MERCOLA
Take Control of Your Health

# Common Pain Relievers Are Causing Heart Attacks

Analysis by Dr. Joseph Mercola | June 26, 2024

## STORY AT-A-GLANCE

- Nearly 70 million prescriptions for nonsteroidal anti-inflammatory drugs (NSAIDs) are written each year in the U.S. and 30 billion doses are consumed, often for headaches, back pain and menstrual pain
- Research found a link between consistent use of NSAIDs with an increased risk of heart attack in the first seven days, with or without a previous history of heart disease
- It is important to address the cause of the pain while using strategies that don't have significant side effects, such as cayenne cream, acupuncture, Emotional Freedom Techniques (EFT) and chiropractic management

***Editor's Note: This article is a reprint. It was originally published May 24, 2017.***

Nonsteroidal anti-inflammatory drugs (NSAIDs) are prescribed extensively throughout the world. In the U.S., more than 70 million prescriptions are written and 30 billion doses are consumed each year when over-the-counter NSAIDs are included.[1]

In many cases, NSAIDs are prescribed to treat back pain, headaches, menstrual pain and arthritis. While most consider the medication innocuous, the truth is that by conservative estimates, over 100,000 people are hospitalized each year from the side effects of NSAIDs and over 16,000 of those die.[2]

Side effects from long-term use of NSAIDs range from hearing loss to gastrointestinal bleeding. Unfortunately, there is no specific antidote for NSAID poisoning, which may lead to metabolic acidosis, multisystem organ failure and death.[3]

Research has now discovered side effects from NSAIDs may occur even with short-term use, increasing your risk of a heart attack in the first week to month if you take the medication consistently.[4] The U.S. Food and Drug Administration (FDA) has recognized the risks associated with NSAIDs since 2004.[5]

In order to review all studies involving NSAIDs, the FDA also recommended limiting use of over-the-counter NSAIDs. This review order came on the heels of rofecoxib's (**Vioxx**) withdrawal from the market due to an increase in cardiovascular risk.[6] Shortly after the withdrawal of Vioxx, another NSAID, valdecoxib (Bextra), was pulled from the shelves due to increased risk of heart, stomach and skin problems that outweighed the benefits of using the drug.[7]

## What Is a Myocardial Infarction?

Your heart requires a supply of oxygen and nutrients to enable the muscle to continue to pump. You have two large coronary arteries that branch off your aorta, the right and left coronary arteries. These arteries branch further to feed your heart the oxygen and nutrients it needs.

If one of the larger arteries or branches becomes blocked, the portion of the heart that artery feeds is starved of oxygen. If the situation continues for too long, that area of heart muscle will die. This is the conventional description of a myocardial infarction (MI), or literally "death of heart muscle."[8]

The signs of a **heart attack** are not always straightforward. There are several early signs that may not even seem related to your heart. Although chest pain is the most common, you may experience other symptoms, and women may have a heart attack without feeling pressure in their chest.[9]

Even though **heart disease** is still the No. 1 killer in women in the U.S., women may attribute the symptoms to less serious conditions such as acid reflux, the flu or aging. Even when the symptoms are subtle, the consequences may be deadly.

If you or a loved one experience any of these symptoms,[10,11,12] do not wait. Call your local emergency number — 911 in the U.S. — to get help. Activating your emergency system early may reduce the risk of permanent heart damage and death.

| | |
|---|---|
| Chest pressure described as an elephant sitting on your chest | Fullness or pain in the center of the chest that may come and go |
| Pain in the arm, back, neck, jaw or stomach | Toothache that comes and goes |
| Shortness of breath or difficulty breathing | Cold sweat, lightheadedness or nausea |
| Indigestion or "choking" feeling | Extreme weakness or anxiety |
| Rapid or irregular heartbeat | Pain that spreads to the arm |
| Unusual fatigue that may last days | General malaise or a vague uneasy feeling of illness |

## NSAIDs May Raise Your Risk of Heart Attack in the First Week

The objective of the 2017 study published in The BMJ was to evaluate the risk of an MI associated with NSAID use in real-world situations using a statistical model (Bayesian) that turns the results of testing into a real probability the event may occur.[13]

The researchers used studies that pulled information from European and Canadian health care databases, gathering information from eight studies that met the criteria and over 440,000 individuals.[14] The researchers evaluated the probability of an MI in the first through seven days that an individual took specific NSAIDs.

