

Systematic Rationalization Activity

	Controllable	uncontrollable
important		X
unimportant	X	X

## Psychological Health

important

Abraham Maslow

Hierarchy of Needs

- physiological needs (water, clothing)
- safety
- being loved
- maintaining self esteem
- self-actualization



**Highest level of growth**

fulfilled human potential

- realism, ~~acceptance~~ - realistic view of world + themselves
- accept weaknesses → • Acceptance - positive self concept, high self esteem
- Internal Locus of control • autonomy - find guidance through own values, internal locus of control
- authentic - don't pretend to be something they're not
- intimacy - comfortable w/ expressing emotions
- creative - open to new experiences, like new situations

## Meeting Life's Challenges

- 1 Growing Up Psychologically
  - Developing Adult Identity, having ability to interact
    - Identity crisis - lose sight of who you are
  - Developing Intimacy
  - Developing values & purpose, dictate good vs bad
- 2 Developing a Positive Self concept
  - 1 Begins in childhood
  - 2 Integration, experiences mold into self concept
  - 3 Stability, realistic view of ourselves

## ① Meeting challenges to self esteem

→ changes to self concept

- acknowledge something went wrong & start over
- deny that anything went wrong + blame someone else
  - psychological defenses
- develop a lasting negative self concept where they feel bad, unloved, ineffective

cognitive distortions  
↓  
make events worse than reality are

- 
- ② Being Less defensive, try to be objective, reassess, make joke
  - ③ Being optimistic, recognize + dispute negative self assessments

## ④ Maintaining Honest communication

→ assertiveness training, yes or no

## ⑤ Dealing with loneliness

- recognize difference between alone & lonely, reflect

## ⑥ Dealing with Anger

- take control of emotions, take time to regroup

## ⑦ Dealing with anger in other people

- allow person to explain their position

## Psychological Disorders

When emotions or irrational thoughts interfere with daily activities

result of: genetics, traumatic events, social influences

### Anxiety Disorders

- Fear that is out of proportion to real danger
- Experienced on recurring basis w uncontrollable situations

most common → Simple phobia

- originate w bad experience ex) spiders, locations

### Social phobia ← 15 million Americans

- fear of humiliation while being observed by others
  - ex) fear of public speaking

## Panic Disorder

sudden unexpected surges in anxiety, can't escape  
- rapid & strong heartbeat, shortness of breath

**Agoraphobia** - afraid of situation that may occur outside home

## Generalized Anxiety Disorder (GAD)

Worry about ordinary future threats  
Worries go unresolved + takes over  
leads to ~~an~~ depression

## OCD: obsession or compulsive

obsessions - persistent, upsetting thoughts  
compulsions - ~~per~~ repetitive rituals ex) hand washing  
→ use these rituals (compulsions) to control the anxiety the thoughts (obsessions) produce

## Post Traumatic Stress Disorder

• reaction to a severely traumatic event  
→ re-experiencing the trauma in dreams, nightmares, and memories  
• lasts month or years      9/11 brought to spotlight

## Treatments:

medication / psychological interventions

## ⊙ Mood disorders 21 mil americans have

### - Depression

\* May result from specific event but sometimes there is no obvious trigger

Symptoms: sadness, hopelessness, poor appetite / overeating  
Insomnia, guilt, trouble concentrating, suicide

Dysthymic disorder - mild or moderate depression  
last over 2 years

- Warning signs of suicide
- wish to be dead
  - social withdraw
  - sudden lightening of mood
  - substance abuse/eating disorders
- women attempt 3x more than men  
men succeed 3x more than women

## Treating Depression

depending on severity

- drug therapy, psychotherapy, electroconvulsive therapy

## Mania

restlessness, excessive energy, extreme spending

## Bipolar

Manic individuals who swing between manic & depressive states

- runs in family, begins mid 20s

## Schizophrenia, common disorder cause is uncertain

- possible chemical + structural differences in brain
- several genes increase risks

Characteristics include:

- Inappropriate emotions, hallucinations, delusions  
→ professional help necessary

## Getting Help

books, writing in journal, peer counseling

66 multiple choice

Exam next Tuesday

HFJKnew.org

## Alcohol Guest Speaker

Feb 16

## Cig guest speaker

Feb 23

1.3 billion smokers worldwide (47% M, 12% F)

