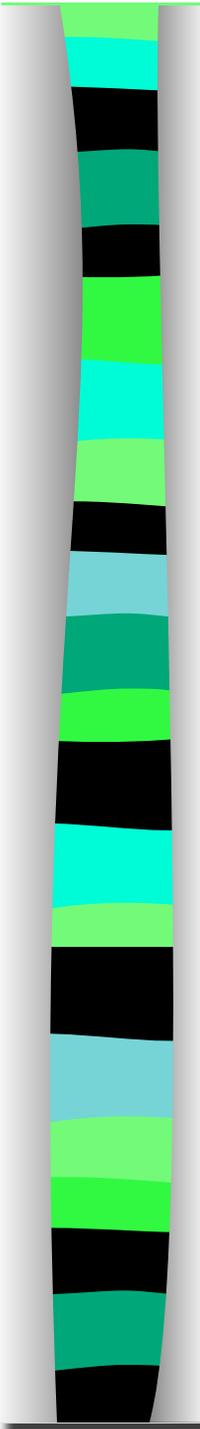


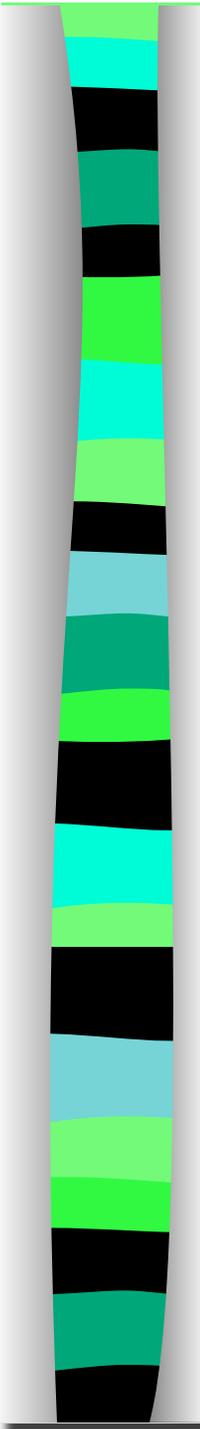
6a A&P: Introduction to the Human Body - Tissues

6a A&P:

Introduction to the Human Body - Tissues Class Outline



5 minutes	Attendance, Breath of Arrival, and Reminders
10 minutes	Lecture: AOIs of the gluteals
5 minutes	Active study skills for AOIs of new muscles
25 minutes	Lecture:
15 minutes	Active study skills:
60 minutes	Total



6a A&P:

Introduction to the Human Body - Tissues Class Reminders

Assignments:

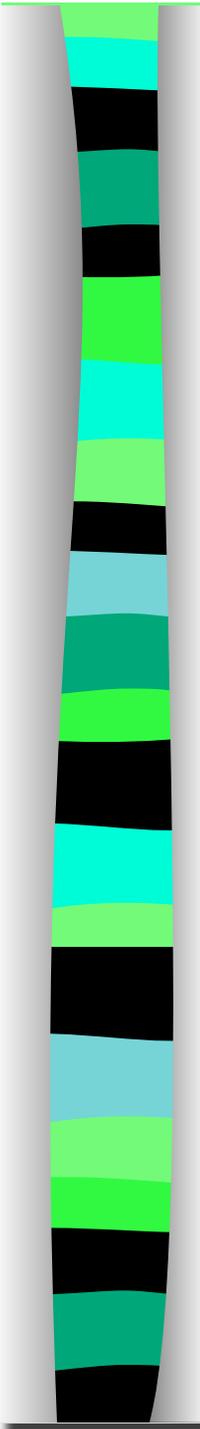
- 7a Review Questions (A: 119-130)

Quizzes and Written Exams:

- 8a Written Exam Prep Quiz (A-73, classes 1b, 2a, 2b, 3a, 3b, 4a, 5a, 6a, and 7a)
- 8b Kinesiology Quiz (A-73, gluteals, hamstrings gastrocnemius and soleus)
- 10a Written Exam (A-73, classes 1b, 2a, 2b, 3a, 3b, 4a, 5a, 6a, and 7a)

Preparation for upcoming classes:

- 7a A&P: Introduction to the Human Body - Body Compass
 - Trail Guide: hamstrings
 - Salvo: Pages 399-409
 - Packet E: 11-14
 - RQ Packet A-129
- 7b Swedish: Technique Demo and Practice - Posterior Lower Body
 - Packet F: 31-34



Classroom Rules

Punctuality - everybody's time is precious

- Be ready to learn at the start of class; we'll have you out of here on time
- Tardiness: arriving late, returning late after breaks, leaving during class, leaving early

The following are not allowed:

- Bare feet
- Side talking
- Lying down
- Inappropriate clothing
- Food or drink except water
- Phones that are visible in the classroom, bathrooms, or internship

You will receive one verbal warning, then you'll have to leave the room.

Classroom Rules

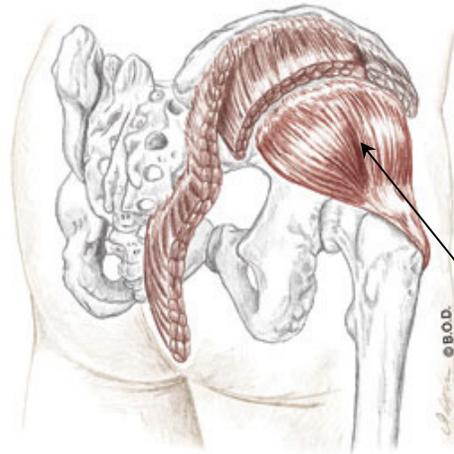
Cell Phones – Turn it off!



And put it away!

Gluteals

Trail Guide, Page 315



Posterior View

The three gluteal muscles are located in the buttock region, deep to surrounding adipose tissue.

Adipose = fat

The large, superficial **gluteus maximus** is the most posterior of the group.

Gluteus medius is located on the lateral side of the hip and is also superficial. It is often thought of as “the deltoid of the coxal joint”.

Coxal joint = hip!

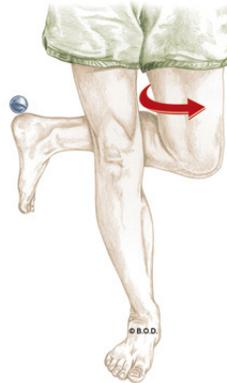
The **gluteus minimus** lies deep to the gluteus medius. Its dense fibers can be felt beneath gluteus medius.

When do you use your gluteals?

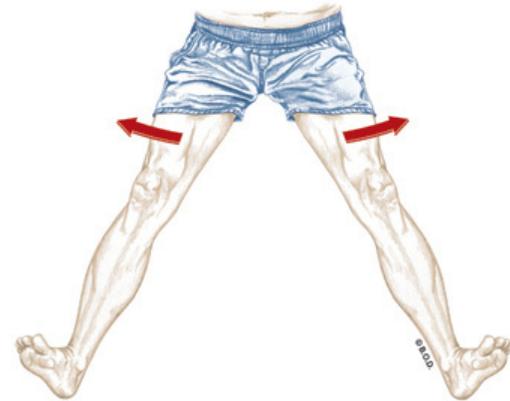
Actions of the gluteals



Extension
of the coxal joint



Lateral rotation
of the coxal joint



Abduction
of the coxal joint



Flexion
of the coxal joint



Medial rotation
of the coxal joint



Adduction
of the coxal joint

Gluteus maximus, page 315

A *All fibers:*
Extend the hip (coxal joint)

Laterally rotate the hip (coxal joint)

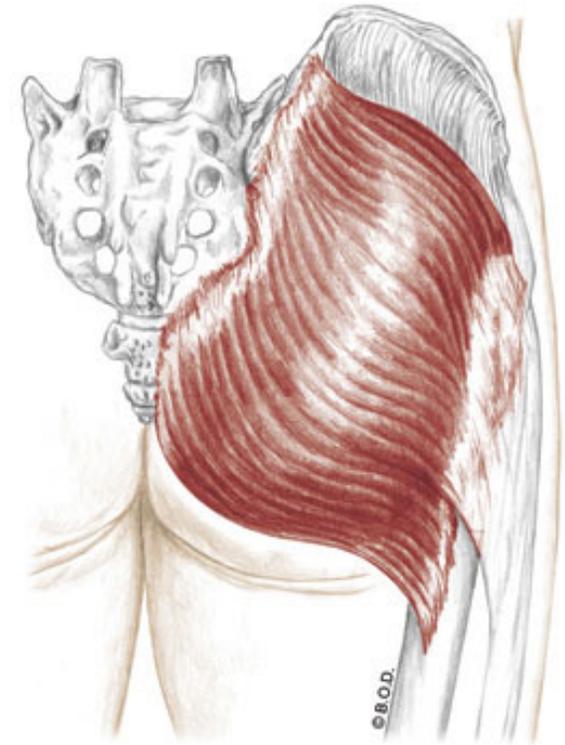
Abduct the hip (coxal joint)

Lower fibers:

Adduct the hip (coxal joint)

O Coccyx
Edge of sacrum
Posterior iliac crest
Sacrotuberous ligament
Sacroiliac ligament

I Iliotibial tract (upper fibers)
Gluteal tuberosity (lower fibers)



Posterior View



Gluteus maximus, page 315

- A** All fibers:
Extend the hip (coxal joint)

Laterally rotate the hip (coxal joint)

