



# Unit V – Wellness, Fitness and First Aid

## Chapter 5 - Dietary Guidelines

### Section 1 – Dietary Guidelines



# What You Will Learn to Do

---

Relate the National Academy of Sciences dietary guidelines to your personal diet

---



# Objectives

1. Identify the nine National Academy of Sciences dietary goals
2. Identify factors that affect the nutritional requirements of individuals at various life stages
3. Identify signs and symptoms of anorexia nervosa and bulimia
4. Examine varying viewpoints on vitamin and mineral supplement usage
5. Calculate your personal blueprint



# Key Terms

## **Anorexia Nervosa -**

An aversion to food syndrome; an eating disorder characterized by an extreme (prolonged) loss of appetite and very decreased food intake

## **Bulimia -**

A disease (or eating disorder) with symptoms of bingeing and purging or overeating and vomiting



# Key Terms

## **Amenorrhea -**

An abnormal absence or suppression of the menstrual period

## **Episodic -**

Occurring, appearing, or changing at irregular intervals; incidental

## **Diuretics -**

Food, medication, etc., that promotes or tends to increase the excretion of urine



# Key Terms

## **Esophageal -**

Of or relating to the esophagus (a muscular tube thorough which food passes from the mouth to stomach)

## **Electrolyte -**

Substance that, when dissociated into ions in solution or fused, becomes electrically conducting; obtained from minerals in the diet



# Introduction

Typical lifestyles today mean a pace that's often hurried, with diverse family structures, strained personal finances, and frequent visits to fast-food restaurants.

These and other factors have made America an overweight nation suffering from:

- Cardiovascular disease
- Cancer
- Diabetes
- Other ailments that hinder a healthy lifestyle



# Introduction

Nutritional needs vary at different ages and conditions:

- Age 2 through adolescent
- Adolescent
- Adult
- Elderly
- Pregnancy



General dietary recommendations are to ensure you eat sufficient calories to support your growth and activity with:

- High carbohydrates
- Iron-rich foods
- Healthy snacks



# Introduction

There are some special concerns for teens:

- Erratic eating habits
- High calcium requirements
- More iron for females after onset of menstruation





# Introduction

Pregnant women need to increase their caloric intake. Proper nutrition is essential to avoid complications.

General dietary recommendations are to:

- Eat two dairy servings daily
- Eat calcium-rich and green leafy vegetables
- Avoid overcooking, alcohol and caffeine
- Drink 8 glasses of liquid each day





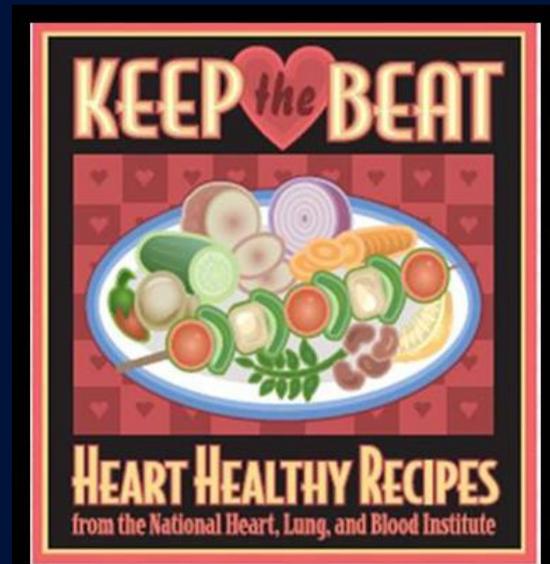
# New American Diet – Step by Step

The basis for this plan is the development of a healthier lifestyle with a three-step approach.

Phase I: Use substitutions for your present diet

Phase II: Use new recipes

Phase III: Use a new way of eating





# Eating Disorders

**Anorexia nervosa** and **bulimia** are common in today's society.

People with anorexia nervosa experience extreme weight loss, **amenorrhea**, and psychological disorders pursuing thinness.

For 10-15%, the disease becomes **episodic** and very serious, resulting in death from the consequences of starvation.



