

Reaching and Maintaining a Healthy Weight
13th edition: pp. 300-324
 with special section on *Enhancing Your Body Image: 325-336*
12th edition: Chapter Eleven - pp. 292-316
 with special section on *Enhancing Your Body Image: 317-328*

World 'has more obese people than starving'

London Metro newspaper 23-9-16

Article continues according to the Red Cross:

- ✓ More people in world are dying from obesity than malnutrition annually
- ✓ 1.9 billion (24 percent of world's population) are dangerously overweight worldwide = term 'globesity'
- ✓ 925 million (15 percent of world's population) are underfed
- ✓ Demonstrates that the world produces enough food, but because of poor distribution and cost, nearly 1 million go hungry annually.

obesity trends among U.S. adults

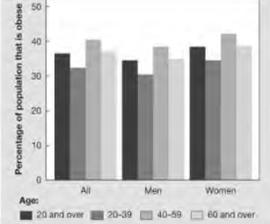
13th edition 301-303; 12th edition, pp. 293-295; + updated stats

- ✓ 69% of Americans are overweight (1-19% over ideal weight 25 > BMI)
- ✓ Of Americans those 37.0% are obese (30% over ideal weight, or 30 > BMI)

by 2030 it is estimated that over 75% of Americans will be either overweight or obese

- ✓ 500,000 lives are lost each year from being overweight

on average, for every 3 lbs. you are overweight, subtract one year of life expectancy.




Obesity rates:
 ■ >20%
 ■ 20%-25%
 ■ 30%-35%
 ■ ≥35%
 □ No data

2016 obesity rankings

WHO and UCLA studies, Sept. 2016

2016 country rankings of obese nations (30 > BMI)

- 1) Papua New Guinea: 76.8%
- 18) (1st industrial): USA: 34%
- 19) (2) Mexico: 30%
- 23) (3) New Zealand: 25%
- 27) (4) United Kingdom: 25%
- 31) (5) Canada: 23%

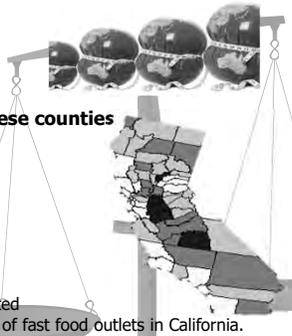
2016 California rankings of obese counties

- 1) Yuba: 31.6
- 2) Tulare: 31.4
- 3) Stanislaus: 30.1%
- 4) San Joaquin & Merced: 30.0%

Lowest: San Francisco bay area: 16-18%

Contributing factors:

- 25% increase if lack health care
- 25% increase if 1 parent obese
- 30% increase if poor or less educated
- Modesto has highest concentration of fast food outlets in California.



negative effects of being overweight and obese

13th edition, pp. 301-303; 12th edition, pp. 292-294 (table 11.2)

