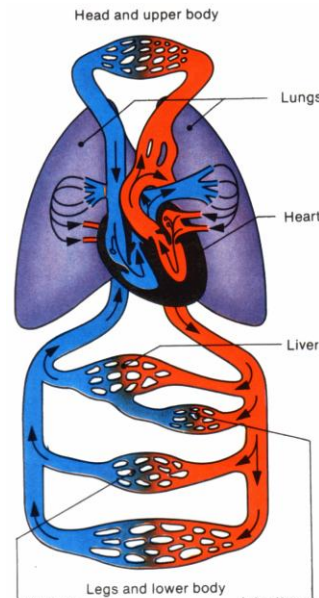


CHAPTER 12: health and its interdependent systems

Organ systems to know:

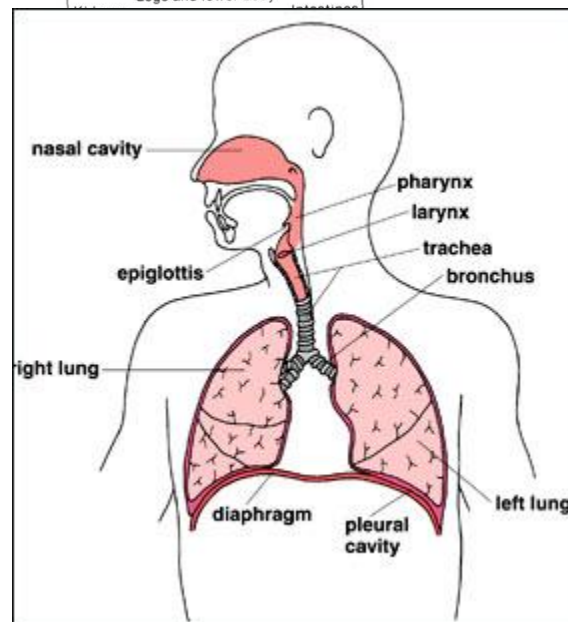
1. CIRCULATORY SYSTEM

- Consists of heart, arteries, veins, and capillaries
- **FUNCTION:** to transport blood, nutrients, gases and waste



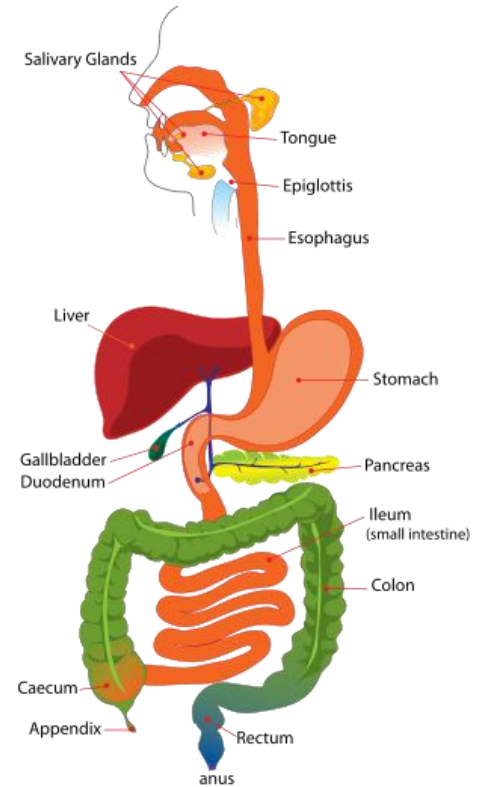
2. RESPIRATORY SYSTEM

- Consists of nasal cavity, trachea and lungs
- **FUNCTION:** control breathing, and exchanging gases in the lungs and tissues



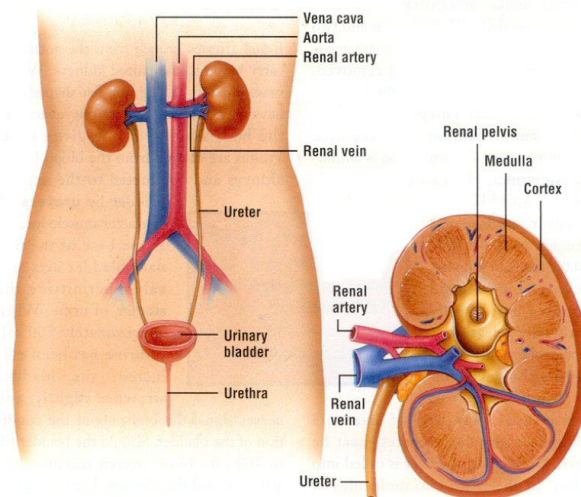
3. DIGESTIVE SYSTEM

- Mouth, esophagus, stomach, small intestine, large intestine, liver, gall bladder, and pancreas
- **FUNCTION:** to take in and break down food, absorb the nutrients then eliminate solid waste