# Anorexia

A person with **anorexia nervosa** normally exhibits:

- An inordinate fear of gaining weight and/or becoming fat despite being significantly underweight
- An unrealistic perception of body weight, shape, size
- An absence of at least three, otherwise normal, menstrual periods

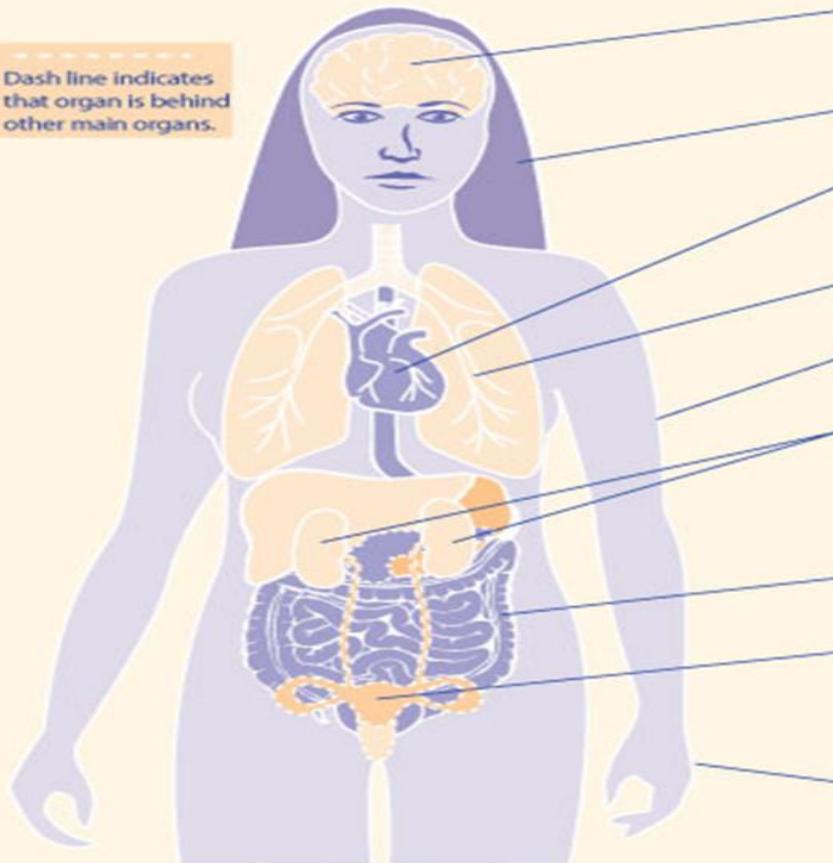


# Anorexia



## Anorexia affects your whole body

Dash line indicates that organ is behind other main organs.



### **Brain and Nerves**

can't think right, fear of gaining weight, sad, moody, irritable, bad memory, fainting, changes in brain chemistry

### **Hair**

hair thins and gets brittle

### **Heart**

low blood pressure, slow heart rate, fluttering of the heart (palpitations), heart failure

### **Blood**

anemia and other blood problems

### **Muscles, Joints, and Bones**

weak muscles, swollen joints, bone loss, fractures, osteoporosis

### **Kidneys**

kidney stones, kidney failure

### **Body Fluids**

low potassium, magnesium, and sodium

### **Intestines**

constipation, bloating

### **Hormones**

periods stop, problems growing, trouble getting pregnant. If pregnant, higher risk for miscarriage, having a C-section, baby with low birthweight, and post partum depression.

### **Skin**

bruise easily, dry skin, growth of fine hair all over body, get cold easily, yellow skin, nails get brittle



# Bulimia

People with **bulimia** alternate between binge eating and purging by vomiting, laxatives and **diuretics**.

