

## Wine, Women and Health

**B**oth beverage and drug, alcohol is alternately lauded for its contribution to gracious living, blasted for its role in societal decay, and scrutinized for its effects on health. Yet, whatever the tenor of the discussion, alcohol is likely to be associated with men rather than women. Men dominate the wine societies, the media images of problem drinking, and most of the studies associating liquor consumption with health outcomes. For the last reason very little was known about alcohol's effects in women until quite recently, and it was widely assumed that they were the same as in men.

They're not. In general, women register alcohol's punch more dramatically than men do. At one time the disparity was attributed to size. However, that notion was dispelled by studies of men and women with similar drinking histories. When both were given identical doses of alcohol per body weight, the women's blood alcohol concentrations reached higher levels.

Physiologic research determined a possible cause: Women appear to have proportionately less of an enzyme called alcohol dehydrogenase than men do. Because alcohol isn't oxidized as efficiently in the stomach and liver, more is absorbed into the blood and delivered to the brain. Thus, we tend to register the effects of alcohol sooner.

### Alcohol as an energy source

Alcohol is more than a mood-altering substance; like virtually everything else we eat, it provides fuel for the body's activities. When analyzed by bomb calorimetry — a laboratory process that measures the energy provided by foods — alcohol yields about 7 calories per gram, compared to 4 calories for proteins and carbohydrates and 9 for fats. However, physiologists postulate that alcohol probably generates fewer calories when burned in the body because a certain amount escapes through the breath and urine.

Unfortunately, as women drink more they tend to substitute alcohol, which is an inefficient source of energy and has no nutritive value, for other foods. Carbohydrates are usually the first to be cast aside, usually when alco-

hol comprises about 20% of total calories. Those who consume 30% of their calories as alcohol are usually cutting back on fats and proteins as well. At 50% or more of daily calories, alcohol has displaced so many foods that malnutrition is likely.

Due to inadequate diet and several other factors — many of which aren't fully understood — heavy drinkers are often deficient in certain nutrients, including vitamin B6, ascorbic acid, thiamin, magnesium and zinc. Alcohol also appears to impair the body's ability to metabolize folate — a vitamin that has been shown to reduce the risk of heart attack, colon cancer, and of giving birth to a child with spina bifida or other neural tube defects. It also impedes calcium absorption, which is partially responsible for the increased rate of osteoporosis in women who drink heavily.

At very high levels of consumption, alcohol also accelerates the body's metabolic rate. Thus, even heavy drinkers whose caloric intake from food is adequate can lose weight.

### The physical effects of drinking

Many of alcohol's effects are similar in both sexes, but women appear to suffer the physical consequences of steady drinking earlier than men do. For example, some women who have the earliest form of alcoholic liver disease have said that they have as few as two drinks a day; men with similarly severe disease rarely report fewer than four daily

### Three Things to Think About

- Alcohol interacts with a number of drugs, particularly sleeping pills, anti-depressants, and medication taken to reduce anxiety — occasionally with fatal consequences. Caffeine enhances rather than counteracts alcohol's effects. (See *HWHW*, April 1994.)
- A nightcap before retiring may help you get to sleep faster, but it is also likely to cause disrupted sleep and bad dreams.
- The ability to metabolize alcohol declines with age. As we grow older, every drink begins to have a greater impact.

drinks. (A drink is defined as 1 ounce of spirits, 3–4 ounces of wine, or 12 ounces of beer — all of which contain about 0.4 ounce of pure alcohol.)

Although such self-reports are generally considered to be underestimates, there is no reason to believe that women are less truthful about their drinking habits than men are, particularly since statistics indicate that the effects of alcohol abuse are even more devastating to women than to men. At any given age, female alcoholics are 3–7 times as likely to die from all causes as are other women; male alcoholics are only 2–4 times as likely to die as their nonalcoholic counterparts.

Even in nonalcoholics, drinking can disrupt virtually every body system:

*The brain and central nervous system.* Alcohol literally goes to our heads within minutes, altering brain chemistry and neuronal interaction. As little as a drink or two can change our behavior, impair our reasoning ability, delay our reactions, and hamper our motor coordination. Over time, habitual heavy drinking can affect the peripheral nerves, causing pain, numbness, and tremors in arms and legs. It can also result in intellectual decline and memory loss.

*The gastrointestinal system* also registers alcohol's effects. A single bout of heavy drinking can result in inflammation of the esophagus, stomach, and small intestine. Longtime drinkers can suffer recurrent bouts of gastritis, pancreatitis and diarrhea.

Because the liver bears the greatest responsibility for metabolizing alcohol, it pays the highest price. In that organ, burning alcohol takes precedence over breaking down fats, and as alcohol levels rise fats accumulate in liver cells. Abstinence can usually reverse the first vestige of liver damage, but continued drinking can expedite the progression to chronic hepatitis and cirrhosis, which can ultimately destroy liver function.

*Cardiovascular system.* Habitually consuming as few as three drinks a day for men — and probably even fewer for women — can also increase blood pressure. Binge drinking can cause irregular heart rhythms in people with no other signs of cardiac disease, and heavy drinking increases the risk of heart attack, stroke, and alcoholic cardiomyopathy — an enlargement and weakening of the heart muscle.

*Neuroendocrine system.* Alcohol also appears to contribute to premenstrual tension, failure to ovulate, disrupted menstruation, and premature menopause. For pregnant women, the risk of having a child with the facial abnormalities and mental retardation characteristic of fetal alcohol syndrome increases with even moderate drinking. Because no safe level of alcohol consumption during pregnancy has been established, obstetricians recommend absolute abstinence.

## Psychological and social consequences

Women who are alcoholics tend to have a higher incidence of depression, eating disorders, and other mental diseases than do men, as well as a higher suicide rate. At the same time, they are less apt than alcoholic men to have legal or job problems.

Female alcoholics are more likely to be living alone or with an alcoholic spouse than are nonalcoholic women. They are also 12 times more likely to be abandoned by a nonalcoholic spouse than are alcoholic men.

## The risks and benefits of imbibing

Drinking elevates the chance of developing certain cancers. Alcoholics have a 10 times greater risk of solid malignant tumors — particularly those of the head and neck, esophagus, stomach, liver, and pancreas — than the general population. And recent epidemiologic studies have suggested that even a drink or two a day can increase a woman's risk of breast cancer somewhat.

However, there is even more evidence — albeit primarily from studies of men — that in moderation (1–2 drinks a day) alcohol can be beneficial. It appears to reduce the risk of heart attack, probably by raising levels of high density lipoproteins — the “good” cholesterol. Moreover, mortality data indicate that people who take 1–6 drinks a week have the lowest overall death rates, and that drinking doesn't begin to result in a marked increase in the number of deaths until daily consumption reaches six drinks. Yet most medical authorities do not see either of the above as sufficient reason for teetotalers to begin imbibing. As with anything else, deciding whether and how much to drink is a choice to be made after weighing your individual risks against the possible benefits. ❖

## Are You at Risk?

The following quiz is often used by health professionals to identify persons at risk for alcohol abuse.

- Have you ever felt the need to cut down on your drinking?
- Have you ever been annoyed by criticism of your drinking?
- Have you ever felt guilty about your drinking?
- Have you ever felt the need for an eye-opener in the morning?

If you answered “yes” to two or more you may have a drinking problem.