They found increasing probability an individual may experience an MI in the first seven days for celecoxib (Celebrex), ibuprofen, diclofenac (Voltaren), naproxen (Naprosyn) and rofecoxib (Vioxx). This only adds to mounting evidence linking NSAIDs to cardiovascular symptoms.

The risk of heart attack increased 24% with celecoxib (Celebrex), 48% with ibuprofen, 50% with diclofenac (Voltaren), 53% for naproxen (Aleve, Naprosyn) and 58% for rofecoxib (Vioxx), which was removed from the market due to increased cardiovascular risks.[15]

The researchers determined there was a higher risk associated with higher doses. Over-the-counter doses are commonly lower than prescription doses of NSAIDs. Mounting evidence of cardiovascular risks with all NSAIDs triggered the FDA to strengthen their warning in 2015.[16] The warning was based on the FDA review of the literature since the order in 2004, and included information such as:[17]

- NSAIDs increased the risk of heart attack and stroke, especially at higher doses.
- NSAIDs can increase the risk of heart attack in individuals with or without a history of heart attack or risk of heart disease.
- Patients treated in the first year after a heart attack with NSAIDs were more likely to die than those who were not treated with NSAIDs.
- There is an increased risk of heart failure in those using NSAIDs.

## Myocardial Risk Differences Between NSAIDs

In this video, Dr. Partha Nandi, creator and host of the medical lifestyle television show, "Ask Dr. Nandi," describes the results of another study evaluating the use of NSAIDs during an upper respiratory infection. The results were similar to the 2017 study evaluating MI and NSAIDs in the European and Canadian health care databases.

The researchers noted the study was observational, so drawing conclusions as to cause and effect would not be possible from their results.[18] Others criticized the study, saying other factors may have been the cause of the increased MIs in the study.[19]

However, the researchers studied over 60,000 cases of MI before concluding current use of NSAIDs was associated with a significantly increased risk of an acute MI.[20] Use of NSAIDs exhibited a quick onset of MI risk in the first week that leveled by day 30.

Celecoxib and diclofenac showed a single wave of increased risk in the first week, while ibuprofen, naproxen and rofecoxib exhibited an additional increased risk during eight to 30 days of consuming the drug. The researchers speculated the differences between NSAIDs may be related to the drugs' effect on renal function.[21]

The findings also suggested MI risk associated with rofecoxib was greater than those of other NSAIDs included in the study. This aligns with results from past studies that prompted the removal of rofecoxib from the market.

## NSAIDs Carry Further Risks

NSAIDs also increase your risk of other health conditions, some of which may be lethal. For example, researchers have determined women who took NSAIDs in the first 20 weeks of pregnancy had a significantly higher risk of miscarriage.[22] The study evaluated the health records of over 50,000 Canadian women and found those who took NSAIDs early in their pregnancy had a 2.4 times higher risk of miscarriage.

The researchers hypothesize NSAIDs' effect on hormone-like prostaglandins that support pregnancy may be the trigger. NSAID use is also associated with atrial fibrillation in patients who previously had an MI.[23] While you may believe you can discount this particular risk factor, it is important to note research demonstrates that up to 45% of heart attacks are clinically silent or without symptoms.[24]

Many of these silent heart attacks are discovered during a routine physical examination or electrocardiogram where the physician notes damage to the heart muscle.

NSAID use also increases your risk of upper and lower **gastrointestinal (GI) tract** bleeding. Upper GI bleeding is more commonly reported, and occurs with all formulations of NSAIDs.[25] Up to 15% of upper GI bleeding reported in a single county of Denmark may be attributed to NSAID use.

Lower GI bleeding occurs with most NSAID drugs, as does increased mucosal permeability and **inflammation** of the lower GI tract.[26] Other findings associated with lower GI bleeding include anemia, occult blood loss, protein loss and malabsorption.

