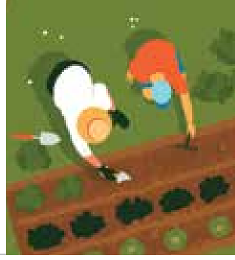

Pain Management Takes New Forms to Curb Opioid Epidemic

KELLY BILODEAU
Contributor to *Health Progress*

When the patient arrived for her first palliative care appointment to address her chronic pain, she was hurting, angry and guarded, a mood that lingered through the first part of her session. Then, a volunteer asked her to change course, to plunge her finger into a glop of slippery paint and create a picture with her hands like a kindergartner. At first, her finger painting was reluctant, but soon, she began actively reaching for the paints to add to her design. By the end of the session, she looked up and realized her pain had eased, said Dr. Michelle Goetz, a palliative care doctor at Mercy in St. Louis.

Finger painting, used as art therapy, isn't a traditional pain treatment, but it can distract the brain, lessen discomfort and offer an innovative strategy to help people cope.[1] While such therapeutic tools don't replace medications if needed, it's one of a growing number of alternative pain treatments now moving into the mainstream.

For many years, pain meant pills. If a patient was hurting, the doctor prescribed medicine — often a powerful opioid to treat it. It was an efficient and effective way to solve the problem, or so it seemed.

As it turned out, pain pills weren't always the best medicine. Starting in the 1990s, the U.S. saw rising addictions and overdose deaths.[2] Overprescriptions of opioid medications, fueled by a conspiracy by some drug makers to increase profits,[3] caused many of them. Between December 2019 and 2020, the country tallied an average of 255 overdose deaths every day,[4] a number that continued to rise even as doctors scaled back opioid prescriptions thanks to stricter guidelines and state prescribing laws that aimed to rein in their use.[5-8]

Doctors and other health care providers increasingly use options outside of the medicine cabinet to treat pain and take a more nuanced approach to this age-old problem. Helping those who are hurting requires a deep toolbox that includes not just traditional painkillers but other types of medications, along with education, psychological support and other therapies.

Successful pain management should be integrated, interdisciplinary, evidence-based and individualized, said Dorothea Vafiadis, senior director of the National Council on Aging's Center for Healthy Aging.

Dr. Katherine Vlasica, medical director of emergency medicine pain management at St. Joseph's Health in Paterson, New Jersey, agrees. "The most exciting part of pain management today is that you have this very large menu of options that keeps on expanding, getting larger and larger," she said.

THE ORIGINS OF PAIN

It may seem intuitive that it's the body that sends pain signals to the brain. As it turns out, the opposite is true. The brain, not the body, is thought to generate pain.[9] "A network of neurons in our brain fires and creates the experience of pain that we feel in our body, the same as an emotion or a movement pattern," said Lise Garger, a physical therapist and pain program manager at SSM Health Physical Therapy in Creve Coeur, Missouri. It's similar to a network of neurons that allows people to move an arm or a leg.

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— LISE GARGER

Most of the time, pain sensations mirror what is happening in the body. The pain is proportional to the injury, the stubbed toe or a searing burn from a hot pan. But sometimes, for reasons scientists don't completely understand, the brain produces intense pain without an underlying physical cause. People who experience this type of pain, dubbed nociplastic pain by the International Association for the Study of Pain in 2017,[10, 11] aren't imagining it. But it is truly all in their head.

Nociplastic pain differs from nociceptive pain, caused by physical damage or inflammation, or neuropathic pain, triggered by nerve damage, although many patients have a mix of these types. Research shows that nociplastic pain requires a different treatment approach, so identifying the dominant pain mechanism can lead to better outcomes, especially for patients who haven't responded to traditional treatments, Garger said.

While treatment for pain from an injury is typically relatively straightforward, nociplastic pain, which often drives chronic pain in conditions like fibromyalgia, can be a vexing problem to solve. More than 50 million Americans experienced chronic pain in 2021 — roughly 20% of the population.[12] Many of these patients struggle with it for many years, cycling through various doctors without finding relief.

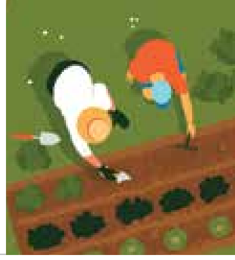
Some people are more prone to chronic, hard-to-treat pain, including those with a history of adverse childhood experiences, such as witnessing or experiencing physical violence or other forms of abuse. People who score higher on an evaluation for adverse childhood experiences are more likely to experience chronic pain, said Goetz, the palliative care doctor at Mercy. One analysis found that 84% of people who have chronic pain have endured at least one of these experiences.[13, 14] People who have gone through at least one adverse childhood experience have double the risk of chronic pain compared with someone with none.

"It's important to realize that patients aren't making it up when they say their pain is a 10 out of 10, or that it increases when they are stressed, when it's cold outside or other weird things that don't make sense. Now we know physiologically why that happens, and we can explain it to patients," Garger said. "We teach how the nerve centers work and how they process pain. Patients are often relieved to discover that there is a reason for their persistent pain that makes sense."

The body isn't the problem. "It's your nervous system that we need to treat," Garger said. "Understanding that can be the first step in calming that system down."

Garger begins patient visits with an evaluation. "We look at what stressors are in their lives that could be contributing," she said. They also screen for untreated anxiety, depression and sleep disorders and teach relaxation and breathing techniques. "Then, we want to get them moving. Because one of the best ways to calm your nervous system is cardiovascular exercise at a low intensity," she said.

People start slowly with a gentle walk or bike ride and gradually build endurance. Other organizations have seen success with other tools, said Vafiadis with the Center for Healthy Aging, such



as community and peer support groups and activities such as tai chi and yoga.

