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## Alcoholism

### Overview

Alcoholism is a chronic, progressive and often-fatal disease. The condition involves a preoccupation with alcohol and impaired control over alcohol intake. You may continue to abuse alcohol despite serious adverse health, personal, work-related and financial consequences. Alcoholism involves physical dependence on the drug alcohol, but genetic, psychological and social factors contribute to an addiction.

You may have a problem with alcohol but not all the characteristics of alcoholism. Instead you may demonstrate "alcohol abuse." This means you engage in excessive drinking that results in health or social problems, but you aren't dependent on alcohol and haven't fully lost control over the use of alcohol.

According to the National Council on Alcoholism and Drug Dependence, about 14 million Americans abuse alcohol. Each year more than 100,000 Americans die of alcohol-related causes. Alcoholism is one of the most common preventable causes of death among Americans.

Alcoholism and alcohol abuse cause major social, economic and public health problems in the United States. The annual cost of lost productivity and health expenses related to alcoholism is more than \$150 billion.

### Signs and Symptoms

Most alcoholics deny that they have a drinking problem. Other signs of alcoholism and alcohol abuse include:

- Drinking alone or in secret
- Not remembering conversations or commitments
- Making a ritual of having drinks before, with or after dinner and becoming annoyed when this ritual is disturbed or questioned
- Losing interest in activities and hobbies that used to bring pleasure
- Irritability as usual drinking time nears, especially if alcohol isn't available
- Keeping alcohol in unlikely places at home, at work or in the car
- Gulping drinks, ordering doubles, becoming intoxicated intentionally to feel good or drinking to feel "normal"
- Having legal problems or problems with relationships, employment or finances

### Causes

Alcohol addiction — physical dependence on alcohol — occurs over time as drinking

alcohol alters the balance of some chemicals in your brain, causing a strong desire for more alcohol. These chemicals include gamma-aminobutyric acid (GABA), which inhibits impulsiveness; glutamate, which excites the nervous system; norepinephrine, which is released in response to stress; and dopamine, serotonin and opioid peptides, which are responsible for pleasurable feelings. Excessive, long-term drinking can deplete or increase the levels of some of these chemicals, causing the body to crave alcohol to restore good feelings or to avoid negative feelings.

To develop alcohol addiction, other factors that lead to excessive drinking contribute to the addiction process. These include:

- **Genetics.** Your genetic makeup doesn't cause alcoholism. But, if you have an imbalance of brain chemicals, you may be more predisposed to alcoholism.
- **Emotional state.** High levels of stress, anxiety or emotional pain can lead some people to drink alcohol to block out the turmoil.
- **Psychological factors.** Having friends or a close partner who drinks regularly but who may not abuse alcohol could lead to excessive drinking on your part. It may be difficult for you to distance yourself from these "enablers" or at least from their drinking habits.
- **Social and cultural factors.** The glamorous way that drinking alcohol is portrayed in advertising and in the entertainment media sends many people messages that it's OK to drink excessively.

## Risk Factors

Steady drinking over time can produce a physical dependence on alcohol. However, drinking by itself is just one of the risk factors that contribute to alcoholism. Other risk factors include:

- **Age.** People who begin drinking at an early age — in their teens or earlier — are at a higher risk of becoming an alcoholic.
- **Genetics.** Your genetic makeup may cause imbalances in one or more of several brain chemicals and increase your risk of alcohol dependency.
- **Gender.** Men are more likely to become alcoholics than are women, but the incidence of alcoholism among women has increased in the past 30 years.
- **Family history.** The risk of alcoholism is higher for people who had a parent or parents who abused alcohol. This is true even if you're adopted and your adoptive parents don't drink alcohol.
- **Emotional disorders.** Being severely depressed or having anxiety places you at a greater risk of abusing alcohol.

## When to Seek Medical Advice

Because denial is nearly always a characteristic of alcoholism, it's unlikely that people who are alcoholic or who abuse alcohol will seek medical treatment on their own. Often it takes family members, friends or co-workers to persuade someone to undergo screening for alcoholism or to seek treatment.

## Screening and Diagnosis

It's often difficult for doctors to screen for people who may have an alcohol problem and to recognize symptoms of alcoholism. For example, symptoms such as memory loss or falling might be the result of aging rather than indications of alcohol abuse. Because alcoholism involves denial, people may complain to doctors about digestive problems or pain or weakness, but never reveal their abuse of alcohol.

A doctor who suspects an alcohol problem may ask a number of questions regarding drinking habits in order to get an indication of the level of drinking. If answers to those questions indicate possible alcoholism or alcohol abuse, the doctor may perform a short screening test using a standardized questionnaire.

Blood alcohol tests aren't useful in diagnosing alcoholism because the tests show consumption at a particular point in time, not long-term use. Other blood tests that measure the size of red blood cells, which increase with long-term alcohol use, and a factor known as carbohydrate-deficient transferrin may indicate heavy alcohol consumption.

