



# **How do we stay Healthy?**

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Psalm 139:13-18

May 12, 2024

# Introduction





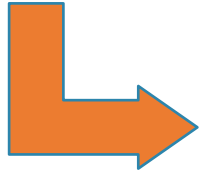
The number 1 cause of preventable morbidity and mortality in the United States today is which one of the following?

- A. Poverty
- B. Tobacco
- C. Excessive alcohol use
- D. Overweight/Obesity

# US Major Health Indicators

Tobacco use

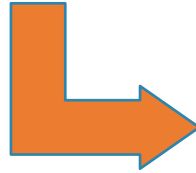
- #1 cause worldwide



Overweight/Obesity

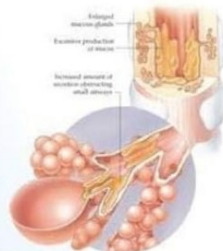
- Adults
  - BMI  $\geq$  25
  - BMI  $\geq$  30

- **Overweight (Risk for overweight):** BMI  $\geq$  85th percentile and  $<$  95th percentile for children of the same age and sex.
- **Obese (Overweight):** BMI  $\geq$  95th percentile for children of the same age and sex.



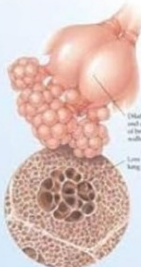
Excessive Alcohol Use

# DANGERS OF SMOKING



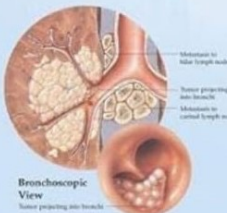
## Chronic Bronchitis

A persistent cough is the major symptom of chronic bronchitis. In the large airways, the size and number of mucous glands are increased. In the small airways, there are increased secretions, impaired handling of secretions, and inflammation that can trigger an asthma attack.



## Emphysema

With emphysema, the lungs irreversibly lose their ability to take up oxygen, causing great breathing difficulty. Lung tissue loses its elasticity, and each air sac and duct no longer retracts, eventually causing death from lack of oxygen.



## Bronchoscopic View

Tumor protruding into bronchus.

## Lung Cancer

Tobacco smoke is the most common cause of lung cancer. One in ten heavy smokers will get lung cancer, and it will be fatal in the leading cause of death by cancer because it is difficult to detect, and it is likely to spread early to the brain, bones, and liver.

Tobacco smoke is a highly dangerous substance that contains more than 200 known chemical toxins that can do harm to the body. Some of the toxins are known to cause damage by leading these proteins. A new pack of 100 cigarettes contains the same amount of toxins as a single pack of 100 cigarettes. The toxins in the smoke are the leading cause of death in men, and the number is increasing among women who smoking in death at an earlier age than men.



## Stroke

Smoking is a major cause of atherosclerosis, or hardening of the arteries. In fact, atherosclerosis is a chief cause of stroke. Stroke occurs when one of the arteries of the brain ruptures, forms a blood clot, or blocks one of the brain. Once brain tissue is damaged it cannot be repaired.



## Mouth and Throat Cancer

Consuming tobacco and alcohol produces increases the risk of cancer of the lip, throat, tongue, and larynx (voice box). The removal of these cancers can be challenging and can result in loss of the larynx.



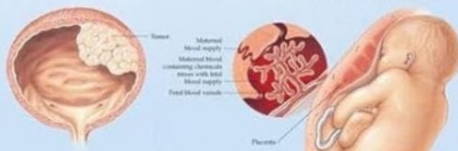
## Heart Disease

Atherosclerosis is responsible for most heart attacks. Plaque, deposits of cholesterol, collecting in the coronary arteries narrows the vessels and eventually the oxygen supply to the heart is stopped, blocking and causing the process.



## Gastric Ulcer

Smoking increases the production of gastric acid, raising the pH level and causing the lining of the stomach. Prolonged acid reflux from the stomach can cause the risk for hemorrhage and perforation of the stomach lining.



## Fetal Risk

Carbon monoxide in smoke reduces the oxygen level in the blood, which is vital to the fetus. Another in the fetus, leading to a higher risk of neural tube defects. Smoking during pregnancy also increases the risk of premature birth and infant death.

## Bladder Cancer

Chemicals from tobacco are absorbed into the bloodstream and leave the body through the urine. These chemicals irritate the bladder, and when in contact with the bladder, increasing the risk for bladder cancer.

