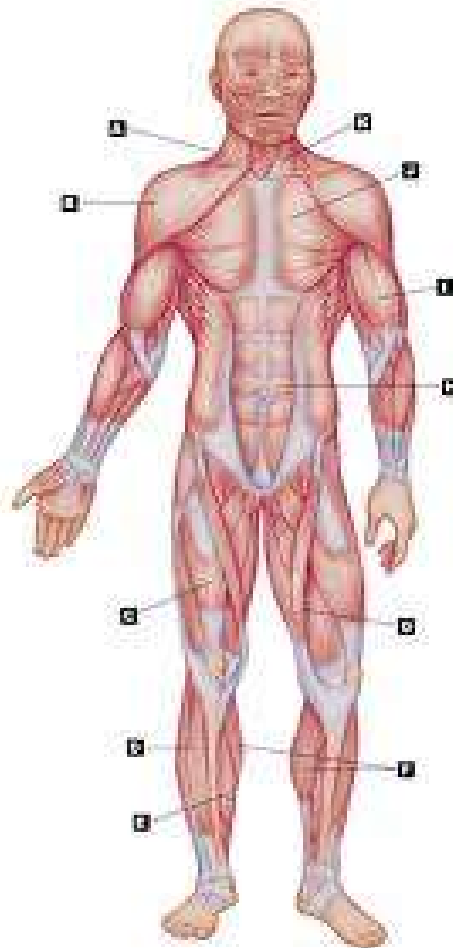


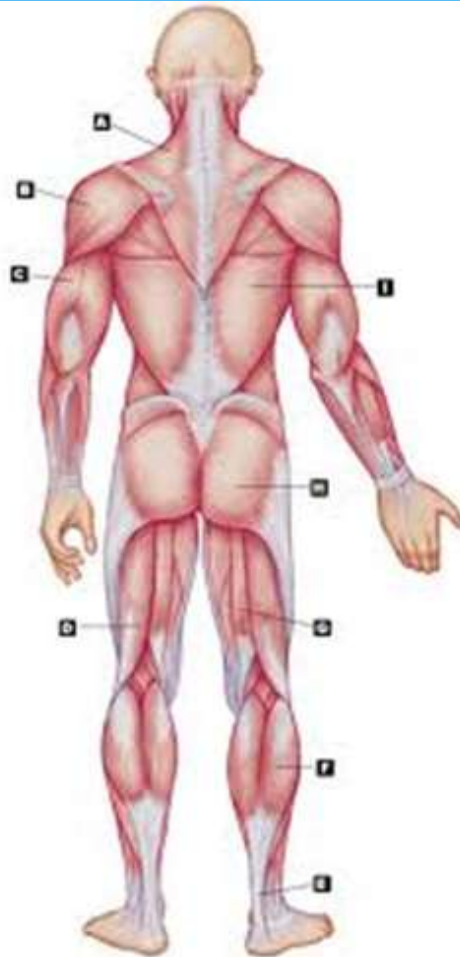
The Muscular System

Mr. Brainard

Muscle Pretest



Muscle Pretest



1. What do muscles do?

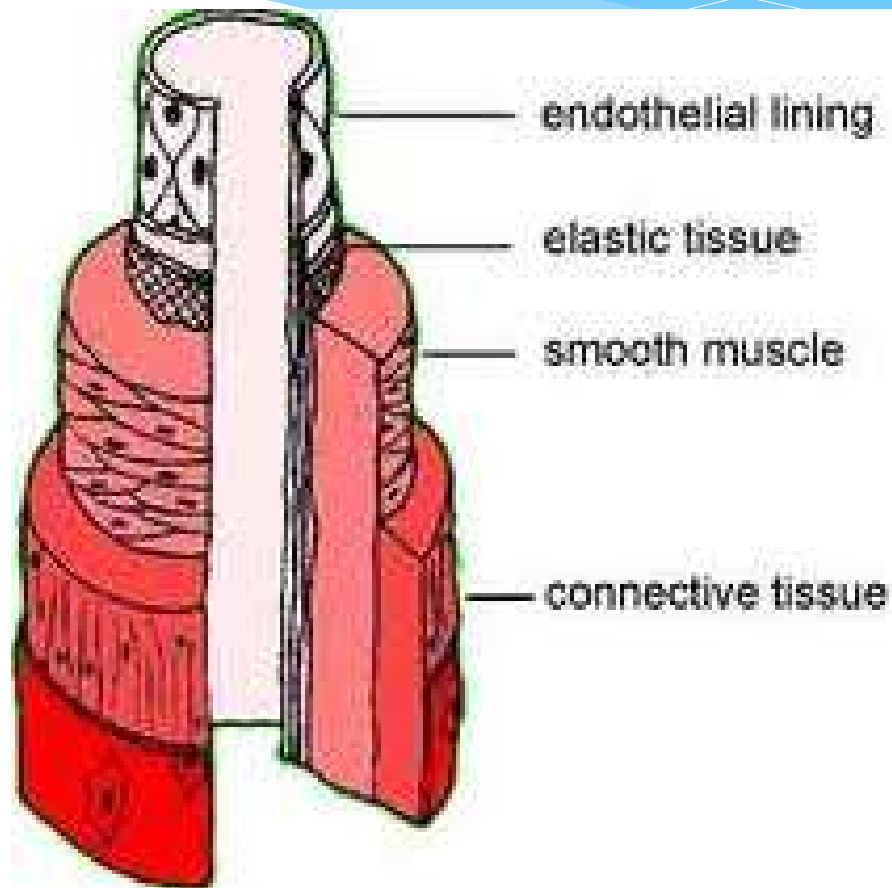
- * a. allows movement
- * b. enables voluntary and involuntary movement
- * c. voluntary – movements you can control
- * ex. Shooting a basketball, playing piano, etc.
- * d. involuntary – occurs without you knowing it
- * ex. Muscles that help you breathe, make your heartbeat

