

How Alcohol Complicates Medication Use

Steps to Address Problem Drinking May Help Reduce Hidden Interactions

When people drink alcohol, the risks and benefits of many of their medications may change, sometimes dangerously. Alcohol consumption can affect a wide range of drugs, from the most common nonprescription painkillers to vital treatments for tuberculosis and other life-threatening diseases. Problem drinkers, elderly people and their caregivers, physicians, nurses and pharmacists can improve health and safety by becoming more aware of such interactions.

How Interactions Occur

The body's main chemical factory – the liver – is where alcohol and many drugs undergo essential processing or detoxification. Alcohol requires the same specialized liver enzymes that process some important prescription drugs. Taking both together overloads the system. Depending on the drug, the quantity of alcohol and the frequency of alcohol consumption, the result may be an ineffective drug or, alternatively, a potentially dangerous overdose.

Like alcohol, many drugs can injure the liver. While alcohol-induced liver injury typically occurs among people with long-term **alcohol problems**, drug-induced liver toxicity can occur suddenly and with few warning signs. A liver already impaired by untreated alcoholism can be more vulnerable to life-threatening injury from drugs capable of this adverse reaction.

Alcohol also has an additive and in some cases synergistic effect on the many drugs, including tranquilizers, barbiturates and opiates that depress the central nervous system (CNS). The combination can bring about an overdose requiring emergency medical treatment or lead to impaired motor control resulting in workplace injury, accidents and falls.

Drinking alcohol with certain other drugs sometimes leads to violent reactions featuring nausea, vomiting, sweating and flushing. While new drugs are routinely tested for some interactions, these tests are usually restricted to a small group of prescription drugs. Scientific knowledge of medications' interactions with alcohol is still limited. Given only fragmentary scientific data, what we don't know about alcohol-drug interactions may indeed hurt us.

Especially Vulnerable

The elderly are especially vulnerable to alcohol-drug interactions for two reasons: not only are they more likely to be taking multiple medications, which increase their exposure, but also the elderly break down medications and alcohol more slowly than younger people.

Problem drinkers – people whose drinking leads to health, safety and other problems – are also especially vulnerable to alcohol-drug interactions. The very medications that people often take to mitigate the effects of their drinking can cause more severe complications when combined with alcohol.

Because many people are unaware of these potentially damaging interactions, it is especially important for health practitioners and caregivers to alert and educate their patients, and to encourage them to reduce their use of alcohol when using many medications. Programs to reduce problem drinking may provide an often overlooked benefit by reducing drug-alcohol interactions.



A Few Drug-Alcohol Combinations To Watch For

Acetaminophen (Tylenol®) One of the most widely used painkillers, acetaminophen is also the leading cause of potentially-fatal liver damage. In one study, the liver-failure cases with the worst prognosis came from accidental acetaminophen overdoses in combination with untreated alcoholism.

Ibuprofen (Advil®, Motrin®) This drug and the chemically similar Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) such as naproxen, aspirin and ketoprofen cause bleeding ulcers, intestinal perforation or hemorrhage in 2-4 percent of people who use them regularly. Drinking increases the risk these problems.

Ketoconazole (Nizoral®) Consuming even small amounts of alcohol with this anti-fungal drug can cause vomiting, nausea and other effects. The Food and Drug Administration recommends that people abstain from alcohol for three days after finishing a course of the medication.

Methotrexate (Rheumatrex®) This commonly prescribed drug for rheumatoid arthritis may cause severe injury to the liver. Drinking alcohol increases this risk.

Warfarin (Coumadin®) This drug is widely used to prevent blood clots, but a small overdose can cause severe bleeding and too little is ineffective. A few drinks at one sitting increases drug concentrations and can lead to bleeding. A person with alcoholism who takes warfarin even when sober can break down the drug unusually quickly, leading to ineffective blood concentrations.

Benzodiazepine tranquilizers (Xanax®, Librium®, Valium®, Ativan®, Restoril®) This family of tranquilizers and sleep aids affects some of the same brain receptors as alcohol; taking these drugs with alcohol can lead to overdose or accidental injury.

***To be safe, consult your pharmacist or physician
before consuming alcohol while taking any medication.***

For additional information, see:

National Institute on Alcohol Abuse and Alcoholism's *Alcohol-Medications Interaction* (Alcohol Alert No. 27) at <http://www.niaaa.nih.gov/publications/aa27-text.htm>.

Food and Drug Administration's *Food and Drug Interactions* at <http://vm.cfsan.fda.gov/~lrd/fdinter.html>.

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May 2004

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Ensuring Solutions to Alcohol Problems (Ensuring Solutions) at The George Washington University Medical Center in Washington, DC, seeks to increase access to treatment for individuals with alcohol problems. Working with policymakers, employers and concerned citizens, Ensuring Solutions provides research-based information and tools to help curb the avoidable health care and other costs associated with alcohol use and improve access to treatment for Americans who need it. The project is supported by a grant from The Pew Charitable Trusts. For more information, please visit the Ensuring Solutions Website at www.ensuringsolutions.org.