# Smoking Cessation Treatment

- Nicotine Replacement Therapy (NRT)
  - Gum - OTC
  - Lozenge - Rx
  - Nasal Spray - Rx
    - Inhaler - Rx
    - Patch - OTC
- Bupropion (Zyban) - Rx
- Varenicline (Chantix) - Rx
- Psychosocial Therapy
  - Behavior Therapy



# Obesity Implications

Obesity results in:  
46% increase inpatient costs  
27% more physician visits  
80% increase in prescription  
drug costs

- Doubles risk of and mortality from cardiovascular disease (CVD)
- Hypertension, dyslipidemia, heart disease and stroke (2/3 of obesity-related deaths)
  - Type 2 diabetes (5 x the risk), osteoarthritis
    - Fatty liver and cholesterol gallstones
    - Asthma and other respiratory disturbances
  - PCOS, abnormal menses, infertility, menstrual disorders, sleep disturbances
  - Sleep apnea—which increases risk of diabetes (Diabetes Care, Sep 17, 2015)
- \***Cancers**: 7% ↑ in “obesity cancers” – now accounting for 40% (other cancers ↓ 13%)
  - Large increase: uterine, gallbladder, kidney
  - Others: cervical, ovarian, postmenopausal breast, esophageal, gastric, pancreatic, hepatic, colorectal, prostate, kidney, meningiomas, leukemia, thyroid
- Psychological implications: depression, low self-esteem, behavior and learning problems, bullying

# Prevention and Screening

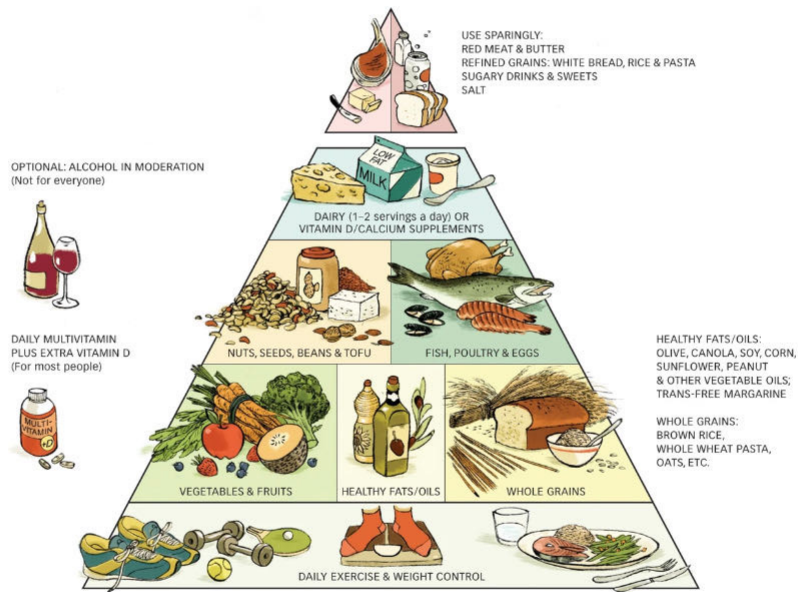
AAFP and USPSTF (B rec) recommend *screening everyone  $\geq$  age 6 for obesity*

- Preventing obesity from conception through childhood
  - Limit gestational weight gain
    - No maternal smoking
  - Breastfeed at least 12 months
  - Infants should sleep at least 12 hours daily
- Delay solid foods until at least 4 months of age
  - Daily activity for at least one hour
  - Limit screen time to 2 hours/day
- The USPSTF recommends that clinicians offer or refer adults with a body mass index (BMI) of 30 or higher to *intensive, multicomponent behavioral interventions*.



# THE HEALTHY EATING PYRAMID

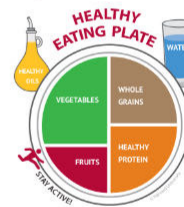
Department of Nutrition, Harvard School of Public Health



## The Nutrition Source!

Take our quick survey to share your experience using the website, and offer any suggestions that may help us improve The Nutrition Source.

## Explore:



Create healthy, balanced meals using this visual guide as a blueprint.

Generations of Americans are accustomed to the food pyramid design, and it's not going away. In fact, the Healthy Eating Pyramid and the [Healthy Eating Plate](#) (as well as the [Kid's Healthy Eating Plate](#)) complement each other.

Consumers can think of the Healthy Eating Pyramid as a grocery list:

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AAFP CME

# Dangers of Alcohol

The form of alcohol we drink is ethyl alcohol. It is made from sugar, starch, and other carbohydrates by the process of fermentation with yeast.



