

# How to use your mind-body connection to your advantage to reduce pain



## *Psychology Today* articles by Beth Darnall, PhD

Beth is Clinical Associate Professor at Stanford University Division of Pain Medicine. She is a pain psychologist and researcher, Huffington Post blogger, and author of *The Opioid-Free Pain Relief Kit* © 2016 and *Less Pain, Fewer Pills: Avoid the dangers of prescription opioids and gain control over chronic pain* © 2014 (Bull Publishing).

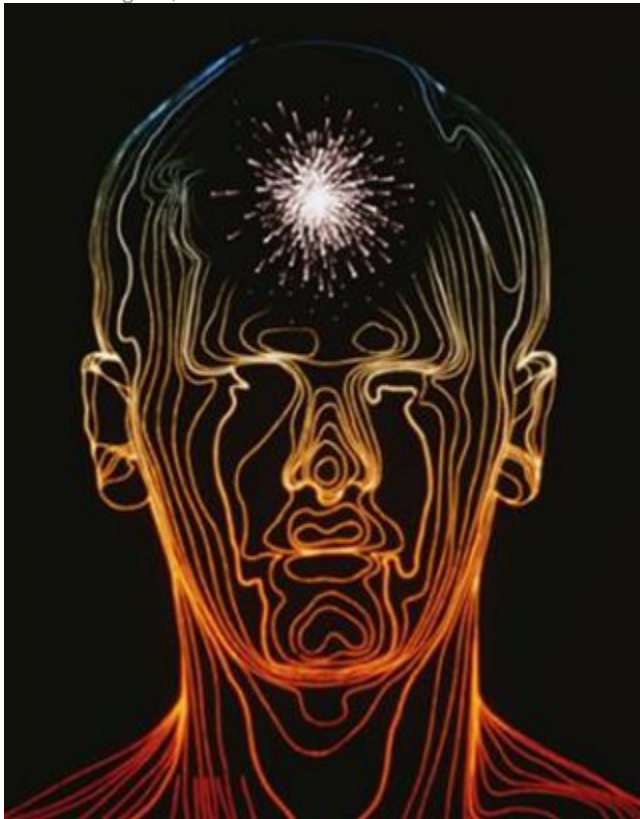
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# Pain Psychology: Is it really all in your head?

Chronic pain negatively conditions the mind and body but this is reversible!

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If you have chronic pain, you may have heard the pejorative statement that “it’s all in your head.” On the contrary, nothing could be further from the truth. **Your pain is real.** However, on a very technical level all pain *is* in the human head because this is where pain is processed. No matter where you may feel pain in your body, your brain processes your pain. Your brain also processes your emotions, and the metaphor I use is that certain emotions and pain “share real estate” in your brain. It is therefore unsurprising that psychology is so important when it comes to managing pain. Pain psychology is a pathway for you to learn information and skills so you may best

control the factors that worsen pain. **In doing so, you lessen your own suffering and gain control.**

A key pain psychology skill is learning how to change your pain responses. The human body and brain is hardwired to respond to pain in a specific way— increased heart rate, increased respiratory rate, tight muscles, agitated thoughts, and vasoconstriction. These 5 elements make up the pain response. The same 5 elements make up the stressresponse. Indeed the pain and the stress response are the same, so it's no wonder that many people observe that stress makes their pain worse! It would be wonderful if the automatic way the human body responds to pain actually *helped* your pain, but unfortunately it's the opposite: pain responses serve to worsen chronic pain. Living with chronic pain for months and years leads to negative conditioning in the brain and the body --toward pain and distress—that's the bad news. The **GOOD NEWS** is that you can recondition mind and body away from that negative conditioning and toward a healthier state – one that leads to greater comfort, less distress, and less need for pain medication.

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# 3 Tips For Love and Pain

The surprising protective effect of love

Posted Jan 09, 2015



Couples in hot romantic love feel fantastic! They glow. And, it turns out that love has a surprising protective effect against pain. Intense romantic love brings euphoric pleasure and also confers analgesic benefit, according to two separate Stanford studies.

In the first study, all participants were in the first nine months of a self-rated passionate and romantic relationship (Nilakantini A, et al. *Pain Med.*, 2014). The researchers investigated whether having participants recall feelings of love would confer pain relief to participants during a task in which painful heat was applied to the hand. During one segment of the pain experiment, participants were shown photos of their beloved while the heat was applied. In a different segment, a photo of an equally attractive member of the opposite sex was shown to the participant during pain testing. The researchers found that viewing a photo of one's beloved was associated with greater analgesia—less pain! Indeed, participants had about 30 percent reduction in overall pain, and the level of analgesia was related to one's love intensity or preoccupation with their partner.

Another study confirmed that viewing photos of a romantic partner induces analgesia. Then they used fMRI to show that the reduced pain was associated with the neural activation of reward systems (Younger et al. PloS One, 2010). Love is indeed emotionally rewarding—you probably already knew that—and it appears to dampen pain processing. This tells us that romantic love is physically rewarding, as well.