45 mil in US

\*men are more successful in quitting

399,000 die from smoking

### Health consequences

+4,000 chemicals, 200 toxins, 60 carcinogens

→ cancer, cardiovascular, respiratory

water turns to honey through veins

\* 1/3 of all tobacco users die prematurely

lose contact inhibition, cells grow rapidly

hydrogen cyanide → paralyze cilia, ~~no~~ cause coughing

→ Light cigs ~~are~~ could be worse b/c deeper draw

compensatory smoking - take longer drags to stay

Average smoker smokes 25/day

8-14 mg of nicotine

→ flue → air cured tobacco in cigars, don't need to inhale

igs are  
pulmonary  
absorption

Takes 6 months to 1 1/2 yr to become addicted

IN EXAM → children take < 1 week to become addicted

Nicotine releases dopamine

→ ammonia allows nicotine to be absorbed 100x faster

## Chap 8

### Alcohol & Intoxication

2/25

#### Nature of alcohol

psychoactive ingredient = Ethyl Alcohol (only consumption)

- Beer 3-6% alcohol/volume
- malt liquor 6-8%
- table wines 9-14%
- fortified wines 20%
- hard liquor 45-50%

#### Proof Value

2 x % of concentration

#### Ingestion

- 7 calories/gram, ave drink has 100-120 cal

#### Absorption

20% ingested from stomach → blood

75% absorbed in small intestines

5% absorbed along GI track

- carbination increases rates of absorption

- artificial sweeteners ↑

- food slows rate

- drinks w/ higher concentration absorbed slower

#### Metabolism + Excretion

transported through blood stream

easily moves through biological membranes, ~~it~~ effects neurotransmi

2-10% is not metabolized

main site is liver

alcohol readily crosses the blood brain barrier

- alcohol ingested by young is damaging (25 yrs)

# Alcohol Intake & BAC

## Blood alcohol concentration (BAC)

- a measure of intoxication
  - body weight
  - % of body fat (fat people have higher BAC)
  - gender, men have more enzyme, women more body fat  
Women have ↑ BAC
- Balance of ~~rate~~ alcohol absorption + rate of metab.  
• absorbing alcohol quicker than metabolized = ↑ BAC

## Influenced By:

- Genetic factors, cannot change
- Drinking behavior

## Effects on Health

Depend on individual, circumstances & amount of alcohol consumed

stimulant

→ BAC 0.03% - 0.05%, relaxation, release of inhibition

pressant at 0.1%, major reduction in sensory & motor functioning

at 0.2%, cannot function

at 0.35%, coma & death

- sharp drop in internal temp

- change in sleep patterns

- worsens sleep apnea

## Hangover caused by

toxins alcohol breakdown, dehydration, & hormones

- alcohol poisoning, passing out very dangerous → role on side so don't choke on vomit
- combining drugs + alcohol → leading cause of drug deaths
- injuries & violence
- alcohol + sex

50% rape

# Drinking & Driving

Most @ risk

1/3

- young people (21-24)
- motorcyclists
- those w/ previous DWI conviction

p. 180

## Effective Preventive Measures

- enforcing .08% BAC laws, legal drinking age laws, 0 tolerance laws for drivers < 21 years old
- revoking drivers licenses
- sobriety checkpoints
- implementing health promotions & community based approaches
- mandatory substance abuse assessment treatment

## Effects of chronic use

### Digestive system

- liver function (cirrhosis) healthy liver → scar tissue
- pancreas inflammation (pancreatitis)

### Cardiovascular system

Benefit →

- moderate doses may reduce risk of HD

- higher doses elevates BP, weaken heart muscle

### Cancer

- mouth, throat, larynx, esophagus

- liver cancer

- breast cancer

\* 5 drinks + smoking increases chance 50x

(cardiac myopathy)  
inflamed heart

### Brain Damage

- heavy drinkers show evidence of brain damage

- loss of grey & white matter, reduced blood flow, slower metabolism

### Mortality

- alcoholics lose 15 yrs

1st trimester

## Effects on alcohol on Pregnancy

CROSSES placenta & can harm fetus

- Fetal alcohol syndrome (FAS)
  - physical abnormalities
  - mental impairment
- \* one of most preventable disease
- ARND
  - learning & behavioral disorders

consumption during nursing passes into breast milk

## Possible Health Benefits of alcohol

No benefit under age of 35

- among older people
    - light to moderate drinkers may live longer
    - good effects on cholesterol
    - helps blood from clotting
- Moderate drinking 2/day for men 1/day women

## Alcohol Abuse vs Dependence

- alcohol abuse - recurrent use that has negative consequences
- alcohol dependence - more extensive problems, tolerance, withdraw
  - binge drinking → bringing BAC to or above .08 within 2 hours (5 drinks)