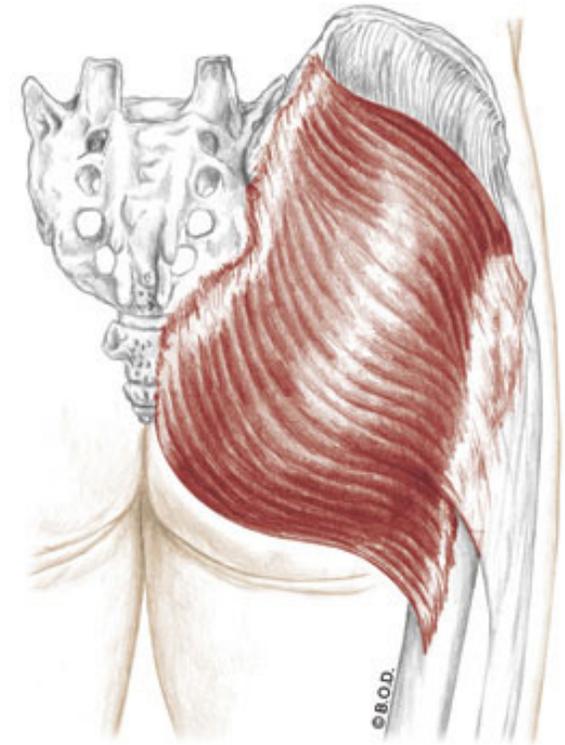
Abduct the hip (coxal joint)

Lower fibers:

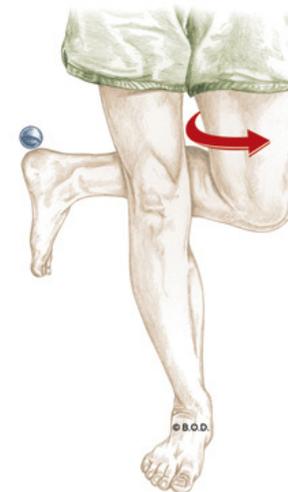
Adduct the hip (coxal joint)

- O** Coccyx
Edge of sacrum
Posterior iliac crest
Sacrotuberous ligament
Sacroiliac ligament

- I** Iliotibial tract (upper fibers)
Gluteal tuberosity (lower fibers)



Posterior View



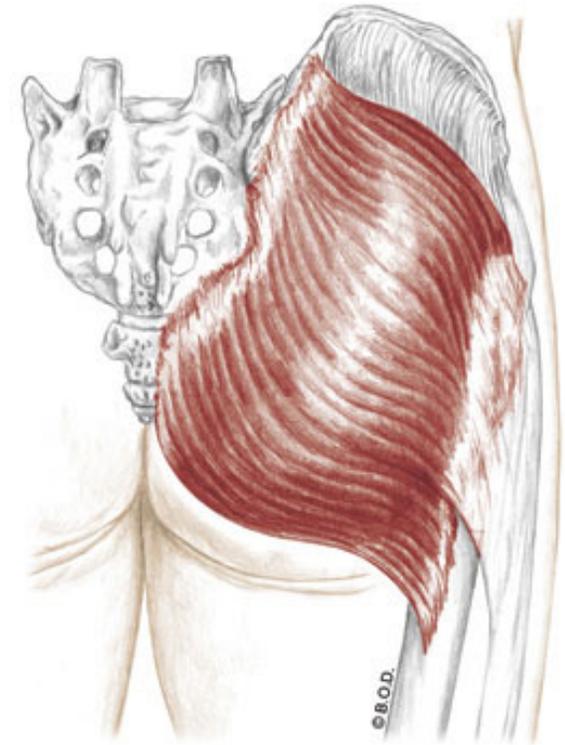
Gluteus maximus, page 315

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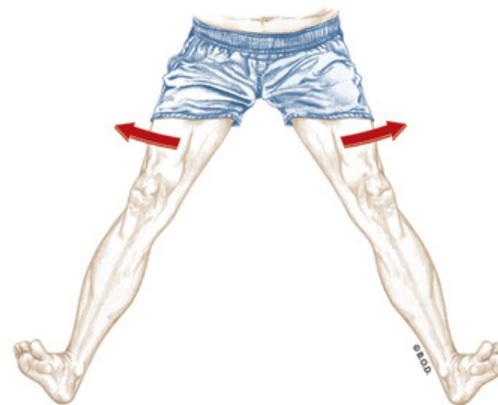
Lower fibers:

Adduct the hip (coxal joint)



- O** Coccyx
 - Edge of sacrum
 - Posterior iliac crest
 - Sacrospinous ligament
 - Sacrospinous ligament

- I** Iliotibial tract (upper fibers)
 - Gluteal tuberosity (lower fibers)



Abduction

Posterior View



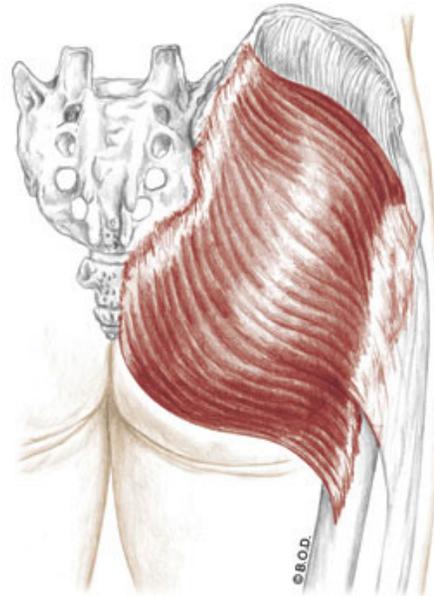
Adduction

Gluteus maximus, page 315

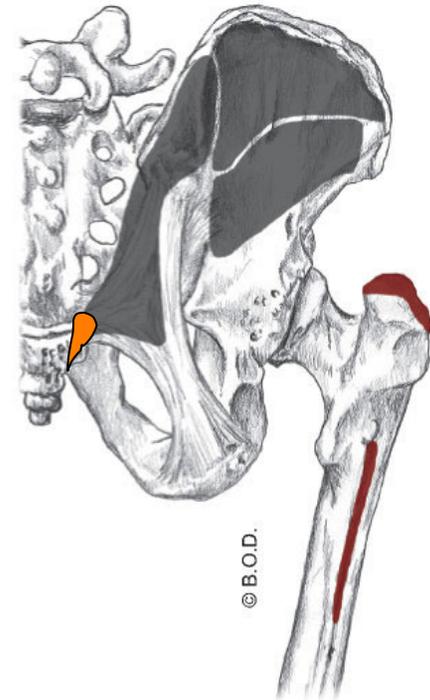
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 - Edge of sacrum
 - Posterior iliac crest
 - Sacrospinous ligament
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- I**
 - Iliotibial tract (upper fibers)
 - Gluteal tuberosity (lower fibers)



Posterior View

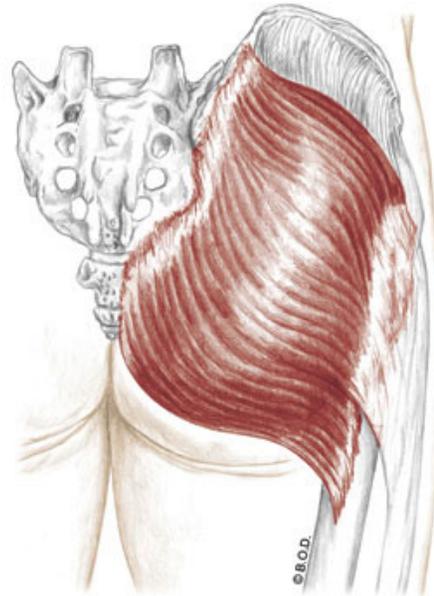


Gluteus maximus, page 315

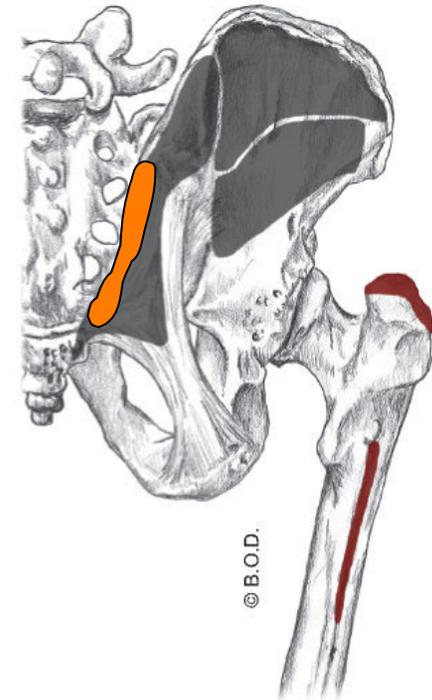
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Gluteal tuberosity (lower fibers)



