

# Alcohol 101:

## Gender Differences

### Quick Quiz

If a 140 lb female and a 190 lb male drink exactly the same amount of alcohol over the same amount of time, who will be more intoxicated? Why?

### How Does Gender Influence the Effects of Drinking?

Gender differences do influence the effect of alcohol in your body.

There are three major differences between women and men that result in the differences in their intoxication levels—measured by Blood Alcohol Concentration.

#### **Different Enzyme Level**

- Gastric alcohol dehydrogenase, the enzyme that begins the break-down process (metabolization) of alcohol in the stomach, is found in significantly higher concentrations in men (about 50% more) than in women. This gastric enzyme metabolizes about 15% of the alcohol consumed. This means that the amount of alcohol making it to a man's small intestine for further absorption is much less than the amount of alcohol that reaches the small intestine of a woman. Thus more alcohol makes it to a woman's small intestine for absorption. This increases a woman's blood alcohol concentration (BAC) by about 7% over a man of equal weight, drinking the same amount over the same time span.

#### **Women and Men Differ in Body Size and Composition**

- In general, college age men tend to be larger (overall body size and weight) than college age women.
- Men have a greater ratio of muscle to fat than do women. Muscle has a large amount of blood that flows through the muscle tissue. Fat has a much smaller amount of blood. The functional difference this makes is that alcohol is more diluted in a man's body, due to this larger volume of blood.
- Women, having a naturally higher percentage of body fat than men. Due to this, each drink is more concentrated in a woman's blood stream. This results in a higher blood alcohol level for women compared to men.

#### **Different Fluid Volume**

- A woman's body is composed of approximately 45% to 50% water, while a man's body is about 55% to 65% water. The lower fluid volume in women results in higher concentrations of alcohol in the bloodstream compared to men.

## Other important Details To Know:

### Other Gender Differences

#### Different Hormone Levels

Alcohol interacts with hormone levels. When a woman drinks, fluctuations of hormone levels during her menstrual cycle result in an elevated intoxication level and prolonged intoxication during the luteal phase. During the week before her period starts a woman will be more intoxicated and stay intoxicated longer. This is also true of women taking oral contraceptives.

Oral contraceptives mimic the luteal phase by slowing down the rate at which alcohol is eliminated from the body and therefore tend to make women more sensitive to the effects of alcohol. A woman taking oral contraceptives can expect to feel the sedating effects faster and for a longer length of time than a woman who is not.

#### Social and Psychological Effects

Each of us have learned expectations about what alcohol is and what it does. Research has shown that men who have strong expectations that drinking will lead to social and physical pleasure and to sexual enhancement, tend to drink more heavily. By contrast, women who tend to drink more heavily are most often those that believe that alcohol reduces tension.

These differences in expectancies complicate the attempts to predict who drinks and how much. Differences in expectancies might lead to different drinking situations and set the stage for difficulties in communication.

Even in these enlightened times, women who drink a lot meet with more disapproval of their drinking than do men. Women's behavior while intoxicated also tends to be met with more disapproval than the actions of her male companions.

#### Health Effects

Women are at greater risk for damage in the liver and pancreas from alcohol. Men also develop these drinking related health problems but due to many factors, the rate at which health is effected is accelerated for women. Women are more likely than men to develop high blood pressure due to drinking. For women, even moderate amounts of alcohol can substantially increase the risk of elevated blood pressure.

#### Safety Risks

Alcohol impairs judgment and ability to communicate clearly. This increases a persons risk of harm.

There are strong correlations between 1) high alcohol consumption and a woman's risk for domestic violence and sexual assault, and 2) high alcohol consumption and a man's risk of committing domestic violence and sexual assault. Additionally, alcohol is the number one substance involved in date rape or sexual assault.

#### The Bottom Line:

When weight is equalized for a man and a woman who drink the same amount at the same rate, the woman will always be more intoxicated than the man.