\* students ~~3-7~~ 3-7 x more likely to engage in risky behavior

## Alcoholism

regular daily intake of large amounts / during periods of stress

→ tolerance / withdraw (DT, seizures)

social & psychological effects

causes → genetics, personality disorders, troubled households

# Tabacco

## Health Hazards

Tar - brown, sticky mass ~~are~~ created when chemicals condense

ex. formaldehyde

carcinogens - cancer causing ingredient

Cocarcinogens - substance that works w a carcinogen to cause cancer

smoke contains carbon monoxide - deadly gas in car exhaust

displaces oxygen in red blood cells, impairs vision

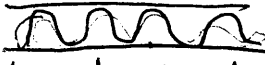
hydrogen cyanide - paralyze silia, cause coughing

poison

ammonia - boosts amount of addictive nicotine delivered by cigarettes, absorbed 100x faster

arsenic - poisonous substance

## Light & low tar. cigarettes

compensatory smoking 

→ people who switch to lite take deeper drags and smoke more

## Menthol

absorb more / metabolize slower. Anesthetic effect causes deeper inhale + holding it in longer

## Immediate effects of smoking

- dizziness, faintness, rapid pulse, cold, clammy skin, nausea, vomit, diarrhea

\* can excite or tranquilize NS depending on dose

→ stimulates cerebral cortex, discharges adrenaline, inhibits formation of urine, depresses hunger

leading cause of death

## Long term effects

### CHD, coronary heart disease.

- results from atherosclerosis → fatty deposits form on the inner walls of heart causing stiffness + narrow
- ↓
- causes heart attack when blood flow is blocked
- irregular heartbeat

leading cause of death in women

## Lung + other cancers

- trachea, mouth, pharynx, esophagus...

## Chronic Obstructive Pulmonary Disease

- stress placed on lungs can damage lung function
  - Emphysema, lungs lose elasticity
  - chronic bronchitis, inflammation of bronchial tubes
  - chronic cough, shortcut to lung cancer

## Environmental Tobacco Smoke (second hand smoke)

Mainstream smoke - smoke inhaled by smokers

85% Sidestream smoke - enters atmosphere from burning end of cig  
• 2x more tar & nicotine b/c not filtered

