PAIN BC™

STRESS AND CHRONIC PAIN

Your body has a built-in response system for anything new or challenging, called the **'stress response'**. If something is perceived by the brain as uncertain or potentially difficult, you will experience a stress response. This can result in various physiological changes such as increased heart rate, "butterflies" in the stomach, or increased body temperature.

Everyone experiences stress at varying levels. The source can sometimes be obvious, but it can also be more subtle. **There are signs that you can pay attention to which may indicate whether you are experiencing a stress response:**

- Physical signs: headaches, clammy or sweaty hands, muscle tension, digestive problems
- Emotional signs: angry, irritated, nervous, fearful
- Cognitive signs: difficulty concentrating, worrisome thoughts, distracted
  Behavioural signs: neglecting self-care or completing important tasks (i.e., school, work, personal appearance) isolating

For more information on the biopsychosocial model, you may consider visiting the following:

- Biopsychosocial Factors and Approaches to Treatment by LivePlanBe+: liveplanbeplus.ca/course/biopsychosocial-factors-and-approaches-to-treatment-1-hour

THE STRESS RESPONSE AND THE NERVOUS SYSTEM

While stress can impact you physically, emotionally, and psychologically, your body is also designed to recover. The **Autonomic Nervous System (ANS)** takes care of essential body functions automatically without us having to think about them, like breathing, heart rate, and blood pressure. There **are two branches of the ANS:**

1. **The Sympathetic Nervous System (SNS):** is the part of the nervous system that takes us into the fight, flight or freeze response. When we respond to stress, our body functions in a way that gives us the greatest chance of surviving the perceived danger. For example, adrenaline is released into our system, our heart beats faster, our breathing changes to shorter, shallower breaths, our energy is pulled away from our immune and digestive functioning so the energy can

be better used for the immediate danger requiring fight or flight, and our pupils dilate so we can take in more information.

2. **The Parasympathetic Nervous System (PNS):** is the part of the nervous system that takes our body into what is known as 'rest and digest.' Our nervous system is working to regulate itself by entering a calmer state. We can breathe more deeply, our heartbeat slows down and regulates, our immune and digestive functioning works optimally, our pupils constrict again, and stress chemicals stop being released.

The SNS is meant to be switched on in times of immediate threat, such as meeting a wild animal on the path (although other daily stressors can do the same thing). As soon as the danger has passed, our body will ideally return to PNS functioning (or rest and digest) within an hour.

You might notice, for example, that you're always on high alert, your muscles are tight and clenched, and your breathing is shallow (high in the chest), etc. This is common in people experiencing **chronic stress**. It is common for people living with chronic pain to experience ongoing stress as pain is distressing. Not only is the pain itself a stressor, so are many of the things that happen because of living with ongoing pain – like difficulty working, keeping good relationships going, having to attend appointments, and poor sleep. However, when you remain in a state of ongoing stress, it means that your immune and digestive functions are dampened and your body is always releasing stress chemicals, as your PNS is not often activated. This can add to further health problems, including causing chronic inflammation, which will feed the cycle of chronic pain.

THE CYCLE OF STRESS REACTIVITY

In the same way that pain is intended to be our brain's way of alerting us to danger, what happens in our body in reaction to a stressful situation is also designed to help act as a survival mechanism. Our body responds to stress/danger to enable the fight, flight or freeze response. Our body's reaction to stress is supposed to be a short-lived experience that supports us in taking appropriate action to get us to safety.

As mentioned previously, stress can become chronic. This may happen because we have been experiencing an ongoing stressful situation or because we perpetuate the cycle of stress by unknowingly reacting in ways which cause more stress; this is what is referred to the '**stress cycle'**. When we are

living in a state of ongoing (chronic) stress, not only are we feeling the emotions of stress, but the body is living with the physical effects of being in fight/flight or freeze all the time (i.e., the continual release of stress chemicals, impaired immune system and suppressed digestive function).

The good news is that we have agency over our stress levels! We can begin to decrease our stress level by becoming more aware of the ways in which we are reacting to stress. When we learn to notice the early signs that we are stressed, we can then choose to change our reactions to ones that support our body and mind to move out of fight, flight or freeze. We are moving ourselves out of the stress cycle, so our body and mind can return to healthier functioning. Remember to be gentle with yourself when you find yourself caught in the cycle of stress. It is not an easy habit to break. It takes time, patience, persistence and most of all, gentleness with yourself as you learn to break the cycle.