If other tests indicate other health problems that may be alcohol-related — such as tests showing liver damage or reduced testosterone levels in men — this may be evidence that persuades an alcoholic to seek treatment.

## Complications

Alcohol depresses your central nervous system by acting as a sedative. In some people, the initial reaction may be stimulation, but as drinking continues, sedating or calming effects occur. By depressing the control centers of your brain, alcohol relaxes you and reduces your inhibitions. The more you drink, the more you're sedated. Initially, alcohol affects areas of thought, emotion and judgment. In sufficient amounts, alcohol impairs speech and muscle coordination and produces sleep. Taken in large enough quantities, alcohol is a lethal poison — it can cause life-threatening coma by severely depressing the vital centers of your brain.

Excessive use of alcohol can produce several harmful effects on your brain and nervous system and cause fatigue, short-term memory loss, and weakness and paralysis of your eye muscles. It can also have these other severe health effects:

- **Liver disorders.** Drinking heavily can cause you to develop hepatitis, an inflammation of the liver. Symptoms may include loss of appetite, nausea, vomiting, abdominal pain and tenderness, fever, yellowing of the skin (jaundice) and sometimes mental confusion. Over years of drinking, hepatitis may lead to cirrhosis, the irreversible and progressive destruction of liver tissue. A healthy liver processes nutrients into forms your body can use, manufactures bile to help digest fats and regulates the amounts of sugar, protein and fat that enter your bloodstream.
- **Gastrointestinal problems.** Alcohol can result in inflammation of the lining of the stomach (gastritis), which can lead to tears in the upper part of your stomach and lower part of your esophagus. Alcohol can also interfere with the absorption of the B vitamins, particularly folic acid and thiamin, and other nutrients. Heavy drinking can also damage your pancreas (pancreatitis). The pancreas has two functions: (1) it produces the hormones insulin and glucagon, which help regulate your metabolism, and (2) it produces pancreatic juices and enzymes that help digest fats, proteins and carbohydrates.

- **Cardiovascular problems.** Excessive drinking can lead to high blood pressure and damage your heart muscle (cardiomyopathy). These conditions can put you at increased risk of heart failure or stroke.
- **Diabetes complications.** Alcohol prevents the release of glucose from your liver and can increase the risk of your blood sugar falling too low (hypoglycemia). This is dangerous if you have diabetes and are already taking insulin to lower your blood sugar level.
- **Sexual function and menstruation.** Alcohol abuse can cause erectile dysfunction in men. In women, it can interrupt menstruation.
- **Birth defects.** If you drink excessively during pregnancy, your child may be born with fetal alcohol syndrome. This condition results in birth defects including a small head, heart defects, a shortening of the eyelids and various other abnormalities. As these children grow older, they may have various developmental disabilities.
- **Neurologic complications.** Excessive drinking can affect your nervous system, causing numbness of your hands and feet, disordered thinking and dementia.

Other complications of alcoholism and alcohol abuse may include:

- Domestic abuse and divorce
- Poor performance at work or school
- Increased likelihood of motor vehicle fatalities
- Greater susceptibility to accidental injuries from other causes
- Higher incidence of suicide and murder

## Treatment

Most alcoholics and alcohol abusers enter treatment reluctantly because they deny the problem. They often must be pressured. Health or legal problems may prompt treatment. Intervention helps an alcoholic recognize and accept the need for treatment. If you're concerned about a friend or family member, discuss intervention with a professional.

A wide range of treatments is available to help people with alcohol problems. Treatment is tailored to the individual. It may involve an evaluation, a brief intervention, an outpatient program or counseling, or a residential inpatient stay.

The first step in treatment is to determine whether you're alcohol dependent. If you haven't lost control over your use of alcohol, your treatment may involve reducing your drinking. If you have alcoholism, cutting back is ineffective and inappropriate, and abstinence must be a part of your treatment goal.

If you aren't dependent on alcohol but are experiencing the adverse effects of drinking, the goal of treatment is to reduce alcohol-related problems, often by counseling or a brief intervention. A brief intervention usually involves alcohol-abuse specialists who can establish a specific treatment plan. Interventions may include goal setting, behavioral modification techniques, use of self-help manuals, counseling and follow-up care at a treatment center.

The most common residential alcoholism treatment programs in the United States are based on the Minnesota model. This approach includes abstinence, individual and group therapy, participation in Alcoholics Anonymous (AA), educational lectures, family involvement,

work assignments, activity therapy and the use of counselors — many of whom are recovering alcoholics — and multiprofessional staff.

