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The Importance of Multimodal Therapy

Tools for treating chronic pain

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Chronic pain is a major health issue affecting millions of people globally. It can have a debilitating impact on lives, preventing people from enjoying activities they love and limiting the quality of their day-to-day life. Recent surveys indicate that approximately 50 million adults in the U.S.—more than one in five—report experiencing pain every day or most days, most commonly in their back, hips, knees, or feet. People with chronic pain say it limits their functioning, including social activities and activities of daily living.

Chronic pain is generally defined as pain persisting for longer than 12 weeks despite medication or treatment. Clinicians may use various determinations, but a general rule of thumb is that the pain has lasted beyond the expected duration after an acute injury or illness or is present without any history of an injury or insult.

Taking a Multimodal Approach to Treatment

Treating chronic pain is not a one-size-fits-all endeavor. To optimize outcomes, it is critical to form a multimodal treatment strategy. A multidisciplinary approach has been shown to be one of the most effective ways to manage chronic pain. A combination of medications, physical and behavioral therapies, injections, neuromodulation and in rare cases, implantable pain pumps should be considered in order to provide patients with the best possible results. Physicians who specialize in interventional pain management typically offer a full range of such options and work with their patients to develop a course of treatment aimed at helping them manage their chronic pain to the best extent possible.

Classifying Pain

For all physicians considering the challenge of chronic pain management, it may be helpful to review the different types of pain classification:

- Somatic pain is felt in the muscles, bones or soft tissues. It is typically localized and can be intermittent or constant. It is often described as an aching, gnawing, throbbing, or cramping type of pain.
- Visceral pain comes from the internal organs and blood vessels and is typically more diffuse than localized. Visceral pain tends to be referred to other locations, and can be accompanied by symptoms such as nausea, vomiting, or tension in lower back muscles. It can be intermittent or constant, and is typically described as being dull, squeezing, or aching.
- Neuropathic pain occurs when the nervous system is damaged or not working properly. It can be experienced at the various levels of the nervous

system, from the peripheral nerves to the spinal cord and the brain. Nerve pain can be described as shooting, sharp, stabbing, lancinating, or burning.

Tools in the Pain Management Toolbox

A multimodal approach to managing chronic pain often involves "layering" options that range from conservative to highly interventional.

Conservative management. The least invasive options for many patients include first-line therapies such as topical analgesics, physical therapy, acupuncture, chiropractic, transcutaneous electrical nerve stimulation (TENS) therapy and massage therapy. For some patients experiencing mild or temporary pain states, these interventions can be enough to manage the problem. For individuals who experience ongoing pain, these interventions can be helpful adjunctive therapies alongside other more intensive approaches.

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Medication management. Depending on the type of pain and its severity, doctors may opt for either short- or long-term use of over-the-counter medications like nonsteroidal anti-inflammatory drugs (NSAIDs), muscle relaxants, anticonvulsants, neuropathic agents and in severe cases, opioids. While these medications can provide short-term relief, they may not be sufficient to manage chronic pain.

Regarding the use of narcotic pain relievers (such as fentanyl, buprenorphine, oxycodone, hydrocodone, hydromorphone, morphine and methadone), and practitioner education in the last few years has been extensive. Education has reduced the number of opioid prescriptions and underscored their use as a tool for management of acute pain, which is their primary indication. There is considerable research showing that the use of opioids for chronic pain does not provide substantial benefit beyond the acute care period. Most providers are increasingly aware of this, and educating their patients about opioid risks and benefits is an ongoing responsibility of all physicians.

There are several non-narcotic prescriptions which can be used to manage chronic pain. The group of gabapentinoids (gabapentin and pregabalin) can be particularly effective, especially for neuropathic pain. Another commonly used medication is duloxetine, a serotonin and norepinephrine reuptake inhibitor, often used for neuropathic pain in combination with gabapentin. For myofascial pain, muscle relaxers such as tizanidine, baclofen, and cyclobenzaprine can be helpful for certain patients.

Medical cannabis is increasingly understood to be useful for select patients, with about a 50–60% reported success rate in reducing pain. Anecdotally, people who have previously used marijuana recreationally seem to respond well to it in a pain management context, because they understand what having cannabis in their system feels like. Other patients who have not used cannabis previously may not care for the side effects and therefore not report such positive results. In general, though, many physicians and patients agree that cannabis can be helpful to try in low doses and safely ingested in oral form. A comprehensive, multidisciplinary pain practice typically has physicians who can certify patients for medical cannabis.

Interventional Therapies

There are several interventional procedures that can be effective in addressing chronic pain, starting with local injections in the joint, spine or nerves. These can be trialed as part of a treatment plan for certain types of chronic pain, particularly in cases where the specific sources of pain have been identified. For example, injections can treat arthritis, nerve blocks can relieve neuropathic pain and epidural steroid injections can assuage radicular back and neck pain. When combined with physical therapy, these targeted treatments may help reduce inflammation and improve mobility.

In cases where injection therapy does not prove adequate for ongoing pain relief, other advanced interventional

therapies may be utilized. The technology and practice of implantable pain control devices is advancing rapidly, with life-changing outcomes for many more patients than ever before. These devices deliver very low doses of specifically targeted pain relief around the clock and present less risk of addiction and fewer side effects, removing concerns around either forgetting to take or taking too much medication. Peripheral nerve stimulation (PNS) therapy delivers an ongoing series of electrical pulses to a targeted area of a peripheral nerve, reducing the pain signals that are sent from the body to the brain.