Physical and psychological results:

- **Esophageal** inflammation
- Erosion of tooth enamel
- **Electrolyte** imbalances
- Altered mood states
- Anxiety and depression



# Bulimia

A person with **bulimia** normally exhibits:

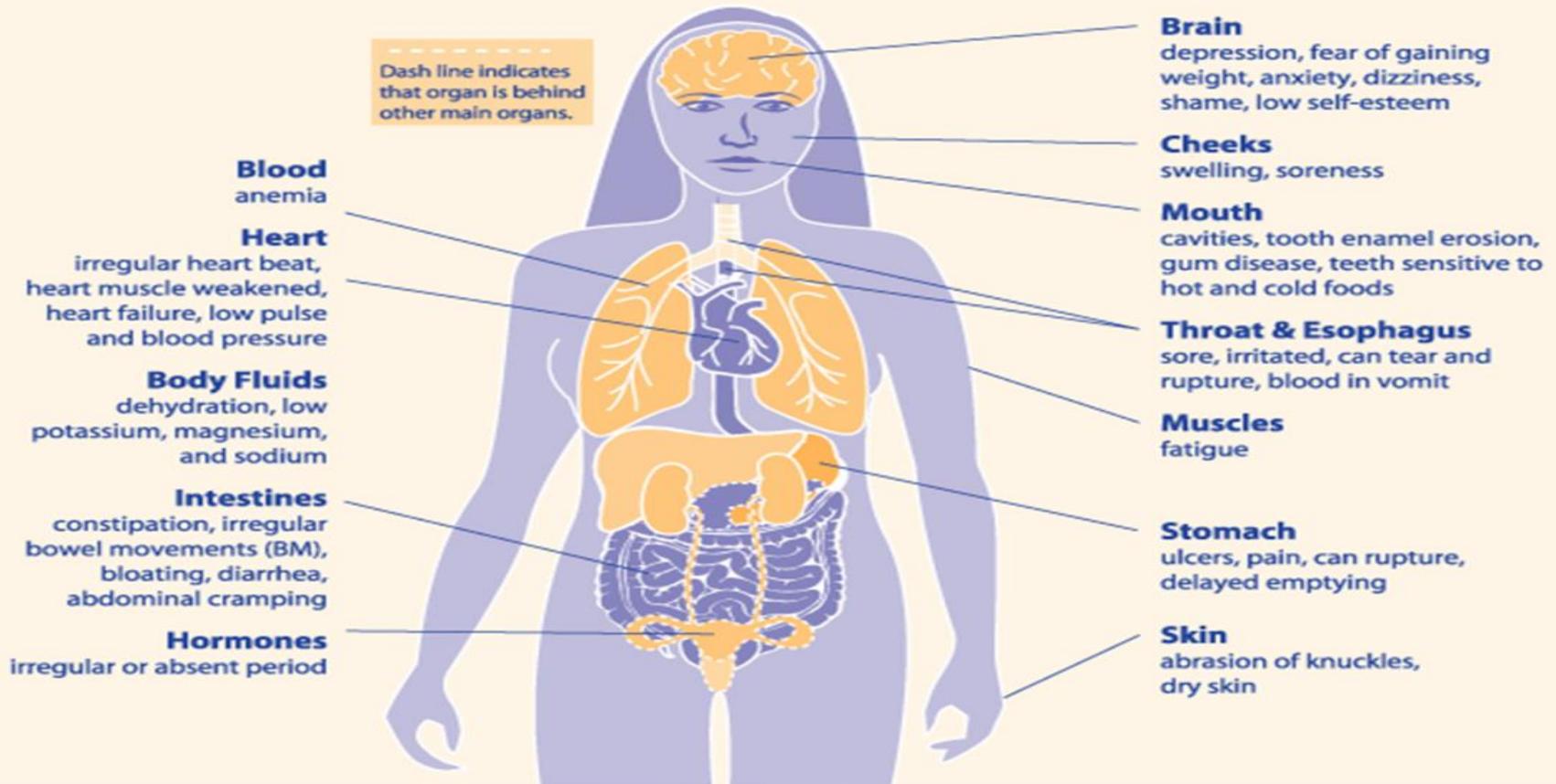
- **Episodic** binge eating
- At least two binges per week for three months, possibly loss of control
- Frequent purges, followed by fasting, dieting or vigorous exercise
- Constant concern over body shape, size and weight



# Bulimia



## How bulimia affects your body





# Eating Disorders

If you think someone has an eating disorder:

- Express your concern about their health
- Try to focus on their feelings; be a good listener
- Encourage them to talk to parents, relatives or a health care professional
- Talk to someone else about your concern
- Do not label them; it may strengthen feelings of denial





NATIONAL ACADEMY OF SCIENCES  
THE NATIONAL ACADEMIES

The National Academy of Sciences believes there is a close relationship between total fat intake, saturated fat, high cholesterol and heart disease.