2. 3 Types of Muscle

- * a. Smooth Muscle – acts on the lining of the body's passageways and hollow internal organs
 - * - found inside digestive tract, lining of blood vessels
 - * - INVOLUNTARY – you cannot control the movement!

Smooth Muscle

* Blood Vessel



2. Types of Muscles

- * b. Skeletal Muscle – muscles attached to bone that cause body movements.
- * - VOLUNTARY control!

Skeletal Muscle



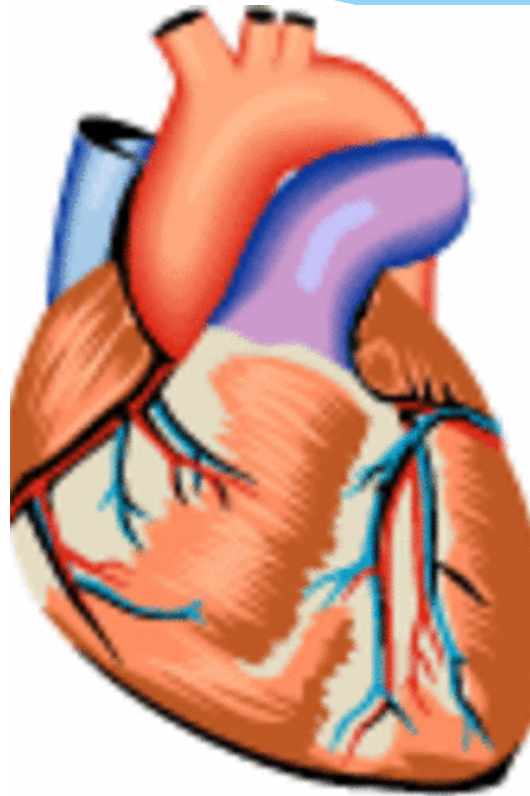
2. Types of Muscles

- * - Skeletal muscles often work together to perform contrasting movements
- * - Flexor – muscle that closes a joint
- * - Extensor – muscle that opens a joint
 - * - a great example is when you bend and straighten your arm at the elbow using your biceps and triceps.

