

# OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Bonnie Verhunce

## Painkillers Slow Healing

*Many individuals turn to prescription or over-the-counter pain medication for relief of common ailments, such as headache or low-back injury. What most people fail to realize is that these drugs may slow healing of the very conditions they are taken to treat.*

*Research shows that painkillers suppress inflammation and local immune responses, which are essential for wound healing (Pharmacotherapy 2005;25:1566-91). Dr. Bonnie challenges patients to think twice before popping a pill to quell pain. Pain is the body's last-ditch alerting system. Rather than ignore this message that something is wrong — and mask it with medication — choose to address the root cause through chiropractic care.*

Need more motivation to ditch the drugs? Dr. Bonnie wants patients to be aware of scientific research proving that pain medication impairs healing. Familiarizing yourself with this alarming data will strengthen your resolve to avoid unnecessary and possibly harmful medication. To that end, Dr. Bonnie presents the following sampling of studies published in prestigious, peer-reviewed medical journals.

### Impairs Healing of Tendons

Healing of inflamed tendons (tendonitis) or ruptured tendons may be stymied by taking common painkillers, say scientists.

For instance, one study examined the effects of the nonsteroidal anti-

inflammatory drugs (NSAIDs) celecoxib (Celebrex®) and indomethacin (Indocin®) on tendon repair.

Celecoxib is a member of the cyclooxygenase-2, “COX-2” or “selective” class of NSAIDs, which target the pain-producing COX-2 enzyme. Vioxx®, a drug that was pulled off the market because it causes heart disease, also belongs to this class of drugs.

Indomethacin is a member of the older, traditional type of NSAIDs that target both COX-1 and COX-2. Despite the fact that they target both, these medications are often referred to as “COX-1.” They are also termed “non-COX specific” or “nonselective.” This group includes aspirin, ibuprofen and naproxen (including Bayer®, Advil®, Motrin®, Aleve® and countless others).

As part of the experiment, Yale researchers made surgical repairs to the shoulder rotator cuff tendon in 180 rats. For the next 14 days, 60 of the rats were given celecoxib, 60 were given indomethacin and 60 received neither drug.

Findings showed that both types of NSAIDs slowed healing. Tendon re-

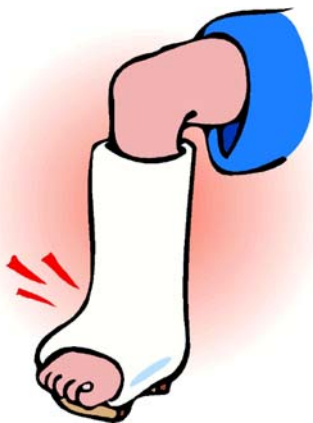


pair in the rats given either drug was “distinctly less robust” than in the control group. In the medication groups, five tendons completely failed to heal. On the other hand, “no tendons in the control group failed to heal.”

The study's authors write that “traditional and cyclooxygenase-2-specific nonsteroidal anti-inflammatory drugs significantly inhibited tendon-to-bone healing.” (*Am J Sports Med* 2006;34:362-9.)

“Our hypothesis involving tendon to bone healing is based on well-documented studies that have shown that although NSAIDs are effective pain relievers, they have also been shown to negatively affect fracture healing and spinal fusions, and may have adverse effects on ligament healing,” notes study co-author Scott A. Rodeo, M.D.

This study was so cutting-edge that its authors were awarded the American Orthopaedic Society for Sports Medicine's “Excellence in Research Award” for their efforts.



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## Slows Ligament Healing

NSAIDs may also thwart ligament healing.

In one experiment, rats received an acute injury to the medial collateral ligament of the knee joint.

Post-operatively, half the animals were given the COX-2 inhibitor celecoxib (Celebrex®) for the first six days of recovery. About two weeks later, the injured and uninjured ligaments were tested for strength. Taking celecoxib decreased ligament healing strength by a whopping 32 percent (*Am J Sports Med* 2001;29).