For other cases, spinal cord stimulation (SCS) can be an effective solution. SCS therapy also uses electricity to modulate the way pain signals are sent from the body to the brain, with the modulation being done at the level of the spinal cord. One of the most common indications for SCS is "failed back syndrome": people who have had surgery on their back but continue to have low back pain and possibly leg pain. SCS therapy can also be used for other indications, such as painful neuropathies including diabetic neuropathy and alcohol-induced neuropathy, as well as complex regional pain syndrome involving chronic arm or leg pain that develops after injury or illness. The data supporting use of spinal cord stimulation for chronic pain is favorable. The technology of today has greatly improved compared to even five or ten years ago, and results are getting better. Neuromodulation does not work for every patient, however, and we don't ever promise or expect 100% pain relief; the goal is typically a 50–75% reduction in pain, enough to improve comfort, mobility and quality of life. In some cases where systemic medications, surgeries, interventional procedures and neurostimulation implants have failed, pain specialists may recommend an intrathecal drug delivery system, also known as a pain pump. The pain pump is surgically implanted in the abdomen or upper buttock and delivers a steady supply of medications directly into the intrathecal space where the spinal cord is located. The medications—typically a combination of an opioid and a local anesthetic—can be provided in very low doses, directly at the site of where those medications work on the spinal cord. Intrathecal drug delivery is sometimes referred to as a targeted drug delivery because it primarily targets spinal binding sites for pain relief, bypassing the blood brain barrier by infusing the therapeutic agents into the cerebrospinal fluid. Because of the targeted delivery, it reduces the mental side effects associated with systemic opioid management. Intrathecal drug delivery has flourished since its inception because it is uniquely effective. Many experienced pain physicians consider it to be "the best therapy for the worst pain."

Chronic pain is challenging to treat.

Physical and Behavioral Therapy

In conjunction with other interventions, it is paramount for pain management physicians to utilize physical and behavioral therapy as part of the treatment plan for chronic pain patients when indicated. Physical therapists can teach patients exercises that focus on posture, mobility, balance and strength-building that can provide long-term relief from chronic conditions like arthritis, fibromyalgia and low back pain. Behavioral therapy can also help patients address underlying mental health issues that commonly go hand in hand with chronic pain. When patients have depression or anxiety that is not well controlled, their chronic pain is often quite challenging to treat effectively.

Referring to a Pain Specialist

Gaining control over a patient's chronic pain can present a real challenge to primary care physicians and other general practitioners. Faced with a patient that proves refractory to usual treatments, doctors may consider referring the patient to a specialist in pain management. Primary care clinicians should be aware of their options for referring a patient suffering from chronic pain in order to provide them with the best hope for achieving long-term relief. An experienced specialist may be able to tailor treatments specifically targeted for their patient's condition, which can be invaluable when handling complex cases such as chronic pain conditions.

As opposed to acute pain, wherein physicians often know the etiology of a patient's pain, chronic pain often requires a more extensive workup to identify the source or sources of a patient's painful condition. This can be especially true when it comes to spinally mediated pain, which is the most common complaint chronic pain physicians encounter. The spine is a complex anatomic structure. The task a pain specialist undertakes is to find out what may be causing the pain, utilizing advanced imaging, tests and interventional therapies, which are often diagnostic as well as therapeutic.

When a patient is initially seen by a pain specialist, the physician takes a full history, reviews the referring provider's notes and any diagnostic results to date. As previously mentioned, physical therapy is often a first line intervention for patients. If psycho-social stressors are present, behavioral health consultation is warranted. Additional workup such as diagnostic tests and imaging will then be considered if indicated. Once this workup has been initiated, the pain physician can hopefully find the source of the chronic pain and begin interventions and allied therapies in a more targeted approach. This all happens concurrently with the patient working with physical therapy, seeing a behavioral health therapist, and optimizing a medication regimen along the way as indicated. A comprehensive pain clinic often has physical therapy and behavioral health specialists on site as a part of their practice and can offer a multidisciplinary approach to chronic pain under one roof.

A Focused, Intensive Approach

Many pain specialty practices offer a chronic pain program—an intensive, focused initiative designed for patients who may have exhausted their therapeutic options, are no longer seeking a specific diagnosis or additional interventions, and are simply living with chronic pain they are likely to have for the rest of their lives. Our program, and programs like it around the country, combine education with physical and behavioral therapy. Patients learn principles for self-management: quality nutrition, good sleep hygiene, smoking cessation, benefits of exercise in improving mental and physical health—basically how all the components of their own behaviors are going to help them manage their pain better and improve their quality of life. These programs are usually quite intensive, with patients coming every day or several days a week for the duration of the program, which may be four to eight weeks in length.

Educating Patients and Setting Expectations

When we think of patients achieving relief from their chronic pain, we typically mean their pain has become minimal enough that it doesn't unduly affect their daily life. Chronic pain is challenging to treat; the longer the body experiences a hyper-excitable state while in pain, the more the brain remodels and adapts to the chronic pain state. This phenomenon is known as central sensitization and can present as a vicious cycle which can be hard to break. Breaking this cycle is what a pain specialist's care team works toward. A key part of chronic pain management is educating patients about their health and their options, making sure they understand time to therapeutic effects, setting realistic expectations for each modality and helping them play a positive role in their pain relief journey.

Today more than ever before, there are options that can help nearly every patient. Taking a multimodal, multidisciplinary approach gives us the greatest chance of achieving significant pain management and improved quality of life.

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