NEW STRATEGIES IN USE

Alternate approaches to manage pain are also finding their way into the emergency department, where many who come through the doors are in pain. "As an ER doctor, you have to have this very deep bench of pain management modalities to treat the diverse range of conditions and patients," Vlasica said. It also requires an individualized approach.

Opioid use is down at St. Joseph's Health. Currently, they are typically used for patients with excruciating conditions, such as long bone fractures, trauma, chronic cancer pain or sickle cell disease, Vlasica said. "Opioids aren't the first-line treatment for every single condition that comes into the emergency department," she said. "We're not against opioids, but we have to respect opioids because they do have significant side effects."

Doctors at St. Joseph's draw from a range of alternatives depending on patient needs. These include over-the-counter options, such as ibuprofen, acetaminophen and topical anti-inflammatories. Ketamine, an FDA-approved anesthetic drug developed in the 1960s, is also used in the emergency department, as is nitrous oxide, a fast-acting inhaled gas that can help patients endure painful procedures, Vlasica said.

St. Joseph's also increasingly uses nerve blocks or regional anesthesia for a wide range of conditions, including migraines, dental pain and trauma to the face, chest, arms and legs. These procedures, which are guided by ultrasound to minimize complications, introduce localized numbing medication to specific nerve groups to provide consistent pain relief that can last up to 36 hours,[15] reducing the need for opioids.

Vlasica recalled a case where a man came into the emergency department after being crushed under the wheels of a car. His chest wall was severely compromised, and he was in so much pain that he could barely breathe on his own, putting him on the verge of needing a ventilator. "We did the nerve block on him, and half an hour later, he was on his cell phone," she said. "This was a gentleman who otherwise would have been intubated, on a ventilator, and we were able to control his pain so well that he didn't even need opioids for almost 24 hours."

Emergency department doctors also depend on nonmedication strategies to manage pain, Vlasica said, such as hot or cold therapy, or ordering referrals for physical therapy, acupuncture or osteopathic manipulative treatment. "Most of these are multimodal applications. Our goal is to use every single component of our toolbox to treat the patient's pain," Vlasica said.

LOOKING BEYOND MASKING SYMPTOMS

Pain management is also becoming more focused, said Dr. Kevin Barrette, an interventional pain medicine specialist at Scripps Clinic in San Diego. "In general, the trend in pain management is toward more interventions and more targeted approaches for individuals, rather than just masking symptoms with general pain medications," Barrette said. "In the field of spine care, we are seeing fewer surgeries for back pain and more targeted procedures enabled by a more detailed understanding of pain triggers."

One example is the basivertebral nerve ablation procedure, which can help people with a specific type of low back pain caused by damage to the vertebral endplate, the part of the spine between the disc and the vertebrae. Telltale signs of this condition can be seen on an MRI. During the minimally invasive procedure, the doctor inserts a tool into the vertebrae to burn or ablate pain receptors on the endplate.

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Recovery time is typically minimal, allowing people to resume regular activities quickly. The traditional alternative procedure, spinal fusion, is a major surgery that often requires a multiday hospital stay. "I would say right now there

is definitely a higher emphasis on minimizing medication, minimizing the need for large surgical interventions and maximizing nonoperative modalities, including physical therapy, mindfulness, sometimes nutritional supplementation and targeted interventions," Barrette said.

MIND OVER MATTER

Because the brain plays a powerful role in pain, cognitive behavioral therapy, a type of psychotherapy to change thinking patterns, and mind-body interventions can also help people in pain, Barrette said. "We see great results in general from mindfulness, cognitive behavioral therapy and biofeedback. These are modalities that are exceedingly safe and noninvasive by definition," he said. "People can have dramatic results from these types of therapy."

How people perceive pain can play a role in how much pain they experience and how well they manage it. Simply educating people on how to distinguish between pain that is harmful or merely bothersome can make a difference, said Annie O'Connor, CEO and founder of World of Hurt, a business that offers pain science education, consulting and research on integrating pain mechanism classification, and telehealth services.

"I love to tell the story of this 11-year-old soccer player," O'Connor said. After a soccer injury, a doctor told the girl that she had hypermobility in her kneecaps, which sometimes allowed them to ride outside of the bony knee channel that's supposed to contain them. It's a common condition in young female athletes. However, because her knee hurt, she developed a fear of bending her knees, thinking that any pain indicated a kneecap dislocation.

"It's not that this little girl wasn't in pain. It's just that she was completely misinterpreting what that pain meant for her mobility," O'Connor said. Once O'Connor showed the girl how to tell if her kneecaps were behaving normally and that pain wasn't necessarily a sign of a serious problem, she immediately started to improve and soon returned to the soccer field.

Learning to manage pain also sometimes requires accepting that it will periodically exist. "Different cultures have different views of pain," Garger said. Some people believe that they need to eliminate all pain. "When you have pain, that thinking creates a lot more stress, because you need to get rid of the pain right away," she said.

Teaching people that pain isn't always something to fear or instantly eradicate can help them manage it more effectively. There can be a spiritual component to managing pain as well, Goetz said. "I find that those who live with chronic pain, when they get into a pain crisis, they tend to say, 'This is how it's always going to be. It's never going to get better,'" she said. Looking at the situation from a spiritual angle and reframing the way they see it can keep them from catastrophizing the pain and making the experience worse.

Overall, there's a growing recognition that pain requires a nuanced, individualized approach, Barrette said. "Chronic pain is multifactorial, and at the end of the day, our experience of pain is in our brain," he said.

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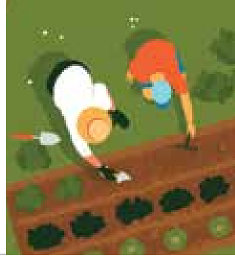

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