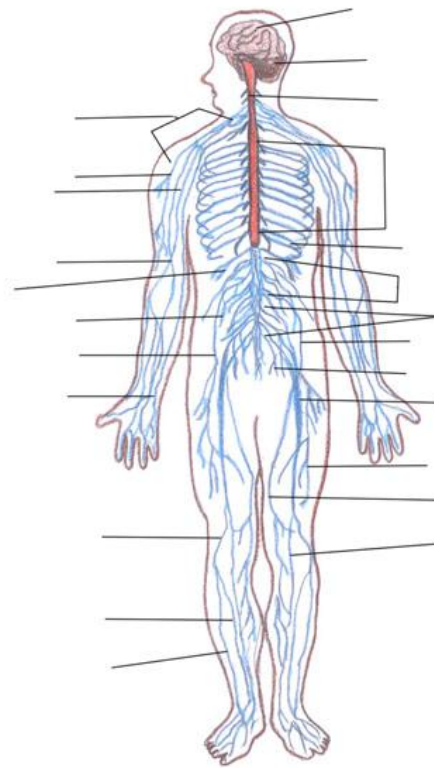
4. EXCRETORY SYSTEM

- Consists of the kidneys and urinary bladder
- **FUNCTION:** to remove liquid and gas waste from the blood
- **NOTE:** sometime the lungs are considered part of this system since they excrete CO₂



5. NERVOUS SYSTEM

- Consists of brain, spinal cord, nerves and senses organs
- **FUNCTION:** to detect changes in the environment and signal these changes to the body which then carries out a response

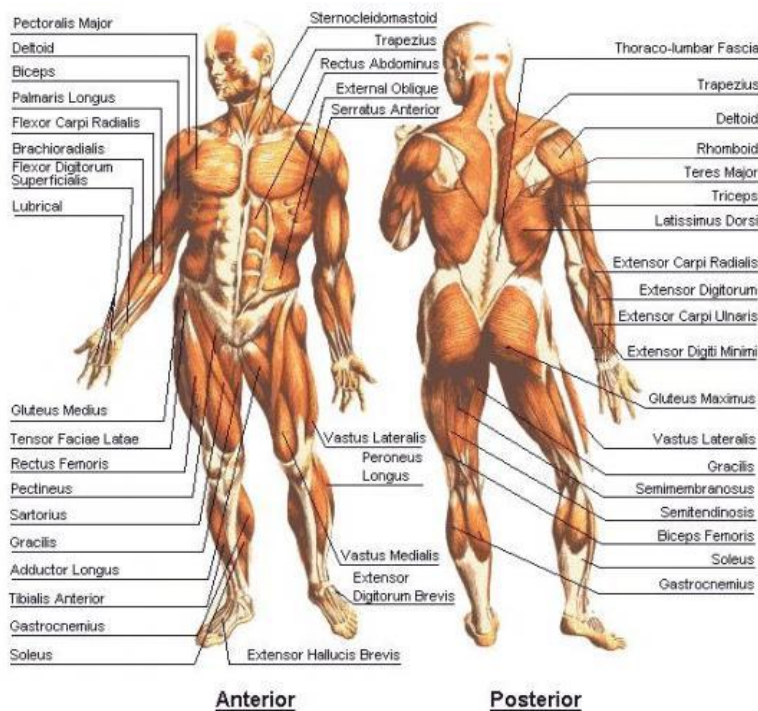


Sketch by Abhishek Sharma

Nervous System Diagram

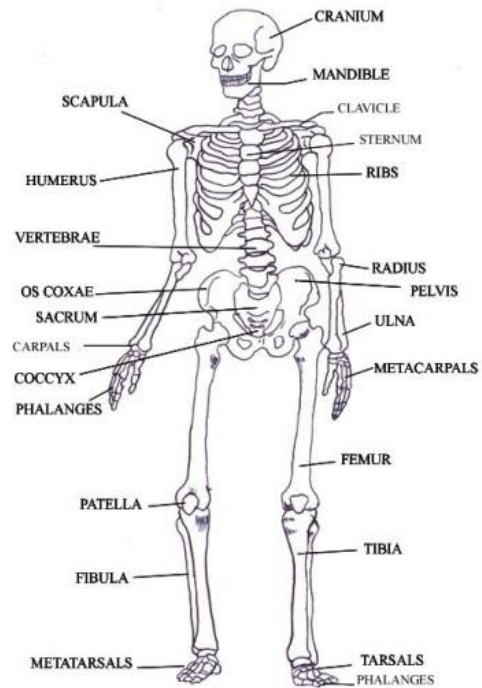
6. MUSCULAR SYSTEM

- Consists of muscles attached to bones throughout the body
- **FUNCTION:** to work with the bones to move its body parts



