



Your Natural Wellness Clinic

# Laser Spine and Sport

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## The Risk of Pain Medications

### The Risks of Taking Pain Medicine

Nausea, stomach bleeding, heart disease and more: The list of potential dangers from taking over-the-counter pain medications is lengthy. One of the most recent findings, published in January in the journal *BMJ*, formerly the *British Medical Journal*, looked at results from 31 trials that included more than 116,000 people. It found that ibuprofen use tripled the risk of stroke, even though overall risks were still small.

For ibuprofen and other so-called nonsteroidal anti-inflammatories (NSAIDs), body chemicals called prostaglandins — which painkillers act against — are at the root of the problem. That's because, in addition to versions that cause pain and inflammation, there are also "good" prostaglandins that, for example, protect the lining of the stomach and regulate blood flow through the kidneys.

Over-the-counter NSAIDs are indiscriminate in their battle against prostaglandins. As a result, taking them at doses that are too high or for periods that are too long can knock out the protective ones, leading to ulcers, holes in the gastrointestinal tract and kidney damage, among other problems.

People who should avoid NSAIDs include those with diabetes, kidney problems or a history of gastrointestinal problems or ulcers. For everyone else, the maximum recommended over-the-counter doses are 1,200 milligrams a day for ibuprofen, 660 mg a day for naproxen and 4,000 mg a day for aspirin. But people often fail to read the labels, and even if they do, they may fail to take the limits seriously.

"A lot of people have said that if NSAIDs were just coming to the market now for the first time, the FDA would have been very slow to approve them because of all their potential side effects," says Steven Vlad, a rheumatologist and epidemiologist at the Boston University School of Medicine.

Acetaminophen brings fewer side effects because it spares prostaglandins; that makes it the safest drug for most people in pain to try first, says Janet Engle, a pharmacist at the University of Illinois at Chicago and a member of the Non-prescription Drugs Advisory Committee at the U.S. Food and Drug Administration. But taking too much can also cause serious problems.

Acetaminophen overdose is the **leading** cause of acute liver failure in the United States, according to the FDA. In 2009, acetaminophen overdose was all or partly responsible for more than 41,000 calls to poison control centers around the country, the American Assn. of Poison Control Centers reports. Most people who overdose do it by mistake, either because they are trying to stop chronic pain from escalating or because they take multiple products that contain acetaminophen, such as cough and cold syrups or a combination of prescription medicines that also contain it.

The current recommended maximum daily dose on labels of acetaminophen is 4,000 mg, or eight typical extra-strength pills. But unlike some of the other painkillers, whose labels provide leeway below prescription-safe doses, 4,000 mg is the *absolute* limit of how much people should get.

And that, some experts think, makes overdosing far too easy. In recent panel discussions, the FDA has asked experts to consider whether limits should be lowered from 1,000 mg to 650 mg for a single dose and from 4,000 mg to 3,250 for a daily dose, says Engle, who has been part of those panels. But there isn't any good science to say whether those doses are high enough to be effective or low enough to protect people from overdose.

Even if you stay within recommended limits for any of these painkillers, beware: Taking over-the-counter painkillers can be dangerous while drinking alcohol, studies show, and none of these drugs should be used as a strategy to

prevent hangovers. Alcohol plus acetaminophen puts a double dose of stress on the liver. And alcohol aggravates the lining of the stomach, allowing more damage from NSAIDs.

If you find yourself taking moderate doses of painkillers day after day for more than 10 days, it's probably time to see your doctor, Engle adds. The daily dose won't necessarily hurt you, but you could have an undiagnosed problem that might respond better to surgery or other drugs.

### **How over-the-counter painkillers work**

Over-the-counter painkillers fall into two groups. The first, nonsteroidal anti-inflammatory medications (NSAIDs), includes ibuprofen (often sold as Advil and Motrin), naproxen (sold as Aleve) and aspirin. All three drugs dull pain and fight inflammation.

Acetaminophen (often sold as Tylenol) is in a group of its own and targets only pain.

Scientists are still working out the details about how these drugs work.

NSAIDs are the better understood. In general, this group attacks two types of enzymes that produce prostaglandins, a broad class of chemicals that do a wide variety of jobs throughout our bodies. Among these, some play roles in sending pain signals to the brain. Others produce inflammation. Still others instigate fevers.

Taking doses of NSAIDs according to directions on the bottle generally targets just the pain-producing prostaglandins, says Janet Engle, a pharmacist at the University of Illinois at Chicago and a member of the Non-prescription Drugs Advisory Committee at the U.S. Food and Drug Administration. Doctors sometimes prescribe higher doses to also reduce the number of inflammation-inducing prostaglandins.

What sets one NSAID apart from another, for the most part, is how quickly their effects wear off — naproxen lasts the longest and aspirin lasts the shortest. Scientists think that each type of NSAID may also attack a different set of prostaglandin-producing enzymes, though that is less well understood.

Acetaminophen may or may not affect prostaglandins. Instead, this drug appears to affect the nervous system in other ways that have yet to be deciphered — allowing it to fight pain and fevers but not inflammation.

### **Dose information for over-the-counter pain medicine**

Here are maximum recommended doses for acetaminophen and nonsteroidal anti-inflammatory painkillers sold over the counter. If you take the maximum dose and you're still in pain, talk to your doctor: In some cases, a physician can prescribe higher doses. But don't make that decision on your own. Also, look closely at the ingredients of all the medications you're taking: Many include painkillers, making it easy to overdose.

**Ibuprofen**                    Maximum OTC daily dose: 1,200 milligrams

**Naproxen sodium**        Maximum OTC daily dose: 660 mg

**Acetaminophen**            Maximum OTC daily dose:  
On the extra-strength 500 mg label: 4,000 mg (4 grams)  
On the regular-strength 325-mg label: 3,900 mg (12 pills)

**Aspirin**                    Maximum OTC daily dose:  
On the extra-strength 500 mg label: 4,000 mg (4 grams)  
On the regular-strength 325 mg label: 3,900 mg (12 pills)

**We Offer Safe, Natural Alternatives:**

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