## Obstructs Bone Repair

Reports show that painkillers also hinder recovery from fractures.

Specifically, one study in rats found that “even a short period of administration of a COX-2-specific inhibitor in the early phase of fracture healing creates a risk of delayed healing.” (*Acta Orthopaedica* 2005;76:470-4.)

Another study by researchers at Boston University Medical Center revealed that a traditional, nonspecific NSAID, ketorolac (Toradol®), dramatically impairs fracture mending. The study in rats with femur fractures showed that, compared with rats not given ketorolac, those that were experienced longer healing times (*Journal of Orthopedic Research* 2003;21:670-5).

## Why Do Painkillers Impede Healing?

Why do these medications impede healing? Late-breaking research sheds light on this quandary. According to scientists at the University of Rochester Medical Center, the ability of stem cells to form bone cells is impaired in the absence of the COX-2 enzyme. Consequently, taking drugs that block the COX-2 enzyme may halt bone repair.

In a series of tests in mice, investigators showed that fracture healing was significantly delayed in mice bred to be deficient in COX-2, compared with

control mice. For example, eight of 10 control mice showed bone union on radiographs, compared with only three of eight COX-2-deficient mice (*J Clin Invest* 2002;109:1405-15).

“Our research for the first time pinpoints the unique mechanism of COX-2 in bone repair,” explains Regis O’Keefe, M.D., Ph.D. “This study raises concerns regarding the use of COX-2 inhibitors in patients who suffer from bone fracture or who are undergoing other types of bone repair.”

Although this analysis specifically focused on bone healing, researchers theorize that the COX-2 enzyme may also play a significant role in healing from other types of injuries.

Another study indicates that both COX-1 and COX-2 are important for the regulation of the formation of new capillary blood vessels, a process called angiogenesis (*Nature Medicine* 1999;5:1418-23).

Blood provides nutrients that hasten wound healing. Angiogenesis plays a pivotal role in this part of the healing process. Blocking angiogenesis may, in turn, halt healing.

This research is groundbreaking because it suggests that the same body chemicals that cause pain are responsible for injury repair.

## Triggers Chronic Pain

Not only do painkillers prevent healing, they may also prompt chronic pain syndromes.

For instance, a wealth of evidence attributes a large percentage of chronic headache cases to use of pain medication. Studies show that individuals who begin taking medication for occasional headache often find themselves requiring higher and higher doses to stave off their pain, and suffering from more frequent episodes.

One analysis of 50,000 people reveals that painkiller overuse ups the likelihood of chronic headaches (15+ days per month) *by more than seven times*. Overusers were also 10.3 times more likely to report chronic migraines

(*Neurology* 2004;62:1540-44).

Ongoing research suggests that, over time, painkillers suppress the body’s sensitivity to pain. Consequently, long-term use may incite other chronic conditions, such as low-back pain and **f i b r o m y a l g i a**.

## Masks Underlying Cause

Another way that painkillers hinder healing is by masking the underlying cause of the problem. Drugs may reduce inflammation and deaden pain, but they do nothing to correct the root of the discomfort. As a result, individuals taking pain medication may be less likely to seek chiropractic care — not only delaying recovery, but also exasperating their condition.

Pain is typically a last-ditch warning sign from the body that something is amiss. It often does not appear until well into a diseased state. Frequently, the dysfunction lies in the spine. When spinal bones (vertebrae) become misaligned, the ensuing condition is known as a **vertebral subluxation**. This condition is linked with a vast array of disorders, including headache, carpal tunnel syndrome, backache, infantile colic, Parkinson’s disease and a slue of others. Doctors of chiropractic correct vertebral subluxations with gentle and effective maneuvers called **chiropractic adjustments**.

Even over-the-counter medications carry plenty of side effects. This chiropractic office is dedicated to helping patients overcome reliance on pain medications by providing effective drug-free alternatives. If you are fed up with risking your health by taking pain medications, don’t delay. Take charge of your well-being by scheduling a chiropractic check-up today.

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