Posterior View

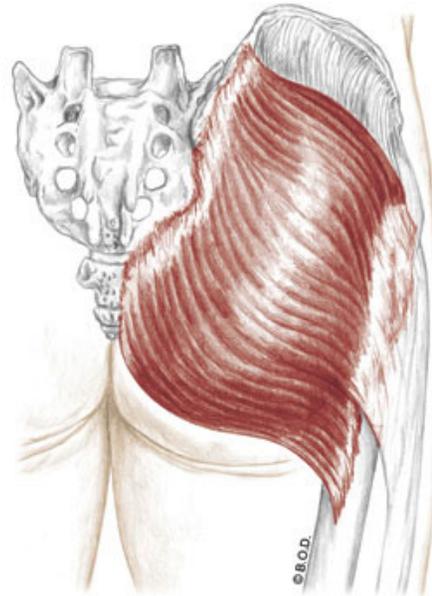


Gluteus maximus, page 315

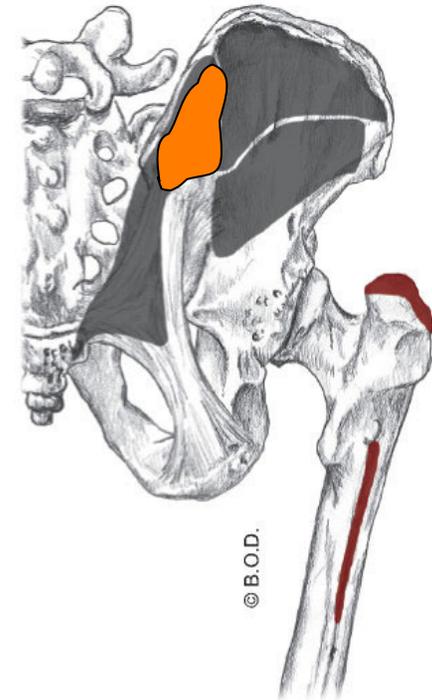
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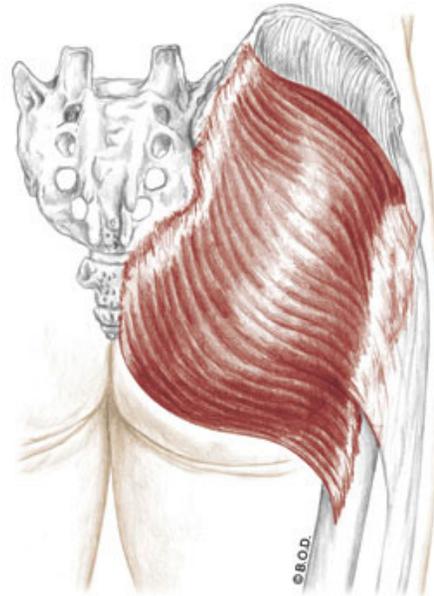
Posterior View



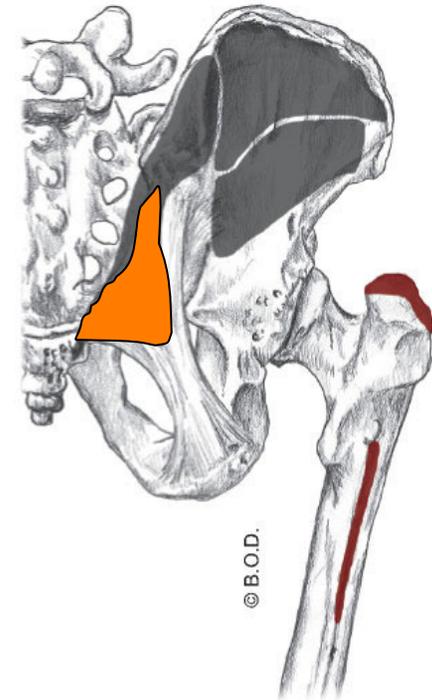
Gluteus maximus, page 315

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Posterior View

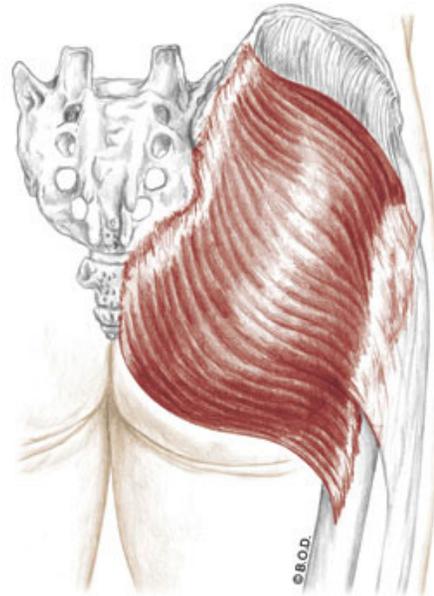


Gluteus maximus, page 315

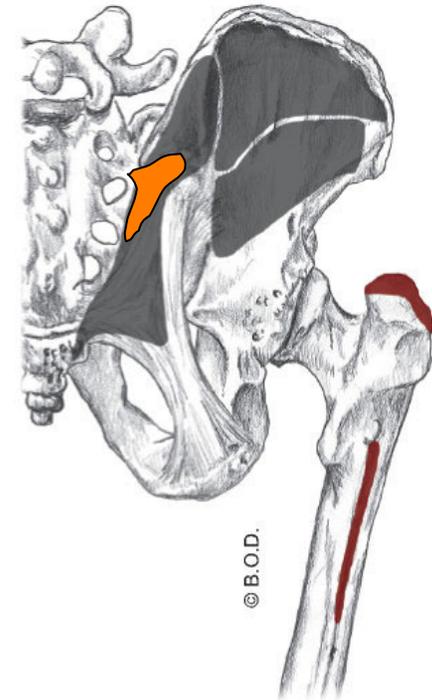
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Posterior View

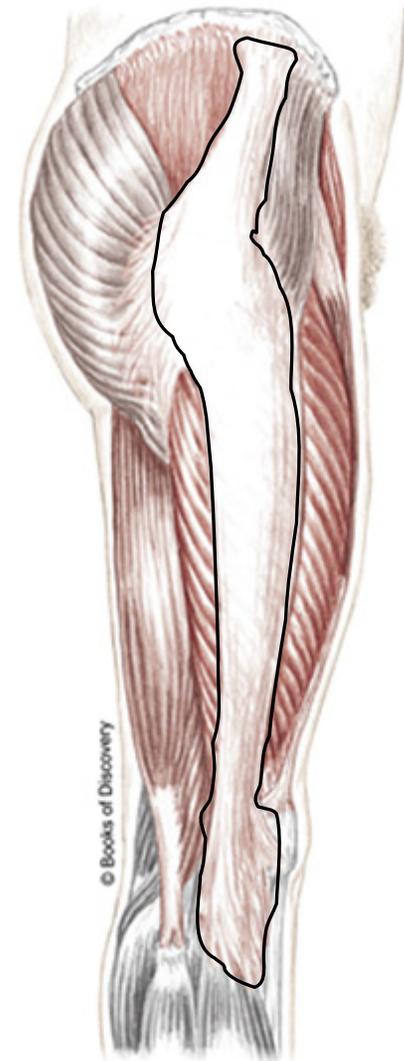


Gluteus maximus, page 315

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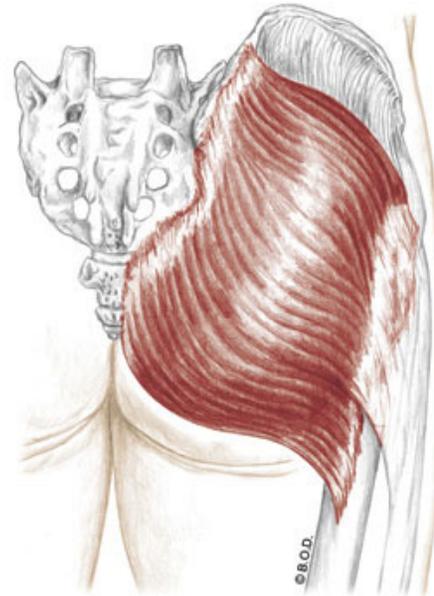
Posterior View

Gluteus maximus, page 315

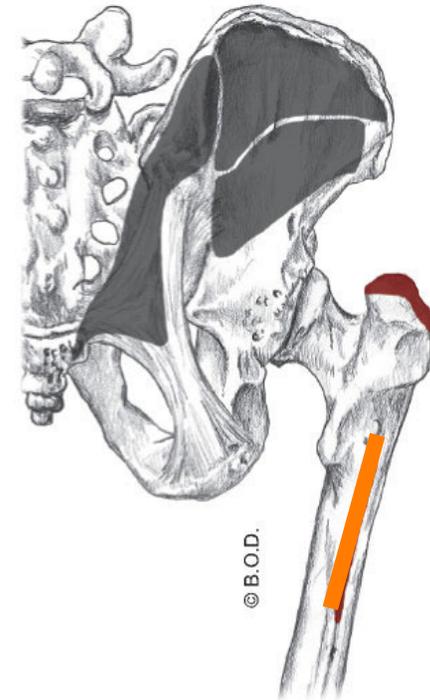
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Gluteal tuberosity (lower fibers)



Posterior View



Gluteus medius, page 315

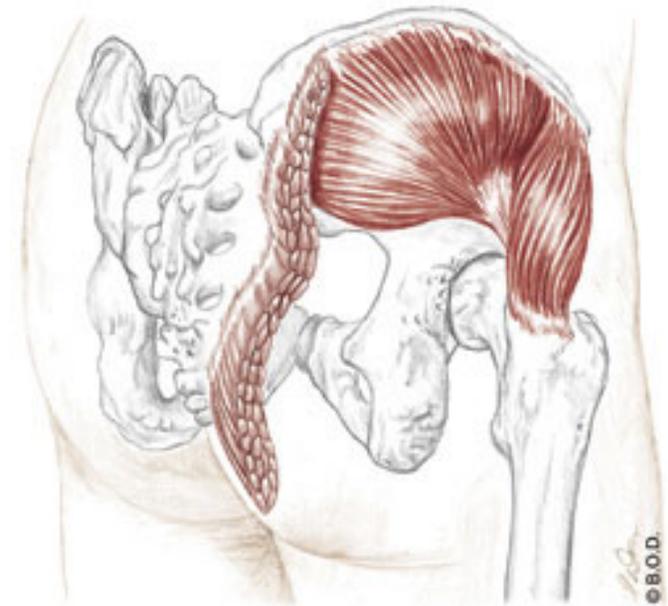
A All fibers:
Abduct the hip (coxal joint)

