

Pain Management Resources

Subjects include: how pain works, how the brain and body can become *sensitized* to pain, various conditions (e.g., migraines, stomachaches, concussion), sleep, mindfulness, books for parents and kids, apps and websites for pain reduction, and more.

How Pain Works

Videos

[How the brain learns pain](#) (5 min video) - Dr. Lorimer Moseley
[Understanding pain](#) (5 min video) - Hunter Integrated Pain Service
How to [explain pain to kids](#) (4 min video) - BC Children's Hospital
[Learning how to manage pain](#) (12 min video) - Stanford Children's Health
[Pain Bytes](#) (video series) - Pain Management Network, Australia
[The psychology of pain](#) (video for parents/providers) - Dr. Beth Darnall, Stanford

Articles

[What is pain?](#) (Lorimer Moseley)
[There is no pain without the brain](#): Understanding the basics of pain (article)
[What is CBT for pain?](#) (Zoffness)
[Gate Control Theory of Pain](#) (short article, Center for Integrated Health Care)
[Opening and Closing the Pain Gates](#) (Veritas Health)
[Neuromatrix theory](#) of pain (Chronic Pain Institute)
[CBT for chronic pain](#) (APA)
[Non-pharmacological pain treatments](#) (Journal of Psych Research and Behavior Management)
[Pain control techniques](#) (article)
[Distraction strategies for pain](#) (Journal: PAIN - PDF article download)
[Mood & attention regulate the experience of pain](#) (NPR)
[Pain catastrophizing](#): Negative mood states and negative thoughts affect pain (Journal: Expert Review of Neurotherapeutics)
[The impact of mood on pain: Laughter as Medicine](#) (Scientific American)
The [Neuroscience of pain](#) (The New Yorker) - a great read!
~The funniest ever version of the [pain scale](#), in case you need to laugh.~

Pain is Biopsychosocial!

The causes of - and, therefore, most effective treatments for - chronic pain are bio-psycho-social. This means that the best way to manage pain is to target not only the biological underpinnings of pain ("biomedical"), but also thoughts, emotions, coping behaviors, and social functioning. For more info & scientific evidence:

Gatchel & Howard's [user-friendly guide](#) to the BPS model of pain

[Psychosocial treatment factors](#) in teen chronic pain (Wakefield & Jerson 2017; great diagram of BPS model!)

[Psychosocial contributions](#) to chronic pain outcomes (Meints & Edwards 2018)

Psychosocial processes affect the [development & maintenance](#) of chronic pain (Edwards et al 2016)

Biopsychosocial [assessment and formulation](#) of pediatric pain (Lioffi & Howard 2016)

Evidence-based [psychosocial interventions](#) for pediatric pain management (Coakley & Wihak 2017)

Psychological pain treatments [change neurophysiology](#) (Flor, 2014)

Pain is NOT biomedical: An expose of the [opiate epidemic and Big Pharma](#) (GREAT NPR podcast, Lembke, 2016)

Sensitization, Amplified pain (How does pain become chronic?)

Understanding [amplified pain](#) (Children's Hospital of Philadelphia)

[Understanding CRPS](#) (Mayo Clinic)

Pain itself makes brains more sensitive to pain: [Central sensitization](#) (Pain Science article)

[Central sensitization](#) (Institute for Chronic Pain)

How CBT can de-sensitize and re-train your brain: [neuroplasticity video](#)

[Amplified pain](#), CRPS & CBT (Children's Hospital of Philadelphia)

[CBT for pain sensitization](#) (Dr. Lorimer Moseley)

[Pediatric CRPS](#): background, treatment options and CBT

Missing School

[Should my child go to school](#) with pain? (Harvard Medical School/Boston Children's Hospital)

[Getting kids in pain to school](#) (N. Darling)

[Helping kids with pain get out of bed](#) (N. Darling)

[Returning to school](#) helps the brain recover from pain, headaches and concussions (getschooledonconcussions.com)

[School Refusal](#) (ADAA)

Why are more teenagers than ever suffering from severe anxiety? [How missing school makes anxiety, stress and pain worse](#) (NY Times 2017)

Migraine & Headache

[Headache relief guide](#): Strategies for coping with pain (Children's Mercy Hospital)

[CBT helps pediatric migraines](#) (JAMA)

[Screen time](#) is associated with increased risk of migraines in children (International Headache Society)

[Understanding Pain](#) (5 min video)

[Migraines & stress](#) (American Migraine Foundation)

The [relationship between migraine, anxiety, and depression](#) (J of Headache Pain)

Why people with chronic [head pain experience anxiety and depression](#) (J of Neurology, Neurosurgery, and Psychiatry)

The importance of normalizing [depressed mood in chronic headache](#) patients: Of course your mood is low, you're constantly in pain! (Journal: Revista da Associação Médica Brasileira)

[Behavioral treatment for migraines in children and adolescents](#)

[Cognitive Behavioral Therapy \(CBT\) Plus Amitriptyline for Chronic Migraine in Children and Adolescents](#) (JAMA)

[Exercise can help migraines & headaches](#) (American Migraine Foundation)

[Migraine Guide](#) (American Chronic Pain Assoc)