## Nervous System

Alcohol can damage many body tissues including the brain and nerves. Excessive intake of alcohol can cause memory loss, depression, loss of consciousness, or coma. Excessive drinking may further impair your ability to control your body and can be an immediate risk of stroke. Chronic alcoholism may lead to tremors, loss of balance, and peripheral neuropathy. The alcoholic who suddenly stops drinking may experience withdrawal symptoms, which can include tremors, anxiety, hallucinations, and delirium. Permanent damage from alcoholism can include pain and loss of sensation in the arms and legs and loss of end organs.



Alcohol passing into liver cell

Excess alcohol continues to circulate



## The Digestive System

Alcohol can damage many of the organs of the digestive system. Intake of the stomach-burning gas, can lead to vomiting or even bleeding from small tears in the stomach. Chronic irritation can lead to gastric and duodenal ulcers. Alcoholism may also develop acute and chronic pancreatitis. Alcoholics with cirrhosis frequently develop esophageal varices, which are dilated veins in the esophagus. These may rupture and bleed profusely. A number of cancers, including those of the mouth, throat, esophagus, stomach, and liver, are more common in alcoholics. Heavy drinkers are also at a particularly high risk for developing these cancers.



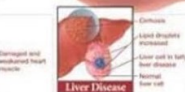
## Alcohol Absorption

Alcohol is absorbed through the walls of the stomach and small intestine. It is carried to the liver inside the liver to be metabolized. Most alcohol is absorbed in the small intestine. The liver can only process about 1 oz of alcohol per hour which is roughly equal to a standard drink. Any excess alcohol will continue to circulate throughout the entire body with the liver is able to process more.

## Complications



**Heart Disease**



**Liver Disease**



**Reproduction**

Excessive drinking can lead to alcohol abuse and dependence, the disease of alcoholism. Some individuals may be genetically predisposed to alcoholism. Consequences of the misuse of alcohol include destroyed relationships, loss of job, poor health, and death.

However, moderate alcohol consumption may have health benefits, particularly in preventing cardiovascular disease. Moderate drinking is defined as two drinks (or less) a day for males under 65 years of age and one drink (or less) per day for males over the age of 65 years and females.

Short-term effects from a drink may include an increased pulse rate and dilation of blood vessels. Chronic alcohol use can cause serious damage such as high blood pressure and cardiomyopathy, a damaged and weakened heart muscle. Heavy drinkers are also at risk for an abnormal heart rhythm.

The liver is frequently affected in chronic alcohol abuse. Consequences may include fatty liver disease (an accumulation of fat deposits inside liver cells), alcohol-induced hepatitis, and cirrhosis. In cirrhosis, liver cells die and scar tissue eventually changes the normal architecture of the liver tissue.

Intoxication may cause serious problems for the developing fetus that can affect its entire life. The baby can be born with fetal alcohol syndrome, be underweight, grow slower, and have birth defects, as well as have a smaller brain and a lower IQ, or mental retardation. Alcohol may be passed to a baby through breast milk as well.

**Intoxication:** The blood alcohol concentration (the amount of alcohol in the blood) roughly correlates with the level of mental and physical impairment (drunkenness). The level of alcohol measured in blood reflects directly the level of alcohol concentration. Given the same amount of alcohol, levels from person to person can vary depending on body weight, body fat, muscle mass, sex, and how quickly the alcohol was consumed. Women and smaller individuals tend to be more sensitive to the effects of alcohol. One standard drink is 12 oz of beer, 5 oz of wine, or 1.5 oz of 80 proof liquor.

**Intoxicating Effects**

**0.02 to 0.05% BAC**  
 • Mild euphoria  
 • Relaxation  
 • Decreased inhibition  
 • Impaired judgment

**0.05 to 0.10% BAC**  
 • Increased euphoria  
 • Relaxation  
 • Impaired judgment  
 • Impaired coordination  
 • Impaired reaction time

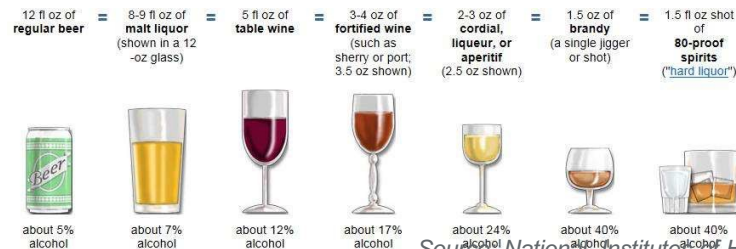
**0.10 to 0.15% BAC**  
 • Increased euphoria  
 • Relaxation  
 • Impaired judgment  
 • Impaired coordination  
 • Impaired reaction time