7. SKELETAL SYSTEM

- **Consists of bones, ligaments and tendons**
- **FUNCTION: to provide support for the body**



Sketch by Abhishek Sharma

LABELED DIAGRAM OF SKELETON

Terms to know Chapter 12

<p>Circulatory system Digestive system Digestive System Excretory System Muscular System Nervous System Nutrients Respiratory system Skeletal System</p>	<p>Genetic factors Homeostasis Lifestyle factors</p>
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Basic factors which affect the function and efficiency of our organ systems

1. Diet and nutrition See page 449
2. Exercise
3. Stress

Lifestyle choices (Social Issues to consider)

- **Diet choices**
 - **fast foods vs eating using Canada's Food Guide**
 - **using food with food additives???**
 -
- **Smoking???**
- **Drinking alcohol**
- **living active lifestyle VS Sedentary lifestyle**
- **sunscreen???**
- **Steroids???**

Controversial Treatments of today

1. Breast implants
2. Lazer eye surgery
3. Procedures to help people lose weight
 - Gastric bypass
 - Crazy diets

Artificial Organs/Parts of organ use

- **Dialysis machines (kidney)**
- **Artificial hearts (doesn't last)**
- **Artificial limbs**
- **Artificial lungs (respirator)**
- **Pace makers/defibrillators**
- **Insulin pumps**

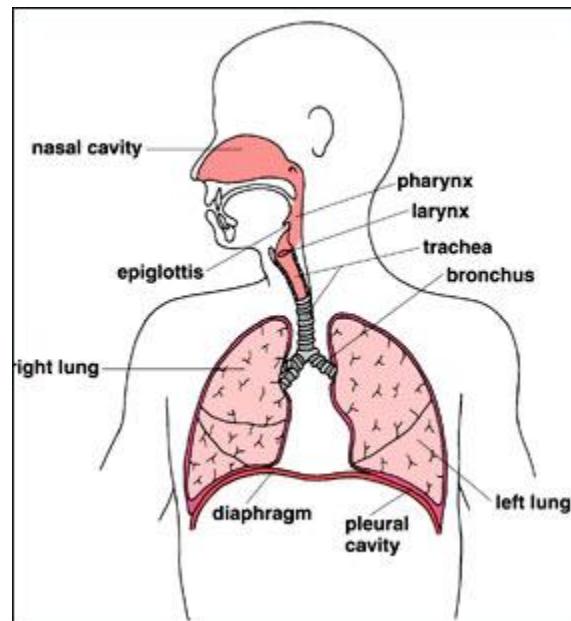
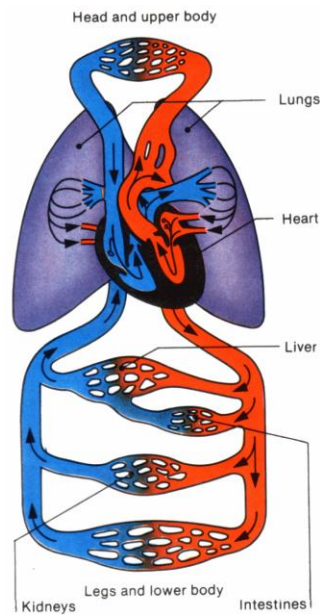
Technology has changed the lifespan of individuals: STSE

- **insulin pumps**
- **artificial hearts**

Examples of interdependent systems:

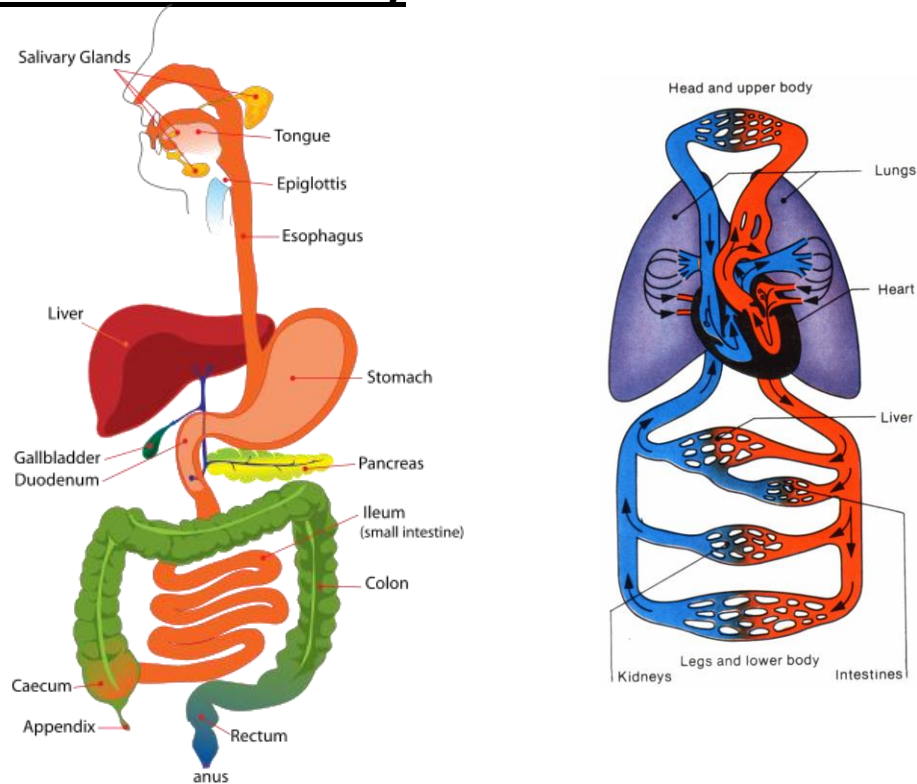
- 1. circulatory and respiratory**
- 2. digestive and circulatory**
- 3. nervous and muscular**

