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Homewood Health

Life Lines

Improving your quality of life, one step at a time

Understanding and Managing Chronic Pain

Pain is a complex experience that serves as the body's alarm system, alerting us to potential harm and guiding protective behaviours. Chronic pain affects millions of people globally, going beyond a simple ache. It's a complex condition where our body's warning system stays switched on, even after injuries have healed. Certain groups are more likely to experience pain, including those facing poverty, mental health conditions, individuals with disabilities, trade workers, Indigenous peoples, racialized communities, 2SLGBTQ+ people, people who experience trauma, veterans, public safety personnel, and women.

This article explains what pain is, how acute and chronic pain differ, and how distress and mood influence pain. We'll also provide you with strategies to manage chronic pain and tips for talking to your healthcare providers.

What is Pain?

When you stub your toe, bang your elbow, break a bone, or touch a hot stove, you know you've hurt yourself—most of the time. These examples of injury typically result in acute pain, which can range in intensity from annoying to debilitating. **Acute pain** usually lasts less than three months and is your body's normal response to tissue damage.

There are times however, when a genuine injury sustained during a high-adrenaline situation may not result in any experience of pain. Conversely, individuals can experience intense pain when they think they've injured themselves, only to discover that there is no actual tissue damage.

Pain, in part, is your body's built-in alarm system. Specialized "pain sensors" called **nociceptors** can be found through your body in your skin, muscles, bones, joints, and other tissues. They respond to everything from temperature changes (like a burn) or a pinch to chemical signals released when tissues are injured. When nociceptors are activated, they send messages along nerves to the spinal cord and into the brain.

Once the danger signals reach the brain, many different areas of the brain are activated and involved in processing the messages. Some brain chemicals amplify the message, while others inhibit it. If there aren't enough messages, the danger signals don't even make it to the brain. Usually, the system is balanced and if the brain decides a warning is needed, then pain is experienced and the individual will respond to protect itself.

But as we learned above, danger signals from injury can be muddled by the brain depending on the situation, memories, and fear—danger signals from an injury are only **one part of how** the brain decides if pain is experienced. The experience of pain is created by the brain: it does not exist until your brain decides it does.

What is Chronic Pain?

While acute pain from an injury has a clear protective function, **chronic pain** does not. Chronic pain affects roughly 20% of adults in the U.S. and Canada. It persists beyond normal healing times—often for years—and is driven by changes in the nervous system rather than ongoing tissue damage.

Unlike acute pain that results from a broken bone, a burned finger, or a torn ligament, chronic pain often lacks a single, identifiable cause. Chronic pain persists by complex interactions of biology and our thoughts, feelings, daily activities, and social factors.

As the understanding of pain has advanced, the International Association for the Study of Pain (IASP) has defined it as: "***An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage." The phrase "resembling that associated with...***" is important in considering chronic pain, as it acknowledges that pain can persist even without ongoing tissue damage.

Understanding chronic pain

The degree of tissue damage does not predict pain and as we discussed, pain can occur even when there is no tissue damage. More pain does not mean more damage and likewise, less pain does not mean less damage. Pain is more about what your brain thinks is dangerous than it is about actual tissue damage. This does ***not*** mean that the pain is not real—**chronic pain is real** and can be debilitating for those experiencing it.

How does chronic pain get its start?

Chronic pain looks different for everyone. Chronic pain can be triggered in a number of ways:

- an overprotective nervous system combined with everyday stresses result in the production of physical symptoms, including back pain, headaches/migraines, or gastrointestinal issues.
- health scares can impact how protective the nervous system becomes. For example, surgeries, diagnoses, or injuries can lead to intense pain experiences.
- major life events, including the death of a loved one; ongoing discrimination; a traumatic event; a change in employment or career, relationship status, or financial standing often coincide with the development or worsening of symptoms.

What is happening in the brain and body with chronic pain?

Over time, repeated activation of the same circuits within the nervous system strengthens those connections, making them faster and more automatic. These patterns can lead the brain to get "stuck" in habitual loops of chronic pain because the reinforced networks perpetuate the same signals even when they're no longer helpful.

