CHRONIC PAIN > TREATMENT

An Overview of Opioid-Induced Hyperalgesia and Allodynia

Abnormal pain states paradoxically caused by painkillers

By Adrienne Dellwo | Medically reviewed by Isaac O. Opole, MD, PhD | Updated on January 31, 2020

Opioid-induced hyperalgesia (OIH) and allodynia (OIA) are abnormal pain states that result from the class of painkillers called opioids. It's something called a "paradoxical response" in which the drugs you take to relieve pain actually start causing you to be more sensitive to painful stimuli.

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An opioid (sometimes called an opiate or narcotic) is a type of painkiller made from a synthetic form of opium, which is derived from poppies. *Hyperalgesia* is amplified pain; processes in the nervous system work to increase the intensity of the pain you feel. *Allodynia* is pain that's caused by something that isn't normally painful, such as a light touch or fabric

Opioids are only available by prescription. Common opioids include:

Hydrocodone
Oxycodone
Codeine
Morphine
Methadone
Fentanyl
Meperidine
Hydromorphone

Symptoms

OIH and OIA are difficult to spot because the primary symptom is pain—the very thing they're prescribed to treat. What you need to watch for is:

Worsening of pain in spite of treatment
Pain from abnormal causes, including temperature that's not extreme enough to damage your skin (thermal allodynia), pain from non-abrasive movement across your skin such light rubbing or brushing (mechanical allodynia), or pain from pressure like a gentle hug or a waistband that isn't particularly tight (tactile allodynia)
Changes in pain patterns or triggers over time

If the pain you're b nia, that's the most likely thing yo "skin" pain, similar to a sunburn complaint.

Otherwise, the key i about anything new.

Opioid-Induce lerance

It's also possible fo and just think your pain management is less effective than it used to be, which is a common problem. Long-term use of opioids is well known for leading to an increased tolerance, which can lead to regularly increased dosages.

So sometimes, pain are causing it, but because you've deve which means it just isn't working as we isn't easy. Be sure to talk to your docto igure out what's causing your pain. I wn can be extremely dangerou ormation.

Causes and

Scientists aren't yet nized much more recently and we kn However, researchers are exp to a review of studies on OIH, som [1]

Abnormalities in th ls
Malfunction of spec
Increased amounts hich can over-stimulate your brai
Excess activity of re ate special sensory nerves called nocice em
Decreased reuptake keeps elevated levels active in the l
Heightened sensitiv nsmitters glutamate and substance P, which transmits nociceptive pain signals

nervous system, the peripheral nervous system may be involved in some cases. The review cited above contains evidence that OIH may develop differently when it comes to different kinds of pain, as well.

Risk Factors

Not everyone who takes opioids will develop OIH or OIA. Research suggests that genetics may play a role. Taking opioids regularly for a long time increases your risk, as does taking high doses. Rapidly increasing your dosage also puts you at an elevated risk.

Because many people develop a tolerance to these drugs, it's normal for the amount you take for chronic pain to increase over time, meaning you become more and more likely to develop opioid-induced pain.

Diagnosis

OIP is difficult to diagnose. There's no test or scan for it, so your doctor has to consider your symptoms and look for other possible causes of increased or new pain. This is called a diagnosis of exclusion because it can only be made when other possibilities are excluded.

A serious barrier to a diagnosis of OIP is pain conditions that feature what's called "central pain" or "central sensitization." These conditions include fibromyalgia, rheumatoid arthritis, migraine, irritable bowel syndrome, ME/chronic fatigue syndrome, and post-traumatic stress disorder.

People with these conditions often already have hyperalgesia and/or allodynia, which can mask the opioid-induced versions. Regardless of the cause of your pain, the important thing to watch for is a change in the severity or nature of your pain. Look for these types of changes:

A more widespread or diffuse pain when the underlying cause is stable or improving
Increased pain severity in spite of the underlying cause remaining stable or improving
Increased pain after opioid dosage goes up
Decreased pain when you take fewer painkillers

The more you're able to tell your doctor about how your pain has changed and how it may relate to your opioid usage, the easier it will be to get a clear picture of what's causing the pain.

When opioids start causing or worsening your pain, you have a few alternatives for changing your pain management strategy.

If the reason for the underlying pain is temporary, then the logical treatment is to go off of opioids. Depending on the dosage and how long you've been taking it, you may need to gradually wean off to avoid additional symptoms.

However, if the cause of pain is ongoing, your doctor may recommend lowering the dosage to see if that gets rid of the opioid-induced pain. When you go off of opioids, it's possible for your OIH or OIA pain to temporarily get worse before going away.

You may also find relief by switching the type of opioid you use. For example, hydrocodone, fentanyl, and tramadol are all from different classes, so one may be a problem while others are not.

> With opioids, addiction is a possibility. There's no shame in that—it's a natural consequence of the medication. However, it could mean that you need extra help going off of it or lowering your dosage. Your doctor should be able to help you with that.

Sometimes, doctors will try adding a different type of painkiller—either a COX-2 inhibitor or non-steroidal anti-inflammatory (NSAID)—along with a low dose of opioids. These drugs may help counter the abnormal actions of glutamate and substance P that are believed to contribute to some cases of OIH and possibly OIA.

Other drugs that ma ed pain include:

Buprenorphine
Ketamine
Dexmedetomidine combined with flurbiprofen axetil

The supplement curcumin (a substance in the spice turmeric) may reverse OIH.[2] In a 2016 study, researchers reported that transplants of a particular type of stem cell reversed OIH as well as morphine tolerance.[3] These treatments need more research before they can be recommended.

