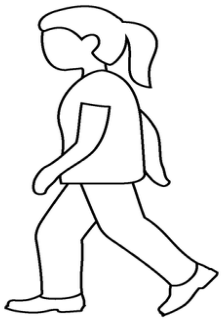
NORTHERN SHARED CHRONIC PAIN SERVICES

Understanding Chronic Pain

A guide for patients and their families



Chronic pain is a painful form of pain experienced by 1 in 5 Nova Scotians. It can be disabling but there is hope for recovery as our understanding of this type of pain grows.

The following booklet is complementary to the care you are now receiving from your healthcare provider. It is not meant to be a substitute. Share the information with your family but remember ***the journey is yours***.

What is PAIN?

Pain is a messenger.

It is a powerful sensation we feel in our body that our brain produces.

Without it, you couldn't protect yourself or run away from danger.

When you put your hand on a hot stove, the pain lets you know to move your hand so that you don't injure yourself further. This is called ACUTE pain.

When ACUTE pain happens, your brain creates a neural circuit or memory to warn you of the danger. This allows your brain to protect you in the future. For example, a pain sensation can be triggered by heat when your hand is near a hot stove. Here the pain sensation is triggered by the "threat" of injury or the memory of a previous burn. In both situations the pain is real. It serves the same purpose, to protect and warn you of harm.

ACUTE pain is your body's natural response to an injury, illness, or surgery. It is the fire alarm that comes

on when it should and shuts off when the danger has passed.

CHRONIC pain in contrast is the fire alarm that won't shut off. It keeps you in pain long after your body has healed.

But what is chronic pain exactly?

Chronic pain is a painful form of pain. It has been defined by the International Association for the Study of Pain (IASP) as “pain that has persisted longer than 3 months that has lost its biological purpose”. Reading this definition, you would think that time is the only benchmark that can differentiate ACUTE pain from CHRONIC pain. Chronic pain is so much more.

THE SCIENCE OF CHRONIC PAIN :

There has been much research showing that chronic pain is the result of learned neural pathways in the nervous system that have become maladaptive or short-circuited. These neural pathways trigger a pain signal long after your tissue has healed.

This can cause your pain system to react more quickly and with greater intensity when a pain signal is triggered. Scientists call this process pain amplification or sensitization.

Once these neural pathways develop, they keep the sensation of pain active, making it challenging for you to separate pain that has developed from a new condition (acute pain) and pain that is being generated by abnormal neural connections (chronic pain).

When you have chronic pain it can feel hopeless at times but the good news is that there is promising research that is helping us understand chronic pain and how you can get back to the quality of life you want and deserve.

The first step is to recognize that you have chronic pain. This can be challenging especially if you have been told that other conditions such as arthritis or "pinched nerves" are the cause of your persistent pain. While it is true that these consitions can cause pain, they are often not the cause of pain that does not go away.

Talk with your healthcare provider to make sure that other medical conditions you have are adequately treated. For example, if you have a condition like Rhematoid arthritis or Crohn’s disease, both these conditions require medical therapy to manage them effectively.
Once these other medical conditions are adequately treated, the pain you continue to experience is most likely the result of learned neural pathways

that are keeping your alarm system active, in other words, your pain system has become over-protective.

How do I know if you have chronic pain?

The following is a list of some characteristics of chronic pain.
As you go through the list, be curious and keep an open mind. There is no right or wrong way to do this exercise. See if you can see similarities with the pain you are experiencing today.

1. Pain that has lasted longer than 3 months with or without an injury, illness, or surgery.
2. Pain that is on both sides of your body or all over your body that investigations do not have a medical explanation for.
3. Pain that increases when we experience pressure from ourselves and others.
4. The pain lessens when you do things your body enjoys.
5. Pain that is triggered by things that have nothing to do with our body. (weather, smells, sounds, time of day)
6. Pain that originated during a time of stress. The stress can be positive or negative. For example, a new job, a new promotion, marriage, divorce, childbirth, illness, or death of a loved one.
7. Pain and symptoms that are inconsistent. (Back hurts while standing but not walking, no pain through the day but severe at night, pain and symptoms spread and move to different parts of your body).
8. A history of widespread symptoms that are unexplained. (Food intolerance, multiple allergies, environmental sensitivities, stomach pain)
9. Childhood adversity or trauma. (For example, you felt unsafe as a child, you were bullied, or had a parent who was unpredictable in their mood and behavior)
10. You have personality tendencies toward anxiety, hypervigilance, perfectionism, people-pleasing, conscientiousness, or over-sensitivity to animals.

What CAUSES Chronic pain?

Scientists continue to study why chronic pain occurs in some people but not in others.
Although there are many causes for why someone could develop chronic pain what seems to be clear is that

negative or stressful experiences in our life including painful ones can have a powerful influence on whether we develop chronic pain later in life. These events cause changes in our nervous system that can keep our body and brain "on edge". How our body adapts to the pain over time can also generate more pain.