In addition, a process called "**central sensitization**" often occurs with chronic pain. With central sensitization, the nervous system undergoes structural, functional, and chemical changes that make it more sensitive to stimulation, reducing the threshold for whatever may cause pain. This means that things that didn't hurt before now begin to hurt and things that hurt a little begin to hurt a lot more. Some individuals may even become sensitive to bright lights, loud noises, smells, foods, medications, or even their heartbeat. Central sensitization underlies many chronic pain conditions, including fibromyalgia, where individuals may feel shooting or burning pain when stroked lightly with a brush, and in individuals with migraines who experience pain with hair brushing, even when not in a pain flare-up.

Just as a smoke alarm may become oversensitive, firing without a fire, our "pain alarm" can become hyperreactive. While acute pain typically resolves when tissues heal, ongoing nociceptive input, central sensitization, or psychological factors can keep the alarm sounding even in the absence of injury.

Individuals with central sensitization genuinely feel sensations differently and more intensely than individuals without central sensitization. Individuals may also experience symptoms of fatigue, headache, disturbed sleep, depression, gastrointestinal issues, and cognitive difficulties. These symptoms can lead to additional fear and anxiety of something more threatening or serious—exacerbating chronic pain symptoms.

The psychological effects of chronic pain

Chronic pain exerts profound psychological effects, often co-occurring with depression and anxiety. Up to 40% of individuals with chronic pain experience clinically significant depression or anxiety symptoms, which cause the brain to interpret more signals as threats, further magnifying pain and impairing functioning. Research shows that depression reduces pain thresholds and prolongs pain experiences, while anxiety disorders—in which dread and hypervigilance predominate—intensify the perception of threat and pain.

Cognitive patterns such as catastrophizing ("My back is wrecked; I'll never get better") and fear or avoidance ("If I move, I'll hurt even more") reinforce central sensitization and activity limitation, creating a vicious cycle of pain, distress, and disability. Addressing these thought-emotion loops is essential to reduce pain-related distress and restore confidence in movement.

The good news is that the same processes involved in central sensitization—structural, functional and chemical changes—can help individuals break the cycles, create new paths and solidify adaptive or positive connections in the nervous systems. This ability of the brain to change and adapt is called **neuroplasticity**.

Racial Bias in Pain Management

Racial bias in pain management is a deeply entrenched problem that contributes to inequities in care. Despite clear evidence that pain is a subjective experience shaped by the nervous system rather than innate biological differences, many clinicians harbour false beliefs about racial physiology. For example, a landmark 2016 study found that half of white medical students and residents believed Black people's skin is thicker or their nerve endings less sensitive than those of white people—misconceptions directly linked to lower pain ratings and diminished treatment recommendations for Black patients.

To navigate and counteract disparities in pain management, consider the following steps:

- Become an informed patient by learning about pain science and prepare questions in advance of appointments.
- Bring a trusted companion to your appointments to take notes, witness discussions, and help ensure your concerns aren't minimized.
- If available, use a patient care navigator or ombudsperson in your hospital or clinic to help guide you through referrals and specialist appointments.
- Advocate for evidence-based, comprehensive treatment plans.

Coping Strategies for Chronic Pain

- Managing chronic pain, involves a comprehensive, biopsychosocial approach, often with the support of both medical and non-medical interventions. By intentionally practicing new thoughts, movements, or behaviours, you can create alternative pathways that, with repetition, can help reduce the "alarm" feeling and strengthen healthier ways of dealing with chronic pain. One of the first steps in coping with and managing chronic pain is learning **safe movements** that ease pain or do not exacerbate it. Safe movements provide safety signals to the brain and can help recalibrate the nervous system, which decrease chronic pain severity and improve sleep, lift mood, decrease fatigue, and build resilience. Low impact exercise such as walking, swimming, stretching, and Tai Chi can help improve function, mood, and sleep and can start creating new neural pathways. The key is to find movements that feel safe and repeat them. Discuss the types of movement you can try with your primary healthcare provider, physiotherapist, or other healthcare provider you're working with.
- Use a technique called **pacing** to learn how to balance activity (e.g., physical activity, chores). Rather than taking advantage of "low pain" days to fit in as many chores as possible, overdoing activities, or pushing through pain, pacing is a way to balance activity and rest to increase activities to normal levels. Pacing allows you preserve your energy and increase your stamina, function, and condition. Pacing is more effective when using a time- or distance-based approach (e.g., "I will go for a 3-minute walk" or "I will walk 100m today") rather than a symptom-based approach (e.g., "I will walk until I am in pain"). Work with your healthcare provider to come up with a pacing plan.
- **Psychological therapies** which can include cognitive behavioural therapy (CBT), pain reprocessing therapy, or acceptance and commitment therapy (ACT) target maladaptive thoughts and behaviours, helping individuals reframe pain ("This hurts, but isn't destroying me") and commit to value-based activities despite discomfort. A therapist with specialized training in pain reprocessing therapy can guide you through exercises like somatic tracking, a mindfulness technique to help you change the way you think about pain. This practice helps you pay attention to pain and other sensations in your body without fear, allowing you to send safety messages to the brain. Therapists or counsellors (psychologists, pain coaches, and social workers) with trauma-informed training form a key part of your care team and offer specialized interventions and advocacy guidance.
- Other **mind-body practices** like yoga, meditation, mindfulness, relaxation, guided imagery practices and Tai Chi can reduce pain intensity, ease muscle tension and improve quality of life. The key is to find what works for you, go slow, and remind yourself that you are safe.
- **Finding activities you enjoy**. While you may not be able to participate in some activities that you used to do, look for new possibilities. If you find it difficult to sit through a movie at the theatre, invite friends over to watch a movie in the comfort of your home. Long trail walks may not be possible at the moment, but instead, drive to your favourite place in nature and sit, stand or stroll for a few minutes.
- Keep **socializing and build a support network**. Isolation can amplify pain and emotional distress; cultivating connections is vital. For individuals who have never experienced chronic pain, it can be difficult to fully comprehend the experience. Educating loved ones about pain mechanisms and your coping strategies helps them offer appropriate assistance without inadvertently reinforcing avoidance behaviours.