Prevention

Of course, it's better if you can prevent opioid-induced pain in the first place. A 2017 study recommends rotating through classes of opioids, staying on the lowest possible dosage, and combining opioids with non-opioid painkillers.[4] Titrating (building up) to higher doses slowly also may keep OIH and OIA from developing.

Complementary/Alternative Treatments

Part of prevention can including non-drug pain treatments that may help keep your opioid use low while not compromising your quality of life. Some options include:

Acupuncture
Massage therapy
Physical therapy
Chiropractic
Biofeedback
Cognitive behavioral therapy
Supplements

Some people with chronic pain find relief from gentle exercises such as:

Yoga
Taichi
Qigong

The right non-drug approaches for you depend on the cause of your pain and your overall health. Be sure to discuss these options with your doctor.

A Word From Verywell

Chronic pain takes enough of a toll on your life as it is—you don't need your medications making you hurt worse! At the same time, it can be really scary to stop taking a medication that you've depended on to function. Try to

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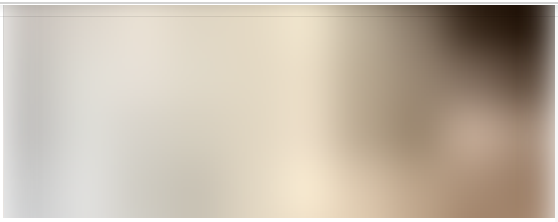

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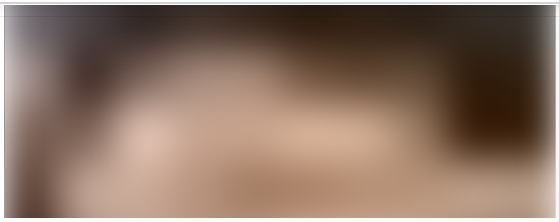

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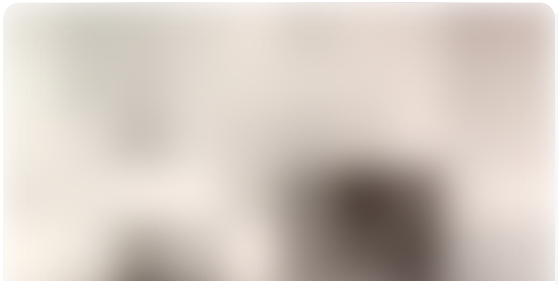

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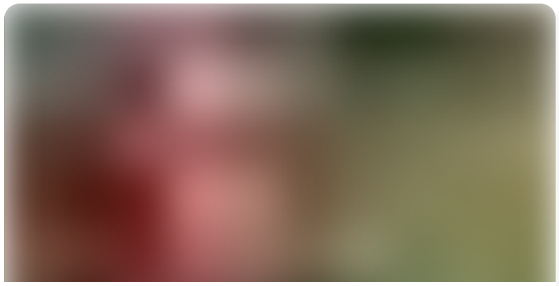

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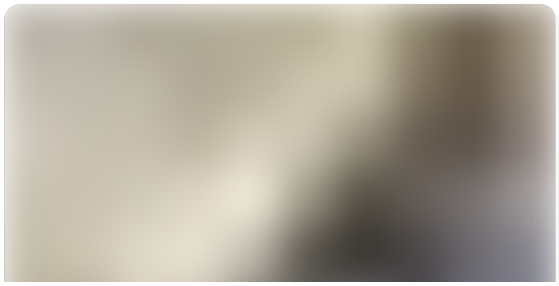

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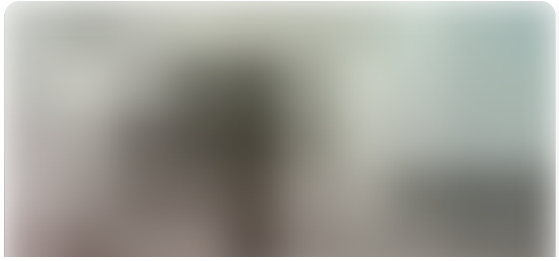

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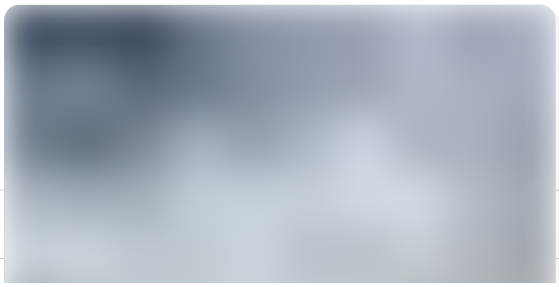

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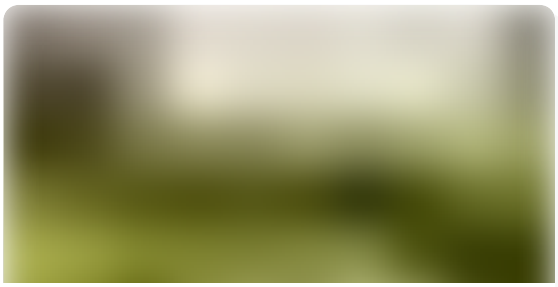

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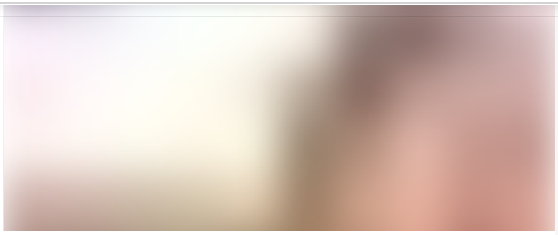

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