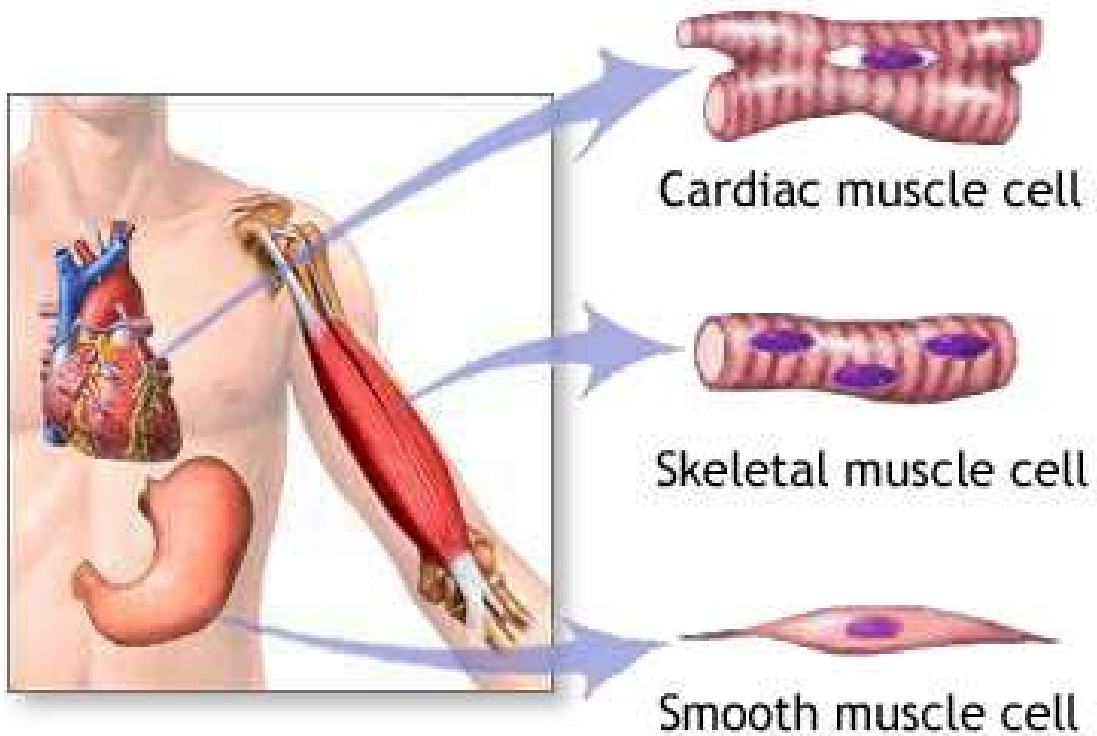
2. Types of Muscles

- * c. Cardiac Muscle – muscle that forms the walls of the heart
- * - responsible for the contraction of your heart
- * - INVOLUNTARY!

Cardiac Muscle



3 Types of Muscle



Properties of Muscles

- *1. Contractibility – muscles have the ability to shorten, or contract
- *2. Extensibility – muscles lengthen

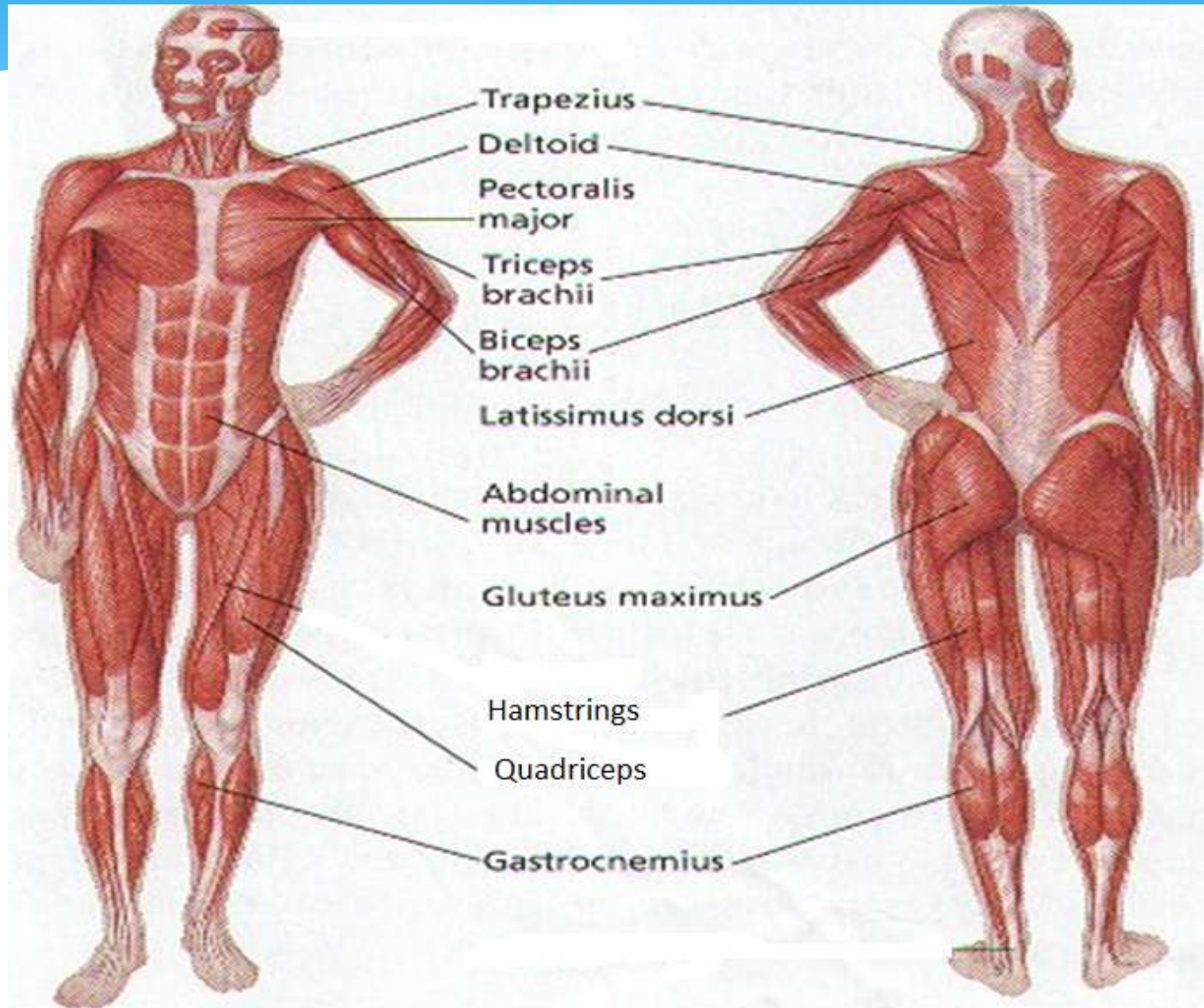
3. How do you build strong muscles?

