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Fear Amplifies Pain Perception in People with Inflammatory Bowel Disease

Analysis by Dr. Joseph Mercola | January 29, 2026

STORY AT-A-GLANCE

- Fear-based learning can intensify pain in people with IBD even when inflammation is no longer active, showing that emotional processing plays a major role in chronic symptoms
- IBD patients in remission reported significantly higher pain intensity and unpleasantness compared to healthy individuals, despite experiencing the exact same heat stimulus
- The brain can hold onto pain memories through a process called fear conditioning, which teaches the nervous system to expect discomfort even without a current physical trigger
- People with IBD often feel isolated and emotionally overwhelmed due to unpredictable flare-ups, brain fog, shame, and the invisible nature of their pain
- Therapies like cognitive behavioral therapy offer a promising path to reduce pain by addressing the brain's learned fear responses

Inflammatory bowel disease (IBD) is a chronic condition characterized by persistent inflammation in the digestive tract. It is classified into two disorders: Crohn's disease and ulcerative colitis. Both of which cause symptoms such as diarrhea, fatigue, weight loss, and recurring abdominal pain. The good news is that there are proactive ways to keep IBD in control.

But for many IBD patients, the pain doesn't go away even when the disease is technically in remission. This mismatch between active inflammation and pain intensity has puzzled researchers for years. However, a new study shows that the answer might not

lie in your gut, but rather, in your mind. It shows how your brain might be holding onto the pain — even when your body lets go.

IBD Pain Gets Worse When You Expect It to Hurt

A research team at Ruhr University Bochum, Germany, wanted to understand why pain often persists in IBD, even during remission (meaning the gut is not actively inflamed). Their study, published in the journal PAIN, found that emotions, particularly fear, play a significant role. Their goal was to answer the question: Does learning to fear pain make people more sensitive to it later, even if their disease is calm?[1,2]

- **The study focused on people with ulcerative colitis (UC) and healthy volunteers —** There were 43 participants enrolled; 21 of them had UC (either in remission or with mild symptoms), while 22 were healthy controls. Although the inflammation in IBD can fluctuate, many patients report severe abdominal pain even during symptom-free periods. The participants completed a carefully designed two-day experiment used in pain and emotion research.

- **Day 1 focused on teaching the brain what to fear —** During the first day of the experiment, the participants were asked to view a series of visual cues, some of which were paired with a painful heat sensation applied to the lower abdomen. Others were accompanied by loud, unpleasant tones.

  Over repeated trials, participants' brains learned to associate certain cues with an uncomfortable experience. This is known as fear conditioning, and it's the same type of associative learning that helps humans and animals avoid danger.

  Once these fear associations were established, researchers introduced extinction training — showing the same cues without any heat or loud noise. This allowed the brain to "unlearn" the fear connection.

- **Day 2 involved surprise pain re-exposure —** On the second day, participants were shown all the symbols again without pain. Afterward, heat was applied unexpectedly, with no visual or noise warnings.

> *"We wanted to test whether IBD patients perceive the pain differently than healthy individuals, and whether this is linked to the strength of fear learning,"* Dr. Hanna Öhlmann, one of the study authors, said.[3]

The Pain Became Stronger and More Unpleasant in IBD Patients

The results of the second day were fascinating. When all of the participants were asked to rate the pain, the IBD patients reported that the heat was significantly more unpleasant and intense — the healthy people did not — even though the actual heat level was the same.

- **Fear made the pain worse —** This finding reveals how the nervous system "remembers" pain after fear learning has taken place. Those who had learned to fear the painful heat more on Day 1 were the same people who reported the highest pain levels on Day 2, but only in the IBD group. This didn't happen in healthy people, even if they had similar fear learning.

> *"The fact that patients with inflammatory bowel disease (IBD) often experience symptoms like abdominal pain even during phases of disease remission suggests that mechanisms other than acute inflammatory processes contribute to the persistence of pain. One possibility is that the emotional processing of pain is altered,"* Öhlmann said.[4]

- **It wasn't just the sensation; it was the emotion —** Interestingly, the study found that pain unpleasantness — the emotional "badness" of pain — fully explained the increase in pain intensity. Simply put, the more emotionally upsetting the pain felt, the more physically intense it became.

