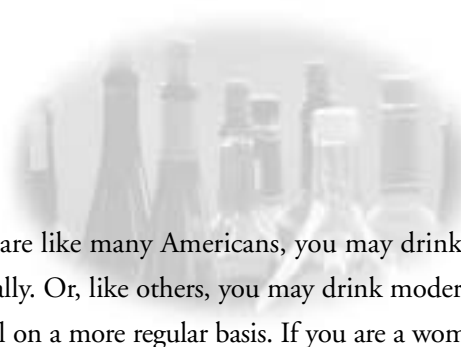


ALCOHOL

*What You Don't Know
Can Harm You*



U.S. Department of Health and Human Services
National Institutes of Health
National Institute on Alcohol Abuse and Alcoholism



If you are like many Americans, you may drink alcohol occasionally. Or, like others, you may drink moderate amounts of alcohol on a more regular basis. If you are a woman or someone over the age of 65, this means you have no more than one drink per day; if you are a man, this means you have no more than two drinks per day. Drinking at these levels usually is not associated with health risks and may help prevent certain forms of heart disease.

But did you know that even moderate drinking, under certain circumstances, can be risky? If you drink at more than moderate levels, you may be putting yourself at risk for serious problems with your health as well as problems with family, friends, and coworkers. This booklet explains some of the problems that can be caused by drinking that you may not have considered.

WHAT IS A DRINK?

A standard drink is:

- One 12-ounce bottle of beer*
or wine cooler
- One 5-ounce glass of wine
- 1.5 ounces of 80-proof
distilled spirits.

*Different beers have different alcohol content.
Malt liquor has a higher alcohol content than most
other brewed beverages.



DRINKING AND DRIVING

It may surprise you to learn that you don't need to drink much alcohol before your driving ability is affected. For example, certain driving skills can be impaired by blood alcohol concentrations (BACs) as low as 0.02 percent. (The BAC refers to the amount of alcohol in the blood.) A 160-pound man will have a BAC of about 0.04 percent 1 hour after drinking two 12-ounce beers or two other standard drinks on an empty stomach (see the box, "What Is a Drink?"). And the more alcohol you drink, the more impaired your driving skills will be. Although most States set the BAC limit for adults who drive after drinking at 0.08 percent, driving skills are affected at much lower levels.

INTERACTIONS WITH MEDICATIONS

Drinking alcohol while taking certain medications can cause problems. In fact, there are more than 150 medications that should not be mixed with alcohol. For example, if you are taking antihistamines for a cold or allergy and drink alcohol, the alcohol will increase the drowsiness that the medicine alone can cause, making driving or operating machinery even more dangerous. And if you are taking large doses of the painkiller acetaminophen (Tylenol®) and drinking alcohol, you are risking serious liver damage. Check with your doctor or pharmacist before drinking any amount of alcohol if you are taking any over-the-counter or prescription medicines.



SOCIAL AND LEGAL PROBLEMS

The more heavily you drink, the greater the potential for problems at home, at work, with friends, and even with strangers. These problems may include:

- Arguments with or separation from your spouse and other family members;
- Strained relationships with coworkers;
- Absence from or lateness to work with increasing frequency;
- Loss of employment due to decreased productivity; and
- Committing or being the victim of violence.

ALCOHOL-RELATED BIRTH DEFECTS

If you are pregnant or trying to get pregnant, you should not drink alcohol. Drinking alcohol while you are pregnant can cause a range of birth defects, and children exposed to alcohol before birth can have lifelong learning and behavioral problems. The most serious problem that can be caused by drinking during pregnancy is fetal alcohol syndrome (FAS). Children born with FAS have severe physical, mental, and behavioral problems. Because scientists do not know exactly how much alcohol it takes to cause alcohol-related birth defects, it is best not to drink any alcohol during this time.



LONG-TERM HEALTH PROBLEMS

Some problems, like those mentioned above, can occur after drinking over a relatively short period of time. But other problems—such as liver disease, heart disease, certain forms of cancer, and pancreatitis—often develop more gradually and may become evident only after many years of heavy drinking. Women may develop alcohol-related health problems sooner than men, and from drinking less alcohol than men. Because alcohol affects nearly every organ in the body, long-term heavy drinking increases the risk for many serious health problems, some of which are described below.

Alcohol-related liver disease. More than 2 million Americans suffer from alcohol-related liver disease. Some drinkers develop alcoholic hepatitis, or inflammation of the liver, as a result of heavy drinking over a long period of time. Its symptoms include fever, jaundice (abnormal yellowing of the skin, eyeballs, and urine), and abdominal pain. Alcoholic hepatitis can cause death if drinking continues. If drinking stops, the condition may be reversible. About 10 to 20 percent of heavy drinkers develop alcoholic cirrhosis, or scarring of the liver. People with cirrhosis should not drink alcohol. Although treatment for the complications of cirrhosis is available, a liver transplant may be needed for someone with life-threatening cirrhosis. Alcoholic cirrhosis can cause death if drinking continues. Cirrhosis is not reversible, but if a person with cirrhosis stops drinking, the chances of survival improve considerably. People with cirrhosis often feel better, and liver function may improve, after they stop drinking. About 4 million Americans are infected with hepatitis C virus (HCV), which can cause liver cirrhosis and liver cancer. Some heavy drinkers also have HCV infection. As a result, their livers may be

damaged not only by alcohol but by HCV-related problems as well. People with HCV infection are more susceptible to alcohol-related liver damage and should think carefully about the risks when considering whether to drink alcohol.

Heart disease. Moderate drinking can have beneficial effects on the heart, especially among those at greatest risk for heart attacks, such as men over the age of 45 and women after menopause. However, heavy drinking over a long period of time increases the risk for heart disease, high blood pressure, and some kinds of stroke.