While hot romantic love may be particularly exciting and rewarding, non-romantic love also has positive impacts on pain. Researchers have shown that viewing pictures of attachment figures activates a “safety signal” related neural region that reduces pain (Eisenberger, NI et al. 2011). In other words, seeing an image of a loved parent would induce emotions related to safety and comfort, thereby reducing any sense of threat. Because the human brain registers pain as a threat or danger signal, anything one does to reduce the threat value of the pain can reduce pain itself.

### **Three Tips for Love and Pain:**

1. Be aware of the value of nurturing, loving relationships in providing pain relief.
2. Intense romantic love is a prescriptive for pain management!
3. In the absence of hot romantic love, you may be able to harness the benefit of euphoric pleasure in other ways. Be sure to engage in the pleasurable activities that you love, to your fullest capacity. Engaging the reward system in your brain will counter physical pain.

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# 9 Tips to Stop Anger and Injustice from Hurting You

Improve your health and well-being by releasing feelings of injustice

Posted Dec 16, 2014

Stop Anger and Injustice from Hurting YOU: 9 Tips and Know-Bits

Sure, you know life is not fair. But sometimes circumstances feel so unfair it's difficult for you to let go. You may have persistent feelings of injustice and very good reasons for feeling that way. For instance, you may be challenged with a personal betrayal, a traumatic childhood, or a physical assault. In the case of chronic pain, you may have anger or feelings of injustice regarding an accident that started the pain. Sometimes people feel anger at their own body and its limitations.

*Persistent* anger and feelings of injustice—directed toward a particular person, circumstance, or yourself—have a steep price tag: they rob you of happiness in the moment, and have negative impacts on your health.

Here's what you can do to take control and have a better outcome.

Shifting Away From Anger and Injustice

- (1) **Have compassion for yourself.** Recognize that you are doing your best with a difficult situation. The more you focus on compassion, the less room there is for anger.
- (2) **Decide it's not worth it.** When you find yourself thinking about the injustice of being wronged, remind yourself that by *staying* focused on injustice and anger, you are unwittingly wronging yourself.
- (3) **Anger and feelings of injustice beget physical pain.** Among people with chronic pain, feelings of injustice and anger are associated with worse medical

outcomes and greater pain [1-6]. There may be many different reasons why these emotions have a negative impact on health. Anger causes increased tension in the body and this in turn increases pain. Anger is associated with increased inflammation in the body and this can worsen pain and overall health. Feelings of anger and injustice can keep you focused on what's wrong and who is to blame for it. Remind yourself that focusing on it gives it more energy.

**(4) Choose to be empowered by separating the facts of the situation from your emotions.**

“Susan” wrongfully lost her job. She harbored great feelings of injustice and anger at the circumstance and key players involved. She recognized her anger was contaminating her ability to enjoy her life. She worked to release her anger. While Susan is clear that what happened was not fair, she no longer carries the feelings of injustice, a persistent feeling of having been wronged or victimized. This freed her up to focus on what's up ahead and how she can make her life better.

**(5) Seek treatment modalities that melt anger and feelings of injustice.** Effective modalities include Cognitive Behavioral Therapy (CBT), Acceptance and Commitment Therapy (ACT), Mindfulness Based Stress Reduction (MBSR), Loving Kindness Meditation, and Compassion Meditation [6].

**(6) The Relaxation Response is an antidote for anger.** The relaxation response can effectively counter the physical and emotional “tightening” that happens when we feel anger or injustice. Have a plan to reduce the inner tension and the emotions will neutralize. For a strong dose of relaxation that is portable and easy, download a 20-minute guided relaxation audiofile on your smartphone or iPod and use it regularly.

**(7) Positive imagery can help.** Visualize yourself in nature or with someone you love to neutralize any negative emotional charge.

(8) **Have patience with yourself.** It may take time for the emotions to lessen. Encourage yourself to soften in each and every moment. Some days will be easier than others; have compassion for yourself as you move through the process.

(9) **Don't stay stuck.** If you feel yourself stagnating, confine your focus to countering the physical and emotional tension with relaxation techniques each and every time they come up. Over time you will accumulate greater relaxation in your mind and body, and this will set the foundation for you to explore deeper emotional release work. Working with a professional can help you overcome any barriers and kickstart your freedom from anger and injustice.

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# Pain Psychology for Women: 5 Tips for Pain Relief

Pain psychology matters more for women. Ease pain with these 5 tips!

Posted Mar 20, 2016



## Is Pain Psychology More Important for Women?

On average, women have more pain than men. Women experience pain more frequently, and when they do it tends to be more severe and last longer than it does for men [1]. Women are more likely to acquire various chronic pain conditions. For instance, fibromyalgia, migraine, irritable bowel disorder and lupus are all more common in women. In many cases, women may be 200 – 800% times more likely to develop various painful healthconditions. And, some painful conditions are exclusive to women (e.g., vulvodynia and endometriosis).

