

# Opiate Induced Hyperalgesia

## MCC Patient Education Module

The use of opioid medications for the treatment of chronic non-cancer pain has increased over the years and there have been both intended and unintended consequences. Access to analgesic medications, including opioids, has risen dramatically. The abuse of prescription opioids, with its associated morbidity and mortality, has concurrently increased, reaching epidemic levels in the United States.

Additionally, there has been increasing evidence for unintended consequences of long-term use of opioids – such as hyperalgesia. *Worsening pain sensitivity without a new injury or exacerbation of an old injury in a person chronically exposed to opioids is termed opioid-induced hyperalgesia (OIH)*. This pain often can be diffuse, of a different quality, and unassociated with previous tissue damage.

*Opioid-induced hyperalgesia* (OIH) often is confused with opioid tolerance, allodynia, and withdrawal-associated hyperalgesia (WAH). These three syndromes can manifest similar symptoms, but need to be clinically differentiated from *opioid-induced hyperalgesia (OIH)* due to differing effective interventions.

Opioid tolerance is a well-established phenomenon that often occurs in patients taking opioids for the treatment of chronic pain. Typically, doctors need to periodically elevate patients' opioid doses in an attempt to manage their underlying pain conditions, resulting in escalating opioid levels with only moderate to negligible improvement in pain relief.

**Recently, *opioid-induced hyperalgesia* has been recognized as a potential form of central sensitization in which a patient's pain level increases in parallel with elevation of his or her opioid dose – in other words, after a period of time (usually 4 to 6 months) pain medication actually causes and makes pain worse. The more one takes – the worse the pain gets.**

*Opioid-induced hyperalgesia* (OIH) is defined as a state of nociceptive sensitization caused by exposure to opioids. The condition is characterized by a paradoxical response whereby a patient receiving opioids for the treatment of pain could actually become more sensitive to certain painful stimuli. The type of pain experienced might be the same as the underlying pain or might be different from the original underlying pain. *Opioid-induced hyperalgesia* (OIH) appears to be a distinct, definable, and characteristic phenomenon that could explain loss of opioid efficacy in some patients.

Here, we report a retrospective study of patients undergoing detoxification from high-dose opioids prescribed to treat an underlying chronic pain condition which had not resolved in the year prior. All patients were converted to ibuprofen to manage pain, with a subgroup treated with buprenorphine during detoxification. Self-reports for pain scores were taken at first evaluation, follow-up visits, and termination. **Twenty-one of twenty-three patients reported a significant decrease in pain after detoxification, suggesting that high-dose opioids may contribute to pain sensitization via opioid-induced hyperalgesia, decreasing patient pain threshold and potentially masking resolution of the preexisting pain condition.**

We have no information from randomized controlled trials supporting the efficacy and safety of opioids used for more than *four* months.

Furthermore, the current literature does not support that opioids are more effective than other groups of analgesics for low back pain such as anti-inflammatories or antidepressants.

Most people do not know that taking painkillers over a long period of time may in fact increase their sensitivity to pain (hyperalgesia). This happens because long term use of opiate painkillers causes a decrease in your ability to tolerate pain, and an increased sensitivity to pain. When the pain increases, people are often led to believe they need to take higher doses of pain medication than they were on initially.

There is some evidence (very low to moderate quality) for short-term (less than 4 months) efficacy (for both pain and function) of opioids to treat chronic low back pain compared to placebo.

The trials that have compared opioids to non-steroidal anti-inflammatory drugs (NSAIDs) or antidepressants have not shown any differences regarding pain and function.

Clinicians should suspect *opioid-induced hyperalgesia* when opioid treatment's effect seems to wane in the absence of disease progression, particularly if found in the context of unexplained pain reports or diffuse allodynia unassociated with the original pain, and increased levels of pain with increasing dosages.

The treatment involves reducing the opioid dosage, tapering them off, or supplementation with NMDA receptor modulators.