

Advantage: you.**THE WALL STREET JOURNAL.**

This copy is for your personal, non-commercial use only. To order presentation-ready copies for distribution to your colleagues, clients or customers visit <http://www.djreprints.com>.

<http://www.wsj.com/articles/advil-vs-tylenol-which-to-use-and-when-1431364490>

LIFE | HEALTH | YOUR HEALTH

Advil vs. Tylenol. Which to Use, and When

The popular medications are each at their best when taken for certain ailments



By

SUMATHI REDDY

May 11, 2015 1:14 p.m. ET

When a headache, back pain or other complaint strikes, many people believe Advil, Tylenol and other over-the-counter analgesics are pretty much interchangeable. Far from it.

These medications are each at their best when taken for certain ailments, in part because they work differently in the body and can have different side effects.

Got a headache? Tylenol, or its generic version acetaminophen, might be your best bet since it comes with fewer side effects, many experts say. Inflamed elbow? Advil, whose active ingredient is ibuprofen, is likely to bring greater relief. And if you're trying to bring down a fever, either medication will probably work, although some studies have found Advil to have a slight edge.

Both medicines are largely considered safe. But taking too much acetaminophen can damage the liver. And ibuprofen is part of a category of medicines called nonsteroidal anti-inflammatory drugs, or

NSAIDs, that can cause gastrointestinal problems such as upset stomach and internal bleeding. Other types of NSAIDs include Motrin, which also contains ibuprofen; aspirin and naproxen, which is in Aleve.

One solution for people needing an analgesic often, such as children with high fever or adults with intense pain: Alternating ibuprofen with acetaminophen can provide greater relief and minimize side effects.

The medications, which are taken by millions of Americans every week, continue to be studied for other possible side effects. A recent study published online in the journal Psychological Science found that acetaminophen may blunt people’s emotional reactions. The researchers plan to study whether ibuprofen has the same effect.

How

IBUPROFEN (ADVIL and MOTRIN)		ACETAMINOPHEN (TYLENOL)
Better for fever, some studies suggest, though some experts say acetaminophen works equally well.	FIGHTS FEVER	Children under 6 months and many pregnant women should avoid ibuprofen and take acetaminophen.
Blocks the production of chemicals in the bloodstream that cause inflammation and pain.	EASES PAIN	Experts believe it blocks the perception of pain in the brain, though the mechanism isn't fully understood.
Superior for sports injuries, certain types of arthritis and other conditions caused by inflammation, many doctors say.	INFLAMMATION	Equally effective for some conditions, such as ankle sprains, a recent study found.
Doctors warn taking too much can lead to kidney complications, high blood pressure and higher risk for stroke or heart attack.	TOXICITY	Excessive use can cause liver damage or disease. Check for acetaminophen as an ingredient in other over-the-counter drugs.
Stomach aches, stomach bleeding and ulcers are among potential side effects.	SIDE EFFECTS	Very few except for allergic reactions, which are rare.

acetaminophen works in the body isn’t fully understood, said Norman Tomaka, a pharmacist in Melbourne, Fla., and a spokesman for the American Pharmacists Association. Experts believe the drug works on the central nervous system, blocking pain receptors in the brain. In contrast, ibuprofen and other NSAIDs work in various parts of the body by inhibiting production of prostaglandins, chemicals released by injured cells that trigger inflammation and pain.

Michael Rabovsky, chairman of family medicine at the Cleveland Clinic, in Ohio, said both acetaminophen and NSAIDs are effective at reducing fevers and alleviating most pain.

For certain types of pain, such as sports injuries and muscle soreness, NSAIDs such as ibuprofen might work a bit better because of their anti-inflammatory properties, some doctors say. Some studies have found NSAIDs are generally more effective at reducing fevers and relieving menstrual cramps.

And for back pain and osteoarthritis, ibuprofen might be preferable. A recent review of studies in the British Medical Journal found that acetaminophen was ineffective in treating lower back pain and had minimal benefits for people with osteoarthritis.

In general, acetaminophen and ibuprofen have similar indications, although ibuprofen may have an advantage in reducing inflammation, said Rajesh Mishra, vice president of medical affairs and clinical research for McNeil Consumer Healthcare, a division of Johnson & Johnson, the maker of Tylenol, which contains acetaminophen, and Motrin, which has ibuprofen.

And while some studies may suggest acetaminophen to be slightly less effective for certain conditions, consumers also need to look at the products' safety profiles, Dr. Mishra said. Because of possible side effects from ibuprofen and other NSAIDs, elderly people and those with chronic conditions might do better with acetaminophen. "It gives them effective pain relief without all the risks," he said.