RESPONDING TO STRESS IN A HEALTHY WAY

Stress can be all consuming, but there are ways to manage stress in a healthy way, so it doesn't consume you. By listening to your mind and body, you can take better care of yourself. Once you are aware of what is happening in your mind and body, you can take steps to transform your experience. Examples include:

- Having a self-care plan. (i.e., making a list of relaxation strategies)
- Connecting with others. (i.e., joining a support group, taking part in online movement classes, or a creative arts class, etc.)
- Looking for stories of resilience and compassion, both your own and those of others.
- Recognizing your own strengths and what you already know from your lived experience with pain.

Below are some steps you may consider taking to reduce your stress levels:

1. Name the stressor

Understanding and identifying what's causing the stress can allow you to come up with potential solutions, examine alternate outcomes and take control of the situation.

2. Learn to use stress for good

If you view stress in a negative light, you'll be more likely to react in negative ways. Next time you feel stressed or anxious, try recognizing and welcoming that feeling instead of pushing it away.

3. Use movement to release stress and tension

Use movement to fight negative stress responses. This tip may sound backwards to some, but physical activity and movement may help the brain deal better with stress. Movement can increase levels of norepinephrine, a hormone that makes you more alert, aware, and primed for response. It also releases endorphins, the feel-good chemicals that promote a sense of contentment and well-being, and reduces the stress hormone, cortisol. All of this enables a positive stress response. Even just a few minutes of activity can make a difference. Examples of top stress relievers include walking, stretching, and yoga. If your pain prevents these activities, you can get the same benefits from massage, meditation, and other low impact activities.

4. Have a sleep routine to promote restful sleep

Take steps to improve your sleep habits. Most people tackle stress better after getting a good night's sleep. Rewiring how you respond to stress is not a skill you will pick up overnight. It takes time and good lifestyle habits, including adequate sleep, to support the process. The benefits go both ways, too. When you have a positive stress response, your sleep patterns are less likely to be interrupted. Learn more about sleep and pain here.

5. Be mindful of your eating habits

Focus on consuming whole foods and reduce consumption of processed foods. This may be challenging, as when people are stressed, they may be tempted to turn to food for comfort, or your appetite may have a reduced appetite. However, when we feel more in control of what we are eating and consume healthy foods, we tend to feel better equipped to manage life's stressors. You may also consider monitoring your caffeine intake too. Caffeine increases heart rate, which can cause anxiety and lead to more stress in some people.

6. Keep a stress journal

Keep a stress journal. While this is not everyone's favourite coping strategy, research shows that writing down your worries can make them seem more manageable. Feel free to make a list if you don't want to write a story. Listing or writing out problems naturally encourages the brain to reflect and consider potential solutions, which may lead to new perspectives. If you want to get ahead of your stress, you can even start the day with a list of things you most want to address. This will help keep you organized and help you to prepare for any challenges ahead.

If you learn to notice your triggers and what happens for you during a stress response (not judging your thoughts or responses, just noticing them), you will be able to find strategies to better cope. You may find yourself worrying about the harm associated with stress and feel hopeless. However, you CAN interrupt the stress cycle by changing how we relate to our stress and the stress response.

RESOURCES

- Pain Support Line: Call or text 1-833-261-7246
- Empowered Relief®: paincanada.ca/resources/empowered-relief
- Coaching for Health: painbc.ca/coaching
- Pain Support & Wellness Groups: painbc.ca/supportgroups
- Making Sense of Pain: Online: painbc.ca/msop
- Stress by LivePlanBe+: liveplanbeplus.ca/course/stress
- Toronto Academic Pain Medicine Institute (TAPMI), Stress Management by Pain U Online: tapmipain.ca/patient/managing-my-pain/pain-u-online/stress-management.html
- Pain BC Information Sheet, Mental Health and Chronic Pain: painbc.ca/sites/default/files/2025-10/PBC%20Factsheet%20-%20Mental%20Health%20and%20Pain%20-%20Final.pdf
- Pain BC Information Sheet, Sleep and Chronic Pain: painbc.ca/sleepandchronicpain
- MindShift CBT, Free anxiety relief app: mindshiftcbt.com
- Canadian Mental Health Association, BounceBack®: bouncebackbc.ca
- Self-Management BC: selfmanagementbc.ca
- Homewood Health, Self Care Starter Kit: phsa.ca/staff-resources-site/Documents/Homewood-%20Health-Self-Care-Kit.pdf
- Real Stories LivePlanBe: liveplanbe.ca/real-stories
- Gentle Movement @ Home: painbc.ca/find-help/gentle-movement-at-home

- Mindful Hand Drumming @ Home: painbc.ca/mindful-hand-drumming-at-home
- Managing Pain Before and After Surgery: paincanada.ca/course/managing
- Pain BC, Find Help Directory: painbc.ca/find-help/resources/directory

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