- * a. Exercise regularly!
- * b. Eat foods that are high in protein
 - * Protein – building blocks of muscle
 - * - meats, milk, eggs, yogurt, fish, nuts
- * c. exercise the right way, use the weight room correctly

HOME WORKOUT!

	Muscle(s) Worked – My Guess	Actual Muscle Worked - Primary	Actual Muscle Worked - Secondary	Variations?
1. Chair Dips				
2. Push ups				
3. Lunges				
4. Calf Raise				
5. Crunches				
6. Mule Kick				

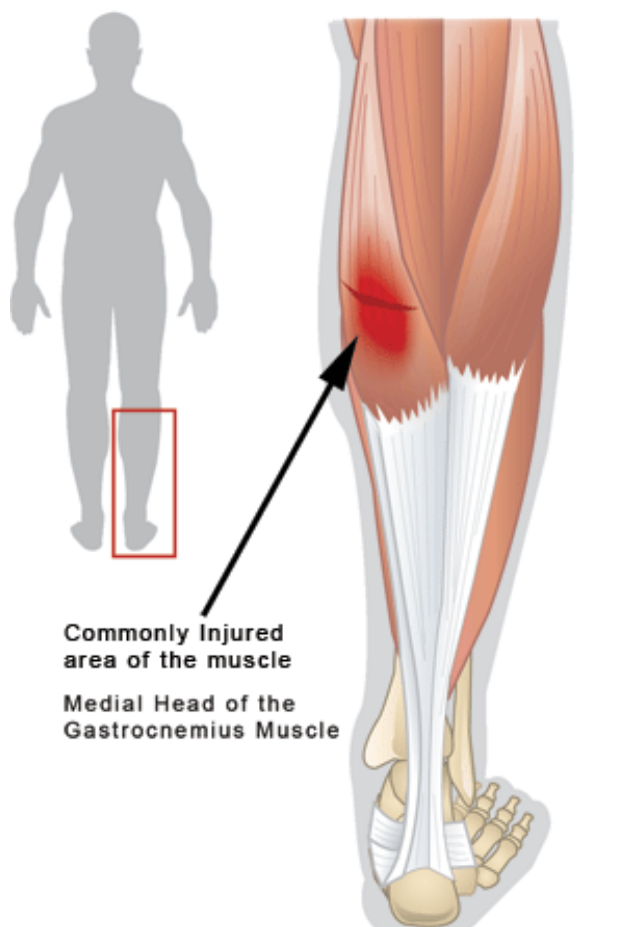
Muscle Diagram



Problems of Muscular System

- * 1. Muscle Strain
 - * a. painful stretching or tearing of muscle fibers caused by overexertion
 - * b. to heal, ice for the first 24 hours, then apply heat to the strain