1. circulatory and respiratory



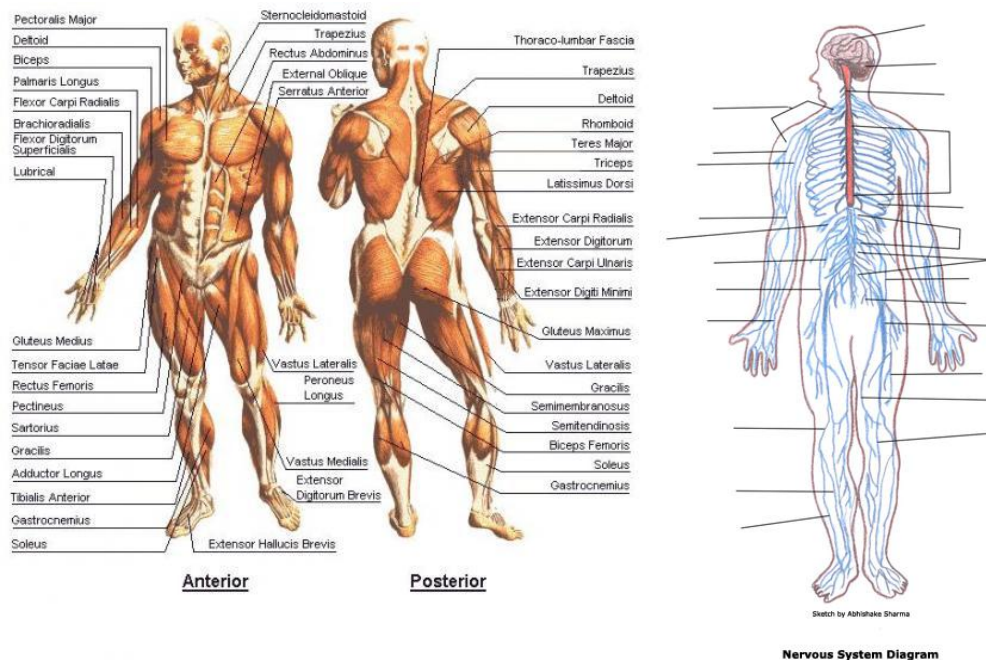
- oxygen carried to lungs
- oxygen being carried by blood through the body
- carbon dioxide (waste product) being removed from cell
- CO₂ exhaled to rid the body of waste product

2. Digestive and circulatory



- Chew the food, swallow , then goes to stomach
- Goes to small intestine where it is digested and broken down into nutrients (NOTE: its wall contain many blood vessels)
- Nutrients (molecules) pass through the lining and enter the blood
- Nutrients get to cells giving materials and energy for cell to function

3. Nervous and muscular systems



- Nervous system picks up signals(stimuli) from inside and outside body
- Nervous signal react based on the signal i.e. muscular movement
 - when its COLD, nervous system causes muscles to contract and relax rapidly...we SHIVER
 - when HOT, nervous system causes muscles around the blood vessels to relax, bringing warm blood closer to the surface where it is COOLED by the air ...skin FLUSHES

CORE LAB The effects of Activity on the HEART RTE and breathing rate

Careers associated with HEALTH of body systems

- M.R.I. tech
- Radiologist
- Lab technician
- X-ray tech
- Physiotherapists
- Nutritionists
- Doctors
- Public health nurses
- Coaches/ sports teams
- others

Lifestyle choices:

- Diet choices
 - fast foods vs eating using Canada's Food Guide
 - Smoking
 - Drinking alcohol
 - living active lifestyle VS Sedentary lifestyle