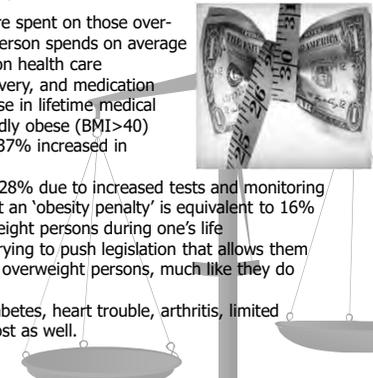


- MENTAL HEALTH**
 - Increased rates of depression and anxiety disorders
 - Increased risk of Alzheimer's and disordered eating
- CARDIOVASCULAR SYSTEM**
 - High blood pressure
 - Higher triglyceride levels and decreased HDL levels, both factors in the development of cardiovascular disease
- ENDOCRINE SYSTEM**
 - A weight gain of 11-18 pounds doubles a person's risk of type 2 diabetes
- REPRODUCTIVE SYSTEM**
 - Higher rates of sexual dysfunction
 - Increased risks for prostate, endometrial, and uterine cancer
 - Increased menstrual issues and infertility in women
 - Increased risk of breast cancer in women
 - In pregnant women, increased risks of fetal and maternal death, labor and delivery complications, and birth defects
- IMMUNE SYSTEM**
 - Tendency toward more infectious diseases
 - Reduced wound healing
- HEART**
 - Dramatically increased risk for all forms of heart disease
- RESPIRATORY SYSTEM**
 - Increased risk of sleep apnea and asthma
 - Increased risk of obesity and hyperventilation syndrome
- DIGESTIVE SYSTEM**
 - Increased risks for colon, gallbladder, kidney, endometrial, esophageal, and pancreatic cancers
 - Increased risk of gallbladder disease
 - Increased risk of inflammatory bowel disease and Crohn's disease
- BONES AND JOINTS**
 - For every 2-pound increase in weight, the risk of arthritis increases 8%-13%
 - Increased risk of osteoarthritis, especially in weight-bearing joints, such as knees and hips
 - Increased risk of gout

cost of living large is costing all of us

13th edition, pp. 301-303; not in 12th edition

- ✓ 21% of health care costs are spent on those overweight. A morbidly obese person spends on average \$6500-15000 more a year on health care
- ✓ Longer hospital stays, recovery, and medication costs lead to a 50% increase in lifetime medical costs...twice that for morbidly obese (BMI > 40)
- ✓ Obese populations have a 37% increased in prescription drug costs
- ✓ Costs of ER visits increase 28% due to increased tests and monitoring
- ✓ A Swedish study found that an 'obesity penalty' is equivalent to 16% less earned than normal weight persons during one's life
- ✓ Insurance companies are trying to push legislation that allows them to charge more for 'at risk' overweight persons, much like they do smokers
- ✓ Increased incidences of diabetes, heart trouble, arthritis, limited mobility are the physical cost as well.



Body Mass Index

13th edition, pp. 308-310; 12th edition, p. 300

| | | | | | | | | | | | | | | | | | | |
|--------------------------|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|
| Height (feet and inches) | 4'6" | 24 | 27 | 29 | 31 | 34 | 36 | 39 | 41 | 43 | 46 | 48 | 51 | 53 | 55 | 58 | 60 | 63 |
| | 4'8" | 22 | 25 | 27 | 29 | 31 | 34 | 36 | 38 | 40 | 43 | 45 | 47 | 49 | 52 | 54 | 56 | 58 |
| | 4'10" | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 |
| | 5'0" | 20 | 22 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 |
| | 5'2" | 18 | 20 | 22 | 24 | 26 | 27 | 29 | 31 | 33 | 35 | 37 | 38 | 40 | 42 | 44 | 46 | 48 |
| | 5'4" | 17 | 19 | 21 | 22 | 24 | 26 | 28 | 29 | 31 | 33 | 34 | 36 | 38 | 40 | 41 | 43 | 45 |
| | 5'6" | 16 | 18 | 19 | 21 | 23 | 24 | 26 | 27 | 29 | 31 | 32 | 34 | 36 | 37 | 39 | 40 | 42 |
| | 5'8" | 15 | 17 | 18 | 20 | 21 | 23 | 24 | 26 | 27 | 29 | 30 | 32 | 33 | 35 | 37 | 38 | 40 |
| | 5'10" | 14 | 16 | 17 | 19 | 20 | 22 | 23 | 24 | 26 | 27 | 29 | 30 | 32 | 33 | 34 | 36 | 37 |
| | 6'0" | 14 | 15 | 16 | 18 | 19 | 20 | 22 | 23 | 24 | 26 | 27 | 29 | 30 | 31 | 33 | 34 | 35 |
| | 6'2" | 13 | 14 | 15 | 17 | 18 | 19 | 21 | 22 | 23 | 24 | 26 | 27 | 28 | 30 | 31 | 32 | 33 |
| | 6'4" | 12 | 13 | 15 | 16 | 17 | 18 | 20 | 21 | 22 | 23 | 24 | 26 | 27 | 28 | 29 | 30 | 32 |
| | 6'6" | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 27 | 28 | 29 | 30 |
| | 6'8" | 11 | 12 | 13 | 14 | 15 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 28 | 29 |
| | 6'10" | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| | 7'0" | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| | | | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 240 | 260 | | | | | | | |

Weight (pounds)