Muscle Strain



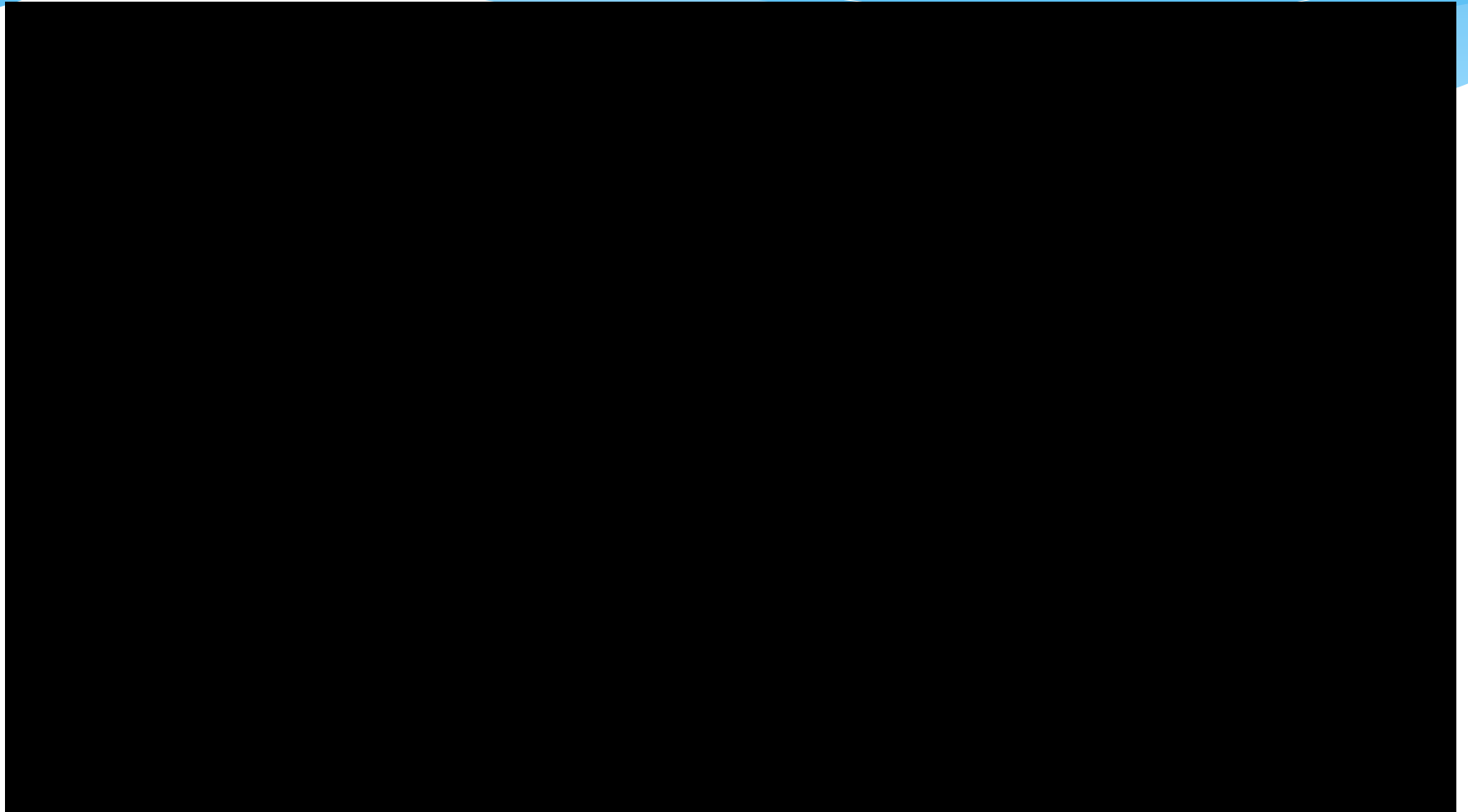
Problems of Muscular System

- * 2. Muscle Cramp
 - * a. when a muscle contracts spasmodically and involuntarily
 - * b. may occur from using a muscle for too long
 - * c. to heal - gently stretch muscle and massage the knot