Anterior fibers:
Flex the hip (coxal joint)
Medially rotate the hip (coxal joint)

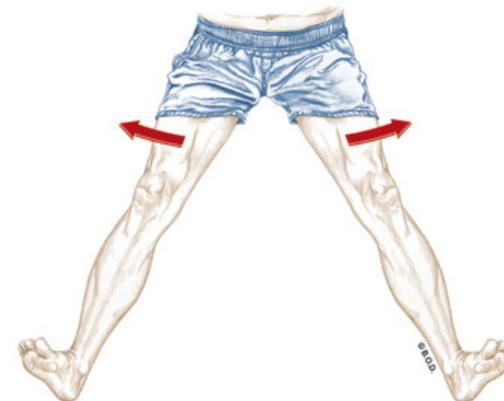
Posterior fibers:
Extend the hip (coxal joint)
Laterally rotate the hip (coxal joint)

O Gluteal surface of ilium, between posterior and anterior gluteal lines, just below the iliac crest

I Lateral aspect of greater trochanter



Posterior View



Gluteus medius, page 315

A All fibers:
Abduct the hip (coxal joint)

Anterior fibers:

Flex the hip (coxal joint)

Medially rotate the hip (coxal joint)

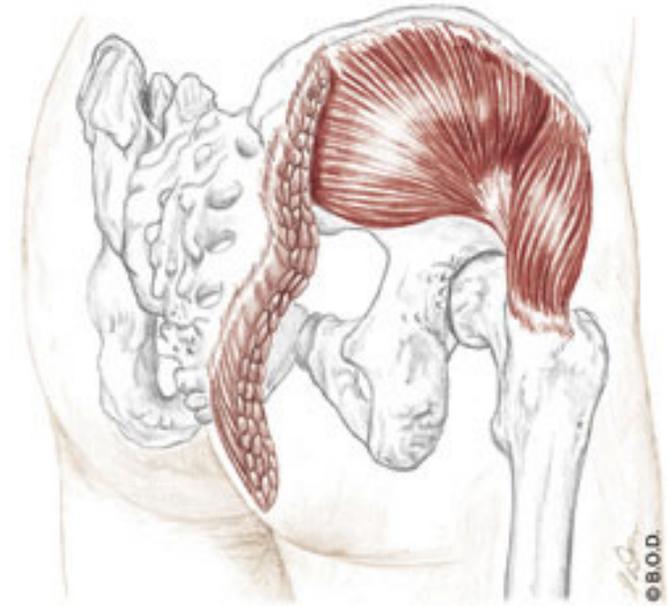
Posterior fibers:

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Posterior View



Gluteus medius, page 315

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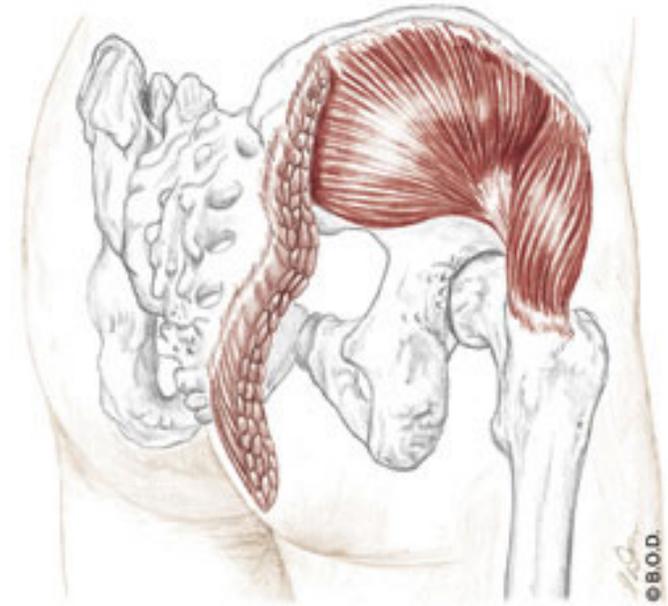
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Posterior View



Gluteus medius, page 315

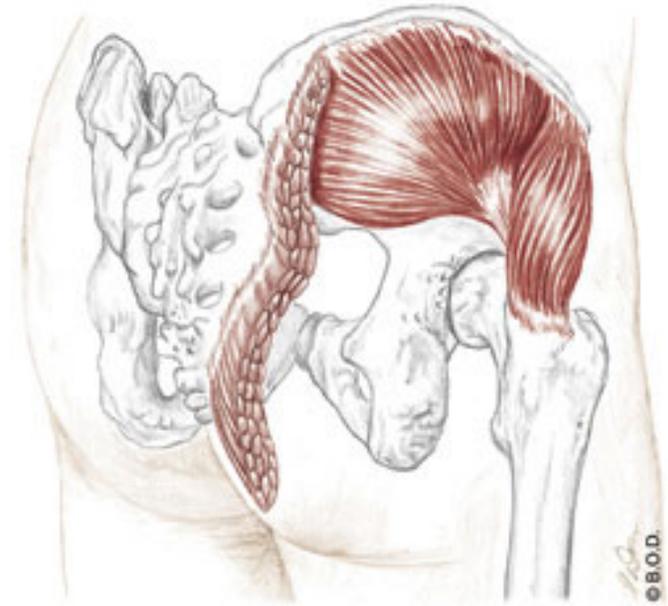
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Posterior View



Gluteus medius, page 315

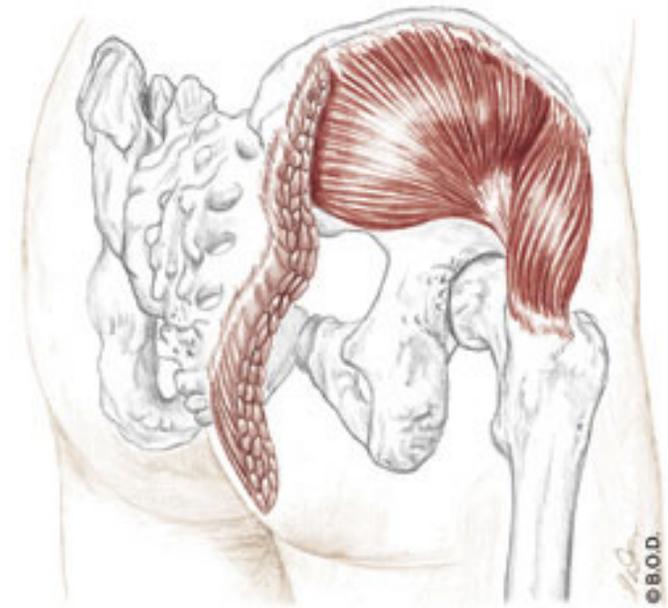
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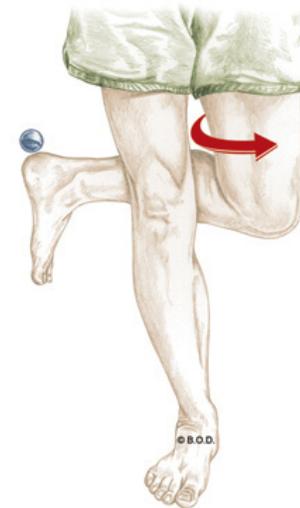
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Posterior View



Gluteus medius, page 315

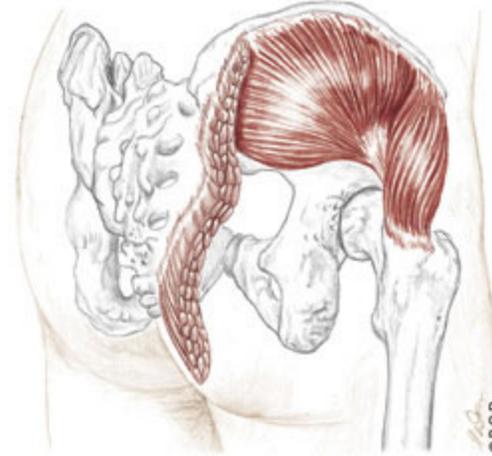
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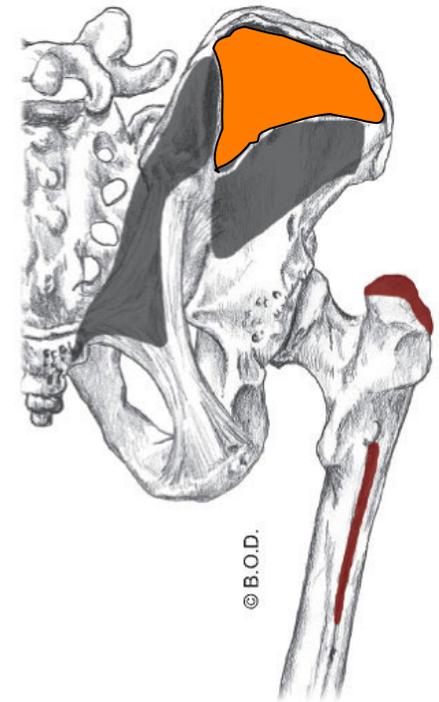
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Posterior View