- **Physical practice therapies**, such as acupuncture, massage, active release techniques (ART), physiotherapy, and occupational therapy can help to calm the nervous system, release muscle tension, improve movement, and reduce pain. It's important to work with providers who are familiar with up-to-date practices and comprehensive knowledge and understanding of chronic pain. Trial and error with different providers may be needed and it's important to understand that how well a treatment works for one person may not be true for you. Additionally, for some people, a combination of therapies works well, but for others, less is more.
- **Getting adequate sleep** is important for people with chronic pain. Many people who experience chronic pain experience sleep disruption and insomnia. But poor sleep also affects general health, increases inflammation, and impacts the pain response and experience of pain. Cognitive behavioural therapy for insomnia, relaxation, mindfulness, physical therapies, and exercise are important strategies to improve sleep.
- **Medical interventions** such as hyaluronic acid, platelet-rich plasma, Botox, and corticosteroid injections, or nerve blocks may be helpful in some cases. Your physician can advise you on the best options for you.
- **Medications** ranging from over the counter to prescription drugs can offer relief for some people. When used carefully and combined with self-management techniques outlined above, medications are often helpful when breaking old neural pathways and creating new ones.

If you have been living with chronic pain for an extended period, it will take time to break the cycle and develop new neural pathways. As difficult as it may be, remain patient. Your pain can improve little by little over time.

Knowledge Is Power: Fuel Your Voice

By learning the science of pain (e.g., the role of central sensitization and neuroplasticity), individuals gain language and confidence to self-advocate for multimodal approaches—such as graded exercise, cognitive behavioural therapy, or mindfulness programs—when traditional medical approaches fall short. Pain education encourages individuals to discuss alternative treatments, ask informed questions, suggest referrals, advocate for second opinions, and challenge unhelpful beliefs about activity restriction.

The following resources can help you learn more about chronic pain and can help you shift from feeling overwhelmed to taking charge of your journey toward improved function and quality of life.

Books

1. 8 Steps to Conquer Chronic Pain: A Doctor's Guide to Lifelong Relief. By Andrea Furlan (2023).
2. Changing Your Pain Pathways: Ways to cope with pain in daily life. By B. Cai-Duarte, C. Kircher, B. Moore, & S. Sheffe (2018).
3. Explain Pain. By D. Butler & L. Moseley (2013).
4. The Explain Pain Handbook: Protectometer. By D. Butler & L. Moseley (2014).
5. Managing Pain before it Manages You. By M. Caudill (2016 edition).
6. The Brain that Changes Itself. By N. Doidge (2007)
7. The Way Out. By Alan Gordon with Alon Ziv (2021)
8. Healing Back Pain: The mind body connection. By John E Sarno (1991)

Videos

Tame the Beast — It's time to rethink persistent pain. **https://www.youtube.com/watch?v=ikUzvSph7Z4**

