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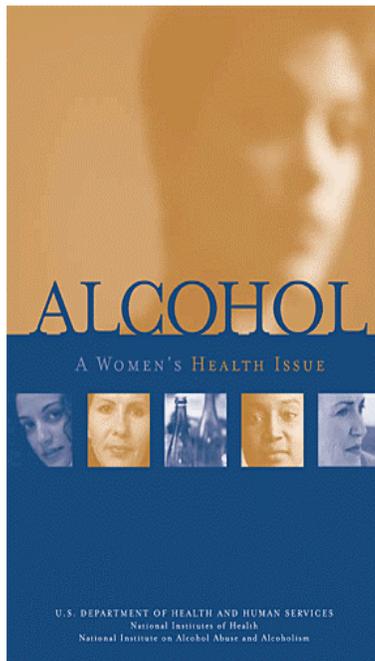
# National Institute on Alcohol Abuse and Alcoholism Publications

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This booklet is the result of a collaboration between two components of the National Institutes of Health (NIH): the Office of Research on Women's Health, Office of the Director, and the National Institute on Alcohol Abuse and Alcoholism. NIH is the lead Federal agency for biomedical research.



Alcohol is yet another health issue for women. Drinking, even in small amounts, affects women differently than men. And heavy drinking, in some ways, is much more risky for women than it is for men.

With any health issue, accurate information is key. There are times and ways to drink that are safer than others. Every woman is different. No amount of drinking is 100 percent safe, 100 percent of the time, for every individual woman. With this in mind, it's important to know how alcohol can affect health and safety.

## Alcohol, Women, and Men

About a third of U.S. women drink alcohol. Of these women who drink, only one out of ten averages two or more drinks a day.

For women, two drinks a day is above what the *Dietary Guidelines for Americans* call "moderate:" no more than one drink a day for women and no more than two drinks a day for men (see below for more on the *Guidelines*, and the recommendations for [moderate drinking](#)).

Why the difference between women and men? Alcohol passes through the digestive tract and is dispersed in the water in the body. The more water available, the more diluted the alcohol. As a rule, men weigh more than women. In addition, pound for pound, women have less water in their bodies than men, so a woman's brain and other organs are exposed to more alcohol before it is broken down. These differences play a role in both the short- and long-term effects of alcohol on women.

### 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

Keep in mind that the alcohol content of different types of beer, wine, and distilled spirits can vary quite substantially.

## Moderate Drinking: Benefits and Risks

Even moderate drinking can have short- and long-term health effects, both positive and negative:

- **Benefits**

**Heart disease:** Heart disease, once thought of as a threat mainly to men, is also the leading killer of women in the U.S. Drinking moderately may lower risk for coronary heart disease, mainly among women over age 55. However, there are other factors

that reduce the risk of heart disease, including a healthy diet, exercise, not smoking, and keeping a healthy weight. Moderate drinking provides little, if any, net health benefit for younger people. (Heavy drinking can actually damage the heart.)

- **Risks**

**Drinking and driving:** It doesn't take much alcohol to impair driving ability. The chances of being killed in a single-vehicle crash are increased at a blood alcohol level that a 140-lb. woman would reach after having one drink on an empty stomach.

**Medication interactions:** More than 150 medications interact harmfully with alcohol. For example, any medication that causes drowsiness or sedation—for example, many cough and cold medications—can increase the sedative effects of alcohol. **When taking any medication, read package labels and warnings carefully.**

**Breast cancer:** Research suggests that, in some women, as little as one drink per day can slightly raise the risk of breast cancer. It's not possible to know how alcohol will affect the risk of breast cancer in any one woman. But with so many new cases of breast cancer each year, even a small increase in risk can have an impact on the number of cases.

**Fetal Alcohol Syndrome:** Drinking by a pregnant woman can harm her unborn baby. (See [Fetal Alcohol Syndrome](#), below.)

One of the risks of drinking is that a woman may at some point abuse alcohol or become alcoholic (alcohol dependent). Above seven drinks *per week*, a woman's chances of abusing alcohol or becoming dependent increase. *Also, even women who drink less than seven drinks a week are at increased risk of developing alcohol abuse or dependence if they occasionally have four or more drinks on any given day.*

The ability to drink a man—or anyone—under the table is not a plus: *it is a red flag.* Research has shown that drinkers who are able to handle a lot of alcohol all at once are at higher—not lower—risk of developing problems, such as dependence on alcohol.

