known and treatments by a primary care, gastroenterology or surgical team may be directed toward treating the cause, which helps to alleviate the pain. Sometimes, despite an extensive work-up by these teams, the cause of the pain may not be clear, but the pain may be debilitating just the same. Patients with abdominal pain – from a known or unknown diagnosis – are often referred to a pain management clinic for evaluation and ongoing treatment.





Chronic Pelvic Pain

Chronic pelvic pain (CPP) is defined as nonmenstrual pelvic pain of more than three months' duration that is severe enough to cause functional disability and require medical or surgical treatment. Its hallmark is deep-seated, aching pain that often interferes with sleep and work, sometimes leads to urinary urgency and frequency and may cause pain with sex and/or urination.

Cleveland Clinic pain management staff collaborates with urology, gynecology and rehabilitation medicine specialists to develop customized treatment plans for patients with chronic pelvic pain.

Pelvic pain can be caused by various diseases of the reproductive, urinary tract, digestive, vascular or neurological systems. According to pain management specialists, the three most common causes are:

- Scar tissue formation following pelvic surgery or infection
- Endometriosis, which causes stray cells from the uterus to grow in other areas of the body. This can cause pain, heavy bleeding, bleeding between periods and infertility.
- Interstitial cystitis, also called painful bladder syndrome. This disease has symptoms similar to a urinary tract infection, including pelvic pain and a continual strong urge to urinate.

If you have chronic pelvic pain, first see your primary care physician. He or she will try to identify the cause and may refer you to a specialist, such as a gynecologist, urologist or gastroenterologist.

If the pain continues even after treating its apparent cause, it's time to treat the nerve pain. Your doctor may refer you to a pain management specialist, who can recommend:

- Medication, such as nerve stabilizers and antidepressants
- Physical therapy or aqua therapy (exercise in a heated swimming pool). Some pain can be eased through muscle stretching, strengthening and other exercise. And special pelvic exercises can help patients learn to relax or control pelvic muscles.
- Nerve block – an injection of numbing medication around the affected nerves, which can be repeated as needed.

Lifestyle modifications also can help relieve pain:

- Quitting smoking. Nicotine in cigarettes can inflame nerves and trigger pain.
- Losing weight. Shedding extra pounds may help release pressure on small branches of peripheral nerves.
- Exercising. Physical activity may help decrease muscle pain while improving function.



Alternative Medicine

Integrative medicine is a holistic healing-oriented approach to care that looks at all aspects of a person – including body, mind and spirit – and its popularity is increasing. It is often used in conjunction with more traditional treatment methods.

In addition to the standard treatments, which include nerve blocks, epidurals and other procedures, some pain management doctors offer a variety of alternative therapies, including guidance on diet and lifestyle choices as well as osteopathic manipulation, acupuncture and Reiki.

Of all the alternative therapies available, acupuncture has proven one of the most effective complementary options in treating a large number of diseases and painful conditions. In fact, many patients have called it “life-changing,” allowing them to sleep better and more fully enjoy time with friends and family.

In the Department of Pain Management, medical acupuncture is performed by physicians who have been trained in this ancient Chinese medical art. They select from hundreds of acupuncture points to treat local, regional or global (body-wide) pain. Pain management specialists stimulate or calm these points on the body by gently inserting needles and electrically stimulating these acupuncture points.

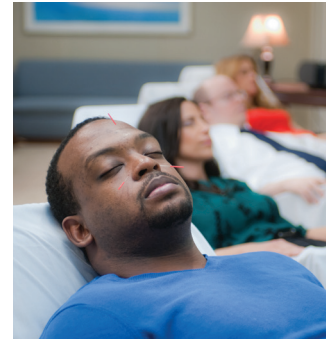
The needles stay in place for a few minutes to as long as 20 minutes. They help to trigger the release of brain chemicals (natural painkillers) that can block or decrease pain signals.

The number of acupuncture treatments varies, but a typical course of treatment is one or two sessions a week for five to six weeks. Patients should try at least five acupuncture treatments to give acupuncture a chance to relieve the pain.

You may benefit from acupuncture by our physicians if you have:

- Chronic low back pain
- Migraines or cluster headaches
- Chronic neck or muscle pain from stress or whiplash
- Shoulder pain from stress, sports injuries or trauma
- Severe menstrual cramps or female abdominal pain
- Medical acupuncture may also be used to treat severe osteoarthritis, facial pain and irritable bowel syndrome (spastic colon).

Your medical acupuncture treatments may be combined with physical therapy. You may receive education from our doctors about adopting the heart-healthy Mediterranean diet and other wellness habits. If appropriate, they may combine acupuncture with osteopathic manipulation for low-back pain.





Locations

For our patients' convenience, pain management specialists see patients at multiple locations throughout Northeast Ohio.

Making an Appointment

The Department of Pain Management accepts patients by referral from other physicians or on a self-referral basis. Check with your insurance plan to determine if a referral is necessary.

To schedule an appointment with a pain management specialist, call 216.444.PAIN (7246), or toll-free 800.392.3353. For more information, visit clevelandclinic.org/painmanagement.

Get the latest information from Cleveland Clinic's Department of Pain Management delivered to your email inbox

Sign up today at clevelandclinic.org/painmanagement to receive our free e-newsletter in which you will learn:

- What treatment options, therapies and medications are top picks for successful relief
- How to stay active while managing your chronic pain
- How alternative techniques may help you better manage your chronic pain

Why choose Cleveland Clinic?

Cleveland Clinic pain management specialists tailor treatment plans to their patient's needs, taking into account the extent of the problem and the patient's overall health. Using this type of multidisciplinary approach means you will get the care you need right away.



Need a second opinion?

Our MyConsult® service offers secure online second opinions for patients who cannot travel to Cleveland. Through this service, patients enter detailed health information and mail pertinent test results to us. Then, Cleveland Clinic experts render an opinion that includes treatment options or alternatives and recommendations regarding future therapeutic considerations. To learn more about MyConsult, please visit clevelandclinic.org/myconsult.

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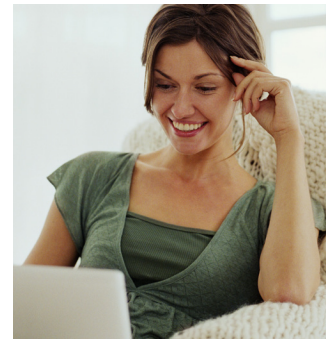
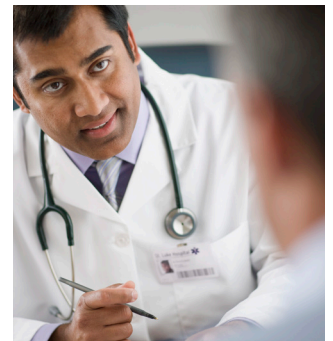
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Every life deserves world class care.

9500 Euclid Ave., Cleveland, OH 44195

Cleveland Clinic is a nonprofit, multispecialty academic medical center integrating clinical and hospital care with research and education for better patient care. More than 3,200 staff physicians and researchers in 120 medical specialties provide services through 27 patient-centered institutes. Cleveland Clinic's health system comprises a main campus, eight regional hospitals and more than 90 outpatient locations, with 18 family health centers in northern Ohio, and medical facilities in Florida, Nevada, Toronto and Abu Dhabi. Cleveland Clinic is consistently ranked among the top five hospitals in America (*U.S. News & World Report*).
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