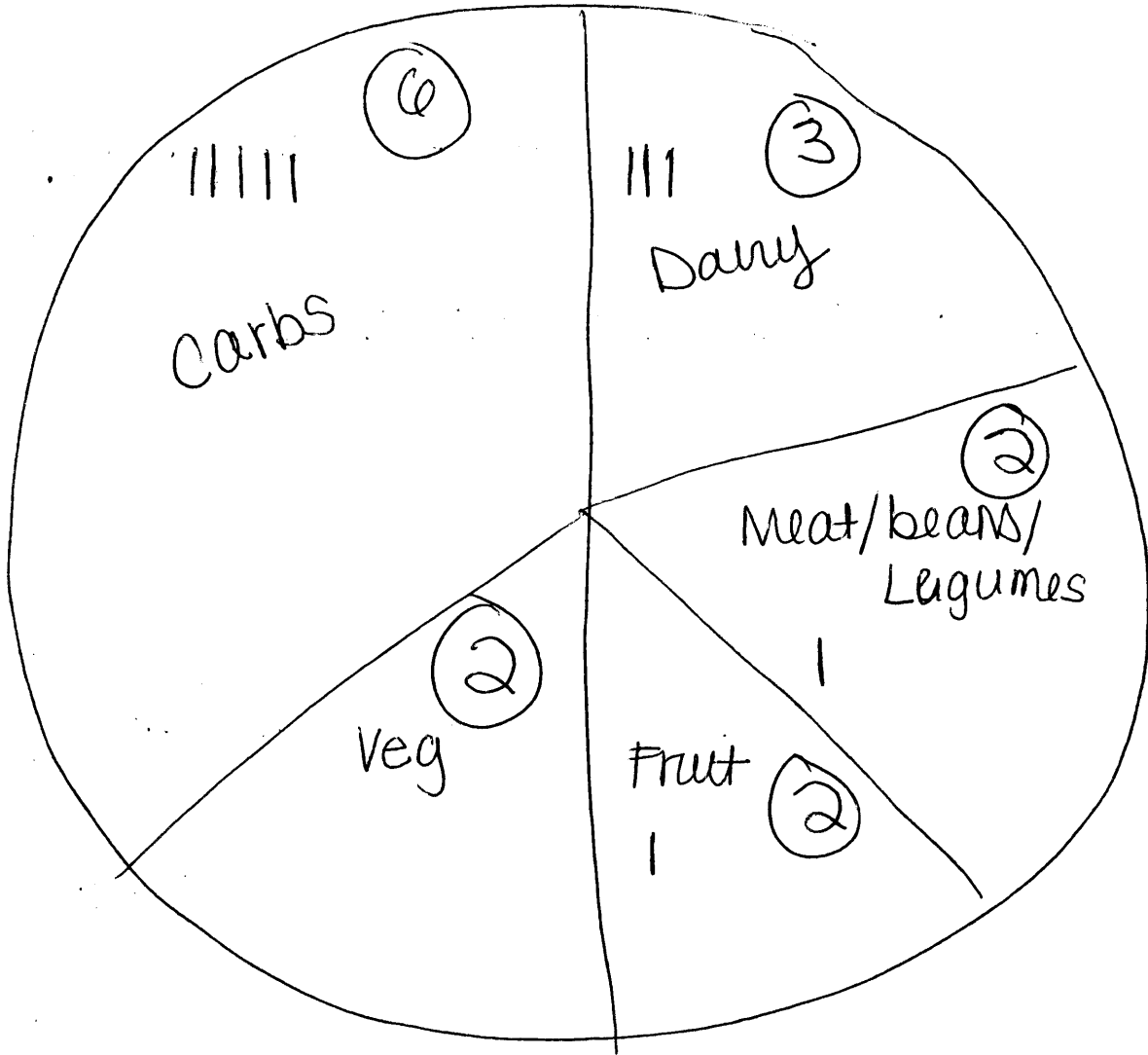
## Effects

non smokers exposed develop coughs, headaches, nasal discomfort, & eye irritation

- infants more likely to die of SIDs
- causes asthma

# Nutrition Guest Speaker

3/4



# Nutrition Basics

3/9/10

Body requires 45 essential nutrients  
broken down in 6 categories

- Macro - proteins, fats, carbs
- micro - vitamins, minerals, water

Fuel Potential. KiloCalories

- 1 Kcalorie = amount of heat it takes to raise the temp of fluid  $1^{\circ}$  C

- 2000 kcal/day

- 1000 kcal = 1 kcal

3 supply energy

fat  $\rightarrow$  9 cal/g

protein  $\rightarrow$  4 cal/g

carb  $\rightarrow$  4 cal/g

## Proteins

form muscle, bone, blood, enzymes, hormones, & cell membrane

Twenty common amino acids

- 9 essential, 11 nonessential

Complete proteins provide all essential amino acids

\* Most animal proteins are complete

\* Most plant proteins are incomplete

## Recommended Amounts

• 8g / kilogram of body weight

• 10-35% of total caloric intake

• average 15-16%

2/3 comes from animal sources

# Fats or Lipids

- stored energy
- provides insulation
- supports & cushions organs
- helps absorb fat soluble vitamins
- fuel the body during rest & light activity
- add flavor & texture to food

Triglycerides - glycerol molecule w 3 fatty acids

- saturated → solid @ room temp (animal prod) - red meats
- unsaturated → liquid @ room temp - whole milk
- olive oil - cheese
- hot dog

monounsaturated  
polyunsaturated

Hydrogenation: process that turns unsaturated fat to solid saturated

- ~~adds~~ improve texture
- last longer
- deep fried / fast food / processed
- changes fatty acids to trans fat



• raise bad & lower good cholesterol

# Cholesterol

waxy substance found in blood & cells

→ need for synthesis of cell membranes, vit D, hormones  
can't dissolve in blood

must be transported to/from cells by carriers called lipoproteins

TWO TYPES:

- HDL (good) high density lipo-protein
  - helps transport cholesterol out of arteries
  - protects against heart attack
- LDL (bad) low density
  - transports cholesterol to organs & tissue
  - high levels can slowly build up in arteries
  - formation of plaque makes arteries less flexible

## Fats & Health

- Saturated & <sup>trans fats</sup> trans fats raise LDL, may lower HDL
- Unsaturated fats lower LDL
- Monounsaturated fat may raise HDL & protect against cancer
- Omega-3 fatty acids (polyun.) reduce blood clots, blood pressure, + heart attack risk
- Recommended Intake 20-35% of total calories

## Protect your health

Ensure appropriate intake

choose unsat. fats instead of saturated & trans fats

1. Reduce intake of meat & full fat dairy products
2. Reduce intake of deep fried foods + baked goods made w/ hydrogenated oils
3. use liquid oils (olive or canola) for cooking  
choose tub or squeeze margarines

## Carbs

Supply energy to body cells, provide fuel to brain, nervous system, blood, muscles during high-intensity exercise

TWO GROUPS:

- simple carbs - provide sweetness to food
  - sucrose (table sugar)
- complex carbs - starches & most dietary fiber
  - grains
  - legumes
  - tubers
- Digestion
  - Mouth + small intestines
  - break down to glucose



## Refined v Whole Grains

eat

- Whole grains contain inner layer (germ), middle layer (endosperm), + outer layer (bran)
  - During processing - germ & bran removed leaving starch of endosperm
- Refined grains have same calories, less fiber, vit, + minerals
- Whole grains take longer to digest - make you feel fuller longer
  - reduce risk of heart disease, stroke, high BP, diabetes, cancers

## Glycemic Index + Response

GI - measure of how the ~~digestion~~ ingestion of a particular food affects blood glucose levels

- Quick rise in glucose & insulin levels = high GI
  - high GI may increase appetite, risk of diabetes and Heart disease

low GI = unrefined fruits, veggies

average american consumes 200-300 grams  
45-65% of total daily intake

## Fiber

Dietary

Functional

Total - sum of both

- ✓ Soluble (viscous) fiber vs. Insoluble fiber

dissolve in water,  
makes you feel fuller

↙ bulk, bulk to feces,  
digestive  
regularity

## Fiber

Sources - all plant substances

→ reduce risk of diabetes, HD, GI disorders, colorectal cancer

recommended intake:

38 g for men

25 g for women

## Vitamins

Organic (carbon-containing) substances required in small amounts to promote specific chemical reactions (catalysts) within a living cell

→ 13 vitamins

4 • Fat soluble → A, D, E, K

9 • Water soluble →

Function - help chem. reaction take place, unleash energy stored in carbs, proteins, & fats

• produce red blood cells, maintaining systems

• antioxidants, preserve healthy cells

Sources:

human body doesn't manufacture most vitamins

abundant in fruits, veg, greens

## Minerals

- Inorganic

- helps regulate body function, aid in growth, maintain body tissue, catalyst for energy release

• 17 essential minerals

• major minerals - 100 mg or more

→ calcium, phosphorus, magnesium, sodium, potas., chloride

• trace minerals - minute amounts

→ copper, fluoride, iodine, iron, zinc

commonly lack calcium, iron, pot., mag.

## Water

- We composed 50-60% water
- Need for water is greater. can only live few days w/o water
- distributed in tissues & body fluids
- Necessary for digestion, absorption, chem. reactions

### Lost through

- urine, sweat, feces, breathing

Water, food, & other beverages make up 80-90% of daily intake

### Recommended Intake

Men - 3.7 liters, w 3 coming from beverages  
Women - 2.7 total, 2.2 from beverages

## Antioxidants

- prevent/reduce formation of free radicals
- remove free radicals / repair damage
- Vitamin C, E, Selenium, carotenoids
- ex) blackberry, berries, cherries, coffee, red wine

## Dietary Reference Intakes (DRIs)

- Introduced in 1997
- prevent of deficiencies & the role of nutrients in promoting optimal health + preventing chronic disease
- Aim to help meet nutrition needs through food rather than supplements
- Includes standards for recommended intakes (RDA or AIs) & max safe levels (UL)

USDA &  
DHHS  
issued  
guidelines  
for Americans

# MyPyramid.gov

## Key messages

- personalization
- daily physical activity
- moderation
- proportionality
- Variety
- Gradual improvement

6 color bands

## Serving Sizes

**Grains** - (1 ounce equivalents) 1 slice of bread, 1 small muffin (2.5d) 1 cup cereal flakes

**Veg** - 1 cup raw leafy veggies, 1/2 cup cooked or raw, 1/2 cup juice

**Fruit** - 1/2 cup fresh, canned, or frozen

**Milk/dairy** - 1 cup milk/yogurt, 1/2 cup ricotta, 1.5 oz natural cheese, 2 oz processed cheese

**Meat/beans** - 1 oz cooked lean meat, 1/4 cup dry beans, 1 egg, 1/2 oz nuts, 1 tbsp peanut butter

# Vegetarian Alternative

Reasons → health, religion, financial, ethics, environmental

Types → Vegan, only eat plant food (NO egg, dairy, meat)