Many of these adaptive behaviors happen automatically without you asking your brain and body to do them. Use curiosity when you explore the list of pain-generating behaviors below. The goal is not to “fix” or get rid of these traits, the goal is to increase your AWARENESS that they may be contributing to your pain.

Pain-Generating Behaviors:

See if you recognize patterns of thinking or ways you may be moving that could be generating a pain signal from the list below.

1. The pain tuck.
2. Muscle tightness
3. Hypervigilance
4. Worst-case scenario thinking
5. Perceived injustice
6. Avoidance of pain
7. Fear of pain
8. Perfectionism
9. Strong negative reactions to the pain such as anger and frustration

a. The Pain Tuck :

How we move and the postures we use can have an impact on our pain. When you have pain, it is not uncommon to get stuck in a posture that gives you temporary relief from the pain. For example, when experiencing pain, our body may instinctively move away from the pain and our muscles tighten to stabilize painful areas. For example, if you have back pain you might tuck forward and the muscles in your lower back get tight. These responses can become automatic and habit-forming.

So what’s wrong with bending forward you ask?

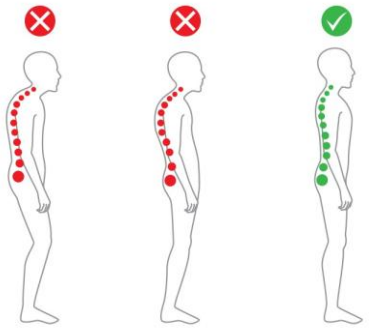
When we get stuck in a forward tuck position for long periods, this puts an added strain on our hip and knee joints which are not used to carrying this extra weight. This also changes our natural S-shape back to a C-shape. Over time, your muscles will start to shorten near your hips (hip flexors) and behind your knee (hamstrings) and lengthen in your back making it painful to stand up straight even though

moving in this way is not dangerous nor is it causing damage to your body. When we get stuck in these postures your brain naturally generates more pain to « encourage you » to change your posture or lie down to get relief from the added work and fatigue your muscles are experiencing to keep you upright.

Tucking forward also shifts our center of gravity causing our muscles and joints to carry an extra 45 pounds to keep us from falling flat on our faces!

Correcting the habit can be hard. It is important to approach the habit or any other behavior you may have learned with self-compassion, curiosity, and a little sense of humor. AWARENESS that the pain being generated maybe from tucking and muscle work can help us change the story we are telling ourseleves about why the pain is persisting. It can help bring clarity rather than uncertainty.

Because your body has learned the behavior, unlearning will take time. Remember the mantra, "C to S when you sit or stand".



Here are a few tips to get you there.

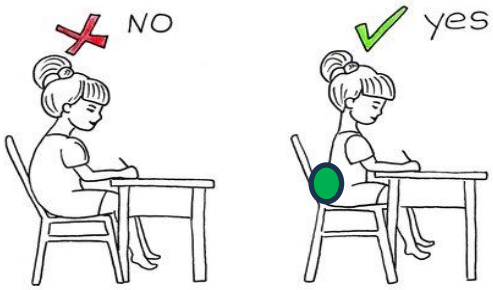
When you sit, put a small soft towel on the lower part of your back and gently pull your shoulders back in a relaxed position. This will allow your shoulders and upper back muscles to relax as you ease back into an S-shaped spine.

When you stand at the sink or in the bathroom place your foot on a lower cupboard ledge to help change your C-shape back to its natural S-shape. Another trick is to imagine a string on the top of your head that is gently pulling you up allowing you to open up your chest. Make sure you have access to a countertop or a support aid such as a walker when you try this.

When you correct your posture, you may feel structural triggers in your body as your back returns to its natural S-shape. You may even hear sounds like a "snap, crackle, or pop" as tissue moves across your joints. Allow yourself to feel the structural triggers.

View them as safe sensations and not dangerous. Paying attention to your pain in this way can feel unnatural but it can be the first step in changing your relationship with your pain and taking back your control. The more we avoid pain the more our brain will learn to fear it.

Find a time to practice this technique in your day. For example, it's great to try this when you are waiting for food to heat up in the microwave or coffee to brew.
Just remember, there is no one ideal posture to strive for. A good posture is a changing posture.



Techniques such as somatic tracking can also be helpful to dial down the pain intensity you are feeling. Use curiosity when you explore this. A link to a short introduction to this emerging therapy can be found at the end of this booklet. Try it when your pain intensity is at a moderate to low.

If you are experiencing high-intensity of pain the brain is feeling too much danger in that moment and will be unable to focus on the technique. Also, remember to breathe. It is common to hold your breath when you are experiencing pain.

b. Hypervigilance and Worst-case scenario thinking.