Dr. Rabovsky, of the Cleveland Clinic, said he usually recommends acetaminophen to patients who have a history of gastrointestinal problems, kidney issues, ulcers or inflammatory bowel disease. "We're seeing a lot of elderly patients who have a decrease in their kidney function so we try to stay away from the NSAIDs for those people," he said. Both types of medication can contribute to rebound headaches when taken excessively, he said.

Experts say prolonged use of NSAIDs may also boost the risk for cardiovascular disease, increase blood pressure or cause swelling or edema.

A spokeswoman for Pfizer Inc., which makes Advil, said studies have found the risk of stomach bleeding or other complaints is very low, and there is minimal cardiovascular risk, when ibuprofen is taken as directed for no longer than 10 days. The risk of developing acute or chronic kidney issues also is low, she said.

"Ibuprofen is more effective on tough pain than acetaminophen," the spokeswoman said.

Babies under 6 months old and pregnant women at certain stages also should steer clear of ibuprofen and other NSAIDs, said David O'Gurek, a family physician and assistant professor at Temple University School of Medicine in Philadelphia. Aspirin, another NSAID, isn't advised for children because of its association with Reye's syndrome, a condition that causes swelling in the brain and liver.

Experts recommend taking NSAIDs—particularly aspirin, the fastest acting of the analgesics—with food to act as a buffer from gastrointestinal discomfort. All pain relievers should be taken with at least four ounces of water.

In addition to its anti-inflammatory properties, aspirin also acts as a blood thinner and it is taken in daily low doses by many people at risk

for cardiovascular disease or stroke. People who take daily aspirin should use acetaminophen for pain relief rather than ibuprofen, which can interfere with aspirin's preventative effects, said Kevin Campbell, an assistant professor of medicine and cardiologist at the University of North Carolina in Raleigh.

Acetaminophen, which is metabolized in the liver, should be limited by people with liver conditions or who drink a lot of alcohol. Generally the drug takes at least 45 minutes to start working and twice that to see measurable pain relief. That may lead some people to take more than they should, said Mr. Tomaka, with the American Pharmacists Association.

“The problem with acetaminophen and why it's the leading cause of acute liver failure is people take too much of it,” said Mr. Tomaka. “Add alcohol to the picture and you're adding another competing drug cleared by the liver.” Many common drugs, such as cold and sinus medications, also include acetaminophen, which can cause people unknowingly to overdose.

Naproxen, the active ingredient in Aleve, works more slowly than ibuprofen but lasts longer, said Dr. Campbell. “Naproxen is better at reducing inflammation in the setting of injuries such as sprains and strains,” he said.

People who need to take acetaminophen for more than 10 to 14 days, or an NSAID for more than 10 days, should seek medical advice, experts say. Alternating the medicines is safe because they are metabolized differently in the body and don't interact with one another, they say.

Researchers are examining other possible side effects. The finding that acetaminophen may blunt people's emotional reactions came from a randomized controlled study at Ohio State University in Columbus. About 160 participants were assigned to either take acetaminophen or a placebo. After 60 minutes they ranked a series of pictures. Those who took acetaminophen had a 20% reduction in positive ratings compared with the placebo group, while negative ratings were 10% less.

“Past research has found that acetaminophen blunts people's reaction to negative emotional experiences,” said Geoffrey Durso, lead author of the study and a doctoral student in the university's psychology department. This study was the first to find the same for positive emotions, he said.

Other research found that regular use of either acetaminophen or ibuprofen—two or more days a week—is associated with hearing loss. The studies, which followed large cohorts of men and women and

controlled for numerous factors, were observational and didn't prove the drugs cause hearing problems. The first study was published in 2010 in the American Journal of Medicine and the other in 2012 in the American Journal of Epidemiology.

Sharon Curhan, a physician at Brigham and Women's Hospital in Boston who led the research, is currently working with audiologists in 19 centers nationwide on a government-funded study to examine the relation between analgesic use and changes in hearing thresholds over time.

Write to Sumathi Reddy at sumathi.reddy@wsj.com

Copyright 2014 Dow Jones & Company, Inc. All Rights Reserved

This copy is for your personal, non-commercial use only. Distribution and use of this material are governed by our Subscriber Agreement and by copyright law. For non-personal use or to order multiple copies, please contact Dow Jones Reprints at 1-800-843-0008 or visit www.djreprints.com.