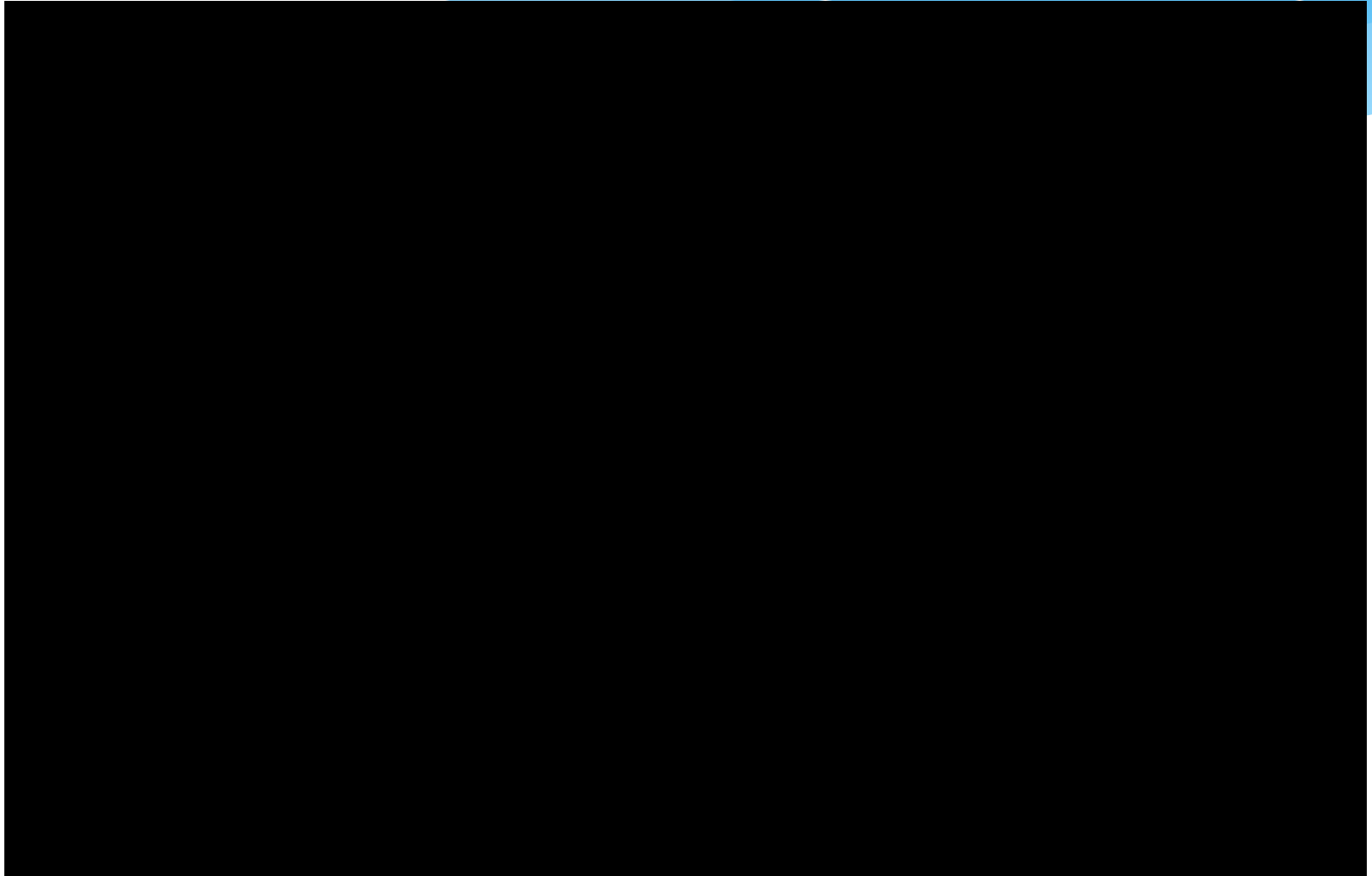
Problems of Muscular System

- * 3. Muscular Dystrophy
 - * a. crippling disease characterized by progressive wasting away of skeletal muscles
 - * b. muscle cells are unable to function properly
 - * c. symptoms – muscle weakness, difficulty standing/walking, frequent falling
 - * d. cannot be cured, but early detection is key as muscle weakening can be delayed