Lacto-veg, eat plant & dairy

Lacto-ovo-veg, eat plant, dairy, egg

Partial veg,

semi veg,

pescoveg,

} some poultry & fish

## Nutrition Needs between women & men

women require lower calorie

men often do not eat right balance

## Dif in nutrients

women need same or slightly lower nutrients

- calcium - osteoporosis, critical to have calcium

- Iron - menstration, anemia - not proper amount of oxygen

- Folic acid - pregnancy, prevent of birth effects

## Dietary challenges for special populations

Children & teens, growing rapidly, learn from parents

College students, difficult to maintain diet

athletes, whole wheat carbs → energy

Special Health, diabetes need to monitor glucose

high blood pressure, monitor salt

## Safe food handling

refrigerate within 2 hrs, 1 hr if hot

# Organic Foods

Concern over pesticide, envir. contaminants

• Meet limits set by USDA

- No pesticide residue, organic feed, outdoor access, no antibiotics or hormones, no GMS, radiated, or sewage sludge
- "100% organic" - all organic
- "organic" - at least 95% organic
- "Made w/ organic" - 70%

Eat organic for:

Dirty dozen  
easily contaminated

- apples, bell peppers, celery, cherries, imported grapes, nectarines, peaches, pears, potatoes, red raspberry, spinach, strawberry
- eating organic beef, poultry, eggs, dairy, baby food
- \* - less residue: asparagus, avocado, banana, broc, coli, kiwi, mango, onion, papaya, pineapple, peas

Being organic is better for environment

↓ algae grows, sun can't get in

## Food allergies + intolerances

allergies

• reaction of the immune system

90% of food allergies

→ cows milk, eggs, peanuts, tree nuts, soy,

wheat, fish, shellfish

epipen - shot of epinephrem

anaphylactic reaction

Food intolerances

• Problem lies in metabolism rather than immune system

body reacts w/ chemical

Food labels  
required to put  
on labels

# Chap 10 - Exercise for Health

## Physical fitness

- The body's ability to respond or adapt to the demands + stress of physical effort
- withstand physical challenges
- protects from disease

## Cardiorespiratory endurance

- ability of heart & lungs to deliver oxygen to working muscles for sustained activity

ex) walking, swimming

\* low levels linked to heart disease

## Muscular Strength

- amount of force a muscle can produce w/ single max effort
- helps maintain skeletal alignment, good posture
- increases rate of metabolism
- improve cardiovasc health
- reduce risk of osteoporosis

## Flexibility

- ability to move joints through full range of motion

## Body comp.

- amount of lean body tissue vs body fat
- excessive body fat → high blood pressure...

## Skill component

- speed, power, agility, balance, coordination, reaction time → sports specific

umbrella

planned

**Physical activity**: any body movements carried out by skeletal muscles

**Exercise**: planned, structured, repetitive body movement intended specifically to improve/maintain physical fitness

significant health benefits from moderate physical activity (30 min / 5 days a week)

- lower risk of

Go over in Book:

Immediate & long term effects

Cardiovascular Disease:

endurance & strength maintain lipids, reduce Δ BP

Cancer: (not conclusive)

exercise reduces colon, breast, prostate

Osteoporosis:

weight bearing exercise builds bone density

Type II diabetes:

burns excess sugar

Makes cells more sensitive to insulin

keeps body fat @ healthy levels

IMPROVE social, psych, + emotional wellness:

Reduce stress

reduce secretion of hormones → reduce anxiety + depression

Improved self-image, improves self efficacy → belief & ability

Learning & Memory, improves connection between nerves to perform

Enjoyment

Improve immune function

prevention of injuries and low back pain

improve wellness for life

Sex benefits

\* physical activity pyramid in book or [www.cdc.gov/physact](http://www.cdc.gov/physact)

Medical Clearance

Inactive men over 40/women over 50

Basic principles:

① specificity → do what you need

② progressive overload → amount in prog increased

③ reversibility → body returns level & adjusts, rise in 2

④ individual differences

exercise  
=  
magic  
bullet

# Weight Management

3/23

66% of American adults are overweight  
33% men & 35% women are obese

By 2015

75% overweight, 41% obese

By 2030

Everyone will be overweight or obese

Basic concepts in weight man.

## Body composition

% of total weight that is body fat

### 2 types of body fat

Subcutaneous fat

- lipids in tissues
- critical to normal body functioning
- 3-5% in men, 8-12% in women

Visceral fat (storage fat → what ppl loose)

- adipose tissue
- just below skin around major organs & abdom. wo
- amount varies based on gender, age, heredity, metabolism, diet (apples + pears)

1 lb of fat = 3500 calories

## Energy Balance

crucial to keep a healthy ratio of fat & fat-free mass  
energy → needed for metabolism, digestion, physical activity

energy consumed = energy expended

weight gain < weight loss  
>

Evaluating Body weight & comp  
overweight: body weight above recommended range for good health

obesity: % body fat > 25% (men) & > 33% (women)

### Measurement methods

height weight charts

Body mass index (BMI)