## Heavy Drinking

An estimated 4 million women in the United States drink in a way that threatens their health, safety, and general well-being. A strong case can be made that heavy drinking is more risky for women than men:

- *Heavy drinking increases a woman's risk of violent and sexual assault.*
- *Over the long term, women develop alcohol-related disease more quickly and after drinking less alcohol than men.*

roles that mark a woman's lifespan change. Knowing the signs that drinking may be a

## Adolescence

Despite the fact that drinking is illegal for anyone under the age of 21, the reality is that adolescent girls drink. Research shows, for example, that about 41 percent of 9th grade girls—usually about 14 years old—report drinking in the past month. (This rate is about the same for 9th grade boys.) Even more alarming, a little more than 20 percent of these same young girls report having had 3 or more drinks on a single occasion during the previous month.

### ***Consequences of Unsafe Drinking***

- Drinking under age 21 is illegal in every state.
- Drunk driving is one of the leading causes of teen death.
- Drinking makes young women more vulnerable to sexual assault and unsafe and unplanned sex.
- Young people who begin drinking before age 15 have a 40 percent higher risk of developing alcohol abuse or alcoholism some time in their lives than those who wait until age 21 to begin drinking. This increased risk is the same for young girls as it is for boys.

***Alcohol's Appeal for Teens*** Among the reasons teens give most often for drinking are to have a good time, to experiment, and to relax or relieve tension. Peer pressure can encourage drinking. Teens who grow up with parents who support, watch over, and talk with them are less likely to drink than their peers.

***Staying Away from Alcohol*** Young women under age 21 should not drink alcohol. Among the most important things parents can do is to talk frankly with their daughters about alcohol.

## Women in Young and Middle Adulthood

Young women in their 20's and early 30's are more likely to drink than older women. No one factor predicts whether a woman will have problems with alcohol, or at what age she is most at risk. However, there are some aspects of a woman's life experience that seem to make problem drinking more likely.

youth. A woman's ethnic origins—and the extent to which she adopts the attitudes of mainstream vs. her native culture—influence how and when she will drink.

### ***Consequences of Unsafe Drinking***

- On college campuses, assaults, unwanted sexual advances, and unplanned and unsafe sex are all more likely among students who drink heavily on occasion—for men five drinks in a row, for women, four. In general, drinking to excess by a woman makes it more likely that she will be a target of violent or sexual assault.
- The number of female drivers involved in alcohol-related fatal traffic crashes is going up, even as the number of male drivers involved in such crashes has decreased. This trend may reflect the increasing number of women who drive themselves, even after drinking, as opposed to riding as a passenger.
- Long-term health problems from heavy drinking include liver, heart, and brain disease and cancer. (See [Alcohol Abuse, Alcoholism, and Women's Health](#), below.)
- A woman who drinks while pregnant risks having a child with fetal alcohol syndrome (FAS), a set of birth defects that includes growth and mental impairment. (See [Fetal Alcohol Syndrome](#), below.)

### ***Women, Stress, and Alcohol***

Research suggests that women who have trouble with their closest relationships tend to drink more than other women. Heavy drinking is more common among women who have never married, are living unmarried with a partner, or are divorced or separated. (The effect of divorce on a woman's later drinking may depend on whether she is already drinking heavily in her marriage.) A woman whose husband drinks heavily is more likely than other women to drink too much.

Many studies have found that women who suffered childhood sexual abuse are more likely to have drinking problems. Depression is closely linked to heavy drinking in women, and women who drink at home alone are more likely than others to have later drinking problems.

#### **Stress and Drinking**

Stress is a common theme in women's lives. Research confirms that one of the reasons people drink is to help them cope with stress. In laboratory studies, animals consume alcohol in response to stress. However, the role of

woman will use alcohol to cope with stress. A woman's past and usual drinking habits are important. Different people have different expectations about the effect of alcohol on stress. How a woman handles stress, and the support she has to manage it, also may affect whether she uses alcohol in response to stress.

**Staying Safe** The factors below are among those that research suggests make excessive drinking more likely:

- Parents and siblings (or other family members related by blood) with alcohol problems
- A partner who drinks heavily
- The ability to “hold your liquor” more than others
- A history of depression
- A history of childhood physical or sexual abuse

The presence of any of these factors is a good reason to be especially careful with drinking.

## Older Women

As they get older, fewer women drink. At the same time, research suggests that people born in recent decades are more likely to drink—throughout life—than people born in the early 1900s. Elderly patients are admitted to hospitals about as often for alcohol-related causes as for heart attacks.

**Older women may be especially sensitive to the stigma of being alcoholic, and therefore hesitate to report their drinking, even if they have a problem.**

### ***Consequences of Unsafe Drinking***

- Older women, more than any other group, use medications that can affect mood and thought. Many such “psychoactive” medications, such as those for anxiety and depression, can interact with alcohol in harmful ways.
- Research suggests that it may be more common in women than men for alcohol problems to develop—or perhaps to surface—late in life.