Key:
 Underweight Overweight
 Normal weight Obese

Caution: the BMI does not take into account body composition or gender

calculating your BMI

13th edition, pp. 308-310; 12th edition, p. 300

Step 1: multiply your weight in lbs. by 704.5

Step 2: divide this results by your height in inches
 (5'00" = 60 inches - 6'00" = 72 inches)

Step 3: divide the result by your height in inches a second time

Mathematical formula:
 weight (kg) ÷ height squared (m²)

Healthy measurement: 18.5-24.9 BMI
Ideal men: 22-24.9 BMI
Ideal women: 21-23 BMI

ways to measure body composition

13th edition, pp. 308-311; 12th edition, pp. 300-302

Underwater (hydrostatic) weighing:
 Measures the amount of water a person displaces when completely submerged. Fat makes the person less dense than muscle or bone, so body fat can be computed within a 2% - 3% margin of error by comparing weight underwater and out of water.

Skinfolds:
 Involves "pinching" a person's fold of skin with the underlying layer of fat at various locations of the body. The fold is measured using a specially designed caliper. When performed by a skilled technician, it can estimate body fat with an error of 3% - 4%.

Biological impedance analysis (BIA):
 Involves sending a very low level of electrical current through a person's body. As lean body mass is made up of mostly water, the ease at which the electricity is conducted gives an indication of a person's lean body mass and body fat. Under the best circumstances, BIA can estimate body fat with an error of 3% - 4%.

Dual energy X-ray absorptiometry (DXA):
 The technology is based on using two x-rays to measure the difference between bone mass, soft (or lean) tissue, and fat or adipose tissue. The margin of error for predicting body fat is 2% - 3%.

BOD POD:
 Uses air displacement to measure body composition. This machine is a large, egg-shaped chamber made from fiberglass. The person being measured sits in the machine wearing a coveralls. The chamber is inflated and the machine's laser mouth air is displaced. This value is used to calculate body fat, with a 2% - 3% margin of error.

contributing factors to being overweight-obese

13th edition, pp. 311-314; 12th edition, pp. 294-299

✓ "Overweight and obesity results from an energy imbalance: eating too many calories, and not getting enough exercise"
U.S. Surgeon General

Key environmental factors:

- ✓ ads for high calories food and snacks, plus increase in fast food outlets
- ✓ both adults working means less home cooked meals, with a greater reliance on eating out, or on junk food – 11.3% of calories are from junk food
- ✓ Over 34% of adolescents get a large portion of their nutrition from high fat-carbohydrate, processed foods
- ✓ automated equipment takes less calories to operate
- ✓ spending more time in front of computers or TV. Those who are in front a screen 3 or more hours a day are twice as likely to be overweight
- ✓ greater violence and perceived threats increasingly keep young inside for safety
- ✓ decline in physical education requirements in schools
- ✓ increased poverty drive people to cheaper, often less healthy food, along with less access to healthcare.

contributing factors to being overweight-obese

13th edition, pp. 310-312; 12th edition, pp. 294-299

psychological factors:

- ✓ Stress induced eating
- ✓ food as a reward
- ✓ foods as a 'comfort food'

metabolic changes:

- ✓ **age:** a person's metabolism slows down beginning in late 20's-early 30's, and slows 1-2% a year
- ✓ **genetics:** body composition percentage of bone/muscle more studies are being done on genetic influences
- ✓ **gender:** women have more body fat (5-8%) than men women burn fat less quickly than men.

contributing factors to being overweight-obese

13th edition, pp. 303-306; 12th edition, pp. 294-299

endocrine or hormone influences:

- ✓ An under active thyroid gland is thought to impede a person's ability to burn calories. Though in less than 2% of people this is the cause of obesity.
- ✓ However there is increased study on how some hormones such as ghrelin and leptin may affect appetite.

Fat cells and predisposition to fatness

- ✓ Hyperplasia or the large amount of fat cells could be a factor in whether a person is a healthy weight or overweight.
- ✓ The initial formation period for fat cells are the last 2-3 months of fetal development and the first year of life.
- ✓ A mother's eating habits are critical, and infants should be at a healthy weight.

can a virus make children obese?