They have developed **nine guidelines** for reducing risk.

*They note that the American diet **should** be limited to a total fat intake of **35-40%** of the total calories consumed each day, but typically it consists of nearly **50%** fat.*



## Guideline

### 1



Goals are to reduce the intake of:

- Total fat to **30% or less** of total calories
- Fatty acids to less than 10% of total calories
- Cholesterol to less than 300 milligrams



## Guideline 1



### Tips for Achieving Guideline 1

- Limit egg intake.
- Use skim, nonfat, or 1% milk.
- Use margarine sparingly.
- Read labels; avoid trans-fat.
- Asks chefs to use half regular oils.
- Eat **three** servings of fish a week.
- Learn to read labels & calculate fat.
- Eat lean meat and then sparingly.
- Bake or broil meat products.
- Use lowest saturated fat cooking oil.
- Choose low-fat, low-sugar snacks.



## Guideline 1



### Alternative Guideline 1

Goals are:

- To reduce the intake of:
  - Total fat to 20% or less of total calories
  - Saturated fat to 5% of total
  - Cholesterol to 100 milligrams
- To use only 4-7 teaspoons of mono- or polyunsaturated fat per day



## Guideline 2



Goal is to:

Increase starches and  
other complex  
carbohydrates

The typical American diet  
consists of  
22% complex  
carbohydrates and 24%  
sugar.

General dietary  
recommendations:

- 60-65% from the  
carbohydrate group
- 50-55% of that from  
complex carbohydrates
- 20% from sugar, mostly  
from fruit



## Guideline 3



Goal is to:

Maintain protein intakes at moderate levels

Americans receive 68% of protein from animal sources.

Evidence points to a rise in some cancers with an increase in animal protein.

The body needs no more than .45 of a gram of protein per pound of lean body weight per day.

Since minimum requirement is .16 grams per pound, 10-15% of your food should come from proteins, and the majority of that from plant sources.



## Guideline 4



Goal is to:

Balance food intake with physical exercise

One third of Americans are overweight.

- Boys are more likely to die at higher rate by age 45
- Girls are 8 times more likely to have trouble with daily routines.

To balance food intake and physical activities:

- Plan each day's intake based on these guidelines
- Include three 30-minute workouts each week

Participating in school sports and daily physical activities is the best way to achieve this goal



## Guideline 5



Goal is to:

Avoid alcoholic beverages

Alcohol can produce problems with nutritional balance and wellness. It can:

- Upset metabolism
- Increase nutritional needs
- Cause inadequate assimilation of nutrients

It isn't easy to avoid the temptation of your peers pressuring you to drink. However, the best way to avoid drinking alcoholic beverages is to make the decision NOT to drink before it's offered.



## Guideline 5



Try to avoid situations where you'll have to face a choice about drinking.

Make the decision not to drink, and let your friends know.

Whenever possible, avoid events where alcohol is served. If you have to attend, plan ahead and have your decision made.



## Guideline 6



Goal is to:

Limit daily salt intake to no more than 3 grams

Too much salt can lead to high blood pressure and water retention.

Avoid adding salt to your food. All manufactured and processed foods already have salt added.

How to cut down on salt:

- Limit your intake to  $\frac{1}{2}$  teaspoon per day
- Switch to “lite” salt
- Eat less processed/ manufactured food
- Avoid snacks or eat the unsalted varieties
- Limit smoked foods
- Limit brine prepared foods



## Guideline 7



Goal is to:

Maintain adequate calcium intake

Most Americans do not receive enough calcium.