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Gluteus medius, page 315

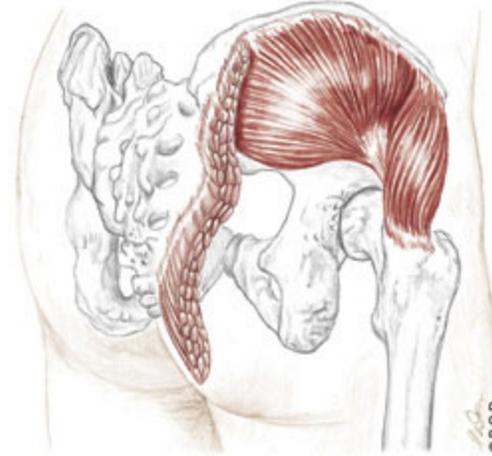
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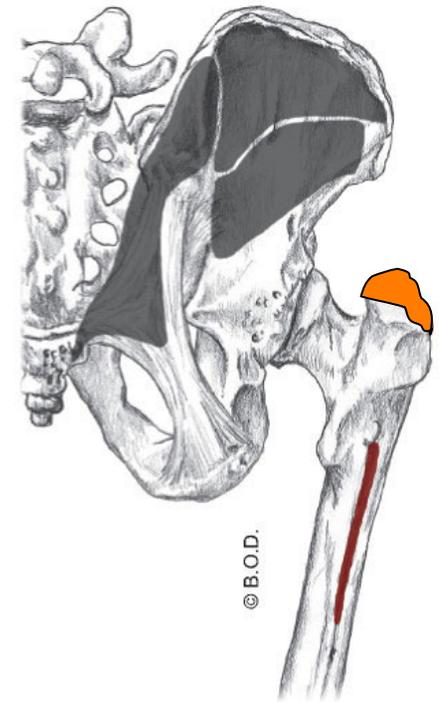
Posterior fibers:
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I Lateral aspect of greater trochanter



Posterior View



Gluteus minimus, page 316

A Abduct the hip (coxal joint)

Medially rotate the hip (coxal joint)

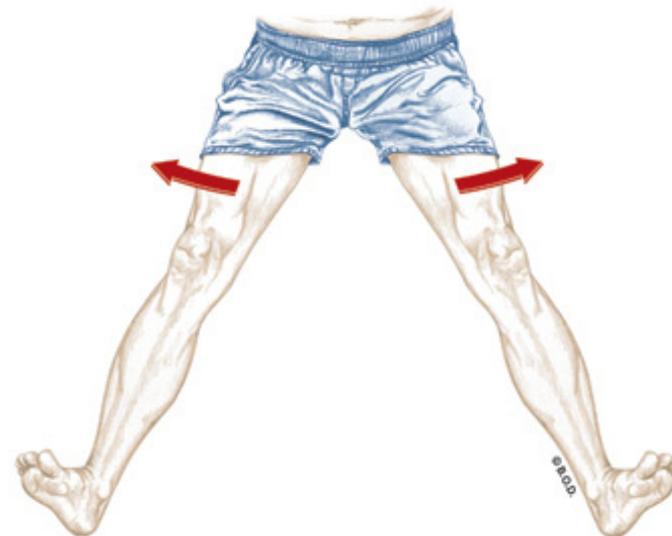
Flex the hip (coxal joint)

O Gluteal surface of the ilium between the anterior and inferior gluteal lines

I Anterior aspect of greater trochanter



Posterior View

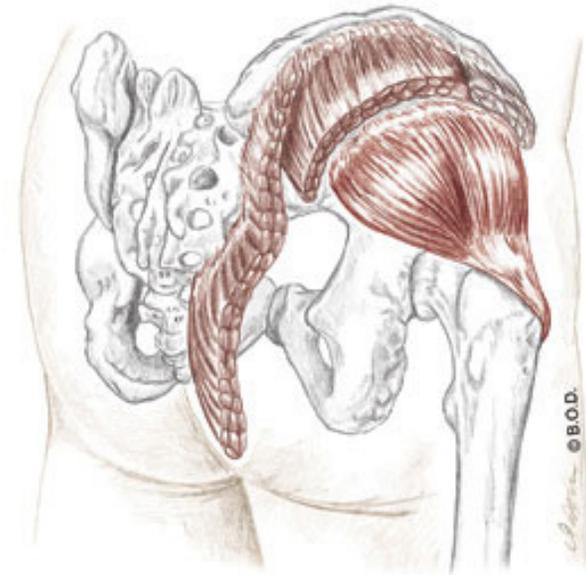


Gluteus minimus, page 316

- A** **Abduct** the hip (coxal joint)
- Medially rotate** the hip (coxal joint)
- Flex** the hip (coxal joint)

- O** Gluteal surface of the ilium between the anterior and inferior gluteal lines

- I** Anterior aspect of greater trochanter



Posterior View

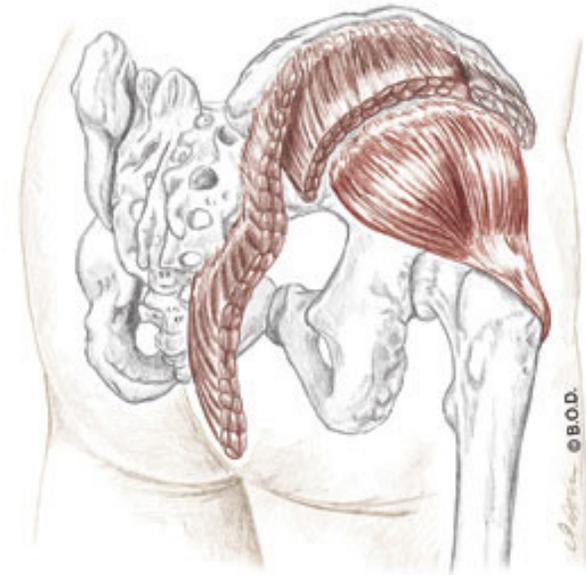


Gluteus minimus, page 316

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Posterior View

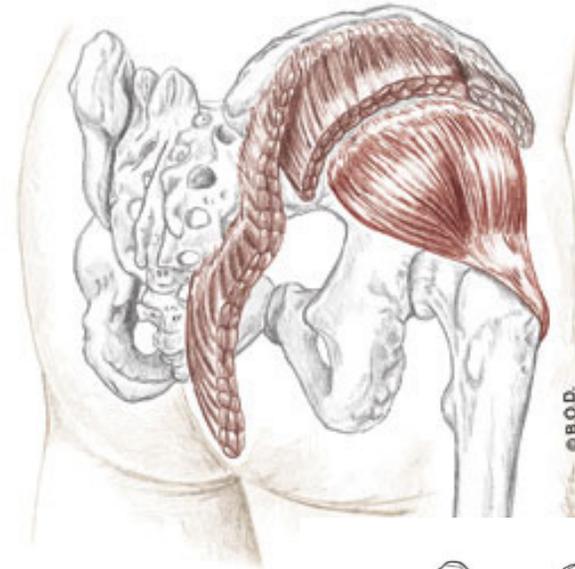


Gluteus minimus, page 316

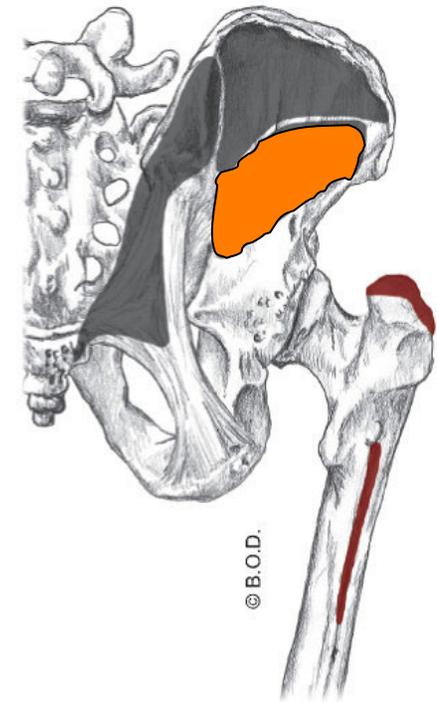
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Posterior View

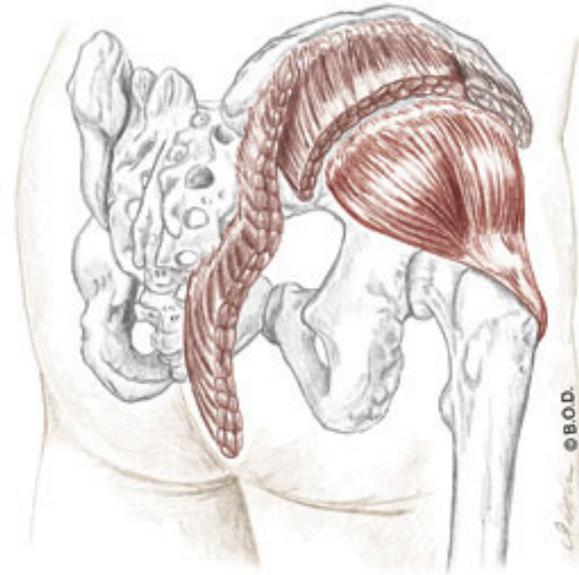


Gluteus minimus, page 316

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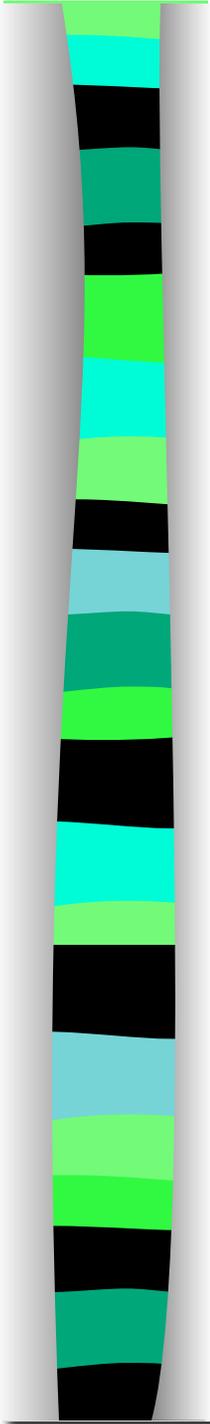
- I** Anterior aspect of greater trochanter