**Age and Alcohol** Aging seems to reduce the body's ability to adapt to alcohol. Older adults reach higher blood levels of alcohol even when drinking the same amount as younger people. This is due to an age-related decrease in the amount of body water in which alcohol is dispersed. Even at the same blood alcohol level, older adults feel some of the effects of alcohol more than younger people.

Alcohol problems among older persons are often mistaken for other aging-related conditions. As a result, alcohol problems may be missed and untreated by health care providers, especially in older women.

**Staying Well** Older women need to be aware that alcohol will “go to their head” more quickly than when they were younger. Also, caregivers need to know that alcohol may be the cause of problems assumed to result from age. These include depression, sleeping

problems, eating poorly, heart failure, and frequent falls.

*An important point is that older persons with alcohol problems respond to treatment as well as younger persons. Those with shorter histories of problem drinking do better in treatment than those with longer-term problems with drinking.*



Fewer women than men drink. However, among the heaviest drinkers, women equal or surpass men in the number of problems that result from their drinking. For example, female alcoholics have death rates 50 to 100 percent higher than those of male alcoholics, including deaths from suicides, alcohol-related accidents, heart disease and stroke, and liver cirrhosis.

### **When Is Drinking a Problem?**

A quick, 4-question quiz at the back of this booklet can help reveal a drinking problem. (See [\*How Do You Know if You Have a Problem?\*](#) below.)

### **An Individual Decision**

A woman's genetic make-up shapes how quickly she feels the effects of alcohol, how pleasant drinking is for her, and how drinking alcohol over the long term will affect her health, even the chances that she could have problems with alcohol. A family history of alcohol problems, a woman's risk of illnesses like heart disease and breast cancer, medications she is taking, and age are among the factors for each woman to weigh in deciding when, how much, and how often to drink.



The National Institute on Alcohol Abuse and Alcoholism (NIAAA), a component of the National Institutes of Health (NIH), supports about 90 percent of the Nation's research on alcohol use and its effects. The goal of this research is to better understand the causes and consequences of alcohol abuse and addiction, and to find new ways to prevent and treat alcohol problems.

Finding out what makes some women drink too much is the first step to preventing alcohol problems in women. Scientists are studying the role of genetics and family environment in increasing or decreasing the risk of alcohol problems. They also are studying other features of a woman's life, such as the type of job she has; whether she combines family and work; life changes like marriage, divorce, and the birth and departure of children; infertility; relationship and sexual problems; and ethnic background.

Scientists also want to know why women in general seem to develop long-term health

problems from drinking more quickly than men. Research is also aimed at issues like alcohol and breast cancer in women, and to what extent alcohol may lower the risk of heart disease, and possibly osteoporosis, in some women.

Finally, research is helping define how to identify women who may be at risk for alcohol problems, and ensure that treatment will be effective.

The Office of Research on Women's Health (ORWH) serves as the focal point for women's health research at NIH. ORWH works in a variety of ways to encourage and support researchers to find answers to questions about diseases and conditions that affect women and how to keep women healthy, and to establish a research agenda for the future. ORWH encourages women of all racial and ethnic backgrounds to participate in clinical studies in order to help us increase knowledge of the health of women of all cultures, and to understand the health-related similarities and differences between women and men. The office also provides opportunities and support for the advancement of women in biomedical careers.



## Moderate Drinking

The guidelines for moderate drinking form part of the *Dietary Guidelines for Americans* issued jointly by the U.S. Department of Agriculture and the U.S. Department of Health and Human Services. (The *Dietary Guidelines* can be viewed on-line at the website [www.nutrition.gov](http://www.nutrition.gov)) The *Guidelines* point out that drinking more than one drink per day for women or two drinks per day for men can raise the risk for motor vehicle crashes, other injuries, high blood pressure, stroke, violence, suicide, and certain types of cancer. The following people should not drink alcohol at all:

- Anyone under age 21
- Individuals of any age who cannot restrict their drinking to moderate levels
- Women who may become pregnant or who are pregnant
- Individuals who plan to drive, operate machinery, or take part in other activities that require attention, skill, or coordination
- Individuals taking prescription or over-the-counter medications that can interact with alcohol

The National Institute on Alcohol Abuse and Alcoholism also recommends that people aged 65 and older limit their consumption of alcohol to one drink per day.

## Fetal Alcohol Syndrome (FAS)

Alcohol can damage the baby of a mother who drinks during pregnancy, resulting in a set of birth defects called fetal alcohol syndrome (FAS). FAS is the most common known preventable cause of mental impairment. Babies with FAS have distinctive changes in their facial features and they may be born small. The brain damage that occurs with FAS can result in life-long problems with learning, memory, attention, and problem solving. These alcohol-related changes in the brain may be present even in babies whose appearance and growth are not affected. It is not known if there is any safe drinking level during pregnancy; nor is there any stage of pregnancy in which drinking—at any level—is known to be risk free. If a woman is pregnant, or wants to become pregnant, she should not drink alcohol. Even if she is pregnant and has already consumed alcohol, it is important to stop drinking for the

rest of her pregnancy. Stopping can still reduce the chances that her child might be affected by alcohol.