Cancer. Long-term heavy drinking increases the risk of certain forms of cancer, especially cancer of the esophagus, mouth, throat, and larynx (voice box). Research suggests that, in some women, as little as one drink per day can slightly raise the risk of breast cancer. Drinking may also increase the risk for developing cancer of the colon and rectum.

Pancreatitis. The pancreas helps regulate the body's blood sugar levels by producing insulin. The pancreas also has a role in digesting the food we eat. Long-term heavy drinking can lead to pancreatitis, or inflammation of the pancreas. Acute pancreatitis can cause severe abdominal pain and can be fatal. Chronic pancreatitis is associated with chronic pain, diarrhea, and weight loss.

If you or someone you know has been drinking heavily, there is a risk of developing serious health problems. Because some of these health problems can be treated, it is important to see a doctor for help. Your doctor will be able to advise you about your health and your drinking.



RESEARCH DIRECTIONS

The National Institute on Alcohol Abuse and Alcoholism (NIAAA), National Institutes of Health, supports about 90 percent of the Nation's research on alcohol use and its related consequences. Today, alcohol researchers are working on the cutting edge of medical science to answer questions such as:

- Who is at greatest risk for developing alcohol problems?
- What are the effects of binge drinking, particularly among young people?
- When does alcohol use increase the risk of violent behavior?
- Why are women more vulnerable to alcohol's effects?

Each new research discovery leads us to better ways to prevent and treat the alcohol-related problems that harm individuals, families, and society.

If you or someone you know needs help or more information, contact:

➤ **Al-Anon Family Group Headquarters**

1600 Corporate Landing Parkway

Virginia Beach, VA 23454-5617

Internet address: <http://www.al-anon.alateen.org>

Makes referrals to local Al-Anon groups, which are support groups for spouses and other significant adults in an alcoholic person's life. Also makes referrals to Alateen groups, which offer support to children of alcoholics.

- Locations of Al-Anon or Alateen meetings worldwide can be obtained by calling 1-888-4AL-ANON (425-2666) Monday through Friday, 8 a.m.-6 p.m. (e.s.t.).

- Free informational materials can be obtained by calling (757) 563-1600, Monday through Friday, 8 a.m.–6 p.m.
- U.S.: (888) 4AL-ANON
- Canada: (800) 443-4525; 24 hours

➤ **Alcoholics Anonymous (AA) World Services**

475 Riverside Drive, 11th Floor
New York, NY 10115
(212) 870-3400
Internet address: <http://www.aa.org>

Makes referrals to local AA groups and provides informational materials on the AA program. Many cities and towns also have a local AA office listed in the telephone book.

➤ **National Council on Alcoholism and Drug Dependence (NCADD)**

20 Exchange Place, Suite 2902
New York, NY 10005
(800) 622-2255
Internet address: <http://www.ncadd.org>

Provides telephone numbers of local NCADD affiliates (who can provide information on local treatment resources) and educational materials on alcoholism via the above toll-free number.

➤ **National Institute on Alcohol Abuse and Alcoholism (NIAAA)**

5635 Fishers Lane, MSC 9304
Bethesda, MD 20892-9304
(301) 443-3860
Internet address: <http://www.niaaa.nih.gov>

Makes available free publications on all aspects of alcohol abuse and alcoholism. Many are available in Spanish. Call, write, or search the NIAAA Web site for a list of publications and ordering information.

ADDITIONAL READING

Alcoholism: Getting the Facts—describes what alcoholism and alcohol abuse are and offers useful information on when and where to seek help. English version: NIH Publication Number 96–4153; Spanish version: NIH Publication Number 99–4153–S.

Drinking and Your Pregnancy—explains how drinking can hurt a developing baby, the problems that children born with fetal alcohol syndrome have, how to stop drinking, and where to go for help. NIH Publication Number 96–4101; Spanish version: NIH Publication Number 97–4102.

Frequently Asked Questions About Alcoholism and Alcohol Abuse—provides answers to frequently asked questions about alcoholism and alcohol abuse. NIH Publication Number 01–4735; Spanish version: NIH Publication Number 02–4735–S.

Make a Difference: Talk to Your Child About Alcohol—offers guidance to parents and caregivers of young people ages 10 to 14 on preventing underage drinking. English version: NIH Publication Number 00–4314; Spanish version: NIH Publication Number 00–4314–S.

To order, write to: National Institute on Alcohol Abuse and Alcoholism, Publications Distribution Center, P.O. Box 10686, Rockville, MD 20849–0686. The full text of all of the above publications is available on NIAAA's Web site (<http://www.niaaa.nih.gov>).

the Ca^{2+} concentration in the cytosol, the Ca^{2+} concentration in the endoplasmic reticulum, and the Ca^{2+} concentration in the nucleus.

The Ca^{2+} concentration in the cytosol is determined by the balance between the Ca^{2+} influx from the extracellular space and the Ca^{2+} efflux from the cytosol to the extracellular space and to the endoplasmic reticulum.

The Ca^{2+} concentration in the endoplasmic reticulum is determined by the balance between the Ca^{2+} influx from the cytosol and the Ca^{2+} efflux from the endoplasmic reticulum to the cytosol.

The Ca^{2+} concentration in the nucleus is determined by the balance between the Ca^{2+} influx from the cytosol and the Ca^{2+} efflux from the nucleus to the cytosol.

The Ca^{2+} concentration in the cytosol is also determined by the Ca^{2+} concentration in the endoplasmic reticulum and the nucleus.

The Ca^{2+} concentration in the endoplasmic reticulum is also determined by the Ca^{2+} concentration in the cytosol and the nucleus.

The Ca^{2+} concentration in the nucleus is also determined by the Ca^{2+} concentration in the cytosol and the endoplasmic reticulum.

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