Alcohol, Tobacco, and Caffeine

Alcohol

- Ethyl alcohol (ethanol) – an addictive drug produced by fermentation and found in beer, wine, liqueur, and liqueurs
- Fermentation – the process where yeast break down plant sugars to make ethanol
- Distillation – the process where alcohol vapors are released from mash at high temperatures. The vapors are then condensed and mixed with water to make an alcohol product.

Proof

- The measure of the percentage of alcohol in the beverage.
- Most wines are between 12 and 15 percent
- Most ales are between 6 and 8 percent
- Most beers are between 2 and 6 percent

1 Glass of Wine = 1 Shot of Whiskey = 1 12 oz. of Beer

Blood Alcohol Concentration (BAC)

- The ratio of alcohol to total blood volume

<table>
<thead>
<tr>
<th>Number of Drinks</th>
<th>Male 170 lbs</th>
<th>Female 137 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Drinks</td>
<td>.10</td>
<td>.09</td>
</tr>
<tr>
<td>4 Drinks</td>
<td>.09</td>
<td>.08</td>
</tr>
<tr>
<td>3 Drinks</td>
<td>.08</td>
<td>.07</td>
</tr>
<tr>
<td>2 Drinks Male</td>
<td>.06</td>
<td>.05</td>
</tr>
<tr>
<td>2 Drinks Female</td>
<td>.03</td>
<td>.04</td>
</tr>
<tr>
<td>1 Drink</td>
<td>.02</td>
<td>.01</td>
</tr>
</tbody>
</table>

1 Drink = .54 Ounces of Alcohol

Number of Drinks and BAC in One Hour of Drinking

- 3 Drinks
- 2 Drinks
- 1 Drink
Blood Alcohol Concentration (BAC)

<table>
<thead>
<tr>
<th>BAC</th>
<th>BAC and Driving Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>.10</td>
<td>Loss of concentration, speed control</td>
</tr>
<tr>
<td>.09</td>
<td>Loss of information processing, judgement</td>
</tr>
<tr>
<td>.08</td>
<td>Loss of coordination</td>
</tr>
<tr>
<td>.07</td>
<td>Loss of eye movement control, standing, steadiness</td>
</tr>
<tr>
<td>.06</td>
<td>Loss of tracking and steering</td>
</tr>
<tr>
<td>.05</td>
<td>Loss of divided attention, choice reaction time, visual function</td>
</tr>
<tr>
<td>.04</td>
<td></td>
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<tr>
<td>.03</td>
<td></td>
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</table>

Binge Drinking

- Drinking for the purpose of becoming Drunk
- Five drinks in a single sitting for men
- Four drinks in a single sitting for women

Effects of Alcohol

- Dehydration
- Hangover Symptoms -
  - Headaches
  - Upset stomach
  - Anxiety
  - Depression
- Shrinkage in brain size and weight
- High blood pressure - increased heart rate
- Cirrhosis of the Liver – liver cells die and damage becomes permanent
- Cancer of the esophagus, stomach, mouth, tongue, and liver

Fetal Alcohol Syndrome (FAS)

- May affect fetus
  - Mother consumes alcohol during pregnancy.
- Effects include:
  - Mental retardation
  - Small head
  - Tremors
  - Abnormalities of the face, limbs, heart and brain.
Alcoholics Anonymous (AA)

- An organization whose goal is to help alcoholics stop drinking
- Al-Anon – a group that helps adult relative and friends of alcoholics understand the disease and how they can contribute to the recovery process
- Alateen – a group that helps adolescents live with alcoholic parents

Tobacco

- The chemical stimulant nicotine is the major substance in tobacco products along with 4000 other chemical substances

Tobacco Products

- Tobacco can be burned in a cigarette, pipe or cigar and nicotine is released and inhaled into the lungs
- Sucking or chewing a pinch of snuff releases nicotine into the saliva and then it is absorbed through the membranes of the mouth

What’s in a cigarette?

Cigarette smoke contains over 4000 chemicals, many of which are highly toxic, and some of them can cause cancer. Here are a few examples:

- The chemicals found in cigarettes are also found in these other products:
  - butane
  - methanol
  - isopropyl alcohol
  - hydrochloric acid
  - hydrofluoric acid
  - lead
  - bromine
  - sodium
  - potassium
  - silver
  - aluminum
  - copper
  - tin
  - zinc
  - mercury
  - arsenic

Effects of Smoking

- Cancer of the lungs
- Cancer of the larynx
- Increased vascular disease
- Infection of the lungs
- Lung cancer
- Bronchitis
- Cataracts
- Pneumonia
- Cancer of the bladder
- Cancer of the mouth
- Cancer of the pancreas
- Peripheral vascular disease
- Stroke
- Heart attack
- Congenital heart disease
- Cancer of the stomach
- Alzheimer’s
- Peptic ulcer
- Cancer of the prostate
- Cataracts
Caffeine

- A stimulant found in coffee, tea, chocolate and some soft drinks
- Side effects include wakefulness, insomnia, irregular heartbeats, dizziness, nausea, indigestion and heartburn