## Alcohol Abuse, Alcoholism, and Women's Health

The health effects of alcohol abuse and alcoholism are serious. Research suggests that women are particularly at risk: studies have found that women are more prone than men to alcohol-related organ damage. Health problems include the following:

- **Alcoholic liver disease:** Women develop alcoholic liver disease more quickly and after drinking less alcohol than men. Women are more likely than men to develop alcoholic hepatitis (liver inflammation) and to die from cirrhosis.
- **Brain disease:** Most alcoholics have some loss of mental function, reduced brain size, and changes in the function of brain cells. Research suggests that women are more vulnerable than men to alcohol-induced brain damage.
- **Cancer:** Many studies report that heavy drinking increases the risk of breast cancer. Alcohol is also linked to cancers of the head and neck (the risk is especially high in smokers who also drink heavily) and the digestive tract.
- **Heart disease:** Chronic heavy drinking is a leading cause of cardiovascular disease. Among heavy drinkers, men and women have similar rates of alcohol-related heart disease, even though women drink less alcohol over a lifetime than men.

Drinking also increases the risk that a woman will be assaulted physically or sexually. Finally, many alcoholics smoke; smoking in itself can cause serious long-term health consequences.

## How Do You Know if You Have a Problem?

Answering the following four questions can help you find out if you or someone close to you has a drinking problem.

- Have you ever felt you should cut down on your drinking?
- Have people annoyed you by criticizing your drinking?
- Have you ever felt bad or guilty about your drinking?
- Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover?

One "yes" answer suggests a possible alcohol problem. If you responded "yes" to more than one question, it is very likely that you have a problem with alcohol. In either case, it is important that you see your health care provider right away to discuss your responses to these questions.

Even if you answered "no" to all of the above questions, if you are having drinking-related problems with your job, relationships, health, or with the law, you should still seek help.

## What Are Alcohol Abuse and Alcoholism?

**Alcohol abuse** is a pattern of drinking in which a person uses alcohol in a way that is harmful to herself or others. A pattern of drinking in which one or more of the following situations occurred repeatedly in a 12-month period would be alcohol abuse:

- Missing work or skipping childcare responsibilities because of drinking

- Drinking in situations that are dangerous, such as while driving
- Arrests for driving under the influence of alcohol or for hurting someone while drunk
- Continued drinking despite ongoing alcohol-related tensions with friends and family

**Alcoholism** or alcohol dependence is a disease. It is chronic, or lifelong, and it can be both progressive and life threatening. Alcoholism is based in the brain. Alcohol's short term effects on the brain are what cause someone to feel high, relaxed, or sleepy after drinking. In some people, alcohol's long term effects can change the way the brain reacts to alcohol. As a result, the urge to drink can be as compelling as the hunger for food. Both a person's genetic make-up and environment contribute to the risk for alcoholism. The following are some of the typical characteristics of alcoholism:

- **Craving:** a strong need, or compulsion, to drink
- **Loss of control:** the inability to stop drinking once a person has begun
- **Physical dependence:** withdrawal symptoms, such as nausea, sweating, shakiness, and anxiety, when alcohol use is stopped after a period of heavy drinking
- **Tolerance:** the need for increasing amounts of alcohol to get "high"

## Treating Alcohol Abuse and Alcoholism

Treatment for an alcohol problem depends on its severity. Women who have alcohol problems, but who are not yet alcohol dependent, may be able to stop or reduce their drinking with minimal help. Your health care provider can either help you in his or her office or refer you to an alcohol treatment professional. He or she can help you take a hard look at what effect alcohol is having on your life and your health, provide advice on ways for you to stop drinking or to cut down, and work with you on coming up with a plan of action to do so.

## Who to Call For Help

The U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration's **National Drug and Alcohol Treatment Referral Routing Service** provides a toll-free telephone number for alcohol and drug information and treatment referral assistance. The number is **1-800-662-HELP** (1-800-662-4357). To access this service on the internet, go to the address <http://findtreatment.samhsa.gov/>. A free 12-minute video, *Alcohol: A Women's Health Issue*, is available by calling 301-496-8176, or by writing the National Institute on Alcohol Abuse and Alcoholism Publications and Distribution Center, P.O. Box 10686, Rockville, MD 20849-0686. The film profiles women recovering from alcohol problems and describes the health consequences of heavy drinking in women.

For more information on alcohol abuse and alcoholism, go to [www.niaaa.nih.gov](http://www.niaaa.nih.gov)

For more information on women's health research, go to [orwh.od.nih.gov](http://orwh.od.nih.gov)



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