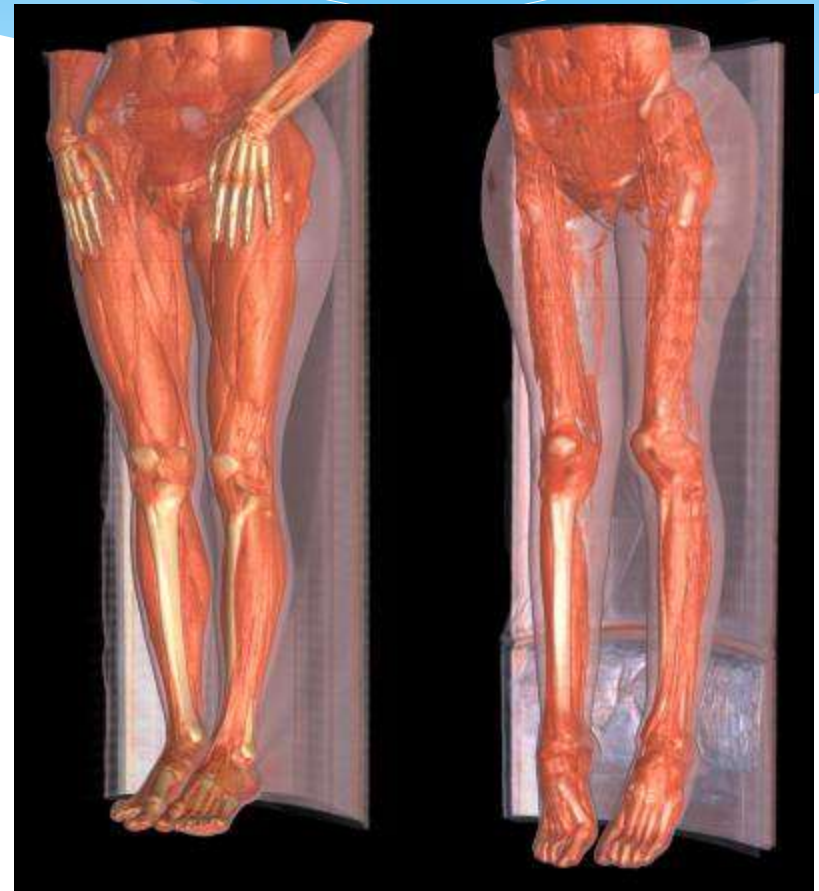
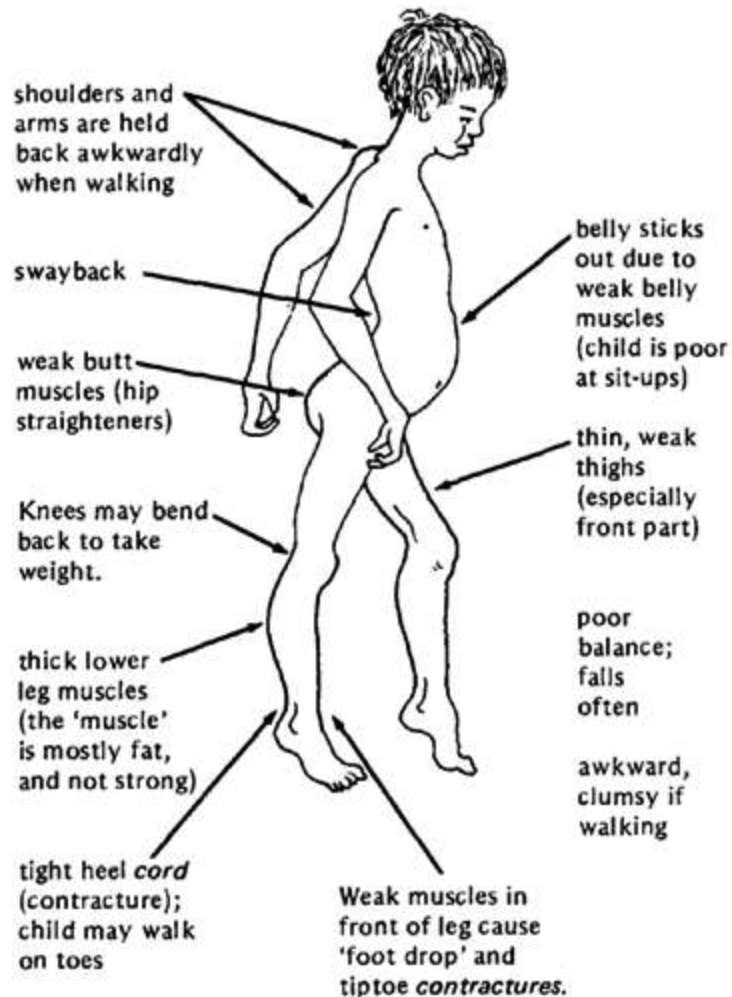
Muscular Dystrophy – Sophie's Story



Bryan's Story



Muscular Dystrophy



Muscle Size

- * 4. Key Facts and Terms
 - * a. Hypertrophy – increase in muscle size due to exercise
 - * b. Atrophy – decrease in muscle size from a lack of use of muscles