$\text{Body weight}^{(kg)} / \text{height}^2 (\text{meters})$

### BMI Standards

healthy: 18.5 - 24.9

overweight: 25+

obese: 30+

### Body comp. analysis

hydrostatic (underwater) weighing & BOD POD

- most accurate

air chamber

### skinfold measurements

- thickness of fat under skin

### Electrical Impedance Analysis

- electricity prefers lean tissue

### Scanning procedures (expensive)

- CT scan, MRI, X ray, photon absorptiometry

### Excess Body Fat & wellness

#### Health risks

• obesity doubles mortality rates

• reduce life expectancy by 10-20 yrs

Associated with: unhealthy cholesterol & triglycerides, impaired heart function, death from card. disease

Other health factors:

BMI  
25+

BMI  
30+

7th cause  
of death

Diabetes: disruption in metabolism  
(insulin distributes glucose → energy  
↓ do not distribute glucose)

## Body fat distribution & health

### Apple shape

men & post menapausal women

upper regions of bodies

increase risk of high blood pressure, diabetes,  
heart disease, stroke, cancer

40" for men, 35" women - waist size

### Pear shape

premenopausal women

Body Image - collective picture of body  
through minds eye

## Problems w low levels of body fat

< 8-12% (women) < 3-5% (men)

problems w/

-reproductive

-circulatory

-immune system

## Female Athlete triad

abnormal eating patterns, excessive exercise

secondary →

amenorrhea → the ceasing of menstruation

decreased bone density → osteoporosis

## Factors contributing to excess body fat

### Genetic factors (25-40%)

if both parents are obese, children have 80% risk

### Physiological factors

resting metabolic rate (RMR) - energy required to

maintain vital body functions while @ rest. 65-70% / day

digestion - 10% energy expended physical activity - 20-30%

higher RMR =  
take in more cal.

## Lifestyle factors

eating - caloric intake increased 18% since 1983

physical activity we are exercising less, cutting out prognc

## Psychosocial Factors

Coping strategy - eat to cope

socioeconomic status - as income goes up, fat goes down

family & culture - symbol of celebration

↓  
access

## Adopting a healthy lifestyle for successful weight management

Calories - right amount.

portion size

energy

fat & carb intake

meal frequency - 4 to 5 meals / day

watch out for processed food

do not skip meals

## Physical Activity & exercise

essential for maintaining & losing weight

burns calories

alters metabolism

30 min or more of mod to int. 5 day / week

## Thinking & emotions

Self esteem & self image

positive self talk encourages

## Coping strategies

# Cardiovascular Disease (CVD)

Leading cause of death in US

affects nearly 81 mil Americans (our behavior)

In Book →

## The Cardiovascular System

heart & blood vessels - 4 chambers

pumps deoxygenated blood to lungs &

oxygenated blood throughout rest of body

• Pulmonary (right) - to/from lungs

• Systemic (left) - pumps blood through rest of body

pulmonary circulation:

systemic circulation:

Upper chamber - atrium

Lower chamber - ventricle

— Blood returns to heart through venacava & into

Right atrium → then moves to right ventricle

- Venacular contraction forces blood out of heart

→ blood then returns through pulmonary veins to

L vent → circulate thru aorta

• Systole: heart's contraction

• Diastole: period of relaxation

## Blood vessels

veins - thin walls, carry blood to heart

arteries - thick, elastic (allows to expand & contract)

carry blood away from heart

• coronary arteries (two large vessels that supply blood to heart)

Capillaries -

Venules -

150 lb person has 5 quarts of blood - circulates in 1 m

blockage is  
leading  
cause of  
H attack

based on  
amount of  
blood

# Risk Factors of CVD

2 categories

- Major
- Contributing

Major risk factors linked to lifestyle choices

## ① Tobacco Use

- Smokers have 2-3 x higher risk of death from heart attack
- Damages lining of arteries (can't expand & contract) less elastic
- Reduces HDL (good)
- Raises triglycerides & LDL (bad)
- Increases blood pressure
- CO displaces O<sub>2</sub>
- Causes platelets to become sticky & increases blood thickness - leading to clotting
- Speeds development of fatty deposits in arteries

## ② High Blood Pressure (hypertension)

- Asymptomatic (cause major damage before detected)
- Too much pressure against arterial walls - increased output of blood by heart
- \* Primary - genetic & environmental factors → obesity, stress, excess alcohol. (controllable)
- \* Secondary - caused by underlying illness occurs in 1 of 3 adults. 34% under control