## Painkillers Are a Bitter Pill

Use of over-the-counter pain relievers, including ibuprofen, have been associated with **hearing loss** in men[27] and women.[28] Prescription strength or long-term use of NSAIDs and aspirin are associated with interstitial nephritis,[29] a type of kidney damage that may be permanent, leading to kidney failure.[30]

NSAID use may also induce other renal function abnormalities, including fluid retention, electrolyte complications and deterioration of renal function.[31] It's also worth remembering that even short-term consistent use of pain control medications may increase your risk of further injury as these drugs help to mask pain, enabling you to continue your activities. Further injury or pain may lead to the use of stronger pain medications.

Pain and discomfort are the common triggers for opioid prescriptions, which have risen over 100% between 2000 and 2010,[32] while treatment modalities for injuries have improved. I believe the drastic increase in these numbers plays a major role in the global epidemic of addiction to opioids.

After just one month on morphine, patients showed demonstrable changes in brain volume.[33] The number of deaths from overdoses rose from a little over 10,000 a year in 2002 to nearly 35,000 in 2015.[34] Now, some states are fighting back,[35] trying to hold manufacturers accountable for the epidemic of addiction that resulted from deceptive marketing.[36]

## Drug-Free Pain Control

Pain control without addressing the underlying physical issue may increase your risk of experiencing side effects from medications you're taking, or lead you to resort to even stronger medications that have more dangerous side effects.

I strongly recommend you exhaust other options before resorting to consistent use of painkillers, even in the short term. The truth is that many drugs used to treat pain may

increase your risk of heart attack, change your brain chemistry and possibly your behavior.

Sleep, for example, is one important factor in how you perceive pain. Getting eight hours of quality sleep on a nightly basis may help you cope with the discomfort you experience.[37] Your pain experience is affected by several factors, of which sleep may be the most important. Sleep, pain and depression are a strongly interconnected triad where a change in one impacts the other two.

If you have trouble getting to sleep, or staying asleep, you'll want to check out my article, "**Top 33 Tips to Optimize Your Sleep Routine**." You may read more about the changes medications make to your brain, and 19 nondrug solutions for pain relief in my previous article, "**Opioid Deaths Continue to Rise Despite Drop in Prescriptions**."

## Sources and References


- [1, 3] Medscape, December 22, 2016
- [2] Medscape, NSAID Toxicity (Prognosis)
- [4, 14, 20, 21] BMJ 2017;357:j1909
- [5] US News, December 23, 2004
- [6] Drug Watch Vioxx
- [7] WebMD April 7, 2005 (Archived)
- [8] WebMD, Understanding Heart Attack: The Basics (Archived)
- [9, 10] American Heart Association, April 17, 2017
- [11] Medscape, February 18, 2016 (Archived)
- [12] Cleveland Clinic, Heart Attack (Myocardial Infarction): Symptoms
- [13] Better Explained, An Intuitive (and Short) Explanation of Bayes' Theorem
- [15] The New York Times, May 9, 2017
- [16, 17] U.S. Food and Drug Administration, July 9, 2015
- [18] Medical News Today, May 10, 2017
- [19] BBC News, May 10, 2017
- [22] NBC News, September 6, 2011
- [23] European Heart Journal 2015; 1(2): 107
- [24] Harvard Health Publishing, June 10, 2016
- [25] British Journal of Clinical Pharmacology 2002; 52(3):173
- [26] Expert Review of Clinical Pharmacology 2011; 4(5):605
- [27] American Journal of Medicine, 2010; 123(3):231
- [28] Harvard Gazette, December 14, 2016

- [29] National Kidney Foundation, Pain Medications (Analgesics)
- [30] Medline Plus, Interstitial Nephritis
- [31] Journal of Clinical Pharmacology 1991; 31(7): 588
- [32] Regional Anesthesia and Pain Medicine 2014; 39(1):6
- [33] Reuters, January 13, 2016
- [34] National Institute on Drug Abuse, Drug Overdose Death Rates
- [35] Reuters, August 9, 2017
- [36] LA Times, May 5, 2016
- [37] The Rheumatologist, November 1, 2011