A pain signal can also be generated by our brain by activating our “threat detector” the same way our body's structures can. Both hypervigilance and worst-case-scenario thinking are two such examples.

Hypervigilance is a learned behavior that can develop when we feel unsafe, worry, and ruminate excessively, or constantly feel on edge and have difficulty feeling calm and safe. For example, if we develop the habit of hypervigilance, our nervous system can rewire to make sure we stay alert to keep us safe without us knowing.

Childhood experiences such as being bullied at school or an unhappy family life can cause us to develop hypervigilance.

Worrying excessively about the pain and whether we will become disabled

can also create hypervigilance. Even exposure to modern technology like a cell phone can cause us to become hypervigilance! Have you ever noticed how anxious you feel when your phone "pings"?

Increasing your awareness of how technology makes you feel can be the first step in changing your response to it. See what happens when you step away from the phone for a day. Pay attention to the sensations that come up for you. Remember, sensations are not dangerous but they may feel uncomfortable. We have no control over when sensations appear in our body but we can only control our response to them if we have the right tools.

Remind yourself that you are safe and that you've got this. This can help you build resiliency to negative sensations and begin the process of rewiring your neural circuitry. Reach out for professional support to help navigate this challenging area.

c. Perceived injustice.

Perceived injustice occurs when you spend a lot of time feeling that a solution to your pain is out of your control because of circumstances or beliefs that caused your pain. For example, you may feel a sense of unfairness ("It all seems unfair"), a belief that the situation is too bad or too serious to repair or put right ("My life will never be the same") blame ("I am suffering because of someone else's negligence"), treated disrespectfully ("Most people don't understand how severe my condition is").

Perceived injustice is a form of reasoning we can use to make sense of our world. It can keep us stuck in a negative pattern of thinking which prevents us from moving forward in our lives.

Not everyone will have the same life experiences as you nor will they

experience chronic pain in the same way you do. This is what makes chronic pain personal and complex.

When you increase your awareness of some habits and behaviors that you may have developed over your lifetime it can help you understand why your pain may have been difficult to manage.

Keep an open mind. Practice self-compassion and kindness for yourself in those moments. You are doing the best you can.

How is Chronic Pain Managed?

The management of chronic pain can be challenging even when investigations suggest an intervention such as a nerve block or physiotherapy may be helpful.

Often these interventions can provide temporary relief when they target certain body structures but do little to "get rid" of chronic pain and sometimes can make pain worse. Physiotherapy for example can be helpful but can also aggravate chronic pain if the techniques used do not feel safe to your body even if the therapy itself is not causing harm. Give yourself credit for doing the best you can. This work is hard.

There are five P's of pain management. They are listed as follows:

1. Pain education tools
2. Physical activity tools
3. Psychological tools
4. Pill tools
5. Non-pill tools

Once you understand the unique nature of chronic pain and the role of "feeling safe" plays in helping you make progress in your life, getting active can seem doable. You may need to do a little homework before you get started to set yourself up for success.

Getting active with chronic pain.

1. Start small. Motivation starts with an action, not willpower. Setting goals that are small, that you can do on a good or bad pain day can help keep you inspired.
2. Use "towards motivation" rather than "away from". For example, do not make the activity about weight loss, getting rid of pain, or getting fit initially. You want a

goal that moves you towards a sensation that can help you feel that you are making progress rather than feeling stuck. Moving toward a sensation of feeling more confident or feeling stronger when you move might be that goal.

3. Explore what kind of activity or movement your body enjoys. For example, do you love to walk, dance, bike, or do gentle movements such as Tai Chi? How safe does that activity feel to your body today?
4. Next, explore the setting where it may feel safe to do the activity. For example, you may enjoy walking in the woods, but walking in the woods at this time does not feel safe. The safest space may be lying down in bed and starting with gentle movement.
5. Investigate other ways of doing the activity that feels safe. For example, you could consider getting in the water or a pool with a lifejacket and walking in the water as an alternative to walking on pavement or in the woods.
6. When you find an activity that feels safe to do and makes you feel inspired, start to do that activity. Try to approach the activity with curiosity and a sense of humor. Leave intensity at home. If we approach it with too much intensity this may increase our pain. Gadgets like step counters can be helpful but can also put a lot of pressure on us. Set them aside for now.
7. As you move, send messages of safety to your body reminding yourself that you are not causing damage by moving. Our bodies are designed to move. If you are experiencing more pain, this is most likely a structural trigger that can occur when we move tissue that has not been moved in a while. Structural triggers are safe pain.
8. Pay attention with curiosity to your body when you move. Do you have a habit of looking down? Looking at the ground is a habit we can develop if we have a fear of tripping or falling. Looking down when you walk can put more stress on our joints and muscles and may generate more pain. You are not causing damage when this happens. Consider using a walker, cane, or walking sticks to increase your safety and help

you look ahead when you are moving.

