

# TYLENOL TOXICITY

by Ann Gerhardt, MD [www.drugsmedisense.com](http://www.drugsmedisense.com)  
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**Bottom Line At The Top: If you like your liver, limit acetaminophen (Tylenol, Vicodin, others, see Box) to less than 4000 mg per day. Livers vary in their tolerance of acetaminophen. If you routinely ingest  $\geq$  4000 mg/day, ask your doctor to check labs to see if you sensitive to it.**

A huge overdose of acetaminophen may suddenly kill your liver. Just how high is huge varies with the individual, with some much less sensitive than others. Doses of 7.5 – 10 grams (20 regular strength Tylenol tablets) over a period of 8 hours or less can land people in the intensive care unit. Fatalities have occurred with less than 15 grams.

**Acetaminophen overdoses cause 42% of all cases of sudden liver failure in the U.S.** Fortunately all those patients with liver failure don't need liver transplantation. An effective therapy stops the drug-induced damage, if begun soon after acetaminophen ingestion.

**A recent study<sup>1</sup> made waves with the finding that 40% of healthy people taking 4000 mg of acetaminophen daily developed a blood test abnormality indicating liver toxicity.** The test, ALT, is considered to be significantly abnormal if the level is three times normal. Up to 80% of the 145 subjects developed *any* abnormality of ALT, small or large, in as little as three days.

Both plain acetaminophen and three combination drugs induced identical abnormalites. The results are concerning because 4000 mg per day is a standard dose that would not even raise an eyebrow in an emergency room.

To put the dose in perspective, **regular strength Tylenol comes in 325 mg tablets.** The maximum recommended adult dose, "2 tabs every 4-6 hours, maximum 12 tablets in 24 hours," delivers 3900 mg. Problems arise with **Extra Strength** formulations of 500 mg. They carry the same directions, "2 tabs every 4-6 hours," but the maximum dose is 8 tablets in 24 hours. People generally assume Tylenol is safe and take it as they would regular strength tablets. Twelve Extra Strength tablets deliver 6000 mg. A **Vicodin** tablet with 7.5 mg of narcotic contains 750 mg acetaminophen. People popping 2 tablets every 4 hours after surgery will ingest 9000 mg acetaminophen a day.

In previous, small studies, less than 10% of subjects experienced acetaminophen-induced ALT abnormalities. The recent study included many more Hispanic Americans than did previous studies. They were twice as likely as non-Hispanics to end up with an abnormal ALT.

Abnormal ALT values occur commonly and can be affected by many factors. The National Health and Nutrition

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## HEALTHY CHOICES FOR MIND AND BODY

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### MEDICATIONS CONTAINING ACETAMINOPHEN

any Tylenol product	any Contac product
Hydrocodone/APAP (the second number of the dose is acetaminophen, as in Vicodin 5/500)	
Vicodin (varies, 500 – 750 mg)	
Norco (325 mg)	
any Theraflu product	Benadryl Allergy & Cold
Midol Menstrual Complete	Vicks Dayquil or Nyquil
Sinutab Sinus	Exedrin Migraine
Sine-off	Sudaphed PE
Coricidin Cold & Flu	Comtrex
many generic or store-brand arthritis remedies	
many generic or store-brand cold/flu remedies	
Percocet	Ultracet

Examination Survey reports that the prevalence of elevated ALT in all men is 13.4%, in all women is 4.5% and in Hispanic Americans is 17.4%, possibly due to the higher prevalence of fatty liver in that population.

**Fatty liver, prolonged fasting and chronic alcohol consumption almost always raise ALT levels. They predispose people to react more easily and dramatically to acetaminophen.** In the JAMA study, 38% of people taking placebo had slightly high ALT levels.

**No one suffered liver failure or lasting liver damage.** Any person whose ALT rose stopped the study drug, after which ALT normalized. In some the abnormality persisted for two weeks, even after acetaminophen blood levels were undetectable.

**Low level ALT elevations, if unaccompanied by symptoms of liver disease and transient, are probably clinically unimportant.** McNeil Consumer, the makers of Tylenol, strongly refuted the study's significance. They assert that isolated ALT elevations, even up to 10 times normal, without other laboratory abnormalities, poorly predict long term liver injury. The kicker is the "without other laboratory abnormalities" part — By definition, if certain other lab tests are abnormal, there **is** liver injury.

If you are thinking of switching to the anti-inflammatories for pure pain control, consider that they may hurt the kidneys, cause bleeding, and/or contribute to heart disease. Narcotics

mask pain and risk addiction. A variety of “neuroleptic” drugs, that work on nerves to alter pain perception, have their own set of side effects.

What’s a body in pain to do? **Use medications judiciously, intermittently and in the lowest dose that takes the edge off and allows functioning.** Check with your doctor to see if it is OK to adjust the dosage. Learn to manage pain with massage, altered body mechanics and mental techniques to diminish the need for drugs.

<sup>1</sup>Watkins, et al. JAMA 2006;296:87-93.