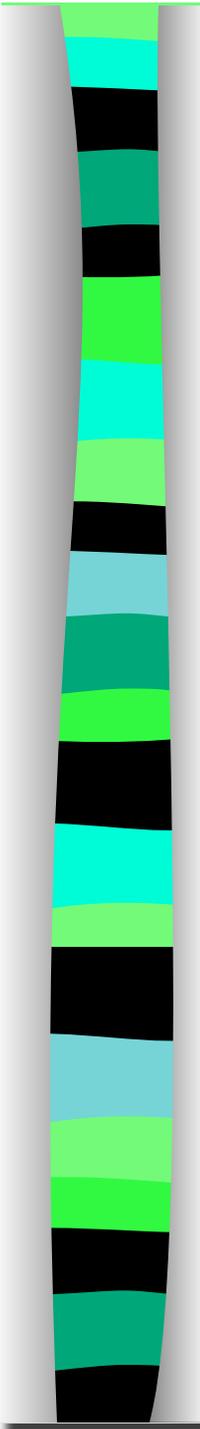
Posterior View



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6a A&P:
Introduction to the Human Body - Tissues
E-7



Tissues

Tissue Group of similar cells that act together to perform a specific function.

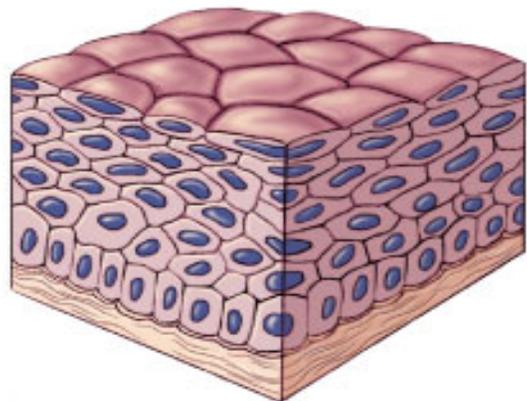
Types: epithelial, connective, muscle, and nerve.

Tissues

I. Epithelial tissue Tissue that lines or covers the body's external surface (skin), internal organs, blood vessels, body cavities, and the digestive, respiratory, urinary, and reproductive tracts.

Examples: skin, endothelium that lines blood vessels and the heart.

Mouth and skin:
Stratified squamous

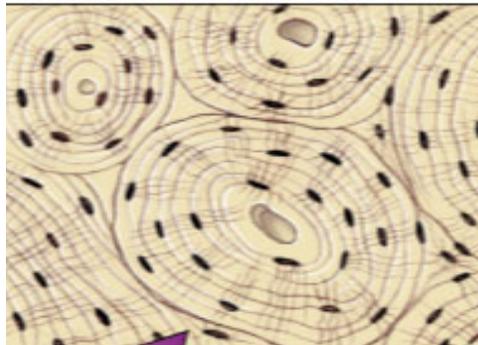


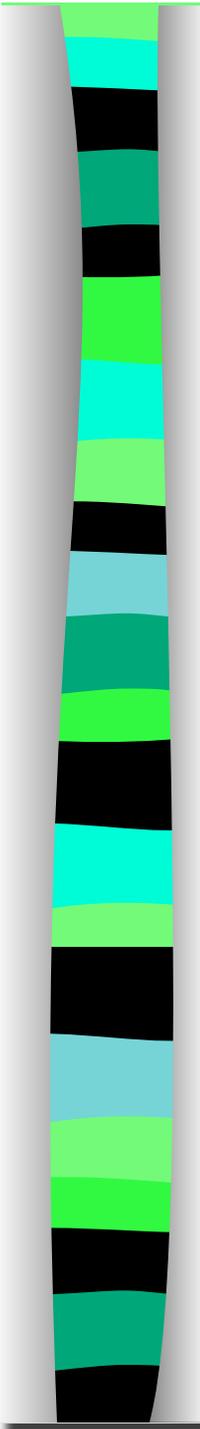
Tissues

II. Connective tissue Tissue that is the most abundant and diverse. Connects, supports, transports, and defends. Types:

- A. Fibrous
- B. Bone
- C. Cartilage
- D. Liquid

Bone





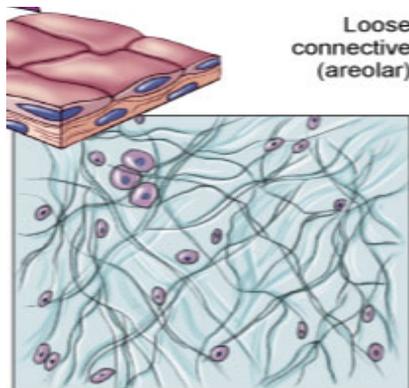
Tissues

A. Fibrous connective tissue The packing material of the body. It attaches the skin to underlying structures in a basement membrane, serves to wrap and support the body cells, fills the gaps between structures such as organs and muscles, and helps keep them in their proper places. Types:

1. Loose
2. Adipose
3. Reticular
4. Dense

Tissues

1. **Loose fibrous connective tissue** One of the most widely distributed connective tissues and has little tensile strength.

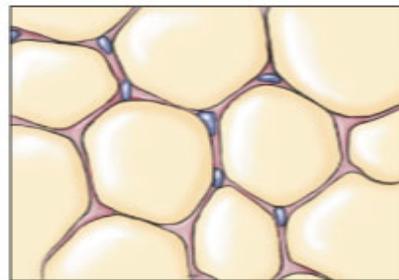


Tissues

2. Adipose fibrous connective tissue Tissue that specializes in storage of fat that insulates the body against heat loss, provides fuel reserves for energy, and provides a cushion around certain structures such as the heart, kidney, and some joints.

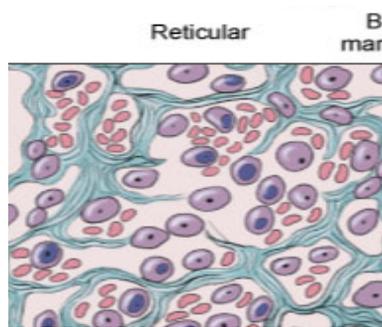
Example: yellow bone marrow.

Adipose



Tissues

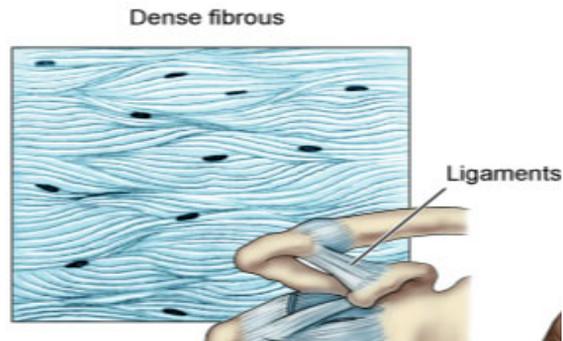
3. **Reticular fibrous connective tissue** The supportive framework of bones and of certain organs such as the liver and spleen.



Tissues

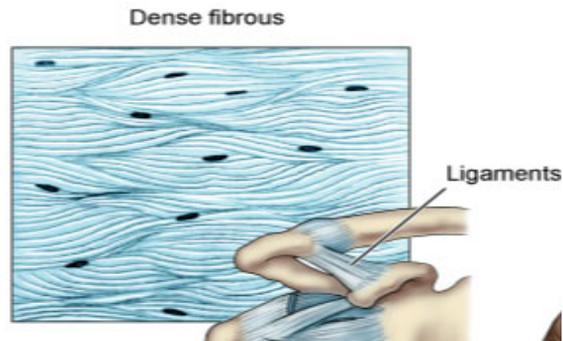
4. **Dense fibrous connective tissue** Compact, strong, inelastic bundles of parallel collagenous fibers that have a glistening white color.

Types: irregular and regular.



Tissues

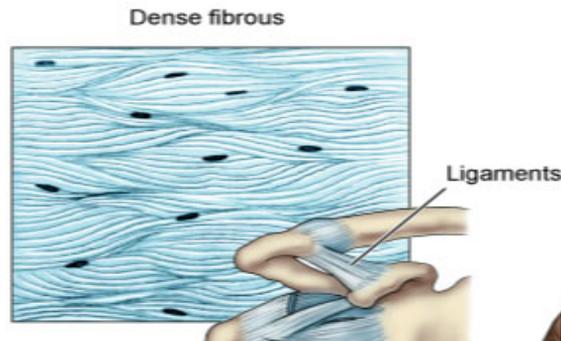
Dense irregular fibrous tissue Resists pulling forces in several directions.
Examples: deep fascia, dermis of the skin, periosteum, and capsules of organs.