- 99% is in your teeth and bones
- 1% aids the function of the blood, muscles and nerves

To prevent osteoporosis:

- Participate in lifelong weight-bearing exercises
- Avoid excessive protein
- Eat a diet rich in calcium
- Take calcium supplements
- Avoid starvation diets
- Avoid alcohol and smoking



## Guideline 7



### Alternative Guideline 7

To meet calcium needs, the body will pull calcium from the bones, causing bone density loss known as osteoporosis. This can lead to hip, leg and arm fractures.

Low calcium diets can also cause hypertension (high blood pressure) and some forms of cancer.

RDI for ages 11-24 , or for  
pregnant or nursing women  
= 1200 milligrams/day.

RDI for adult men and  
women  
= 1000 milligrams/day



## Guideline 8



Goal is to:

Avoid taking dietary supplements in excess of RDI

Two schools of thought:

1. We can get all vitamins and minerals we need from our diet
2. We can protect ourselves and strengthen our immune system with supplements

Vitamins and minerals are indispensable anti-aging weapons. To ensure that you are not over- or underdoing any element, look at the Supplemental Blueprint and answer six questions.



## Guideline 8



## Alternative Guideline 8

As an alternative, you can take:

- A general vitamin/mineral supplement not to exceed the RDI
- A calcium supplement
- Antioxidant vitamins

*Note: Always consult a healthcare professional before taking any supplements.*



# Supplement Blueprint



Supplement	Longevity Standard	My Dose	Supplement	Longevity Standard	My Dose
Beta-carotene	15,000 IU		Vitamin E	200 IU	
Vitamin A	10,000 IU		Calcium	1,200 mg	
Vitamin B-1	25 mg		Chromium	100 mcg	
Vitamin B-2	25 mg		Copper	2 mg	
Niacinamide	100 mg		Iodine	150 mcg	
Pantothenic Acid	50 mg		Iron*	18 mg	
Vitamin B-6	25 mg		Magnesium	200 mg	
Vitamin B-12	100 mcg		Manganese	5 mg	
Biotin	100 mcg		Molybdenum	50 mcg	
Folic Acid	400 mcg		Selenium	200 mcg	
Vitamin C	500 mg		Zinc	30 mg	
Vitamin D	400 IU		* Double check with your doctor.		



# Supplement Questions

Are you a male?	Delete iron.
Do you smoke, live/work with a smoker, live in an air-polluted area?	Increase C to 1000 mg, selenium to 400 mcg, beta-carotene to 25,000 IU, E to 400 IU, copper to 3 mg, zinc to 50 mg
Do you exercise at least 3 times a week for 20 minutes or more?	Increase E to 400 IU, magnesium to 400 mg, B-1 to 100 mg, zinc to 50 mg
Are you on the pill?	Increase B-6 to 50 mg
Are you pregnant or nursing?	Increase folic acid to 800 mcg, iron to 60 mg, calcium to 1300 mg, and magnesium to 400 mg. Delete A
Do you have high cholesterol levels and/or a family history of heart disease?	Increase E to 400 IU, C to 1000 mg, beta-carotene to 25,000 IU, chromium to 200 mcg, magnesium to 400 mg



# Supplement Advice

According to Dr. Ronald Hoffman, Director of Holistic Medicine in New York City, supplements are especially important to people who do not eat:

- Fresh fruits and vegetables daily
- Dairy products more than once a week
- At least two full meals a day



Some recommendations are higher than U.S. RDIs due to updated research. Avoid taking more than suggested amounts; this could be dangerous.



## Guideline

9



Goal is to:

Maintain optimal intake of fluoride

Requirements for sufficient fluoride begin at pregnancy for tooth and bone development and continue until the beginning of teenage years. It makes teeth resistant to decay.

Only 2/3 of the US population receives fluoridated water.

The National Research Council recommends 1 milligram per liter of water consumed.



## Guideline 9



### Alternative Guideline 9

Most U.S. cities and towns add fluoride to the communities drinking water, but you should brush your teeth with a **fluoride toothpaste** to be sure you are providing enough protection.



# Conclusion

The **nine guidelines** are the result of one of the most comprehensive scientific analyses of potential health risks and benefits stemming from diet.

Implementing these guidelines means that we will need to devote more time and attention to our daily diets and the risk factors associated with improper diets.



# Questions?