20 Sept, 2014 - Journal of Pediatrics

- ✓ This recent study has reignited the speculation that a virus may increase the occurrence of obesity in children.
- ✓ ANDENOVIRUS 36 was first linked to childhood obesity in the 1980's. Since that time, the childhood obesity has increased 300%.
- ✓ Of 124 children tested by the University of California-San Diego, 19 had the ANDENOVIRUS 36 antibodies, and 15 of those were obese.
- ✓ On average those with the virus antibodies weighed 35 lbs. more than those who did not.
- ✓ Study concludes that the reality of childhood obesity is more com-located than once thought.

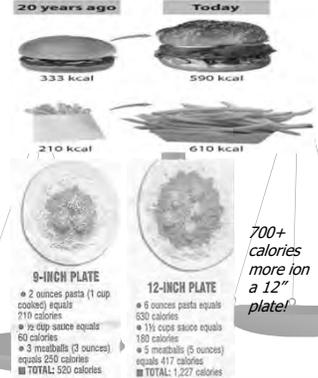


super sizing and obesity

13th edition, pp. 306-307; 12th edition, pp. 297-299

food portions have grown in the past twenty years

- ✓ **caloric intake has grown from 1,852 cal to over 2,000 cal per day or 15 lbs. per year!**
- ✓ **meal plate size has grown in the past 20 years. Meal plates were once 9" in diameter... now they are 12"**
- ✓ **In the US we are subject to 'portion distortion'**

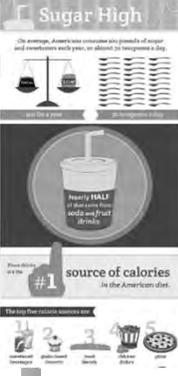


700+ calories more on a 12" plate!

Soda: leading cause of childhood obesity

not in texts (UCLA center for Health Policy Research, 2016)

- ✓ **20oz. soda has 17-20 teaspoons of high fructose corn syrup in each serving**
- ✓ **250 cal. per 20oz. soda = 26 pound gain per year**
- ✓ **American spend \$65 billion on sodas year...though that is beginning to decline**
- ✓ **Many sugar laden fruit drinks are not much better.**



For a better start in life, start COLA earlier!

new soon to be soon?

what causes us to eat...and how to control it

13th edition, pp. 312-14; 12th edition pp. 303-306 (different diagram)

What triggers your "Eat" response?

- Nervousness/ anxiety/stress
- Hormonal fluctuations
- Time of day
- Mood
- Boredom
- Peer/family pressure
- Inattentiveness
- Habit
- Hunger/appetite
- Low self-esteem
- Environment
- Sight and smell of favorite foods

What stops your "Eat" response?

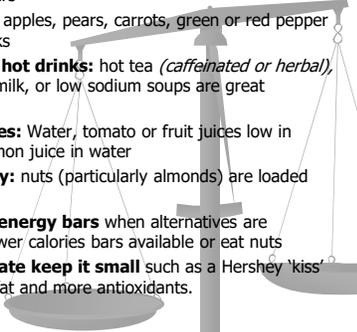
- Acting responsibly in assessing foods
- Practicing stress management
- Breaking the habit
- Remaining active
- Analyzing emotional problems
- Making a conscious effort
- Recognizing true hunger
- Avoiding environment that causes "eat" response
- Selecting alternatives
- Recognizing triggers
- Planning



tips for sensible snacking

13th edition, p. 312; 12th edition, pp. 305

- ✓ **keep healthy munchies around:** whole grain breads, lower fat cheeses, low sodium crackers
- ✓ **Keep crunches on hand:** apples, pears, carrots, green or red pepper spears all make great snacks
- ✓ **Quench your thirst with hot drinks:** hot tea (caffeinated or herbal), hot chocolate with low fat milk, or low sodium soups are great alternatives
- ✓ **Choose natural beverages:** Water, tomato or fruit juices low in sugar. Put crystal lite or lemon juice in water
- ✓ **Eat nuts instead of candy:** nuts (particularly almonds) are loaded with healthy fats)
- ✓ **Watch eating too many energy bars** when alternatives are available...there are also lower calories bars available or eat nuts
- ✓ **If you must have chocolate keep it small** such as a Hershey 'kiss' or dark chocolate has less fat and more antioxidants.