[Relaxation techniques effective for headaches and migraine](#) (National Center for Complementary and Integrative Health)

[Should my child go to school](#) with pain? (Harvard Medical School/Boston Children's Hospital)

(See above section on missing school)

NOTE: In children & adolescents, "emotional stress is one of the most common triggers of migraine headache. Migraine sufferers are generally found to be highly affected by stressful events. During stressful events, certain chemicals in the brain are released to combat the situation (known as the "flight or fight" response). The release of these chemicals can provoke vascular changes that can cause migraine. Repressed emotions surrounding stress, such as anxiety, worry, excitement and fatigue can increase muscle tension and dilated blood vessels can intensify the severity of migraine headaches." ([Cleveland Clinic](#))

Stomachache & GI Issues

[The gut-brain connection](#) (Harvard)

[Your gut is your "second brain"](#): Your enteric nervous system (Johns Hopkins)

Relationship between your [gut and depression/anxiety](#) (Journal: Molecular Psychiatry)

How your [gut and mood influence each other](#) (Scientific American)

How [stress & anxiety](#) cause GI pain & diarrhea (article)

[Psychological interventions](#) for IBS (article)

[IBS and RAP in kids](#) (video)

[Enteric Nervous System \(GI tract\) and serotonin](#) (CalTech)

[IBS and serotonin](#) (Canadian Society of Intestinal Research)

There is more serotonin in your gut than in your brain! Your GI tract contains 80-90% of the serotonin in your body. This means that your stomach is highly sensitive to emotions. No wonder you get "butterflies," stomachaches, and nausea when you're stressed or anxious, why you "trust your gut instincts," and "feel it in your gut"!

Concussion & TBI

[Post-concussion syndrome](#) treatment: Mayo Clinic

Guidelines for [return-to-school](#) post-concussion (American Academy of Pediatrics)

[Concussion Toolkit for Therapists](#) (American Psychological Assoc., UC Denver medical school)

[CBT for pediatric post-concussion](#) syndrome (Journal: Pediatric News)

Graduated "[return to play](#)" program for pediatric concussion & TBI (Rocky Mtn Hospital for Children)

Functional Neurologic Disorder

(FND = Conversion Disorder)

[Mayo Clinic](#): causes, symptoms, treatment

Brain-Body Connection: [Somatization](#) (Kelty brochure)

[Kelty](#): understanding FND, Conversion, and Somatization Disorders

Fibromyalgia

The relationship between pain, stress, and [fibromyalgia](#) (article)

[Central sensitization and fibromyalgia](#) (article)

[CBT for pediatric fibromyalgia](#) and amplified pain (Children's Hospital of Philadelphia)

[Pacing](#) for fibromyalgia (Campbell & Lapp)

[Neuromatrix Theory](#) of pain and fibromyalgia (Institute for Chronic Pain)

Juvenile Arthritis

[Pain management](#) for children with juvenile arthritis (kidsgetarthritisoo.org)
(See also: Chronic Pain + Sensitization)

Tics

How to explain tics to kids: Electrical energy is released in the "movement centers" of your brain. The brain then sends signals to your muscles telling them to move - even though you haven't made the decision to move them. This results in an involuntary movement, or a tic. It does not mean you are broken - it's just some extra electrical energy in your brain & body!

CBiT: [CBT for tic disorders](#) (Tourette Assoc of America)

[What is CBT for tics?](#) (Cincinnati Children's Hospital)

[Common questions](#) about CBT for childhood tics (tourette.org)

[CBiT provider toolkit](#): info about tics, causes, prevalence & treatment (Tourette Association of America)

[Habit reversal therapy](#): using a premonitory signal to reduce tics (Child Mind Institute, video)

***Note:** some children don't see their tics as a problem or a "disorder" and don't feel the need to get rid of them. To support them in this, find a good therapist who is like-minded.

Mindfulness for Pain

[Mindfulness for managing chronic pain](#) (PsychCentral)

[Mindfulness-Based Stress Reduction](#) (MBSR): How mindfulness changes pain processing in the brain

[Mind-Body approach to pain](#) (Communitas: Osher Center for Integrative Medicine, UCSF)

[Nonpharmacological approaches to pain management](#) (NY Times) - a great read!

[Mindfulness & distraction](#) are effective for pediatric pain (Int Assoc for the Study of Pain)

Stress, Anxiety & Pain

Why are [more American teenagers](#) than ever suffering from anxiety? (NYT magazine)

Relationship between [stress and pain](#) (VMC)

Relationship between [chronic pain and anxiety](#): Institute for Chronic Pain

[Anxiety and catastrophizing](#) mediate the experience of adolescent pain (journal article)

[Physical effects of stress](#) on the body (APA)

[Sources of childhood stress](#) that can trigger/maintain pain (KidsHealth)

[Stress and time management tips](#) for teens (Sutter Health)

[Anxiety and stress negatively affect pain](#): 50 signs of stress in the BODY

[Anxiety in children](#) (AACAP)

[School refusal](#) is often a sign of anxiety (ADAA)

[Try CBT before drugs for childhood insomnia](#) (American College of Physicians)