*lifestyle changes recommended*

## ③ High cholesterol

- Clogs arteries
- Excess amounts of LDL are deposited in the blood vessels, speeding inflammation & damage artery walls - increasing blockage
- High LDL, low HDL
- Total cholesterol < 200 mg/dcc & LDL < 100 are desired
- Levels over 240 considered high

own form of CVD

exercise + diet

## ④ Physical Inactivity

- 40-60 mil americans are so sedentary that they are @ high risk for developing CVD

exercise:

- controls blood pressure & resting heart rate
- lowering LDL
- increasing HDL
- maintain weigh
- improve blood vessels
- control & prevent diabetes

## ⑤ Obesity (apples more at risk) -distrib. of fat

- BMI 30+ 2-3x more likely
- increases strain on heart
- associated w:  
hypertension, diabetes, insulin desistance

## ⑥ Diabetes

- 2x for men, 3x for women
  - loss of 5-10 yrs of life
  - higher risk of  
- hypertension, obesity, bad blood lipid levels, vulnerable to atherosclerosis, elevated blood glucose & insulin damage cell lining in arteries
- increase stroke & heart attack

## Contributing factors that can change

- Diet & nutrition
- psychological & social factors  
- stress, hostility, depression, anxiety, isolation, low SE
- alcohol & drugs

## RISK FACTORS that can't change

- Heredity
- Aging - over 65 (70% of heart attack victims)
- Being male - higher risk earlier in life
- Ethnicity - blacks higher risk of hypertension  
hispanics greater risk of HBP & angina,  
asians lower rates of CVD

## Major Forms

### • Atherosclerosis

- slow, progressive process - may begin in childhood
  - arteries narrowed by deposits of fat..
  - build up, cause buldge
  - plaque build up decreases elasticity (blockage)
  - artery vulnerable to blockage by blood clot
  - stroke - blockage of cerebral artery to brain
  - Peripheral Artery disease → blockage of artery in a limb
- CHD coronary →
- risk factors → smoking, inactivity, high chol, BP, diabet

### • Heart attack (MI)

- one of coronary arteries are blocked - carry blood to
- long term disease process, although can occur w/o warning
- 1.2 mil annually
- symptoms - chest pain, arm, neck or jaw, difficulty breathing
- 1/3 of patients do not report chest pain

### • Angina

- chest pain from not enough oxygen to heart
  - narrow arteries
  - may occur as shoulder, neck, arm, hand pain
- one heart attack

## Arrhythmia

- abnormal heartbeats resulting from disruption of heart's electrical system

- symptoms range from imperceptible to fatal

## Sudden Cardiac Death (cardiac Arrest)

- caused by arrhythmia

- ineffective pumping of blood

- can be fatal

• pacemaker

## Helping a Heart attack victim

• most die w/in 2 hours

- chew adult aspirin

- CPR

\* see p. 295

## Detecting & treating

- electrocardiogram → while exercising (ECG, EKG)

- echocardiograph - sound waves

- Magnetic Resonance Imaging (MRI)

- PET scan

- angiogram, catheter through artery

- balloon angioplasty, catheter w/ balloon

- coronary bypass surgery - replace unhealthy

## Stroke - blockage in supply to brain

795,000 suffer / yr

87%

• Ischemic Stroke - blockage in blood vessels

\* Thrombotic - clot in cerebral artery - forms

\* Embolic - wandering blood clot wedged in cerebr. art.

• Hemorrhagic Stroke - blood vessel ruptures in brain

\* Intracerebral - ruptured vessel within brain

\* Subarachnoid - blood vessel surface ruptures + bleeds thru

\* Aneurysm - blood filled pocket, bursts - bulges out

Exo-  
9, 10, 11, 12

## The Effects of a Stroke

interruption of the blood supply or any other area of the brain prevents the nerve cells from functioning, in some cases causing death

- Those who survive have some lasting disability
- paralysis
  - speech impairment
  - walking
  - memory loss
  - changes in behavior

## Warning Signs

- Sudden numbness or weakness of face, arm, leg, or one side of body
- sudden confusion, dif. speaking
- dimming or loss of vision
- sudden trouble walking, dizzy, loss of balance
- sudden, severe headache w/ no known cause

## Detecting & treating

- Transient ischemic attack (TIA)
    - temp stroke like symptoms - warning
  - Computed tomography (CT)
  - MRI
  - Drugs
  - Rehab → phys. therapy, speech therapy, occup. therapy
- } determine what type of stroke

## Congestive Heart Failure

- Fluids back up, collect in the lungs & other areas
- Pulmonary Edema - fluid accumulates in the lungs, interferes w/ breathing
- To control congestive heart failure
  - reduce cardiac load, restrict salt intake, drugs
- Occurs when the heart cannot maintain its regular pumping rate & force

Makes you pee