Tissues

Dense regular fibrous tissue Resists pulling forces in two directions.

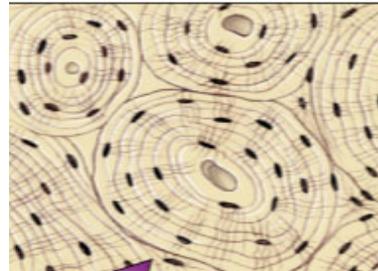
Examples: ligaments, tendons, retinacula, and aponeuroses.

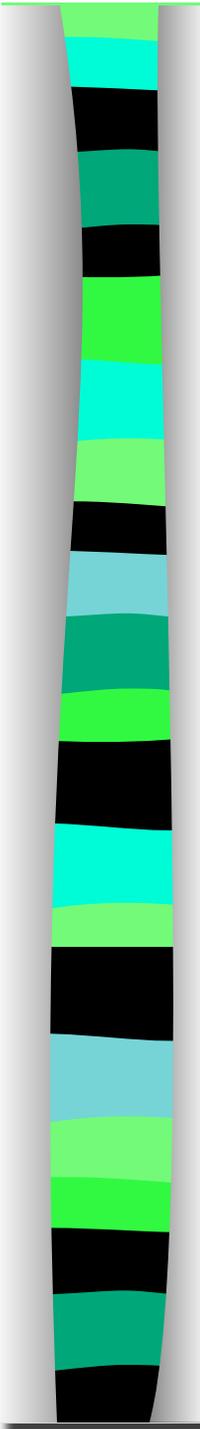


Tissues

B. Bone connective tissue The hardest and most dense connective tissue type. Types: compact and spongy.

Bone





Tissues

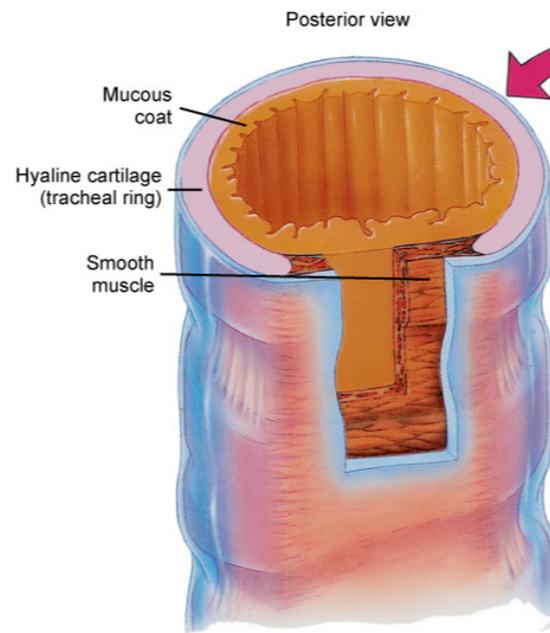
C. Cartilage connective tissue Avascular, tough, protective tissue capable of withstanding repeated stress and is found chiefly in the thorax, joints, and certain rigid structures of the body such as the trachea, larynx, nose, and ears.

Types:

1. Hyaline cartilage
2. Fibrocartilage
3. Elastic cartilage

Tissues

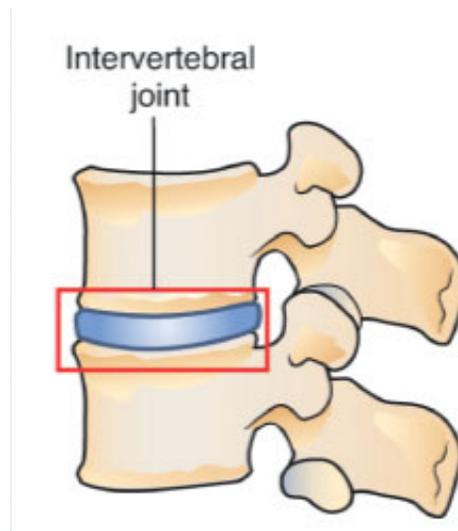
1. **Hyaline cartilage (AKA: gristle)** Elastic, rubbery, and smooth cartilage that covers articulating ends of bones. Connects ribs to the sternum. Supports the nose, *trachea*, and part of the larynx.



Tissues

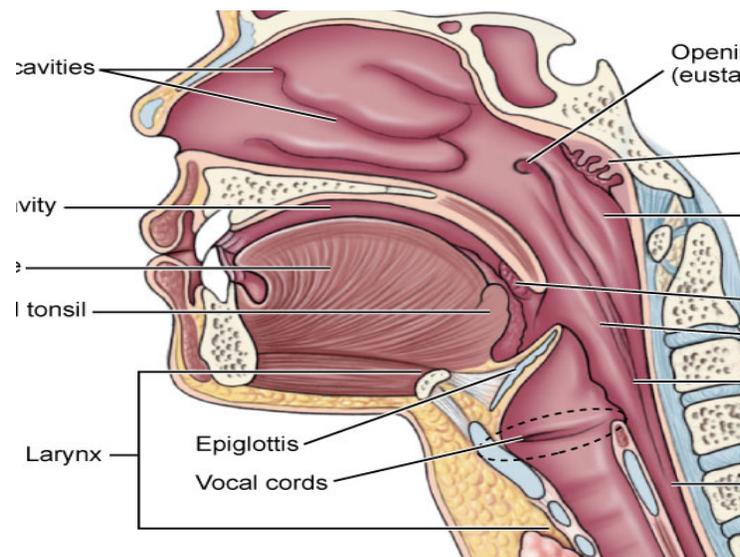
2. **Fibrocartilage** Cartilage with a dense matrix of white collagenous fibers. Has the greatest tensile strength of all cartilage types.

Examples: *intervertebral disks*, knee joint, and between the pubic bones.



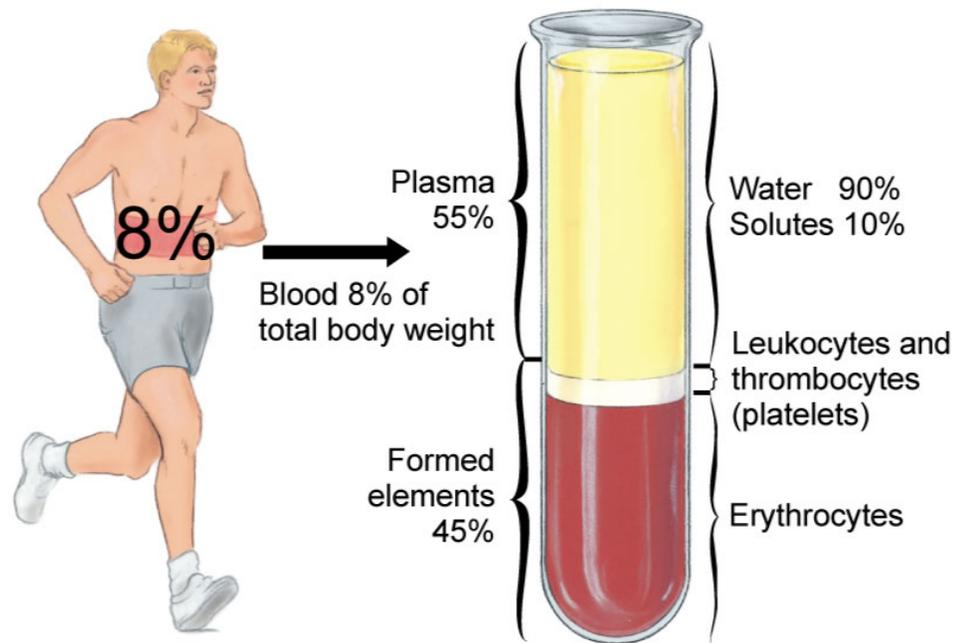
Tissues

3. Elastic cartilage (AKA: yellow) The softest and most pliable cartilage type. Consists of elastic fibers in a flexible fibrous matrix. Examples: external nose and ears, *epiglottis*, part of the larynx, and auditory tubes.



Tissues

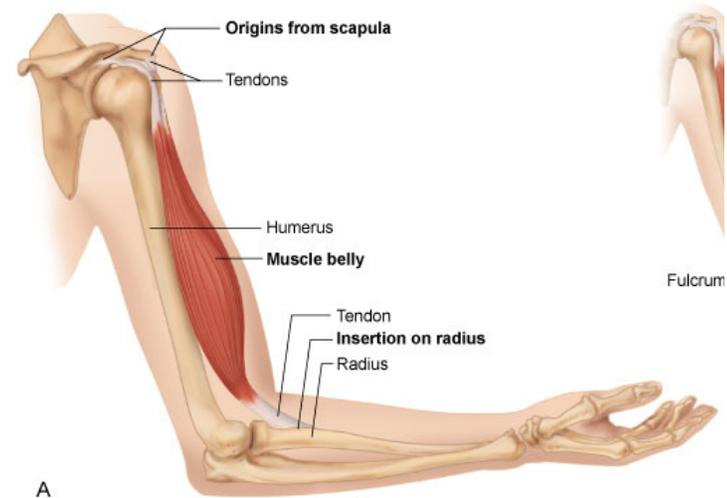
D. Liquid connective tissue Contains a distinct collection of cells floating in a liquid matrix. Types: *blood* and lymph.