9. Celebrate your successes regardless of how small they may seem and practice self-compassion. You are doing the best you can at this moment.
10. You got this.

Can CHRONIC pain be cured?

There is no cure YET for chronic pain but our understanding of this life-changing condition is growing. Therapies are getting better at addressing the neural circuitry that has been changed. Unfortunately, there is no blood test or X-rays that can confirm you have chronic pain. It's because your pain has persisted and has never gone back to a 0 on 10 baseline that it has received this diagnosis.

New therapies are emerging every day that are showing great promise. Some therapies such as Pain Reprocessing Therapy have even been shown to eliminate certain types of chronic pain. There is a lot to be hopeful about.

What CAN YOU do to help your chronic pain get better?

1. Don't wait for your pain to get better before you start to make changes. Being active will not cause damage to your tissue despite the pain you are experiencing. You do however need to approach activity in the right way. Ask to attend your local chronic pain clinic to explore ways to improve your function. Just remember NO ACTIVITY will increase your pain in the long term.
2. Your healthcare provider can make sure you don't have any serious disease and reassure you that underlying conditions such as Rheumatoid arthritis are well managed. They can also suggest medications and treatments to help reduce your chronic pain. Try to accept their reassurance but remember you need to share responsibility for your own progress.
3. ACTIVITIES that can help chronic pain are often NOT medication or procedure-based. Be open to trying different things. Look at what your community has to offer.

4. Don't let pain decide how you interact with your loved ones or how your day should be structured. Talk to someone if you feel that you're losing control. Nova Scotia Health has a helpline you can reach out to. You can access information at, ***mha.nshealth.ca***
5. If medications are prescribed for your pain they should be taken as ordered. Many kinds of PAIN MEDICATIONS can be helpful but all are LIMITED by how they make you feel. The goal of medications in CHRONIC pain management is to improve your FUNCTION and make your pain more tolerable. If the medication makes you feel sleepy or it gives you brain fog your pain may increase. Talk with your healthcare provider to adjust your medications safely.
6. Establish a daytime and nighttime routine. Going to bed at the same time each night and waking at the same time each day despite your pain can be helpful. Beware of the temptation to reverse your days and nights. This is often a coping strategy that can isolate you from family and friends.
7. Sleep is generally poor in patients with chronic pain. Poor sleep is also a habit that can begin in childhood. Establish a sleep routine that discourages wakeful activities in your bedroom such as watching the TV or using your phone. Bedrooms should be reserved for sleep and intimacy. Often TVs and computers train the mind to stay alert. If we routinely use the TV to fall asleep or fall asleep on the couch and not the bedroom, the brain learns to stay awake and sleep becomes more difficult.

   Other relaxation techniques such as deep breathing can also help calm the pain system and encourage sleep. Some great sleep tools can be accessed at ***mysleepwell.ca***
8. Your appetite may be poor when you have chronic pain. You may even fear eating certain foods that have triggered pain in the past. However, not feeding your body adequate calories results in a calorie deficit which can worsen your chronic pain by causing your body to go into survival mode. Try your best to eat small regular meals that are low in sugar and high in protein and fiber.
9. It is important to find joy and happiness in what you do. This might take some work because the human brain has a negativity bias. This is an evolutionary quirk that

dates to cave-man times. Negativity bias was important for our protection and survival but it is not so helpful today. Humans have about 60,000 thoughts per day. 85% of our thoughts are negative and 90% are repetitive. Negativity bias makes it difficult for us to see what's working in our lives. Gratitude journals have been shown to help build confidence and can help you see what is going right in your life. We all have passions that sometimes get buried in our suffering.

10. Remember you are more than just a person living with pain. You have dreams and aspirations like everyone else. Begin to take the steps to help you move forward. Ask your healthcare provider about your local chronic pain clinic.

Pain Self Management Programs can help you build skills to manage your chronic pain. Below is a list of resources that you may also find helpful in your journey to recovery.

You got this!!

Resources:

1. Pain Canada: accessed at **paincanada.ca**
2. Nova Scotia Pain Self-Management Programs: accessed at **nshealth.ca/content/pain-self-management-program**
3. Book: Alan Gordon: The Way Out. (2022)
4. Podcast: Science vs: October 28, 2021. Chronic pain: Can our brain fix it?
5. YouTube: Understanding Pain in less than 5 minutes.
6. You Tube: Beginners' initiation to Mindfulness. Mindly. 5 min.
7. Somatic Tracking Exercise for Pain Reprocessing therapy: **https://www.youtube.com/watch?v=GF-BWH4w8ho**

Update: November 2024 Dr. M. Allen