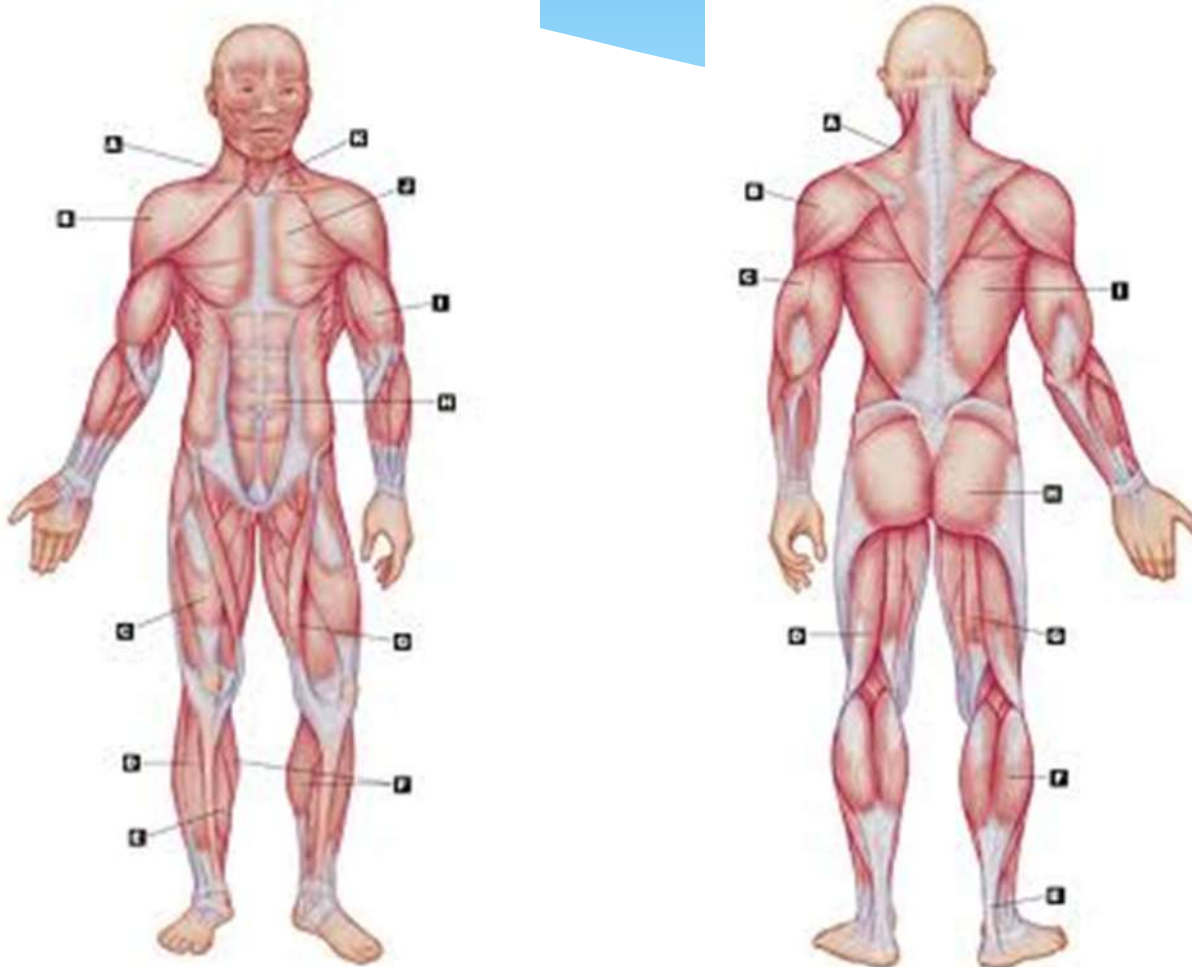
Formula for maximum fat burn!

- * 1. More muscle tissue results in a higher metabolism!
- * 2. Metabolism – the rate at which the body converts food to energy
- * 3. If you have a higher metabolism, you are likely to weigh less
- * 4. Thus, the more muscle mass you have, the higher your metabolism, the more fat you will burn!
- * 5. Couple weight training with cardio training (running) to achieve best results

TEST DAY!

- * Welcome! Come right in, find your assigned seat.
- * 5 minute study time
- * Make sure you have a number 2 pencil
- * We will start the exam at 9:40!

Bell Ringer #1 – List all the muscles you know!



Bell Ringer #2

- * Aside from our examples in class, come up with at least 2 examples of each:
 - * 1. Voluntary Movements
 - * 2. Involuntary Movements

Bell Ringer #3

- * Label the muscular system diagram on the last page of your note packet!
- * On your bell ringer sheet, pick the muscle or muscles you need