**0.15 to 0.20% BAC**  
 • Increased euphoria  
 • Relaxation  
 • Impaired judgment  
 • Impaired coordination  
 • Impaired reaction time

# Adverse Effects of Excessive Alcohol

- **Long-term health risks:** Over time, excessive alcohol use can lead to the development of chronic diseases, neurological impairments, and social problems.
  - Neurological problems, including dementia, stroke, and neuropathy
  - Cardiovascular problems, including myocardial infarction, cardiomyopathy, atrial fibrillation, and hypertension
  - Psychiatric problems, including depression, anxiety, and suicide
  - Social problems, including unemployment, lost productivity, and family problems

# Alcohol Use



Source: National Institutes of Health

The percent of "pure" alcohol, expressed here as alcohol by volume (alc/vol), varies by beverage.

## • Definitions of patterns of drinking alcohol

- Excessive drinking includes heavy drinking, binge drinking, and any drinking by pregnant women or underage youth.

- **Acceptable**

Men  $\leq$  2 drinks per day

Women  $\leq$  1 drink per day

- **Heavy**

For women, more than 1 drink per day on average

For men, more than 2 drinks per day on average

- **Binge**, the most common form of excessive alcohol consumption

For women, 4 or more drinks during a single occasion

For men, 5 or more drinks during a single occasion

- Most people who binge drink are not alcoholics or alcohol dependent.

## Breast Cancer Screening

5<sup>th</sup> leading cause of cancer death in women in China

# Prevention

## *Secondary*

- Activities are aimed at early disease detection, thereby increasing opportunities for interventions to prevent progression of the disease and emergence of symptoms.
  - Breast cancer

# USPSTF Draft Statement – May 9, 2023

- The Task Force recommends all women should get screened for breast cancer every other year, starting at age 40.
  - Applies to women at average risk of breast cancer
    - Includes:
      - People with a family history of breast cancer
      - People with other risk factors e.g., dense breasts
        - Imaging –both are effective
  - Digital Mammography (DM) – images breast with X-rays from 2 angles
  - Digital breast tomosynthesis (DBT or 3-D mammography) – Images breast with X-rays from multiple angles

# Breast Cancer

- Most common cause (with exception of skin) of cancer in women and the 2nd leading cause of cancer death
  - 1/8 women will develop breast cancer.
  - 1/30 will die.
- Presence of dominant inherited cancer susceptibility genes (BRCA 1 and BRCA 2) occur in about 1/300-500 of general population
  - Screening for inherited risk (USPSTF 2019)
    - Assessment of risk for significant BRCA mutations
    - Genetic testing of high-risk women (*Level A*)




## Vaccines

Flu

Covid


Pertussis – Tetanus with Pertussis

**People of all ages need  
WHOOPING COUGH  
VACCINES**



| <b>DTaP</b><br>for young children   | <b>Tdap</b><br>for preteens   | <b>Tdap</b><br>for pregnant women   | <b>Tdap</b><br>for adults  |
|---|---|---|--|
| <ul style="list-style-type: none"><li>✓ 2, 4, and 6 months</li><li>✓ 15 through 18 months</li><li>✓ 4 through 6 years</li></ul> | <ul style="list-style-type: none"><li>✓ 11 through 12 years</li></ul> | <ul style="list-style-type: none"><li>✓ During the 27-36th week of each pregnancy</li></ul> | <ul style="list-style-type: none"><li>✓ Anytime for those who have never received it</li></ul> |

[www.cdc.gov/whoopingcough](http://www.cdc.gov/whoopingcough)



## Family History

Hypertension

High Cholesterol

Heart Attacks

Stroke

Diabetes mellitus

Cancer

## Positive things you do

Multivitamin

Vitamin C 500 mg – helps your immune system

Vitamin D and Calcium for bones - Dairy

Exercise

# The 2018 Physical Activity Guidelines for Americans—*Recommendations*

- Adults should move more and sit less throughout the day. Some physical activity is better than none. Adults who sit less and do any amount of moderate-to-vigorous physical activity gain some health benefits.
- For substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) to 300 minutes (5 hours) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) to 150 minutes (2 hours and 30 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Aerobic activity should be spread throughout the week.
- Additional health benefits are gained by engaging in physical activity beyond the equivalent of 300 minutes (5 hours) of moderate-intensity physical activity a week.

<https://health.gov/PAGuidelines/>

# Conclusion