dieting and activity for dummies

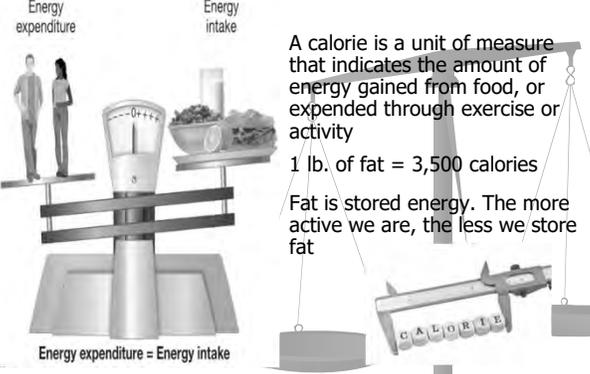
13th edition, pp. 311-312; 12th edition, p. 302

Energy expenditure = Energy intake

A calorie is a unit of measure that indicates the amount of energy gained from food, or expended through exercise or activity

1 lb. of fat = 3,500 calories

Fat is stored energy. The more active we are, the less we store fat



how fat is distributed

not in texts

Average weight Overweight

Fat deposits (yellow areas)

exercising off your pounds

13th edition, p. 315 (table not in text)

- ✓ exercise contributes to a person's long term weight management
- ✓ lean muscle mass burns more calories than fat tissue
- ✓ depends on three factors:
 - ✓ Number of muscles used
 - ✓ Amount of weight moved
 - ✓ The length of time the activity takes

| Minutes of Walking | Reduction of Calories Per Day (in kcal) | Days to Lose 5 lb | Days to Lose 10 lb | Days to Lose 15 lb | Days to Lose 20 lb | Days to Lose 25 lb |
|--------------------|---|-------------------|--------------------|--------------------|--------------------|--------------------|
| 30 | 400 | 27 | 54 | 81 | 108 | 135 |
| 30 | 600 | 20 | 40 | 60 | 80 | 100 |
| 30 | 800 | 16 | 32 | 48 | 64 | 80 |
| 30 | 1000 | 13 | 26 | 39 | 52 | 65 |
| 45 | 400 | 23 | 46 | 69 | 92 | 115 |
| 45 | 600 | 18 | 36 | 54 | 72 | 90 |
| 45 | 800 | 14 | 28 | 42 | 56 | 70 |
| 45 | 1000 | 12 | 24 | 36 | 48 | 60 |
| 60 | 400 | 27 | 54 | 81 | 108 | 135 |
| 60 | 600 | 20 | 40 | 60 | 80 | 100 |
| 60 | 800 | 16 | 32 | 48 | 64 | 80 |
| 60 | 1000 | 13 | 26 | 39 | 52 | 65 |
| 90 | 400 | 40 | 80 | 120 | 160 | 200 |
| 90 | 600 | 30 | 60 | 90 | 120 | 150 |
| 90 | 800 | 24 | 48 | 72 | 96 | 120 |
| 90 | 1000 | 20 | 40 | 60 | 80 | 100 |

keys to successful weight management

13th edition, pp. 315-316; 12th edition, pp. 304-306 (with chart)

- ✓ **Make a plan:**
 - ✓ Establish short-long term plans
 - ✓ Look for balance: intake v. exercise
- ✓ **Change your habits:**
 - ✓ Expand your food choices
 - ✓ Eat smaller portions and slow down
 - ✓ EAT BREAKFAST! Helps you make better choices through day
 - ✓ Keep healthful snacks around
 - ✓ Utilize resources and have a support family, support group
- ✓ **Incorporate exercise:**
 - ✓ Be active...even small amounts help
 - ✓ Vary your activity...find what you enjoy
 - ✓ Make it a fun break...go with friends.

managing your weight

setting realistic goals

13th edition, pp. 311-313; 12th edition, pp. 307-309

- ✓ be mindful of your eating triggers...identify and modify
- ✓ establish enjoyable, doable eating and exercise routines
- ✓ initially focus on small goals to become more healthy and fit
- ✓ establish maintainable and realistic goals
- ✓ make it a lifestyle...not just a temporary diet
- ✓ seek out the support of family, friends, and professionals
- ✓ don't make food the central focus of your life
- ✓ become a responsible consumer:
 - ✓ read food labels, buy healthy foods
 - ✓ eat responsibly and use self-control
 - ✓ think long term, and make the commitment.

drastic diets...beware!