- **This study proves that emotional learning and memory can shape how pain is felt in the body —** And it can occur even when no inflammation is present. This kind of pain, where the brain's pain system stays activated even without ongoing injury, is defined as nociplastic pain.

> *"The International Association for the Study of Pain introduced the term nociplastic pain in 2017, defining it as 'pain that arises from altered nociception despite no clear evidence of actual or threatened tissue damage causing the activation of peripheral nociceptors or evidence for disease or lesion of the somatosensory system causing the pain,'"* the researchers said.[5]

In simple terms, nociplastic pain is a real type of pain, but unlike nociceptive pain from actual tissue damage and neuropathic pain from nerve damage, it's driven by changes in how the brain and spinal cord process pain, not by new harm in the body. This may explain why some IBD patients keep feeling pain long after a flare is over.

IBD Patients Share What It's Like Living with Pain That No One Sees

A recent qualitative study published in BMJ Open Gastroenterology examined how people living with IBD experience chronic pain, especially when the pain continues during remission. The researchers interviewed 30 adults (15 women and 15 men) ages 18 to over 60 years old, coming from different backgrounds. All of them had frequent IBD-related pain for at least three months.[6]

- **Researchers used the Grid Elaboration Method (GEM) —** This used a simple 2x2 grid and where the participants filled each box with a word, phrase, or drawing that described their pain. Then they explained their choices in an interview, which were then analyzed for themes.

- **Every person in the study talked about the emotional side of living with IBD pain —** Many felt anxious, wondering whether the pain meant something serious, like a blockage, or whether they should go to the hospital. Others felt overwhelmed by unpredictability, sadness, and hopelessness, especially because they couldn't control or explain their pain.

- **Embarrassment and shame were also common —** People worried that others judged them for needing frequent bathroom breaks or following a special diet. Some said they felt like they were "failing" at managing their disease.

- **Pain wasn't just physical; it clouded thinking and derailed daily tasks —** Many participants spoke about cognitive symptoms such as brain fog, forgetfulness, and difficulty concentrating, making even simple tasks feel overwhelming.

- **Pain and symptoms forced people to change their lives in major ways —** Some gave up on careers, relationships, or even having children because they couldn't see how to manage everything. Others had to give up simple pleasures like going out to eat, traveling, or spending time with friends.

  Many tried to adapt — eating bland diets, working from home, or using relaxation techniques to cope. But even then, there was a deep sense of loss. As one woman put it, "The world where everyone lives — when I have pain, mine shrinks."[7]

These studies provide more insight on IBD as an "invisible illness." On the outside, someone with Crohn's or colitis may look healthy, but inside they may be dealing with severe pain, exhaustion, and the constant fear of sudden symptoms.

Researchers Recommend Psychological Interventions to Help Ease IBD

IBD pain is not just physical — it's emotional, social, and deeply personal. It's also different from the kind of pain most treatments were designed to address. Hence, the future of IBD pain care may lie not only in calming the gut, but also in calming the mind.

The researchers note that if fear learning can amplify pain, then therapies that target fear may help reduce it. They point to psychological and mind-body interventions, such as cognitive behavioral therapy (CBT) and exposure-based therapies, to help safely re-train fear responses.

According to the study, although these therapies are already effective for **irritable bowel syndrome (IBS)**, the evidence for IBD is still mixed. Still, they show potential for patients struggling with ongoing pain. Hence, the researchers suggest that health care providers offer psychological support as part of routine IBD care in their patients.[8]

> *"Our data suggest that psychological approaches — for example from cognitive behavioral therapy, which specifically address fear and avoidance — should be systematically investigated, including in other chronic inflammatory diseases associated with pain, such as rheumatoid arthritis or endometriosis."*[9]

If you're living with IBD and feel frustrated that your pain sticks around even during remission, you're not alone. Research shows your nervous system might be amplifying pain signals because of emotional learning that hasn't been addressed.