Women's pain also tends to be more severe than it is for men [2]. In short, pain is more painful for women.

## WHY Do Women Have More Pain Than Men?

There is no single reason that explains women's greater pain. The immune system plays a partial role: women are more likely to acquire inflammatory pain conditions (such as rheumatoid arthritis) and changes in the immune system are noted in other

pain conditions, such as complex regional pain syndrome (CRPS) and fibromyalgia. Differences in hormones (sex steroids) are another reason why women have more pain. Hormonal changes—particularly dips in estrogen in pre-menopausal women can flare pain-- and menopause is noted to be associated with greater pain and the development of chronic pain. Given that pain is more common in women it is particularly important to treat it. Pain psychology is an important part of comprehensive pain care. [3] (learn more here)

### **The Psychology of Pain in Women**

Other factors that contribute to women's greater experience of pain are psychological innature. For instance, women are more likely to experience anxiety and depression, both of which are risk factors for greater pain severity across chronic pain conditions. Let's not forget that pain is defined as a negative "sensory *and emotional* experience" (IASP), so there is great opportunity to reduce pain by reducing emotional distress.

Furthermore, women may be more attuned to pain—meaning we give it more attention and have a harder time disengaging the mind from pain [4]. It makes sense that women would evolve to be more vigilant to pain, given that pain signals danger, the need to escape harm and seek protection. However, when it comes to chronic pain, this evolutionary hard-wired protective mechanism backfires against women, making it more important to learn ways to counteract it.

### **The Example of Pain Catastrophizing: Why it matters more for women**

Pain Catastrophizing is a negative cascade of thoughts and emotions related to actual or anticipated pain. Consider Janice, who has daily headaches that tend to begin about an hour after waking. She may awaken pain-free but soon finds herself in a state of dread about her soon-to-manifest headache. She finds herself worrying about it, monitoring for the first sign of headache, and feels helpless about it. Janice is catastrophizing her pain. As it turns out, research shows catastrophizing leads to greater pain because it amplifies pain processing in the nervous system. Research conducted by myself and colleagues suggests that, in women, catastrophizing has been

associated with the release of inflammatory factors in the blood [5]. Further, recent research conducted at Stanford University shows that the consequences of catastrophizing appear to be greater for women and at lower levels of catastrophizing than for men. [6] The short story is that pain psychology treatment is more important for women because it offers a critical pathway to reduce suffering and gain control of pain.

## 5 Pain Psychology Tips for Pain Relief for Women

**(1) Learn the relaxation response and dose it like medicine.** If you find yourself distressed about pain or anything else --- work, finances, etc.--- use the relaxation response to counter the stress and negativity and bring yourself to neutral. Some pathways to the relaxation response include diaphragmatic breathing (slow belly breathing), meditation, mantras, and progressive muscle relaxation. The relaxation response counteracts the physiological effects of stress and pain. Importantly, it also calms your mind and dampens pain processing in your nervous system. For best results, use the relaxation response daily or several times daily, just like you would dose a prescription medication. And be sure to use it when you notice yourself focusing on or catastrophizing your pain.

**(2) Practice good self-care.** As a pain psychologist, I long noticed that women with chronic pain have greater difficulty taking care of themselves because they feel guilty about how pain has impacted their relationships. I and colleagues studied this issue and found that women are more likely to worry about falling short in their interpersonal roles than are men (e.g., partner, wife, mother and friend), and therefore push themselves harder when their body needs care. [7] While the pattern is understandable, it's not helpful and can serve to worsen your pain. Remind yourself that you will have more of you to offer others if you are meeting your own needs. If deep guilt prevents you from caring for yourself, work with a psychologist to address the issue and find a healthy way forward. If you have children, remind yourself that you will be modeling healthy self-care to them.

**(3) Begin to notice the connection between your stress and pain.** Research shows that women have greater stress responses than men and stress responses make pain

more severe. Identify the big and small stress-points in your life and work to reduce them. For example, leaving 10 minutes earlier for appointments may provide the buffer you need to feel relaxed while driving instead of feeling frantic. Every day look for opportunities to reduce your stress.

**(4) Adjust your expectations.** You may need to adjust your expectations of yourself and your body to a level that is realistic for where you are right now (as opposed to where you would like to be). This can be a tough one; sometimes sadness and grief can emerge in the readjustment process. Work with a pain psychologist or health psychologist if you find yourself stuck with self-expectations that are outdated or are causing you greater stress.

**(5) Cultivate Self-Compassion.** At Stanford, we conducted a study of a compassion meditation intervention for people with chronic pain, and most of the participants were women [8]. Compassion cultivation was associated with reduced anger and pain severity at post-treatment. Self-compassion is particularly important if you are hard on yourself for 'falling short' of self-expectations. Learning to be gentle with yourself—and cultivating self-compassion—may be the greatest gift of pain relief you can give yourself.

These 5 tips are just a few examples for how pain psychology can help women mitigate some of the greater burdens they experience in regards to chronic pain.

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