Other articles on CBT for anxiety:

[Child Mind Institute](#) (CBT effective for childhood anxiety)

[Mayo Clinic](#) (CBT for anxiety explained)

A [collection of articles](#) on CBT for stress and pain

Depression

Symptoms of [depression in kids](#) and teens (Mayo Clinic)

Serotonin & endorphins: [increase "happy hormones" to improve mood](#)

[Parent guide to teen depression](#) & suicide warning signs (Help Guide: Harvard health)

[Exercise, nature & being social](#) can improve mood and self-esteem (journal)

[CBT for childhood depression](#) (Society of Child & Adolescent Clinical Psych)

[Laughter & depression](#): Harvard Neuroscience Institute

[Effects of laughter on the brain](#): Livestrong

[Self-injury](#): Why do teens cut? (Mayo Clinic)

Biofeedback

[Biofeedback and relaxation therapy](#): definition (MHNI)

[Biofeedback for headaches](#) (Amer. Migraine Foundation)

[Efficacy of biofeedback for headaches](#) (journal article)

[Four apps to relieve tension](#) and pain

Underpinnings of biofeedback: [The Skin You're In](#) (Dr. Erik Peper)

Articles on [biofeedback for pain](#)

App 1. [Breathe2Relax](#) (free in app store)

App 2. [Welltory](#) Heart Rate Monitor (free in app store)

[HOW TO FIND](#) a biofeedback provider

Sleep Difficulties

[Sleep hygiene](#): 5 tips for sleeping well, with or without pain! (Palermo & Law)

[Sleep disturbances](#) in youth with pain are linked to depressed mood, reductions in daily functioning, and reduced quality of life (Palermo & Kiska, J of Pain)

Why [screens disrupt kids' sleep cycles](#): melatonin (Scientific American) - good read!

Sleep-aid app: [Relax Melodies](#) (for iPhone + Android)

SEE Guided Audio, below

Screens & Social Media

How [screens are hijacking](#) your children's (and your!) dopamine-reward-pathway (Harvard)

[What screens do to kids' brains](#) (Psychology Today)

Social media use [increases teen anxiety and decreases self-esteem](#) (Child Mind Institute)

[Kids and smartphones](#) (TIME mag)

[Tips for taking control](#) of smartphones (Humane Tech - this website is GREAT!)

The [LIKE movie](#) (show it to your kids)

[Apps ranked](#) by happiness/unhappiness ratings: apps affect mood

Tips for [getting children off screens](#)

Strategies for [monitoring teen's social media use](#): internet safety

- A [recent study](#) showed that teens who spent more time on social media and electronic devices were more likely to report depression, anxiety, self-injurious thoughts and suicidal ideation, while teens who spent more time on non-screen activities (in-person social interaction, sports, exercise, HW, print media, etc) were less likely to struggle with these issues.

BOOKS!!

For youth:

[The Chronic Pain & Illness Workbook for Teens](#), by R. Zoffness (also for children)

Be the Boss of Your Pain: Self-Care for Kids, by Kajander & Culbert

Imagine a Rainbow: A Child's Guide for Soothing Pain, by B. Miles

GrrrOUCH!: Pain is Like a Grouchy Bear, by C. Morgan

For parents:

[The Chronic Pain & Illness Workbook for Teens](#), by R. Zoffness

Pain in Children & Young Adults: The Journey Back to Normal, by Zeltzer & Zeltzer

Conquering Your Child's Chronic Pain, by L. Zeltzer

Managing Your Child's Chronic Pain, by Palermo & Law

When Your Child Hurts, by R. Coakley

Relieve Your Child's Chronic Pain, by E. Krane

A Child in Pain: How to Help, What to do, by L. Kuttner

Drug Dealer MD, by A. Lembke

Book list for parents: [Children's Hospital of Eastern Ontario](#)

Compilation of resources for parents: [ChildKind](#)

For therapists & medical providers:

[The Chronic Pain & Illness Workbook for Teens](#), by R. Zoffness

CBT for Chronic Pain in Children and Adolescents, by T. Palermo

Treating Somatic Symptoms in Children and Adolescents, by Williams & Zahka

Managing Chronic Pain: A CBT Approach, by J. Otis

A Child in Pain: What Health Professionals Can Do To Help, by L. Kuttner

Drug Dealer MD, by A. Lembke

Webinars for providers:

1. The [American Association of Pain Psychology](#)

2. The Coalition for [Compassionate Care](#) of California

****Guided Audio****

[Relaxation Audio](#): The Comfort-Ability, Harvard/Boston Children's Hospital

[Relaxation Audio](#): Seattle Children's Hospital (middle of the page)

[Relaxation Audio](#): Mindfulness Based Stress Reduction (MBSR; under "Practices" on the left)

[Relaxation Audio](#): Guided Meditations, UCLA

[Relaxation Audio](#): Dawn Buse

FREE apps for phones: [Stop Breathe Think](#)

[Relax Melodies](#)

[Rain Rain](#)

A collection of [pain trackers and apps](#)

-Nor Alliance For Kids or CWC is responsible for the content, claims or representations of the listed sites.

This information does not constitute or replace therapeutic or medical advice.

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