Understanding pain in less than 5 minutes, and what to do about it! **https://www.youtube.com/watch?v=C_3phB93rvI**

Lorimer Moseley – Body in mind: the role of the brain in chronic pain. **https://www.youtube.com/watch?v=RYoGX-v22G3k&list=PLeMJSyOw8AcVwJH1f9Q9qblnUpD32EPFJ&index=2**

Websites

Mind Body Medicine: **https://unlearnyourpain.com/**

Getting Support for Chronic Pain

Chronic pain management isn't a one-size-fits-all journey—it requires patience, persistence, and a personalized approach. Finding the right combination of treatments can take time, but it's a pursuit worth undertaking to reclaim your quality of life. Engaging with healthcare providers or pain specialists can open doors to various strategies tailored to your unique needs.

For those seeking comprehensive support, Homewood Health Centre offers an Integrated Chronic Pain Service (ICPS) as part of its inpatient program. This physician-led program addresses both the physical and emotional aspects of chronic pain, providing a holistic approach to healing. Through a combination of medical care, innovative pain management techniques, and continuous support, we aim to empower individuals on their path to recovery.

Contact our intake team at (866) 294-0928 for additional information on admissions, health care professional referrals, or answers to any other questions you may have.

References:

Cleveland Clinic Staff Writers. Chronic Pain. Cleveland Clinic. Accessed on 22 April 2025 from https://my.clevelandclinic.org/health/diseases/4798-chronic-pain

De La Rosa JS, Brady B, Ibrahim MM, Herder K, Wallace J, Padilla A, Vanderah TW. (2024). Co-occurrence of chronic pain and anxiety/depression symptoms in U.S. adults: prevalence, functional impacts, and opportunities. Accessed on 22 April 2025 from https://journals.lww.com/pain/fulltext/2024/03000/co_occurrence_of_chronic_pain_and.18.aspx?

Government of Canada. (2021) An action plan for pain in Canada. Health Canada. Accessed on 23 April 2025 from https://www.canada.ca/en/health-canada/corporate/about-health-canada/public-engagement/external-advisory-bodies/canadian-pain-task-force/report-2021.html?utm_source=chatgpt.com

Hall-Flavin DK. (3 April 2019). Pain and depression: is there a link? Mayo Clinic. Accessed on 22 April 2025 from https://www.mayoclinic.org/diseases-conditions/depression/expert-answers/pain-and-depression/faq-20057823?utm

IASP (2020) Terminology. International Association for the Study of Pain. Accessed on 17 April 2025 from https://www.iasp-pain.org/wp-content/uploads/2022/04/revised-definition-flysheet_R2-1-1-1.pdf

Johns Hopkins Medicine Staff Writers. (10 March 2025). Worldwide Study Finds High Rates of Depression and Anxiety in People with Chronic Pain. Johns Hopkins Medicine. Accessed on 22 April 2025 from https://www.hopkinsmedicine.org/news/newsroom/news-releases/2025/03/worldwide-study-finds-high-rates-of-depression-and-anxiety-in-people-with-chronic-pain?utm

Physiopedia Staff Writers. Chronic Pain and the Brain. Physiopedia. Accessed on 17 April 2025 from https://www.physio-pedia.com/Chronic_Pain_and_the_Brain

Volcheck MM, Graham SM, Flemining KC, Mohabbat AB, Luedtke, CA. (2023) Central sensitization, chronic pain, and other symptoms: Better understanding, better management. Cleveland Clinic Journal of Medicine. 90(4):245-254

Wang Y, Aaron R, Attal N, Colloca L (2025) An update on non-pharmacological interventions for pain relief. Cell Reports Medicine. 18;6(2):101940. Accessed on 17 April 2025 from https://pmc.ncbi.nlm.nih.gov/articles/PMC11866493/

Whale K, Gooberman-Hill R (2022) The importance of sleep for people with chronic pain: current insights and evidence. JBMR. 17;6(7):e10658 https://doi.org/10.1002/jbm4.10658

Zoffness R (2024) A tale of two nails: what changes pain. Psychology Today. Accessed on 23 April 2025 from https://www.psychologytoday.com/ca/blog/pain-explained/201911/a-tale-of-two-nails-what-changes-pain

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Health Risk Services Inc. has been a proud partner of Homewood Health for several years. They provide our clients with the value-added service of health related information, articles, advice, and personal counseling.

We would love to assist you and your family with any benefits plan questions you may have.

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