13th edition, pp. 315-316; 12th edition, pp. 307-308

- ✓ VLCD's (*very low calorie diets*) any diets below 1200 calories are damaging to the body because without enough energy to maintain normal functions of the body, the body begins to shut down.
- ✓ The human body will hoard calories when food is re-introduced, having the negative effect...called the yo-yo effect
- ✓ Be aware of diets that claim substantial weight loss in a short period of time...these depend on dehydration, not permanent weight loss
- ✓ Be wary of stomach stapling, gastric bypass, (*next slide*) liposuction, and 'miracle' drugs and potions which claim miracles...the dieting industry is a 33 billion dollar industry for a relatively simple concept:

1900's tape worm advert

energy consumed ≈ energy expended

surgery considerations

13th edition, pp.: 317-3418; 12th edition, pp. 309-310

- ✓ With nearly 60 million American's obese, the amount of drastic surgeries to limit calorie absorption has increased over 120% in three years
- ✓ Beware...this is not a panacea: not only does it have health risks including death, it will change a person's life style and quality of life drastically
- ✓ Possible side effects: 2.5-0.1% chance of death; malnutrition, uncontrolled bowels & vomiting (*dumping syndrome*), cramps, and osteoporosis

(a) Normal anatomy (b) Vertical banded gastroplasty (c) Gastric bypass (d) Gastric banding

distorted body images

special section on enhancing your body image
 13th edition p. 328-329; 12th edition, pp. 318-322

- ✓ We live in a 'obesogenic' society that promote the increased intake of food!
- ✓ We have become food phobic often compulsive eaters of poor quality food
- ✓ Average women:
5'04" – 142 lbs – 44 yrs old – 24.42 BMI
- ✓ Average women fashion model:
5'10" – 115 lbs – 22 yrs old – 16.39 BMI
- ✓ historically men & women were portrayed as heavier
- ✓ 'Rubenesce' was a term given to portraits painted by 15th century Belgian Baroque painter of voluptuous full figured women
- ✓ 25% of women & men who diet don't need to.



Body images marketed to us have distorted how we believe we should look
 80% of US women are dissatisfied with their appearance

eating issues continuum

special section on enhancing your body image
 13th edition, pp. 330-331; 12th edition, 322

| Eating disorders | Disruptive eating patterns | Food preoccupied/obsessed | Concerned to a healthy weight | Food is not an issue |
|---|---|---|--|--|
| <p>I worry about what I eat or when I will exercise at the time.</p> <p>I follow a very strict eating plan and become paranoid from irregularities, for example, for example, if I eat a carbohydrate I feel guilty.</p> <p>I feel horrible guilt, shame, and anxiety when I break my diet.</p> <p>I regularly diet myself and from exercise, so I eat whatever I get out of the food.</p> <p>My friends and family tell me I am too thin, but I feel fat.</p> <p>I am afraid to eat in front of others.</p> <p>I prefer to diet alone.</p> | <p>My food and exercise concerns are starting to interfere with my school and social life.</p> <p>I can't seem to control myself.</p> <p>I have tried diet pills, laxatives, vomiting, or other methods to lose or maintain my weight.</p> <p>I have binge or purged eating the long periods of time in order to lose or maintain my weight.</p> <p>I refuse to eat anything I don't like.</p> <p>I feel guilty when I eat more than what I feel I should eat eating.</p> <p>I am afraid of gaining fat.</p> <p>I wish I could change how much I want to eat, and what I can't eat.</p> | <p>I think about food a lot. I'm obsessed with eating foods and magazines about dieting fitness, and weight control.</p> <p>I sometimes miss school, work, and social events because of the diet or exercise or exercise.</p> <p>I divide food into "good" and "bad" categories.</p> <p>I feel guilty when I eat "bad" foods or when I eat more than what I feel I should eat eating.</p> <p>I am afraid of gaining fat.</p> <p>I wish I could change how much I want to eat, and what I can't eat.</p> | <p>I pay attention to what I eat in order to maintain a healthy body.</p> <p>I don't eat junk or eat large portions of my life, but they only occupy a small part of my time.</p> <p>I enjoy eating, and I believe my concern with my concerns for a healthy body.</p> <p>I rarely eat three balanced meals daily, but I want to eat healthy.</p> <p>I am moderate and flexible in my goals for eating well and being physically active.</p> <p>Sometimes I eat more (or less) than I really need, but most of the time I listen to my body.</p> | <p>I am not concerned about what or how much I eat.</p> <p>I feel no guilt or shame to eat what I eat or how much I eat.</p> <p>Eating is not really important to me. I choose food based on taste, texture, and convenience, but not important to health.</p> <p>My eating is very social and relaxed. I don't worry about what I eat or how much I eat.</p> <p>I enjoy stuffing myself with lots of food at restaurants, holiday meals, and social events.</p> |