The solution? Retrain your nervous system to stop linking fear and pain together. You need to approach healing from both ends, calming the gut and calming the mind. Here are practical steps to help you start that process:

- **Stop treating pain as an emergency but as a signal you can influence —** If you've been told it's "all in your head," you might feel invalidated. But the truth is, it's in your nervous system, and that means you have influence over it.

  So the next time pain shows up, don't rush to cancel your day or panic. Pause and ask yourself, "Is this pain telling me something urgent? Or is it my brain responding to a familiar trigger?" If you decide it's not an emergency, choose a calming action instead — a slow walk, a warm bath, or even just stepping outside for fresh air.

This breaks the "pain equals danger" loop and gives you back some control. That sense of agency is key because it signals to your brain that the threat is over, and it no longer needs to crank up your pain response.

- **Create structure in your day to reduce unpredictability stress —** Pain is always harder to deal with when life feels out of control. One of the most common triggers people with IBD talk about is the fear of not knowing when pain will strike. That unpredictability leads to high stress, and stress feeds pain perception.

  Build simple, predictable habits into your mornings, meals, and bedtime. Keep a few trusted "safe meals" in rotation. Use a calendar or app to track when pain shows up. Seeing that pattern in black and white gives your brain a sense of order — even if the pain is still there. That sense of order is calming, and calm helps down-regulate your nervous system.

- **Practice nervous system regulation through breathwork or mindfulness —** When your nervous system stays in fight-or-flight mode, all the systems in your body — digestion, pain processing, even thinking — get thrown off. One of the fastest ways to reset this response is through **breath-based calming techniques**.

  Try this: Breathe in through your nose for four seconds, hold for two, exhale slowly through your mouth for six. Repeat for two minutes. Do this whenever you feel anxious, overwhelmed, or right before meals.

  It may seem simple, but this kind of breathing directly communicates with your vagus nerve — the main nerve linking your brain and your gut. When that nerve relaxes, your gut starts to calm, too.

In addition, addressing the root cause of inflammatory diseases involves taking proactive steps to restore and maintain a healthy gut microbiome. I recommend reading "**Exploring the Link Between Inflammatory Bowel Disease and Dementia**" for more strategies you can try to protect your gut health and manage IBD.

Frequently Asked Questions (FAQs) on Pain Perception in Inflammatory Bowel Disease (IBD)

Q: What is the connection between fear and pain in inflammatory bowel disease (IBD)?

A: Fear intensifies pain in people with IBD by activating the brain's threat response system. Even when there's no active inflammation, the brain can "learn" to associate certain sensations or situations with pain through a process called fear conditioning. This means your body reacts as if something is wrong, even if it isn't, making pain feel more intense and more persistent.

Q: Why do I still feel pain even when my IBD is in remission?

A: The study found that many IBD patients in remission still experience high levels of pain because their brains have been wired to expect discomfort. Over time, your nervous system adapts to repeated stress and inflammation by remaining hyper-alert, keeping pain sensitivity elevated even without active disease.

Q: How does fear conditioning work in the body?

A: Fear conditioning is a type of emotional learning where your body connects neutral sensations — like warmth or pressure — to past painful experiences. Once this association is made, your brain starts to treat harmless cues as threats, triggering a pain response automatically, even in the absence of real danger.

Q: What symptoms are linked to fear-based pain in IBD?

A: People with IBD often report more intense and unpleasant pain sensations, increased sensitivity to touch or temperature, higher levels of anxiety, and even physical symptoms like muscle tension, fatigue, and brain fog. These responses are often driven by fear and not by inflammation itself.

Q: What can I do to break the fear-pain cycle?

A: To retrain your body's pain response, it's important to focus on nervous system regulation and emotional healing. Techniques like cognitive behavioral therapy (CBT) and addressing fear beliefs about pain are helpful. Building emotional resilience and rewiring how your brain processes pain offers a real path forward.

Sources and References

- [1, 5, 8] PAIN, November 26, 2025:10.1097
- [2, 3, 4, 9] News-Medical.net, December 12, 2025
- [6, 7] BMJ Open Gastroenterology. 2025;12:e001866