

# Traumatic Brain Injury and Chronic Pain: Part 1

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TBI Factsheet

Part 1: This factsheet will help you understand the common causes and symptoms of chronic pain for people with traumatic brain injury.

## What Is Chronic Pain, and How Can It Affect People?

Pain is an unpleasant sensation that can range from mild to very severe. Pain is very personal; two people can have the same type and amount of pain and have very different reactions to it. Pain can affect many other parts of our lives. It can cause changes in your sleep, emotions, behavior, and even the way your body works. And it works the other way too: All of these things can make pain worse or make you more aware of it.

Pain can be either acute or chronic. Pain from an injury that is healing is considered acute pain. This kind of pain may help protect you from getting hurt again, by reminding you to be careful with the place you feel pain. Most of the time this pain goes away as you heal.

Pain is usually considered chronic when it lasts more than three months. Many people with traumatic brain injury (TBI) have chronic pain at some time or other. There is typically no “quick fix” for chronic pain. Medicines used for acute pain often don’t work well for chronic pain and may be habit forming. Even over-the-counter pain medications like ibuprofen, aspirin, and acetaminophen might not work very well for chronic pain. If you’re using any of these for more than a week or two, you should talk with your doctor. Long-term use of any medicine may be habit-forming and could damage your kidneys or liver.

## Common Types of Pain After TBI

There are many types of pain that can be chronic after a TBI. Some common ones are listed below but there are many others.

### Headache

Most people with TBI have headaches at some point after injury. For many people the headaches start right after their TBI. But for others, they can start weeks, or even months, after their injury. There are several types of headaches. To learn more, refer to the factsheet *Headaches After TBI*.

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## Neurological or Nerve Pain

The brain and central nervous system process pain signals. These signals are usually caused by damage or injury to tissue. When a nerve is injured, it can cause different kinds of pain than the pain you may feel after damage to other types of tissue. Nerve pain can feel “electric” or like “burning”; it could also feel like hot or cold; or even give you a sensation of numbness or “tingling” in your arms or legs. These types of pain often need to be treated with special prescription medications. Chemical changes in the brain can also cause the feelings of pain without obvious damage or injury.

## Spasticity

A TBI can cause damage in the brain or to the nerves that makes muscles not respond as they should. This is called spasticity. Spasticity is not pain, but it can be painful. It may make muscles stay flexed when they should be relaxed or make them shake in a way that is hard to control. Over time, spasticity may cause muscles to lengthen or shorten, which can cause pain. Not enough sleep, stress, infection, or pain in another part of the body, may make spasticity worse. Many of the tools used to control pain can also help with spasticity.

## Muscle or bone pain and co-occurring injuries

Often, other parts of the body get hurt when TBI happens (e.g., fractures, disc injuries, torn ligaments). Pain from multiple injuries can be harder to treat because the symptoms may add to each other.

## Pain sensations

Not all pain feels the same, it can vary based on its cause. Two people might have the same type of pain in the same place but feel it differently. Pain could feel:

- Hot or burning
- Sharp like a needle prick or bee sting
- Tingly like a foot that has fallen asleep
- A dull ache that is worse with movement
- Throbbing pain that goes between more and less severe
- Pressure like squeezing or a vice grip
- Numb or decreased sensation

## Common Effects of Pain

After a TBI, it is common to have fatigue, anxiety, depression, and sleep issues. Pain can make these problems worse, and these problems can also make pain feel worse. This reinforcing cycle can make it hard to tell if pain is the cause or an effect. No matter the source, it is important to address these symptoms along with pain to get the best results.

## Sleep

Most people with a TBI who experience chronic pain report some type of sleep disturbance. Not getting enough quality sleep can increase pain and other symptoms. There are many therapies and medications that can help with sleep. If pain is disturbing sleep it will probably not get better until the pain is managed.

Talk to your doctor before you take medicine to help with sleep. Behavioral changes can be the best way to manage pain that interrupts sleep. Many drugs that help with sleep can be dangerous for people who have TBI. For more information about this, refer to the factsheet *Sleep and TBI*.

## Fatigue

Not getting enough sleep or being in pain for a long time can cause fatigue. Fatigue is a heavy tired feeling that can make it very difficult to do normal things. Fatigue can also cause trouble with memory or thinking.

## Cognitive effects of pain

For people in pain, it might be more difficult to think through complex ideas. Pain can also make it hard to remember things, stay focused, or be patient. Pain often makes people grumpy or short-tempered. All of these things are true even for people in pain who do not have TBI.

## Anxiety

Anxiety is closely related to pain, and each can make the other worse. Anxiety can add to memory or sleep problems. Anxiety may lead a person to believe that a bad outcome is likely or certain. This type of thinking is called “catastrophizing.”

## Depression

Pain itself can make people feel depressed. Many people with chronic pain begin to feel that they do not have control over their lives. If these feelings or the pain causing them are not addressed, depression can develop. Pain can also make it harder to do things in the community. This isolation can heighten existing depression. Behavioral therapy, activity, medicine, or a combination of these can help. If pain is contributing to depression, the two should be treated at the same time. Many treatments promote overall health and long-term pain relief.

## PTSD

People who go through traumatic events can have post-traumatic stress disorder (PTSD). People with PTSD may feel stressed or afraid even when they are not in danger. Some people with PTSD will have flashbacks and may “re-experience” the event. PTSD can make people want to avoid things that remind them of the trauma, startle easily, or have changes in their moods. Both pain and PTSD may lead people to avoid places or activities. This can be limiting and result in isolation, which can make pain or PTSD worse.

## Pain can change your thinking

Often, we have thoughts that we're not fully aware of called "automatic thoughts". They can influence our emotions and the things we do, even if we don't realize it. Pain by itself or with depression, anxiety, or PTSD can make people have more negative automatic thoughts. These thoughts can make their pain worse. A therapist who practices cognitive behavioral therapy can help change these thinking patterns.

## Moving Forward

Pain can complicate a lot of other symptoms that are common after a TBI. Everyone experiences pain in their own way. Treating pain is just as personal and finding the right way to manage your pain is a process. In Part 2 of this factsheet, you will read about different ways people learn to manage their pain.

## Authorship

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