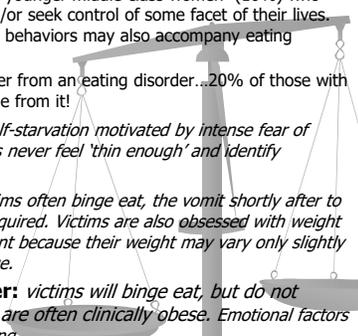
eating disorders

special section on enhancing your body image
 13th edition, pp. 330-332; 12th edition pp. 320-324

Who's at risk? Predominantly younger middle class women (10%) who manifest over body image, and/or seek control of some facet of their lives. Depression and other addictive behaviors may also accompany eating disorders.

Over 24 million Americans suffer from an eating disorder...20% of those with a serious eating disorder will die from it!

- ✓ **Anorexia Nervosa:** *self-starvation motivated by intense fear of gaining weight. Often victims never feel 'thin enough' and identify themselves as 'too fat'.*
- ✓ **Bulimia Nervosa:** *victims often binge eat, the vomit shortly after to lose the calories they just acquired. Victims are also obsessed with weight gain, though are less apparent because their weight may vary only slightly from the normal weight range.*
- ✓ **Binge Eating Disorder:** *victims will binge eat, but do not purge. Consequently they are often clinically obese. Emotional factors may play a role in binge eating.*



eating disorders

what Anorexia Nervosa can do to the body
 special section on enhancing your body image
 13th edition, pp 331-332; 12th edition, p 323



- Altered levels of neurotransmitters can lead to depression, anxiety, fatigue, poor sleep, dizziness, fainting, and impaired functioning.
- Blood levels of iron and electrolytes fall dangerously low.
- Kidney failure can lead to dehydration and death.
- Decreased digestive activity can cause constipation, abdominal pain, and bloating.
- Bones lose density and fracture more easily.
- Muscle tissue is lost.
- Nails turn brittle.
- Hair thins and becomes dry and brittle.
- Skin becomes dry, discolored, and easily bruised. Fine, downy hair may grow.
- Decreased immune function makes infections more likely.
- Heart disturbances include low blood pressure, irregular heartbeats, and potential sudden death from cardiac arrest.
- Reproductive hormones decrease, and menstruation and fertility cease in women.

eating disorders: treatment

special section on enhancing your body image
 13th edition, pp. 333-334; 12th edition, pp. 325-236

there are not quick or simple solutions

- ✓ first concern is to stabilize victim's health
- ✓ long term diet therapy with psychological, social, and environmental treatment involving family, friends, and other significant people in their lives
- ✓ emphasis on developing new eating patterns, building self-confidence and other ways of dealing with life's challenges.
- ✓ support groups can learn about eating disorders and help person gain an accurate perspective
- ✓ be honest with your concerns and firm with your actions
- ✓ be a good role model of healthy eating patterns
- ✓ tell someone about your concerns for the person...friends are the first line of action!