Here is what you might expect from a typical residential treatment program based in part on the Minnesota model:

- **Detoxification and withdrawal.** Treatment may begin with a program of detoxification, usually taking about 4 to 7 days. You may need to take medications to prevent delirium tremens or other withdrawal seizures.
- **Medical assessment and treatment.** Common medical problems related to alcoholism are high blood pressure, increased blood sugar, and liver and heart disease.
- **Psychological support and psychiatric treatment.** Group and individual counseling and therapy support recovery from the psychological aspects of alcoholism. Sometimes, emotional symptoms of the disease may mimic psychiatric disorders.
- **Recovery programs.** Detoxification and medical treatment are only the first steps for most people in a residential treatment program.
- **Emphasis on acceptance and abstinence.** Effective treatment is impossible unless you accept that you're addicted and unable to control your drinking.
- **Drug treatments.** An alcohol-sensitizing drug called disulfiram (Antabuse) may be a strong deterrent. Disulfiram won't cure alcoholism nor can it remove the compulsion to drink. But if you drink alcohol, the drug produces a severe physical reaction that includes flushing, nausea, vomiting and headaches. Naltrexone, a drug long known to block the narcotic high, also reduces recovering alcoholics' urge to drink. Unlike disulfiram, naltrexone doesn't cause a reaction within a few minutes of taking a drink. Naltrexone can produce side effects, particularly liver damage.
- **Continuing support.** Aftercare programs and AA help recovering alcoholics abstain from alcohol, manage relapses and cope with lifestyle changes.

## Prevention

Knowing and recognizing a family history of alcoholism for you or others is an important step toward seeking treatment before alcohol use or alcohol abuse progresses to alcoholism.

Early intervention is particularly important for teenagers. Although it may take years for many adults to develop alcohol dependence, teenagers can become addicted much more quickly. Alcohol use among teens increases dramatically during the high school years, and with serious health effects for many teens. Each year in the United States, thousands of teenagers die or are disabled in alcohol-related automobile accidents. Alcohol also is often a cause in other teenage deaths, including drownings, suicides and fires.

For young people, the likelihood of addiction depends on the influence of parents, peers and other role models, susceptibility to advertising, how early in life they begin to use alcohol, their psychological need for alcohol and genetic factors that may predispose them to addiction.

These signs may indicate your teenager has a problem with alcohol:

- Less or no interest in activities and hobbies

- Anxiety, irritability
- Difficulties or changes in relationships with friends; joining a new crowd
- Declining grades

To prevent teenage alcohol use:

- Set a good example regarding alcohol use.
- Communicate with your children.
- Discuss the legal and medical consequences of drinking.

## Coping Skills

Many recovering alcoholics and their family members find that participating in support groups is an essential part of coping with the disease and staying sober.

The Fellowship of Alcoholics Anonymous (AA) was formed in 1935. As a self-help group of recovering alcoholics, AA offers a sober peer group as an effective model of how you can achieve total abstinence.

The AA program is built around 12 steps, which are straightforward suggestions for men and women who choose to lead sober lives. Following the 12 steps aren't required for membership but rather are guides for people who choose to live their lives sober. As guides to recovery, the 12 steps help alcoholics accept their powerlessness over alcohol. They stress the necessity for honesty about the past and present.

Recovery in AA is based on accepting the unique experience of each alcoholic. Through listening and sharing stories, alcoholics learn they aren't alone. There are no fees for membership, only a willingness to remain sober.

In the mid-1950s, family members of recovering alcoholics formed a complementary self-help group called Al-Anon. Al-Anon is designed for people who are affected by someone else's alcoholism. In sharing their stories, they gain a greater understanding of how the disease affects the entire family, not just the alcoholic. Al-Anon also accepts the 12 steps of AA as the principles by which participants are to conduct their lives. It also emphasizes how members need to learn detachment and forgiveness if they too are to be free of the disease.

In many communities, Alateen groups are also available to provide support for teenage children of alcoholics.

Your doctor or counselor can refer you to an AA group. These groups are also commonly listed in the phone book, in the local newspaper and on the Web.

## Complementary and Alternative Medicine

In addition to residential treatment, many other approaches to alcoholism may help, including:

- **Acupuncture.** Acupuncture, the insertion of hair-thin needles under your skin, may relieve cravings for alcohol. It may reduce anxiety and depression, which lead some people to drink alcohol, and alleviate tremors and fatigue, both often associated with alcohol withdrawal.

- **Biofeedback.** Biofeedback is a method of relieving symptoms of stress by relaxing your muscles. It involves monitoring one of your physiologic systems — heart, respiration, skin resistance or temperature change — so that you can become more aware of your body's stress and thus control it. Once you learn biofeedback techniques, you can do them on your own at home.
- **Motivational enhancement therapy.** In this treatment a therapist helps you to acknowledge that you have a problem and may guide you through stages to help you change your behavior.
- **Cognitive behavior therapy.** You and your therapist identify distorted thoughts and beliefs that arouse psychological stress. You learn ways you can view and cope with traumatic events differently, and you learn alternative beliefs about the events and the impacts they have on your life. Special emphasis is placed on learning to develop a sense of mastery and control of your thoughts and feelings.
- **Aversion therapy.** Aversion therapy involves pairing the drinking of alcohol with a strong aversive response such as nausea or vomiting induced by a medication. After repeated pairing, the alcohol itself causes the aversive response and that decreases the likelihood of relapse. For obvious reasons, aversion therapy tends to be unappealing, although it's often effective.

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