Tissues

III. Muscle tissue Tissue that produces movement of the body. Has the ability to contract, elongate, respond to stimulus, and return to its original shape after movement. Types:

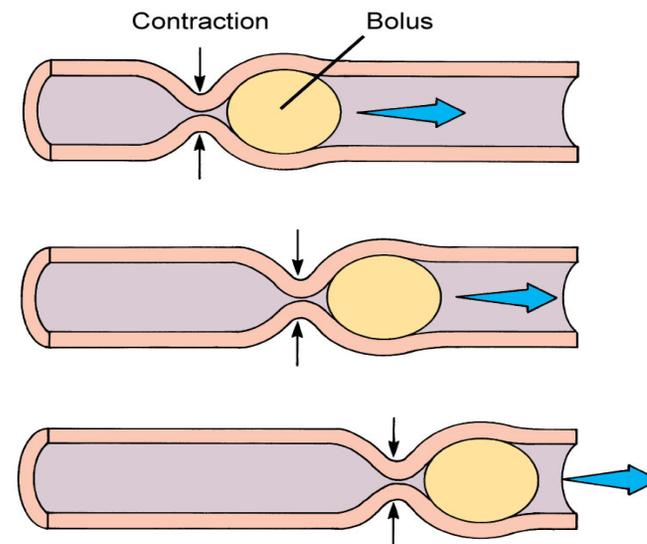
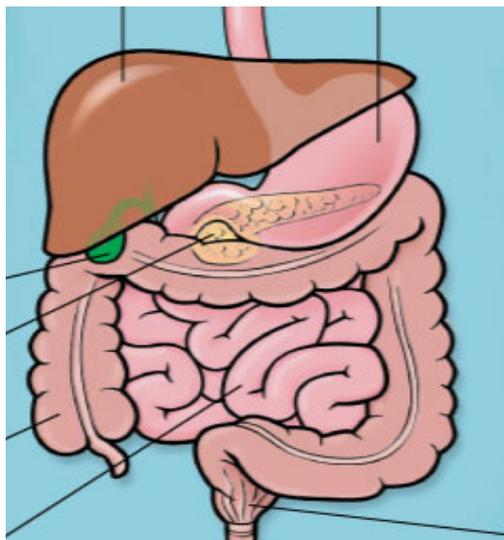
- a. Smooth muscle
- b. Skeletal muscle
- c. Cardiac muscle



Tissues

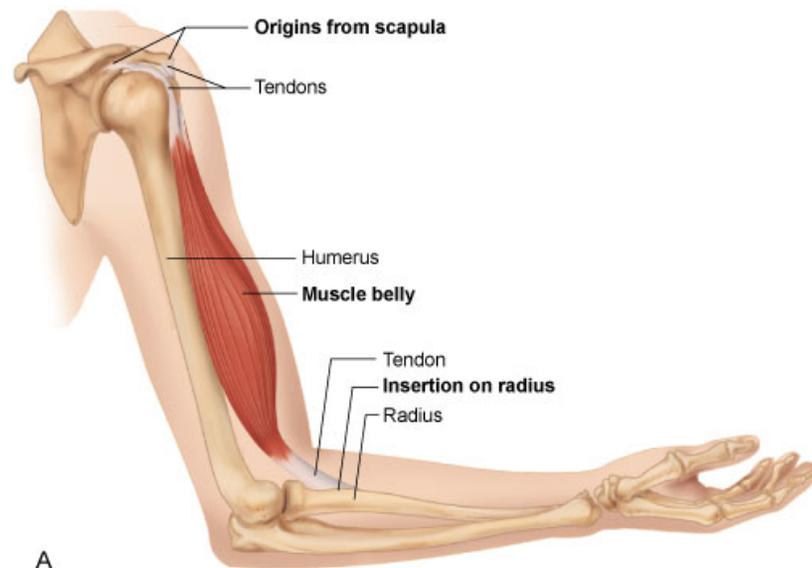
A. Smooth muscle tissue Involuntary, non-striated muscle tissue that forms the walls of hollow organs and tubes. Controls the transport of materials, moving them along or restricting their flow.

Examples: stomach, bladder, and blood vessels.



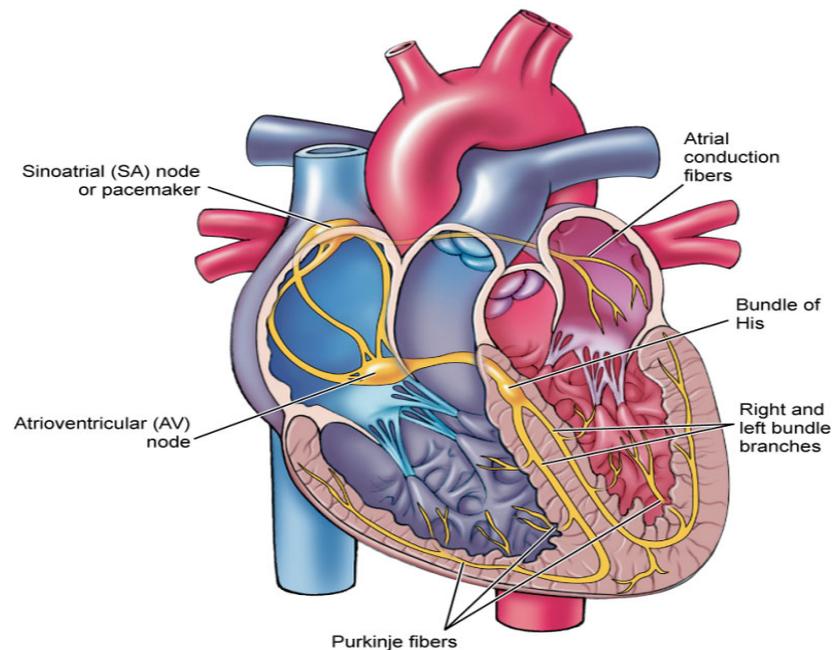
Tissues

B. Skeletal muscle tissue Voluntary, striated muscle tissue that is attached to bone or related structures and is stimulated by a nerve impulse to contract.



Tissues

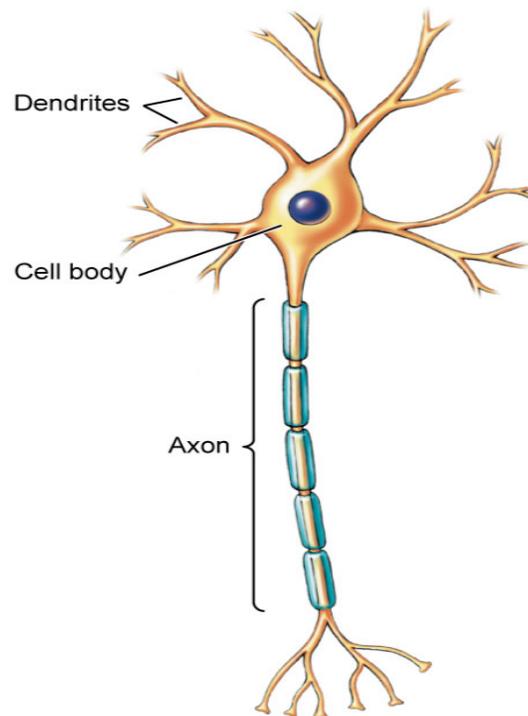
C. Cardiac muscle tissue Involuntary, striated muscle tissue located in the heart wall. Intercalated disks between each muscle cell synchronize the contraction to pump blood from the heart.

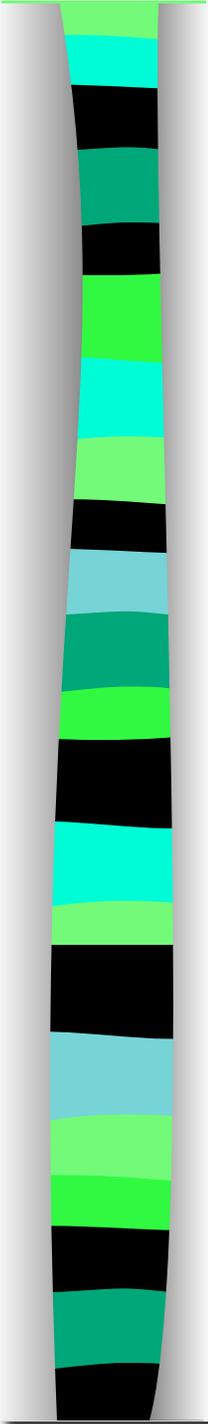


Tissues

IV. Nervous tissue Tissue that has the ability to detect and transmit electrical signals by converting stimuli into nerve impulses.

Examples: brain and spinal cord.

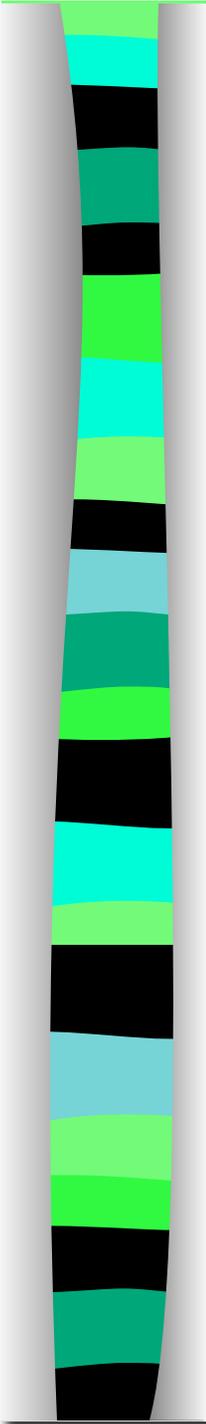




Fill in the Blanks

Tissue types

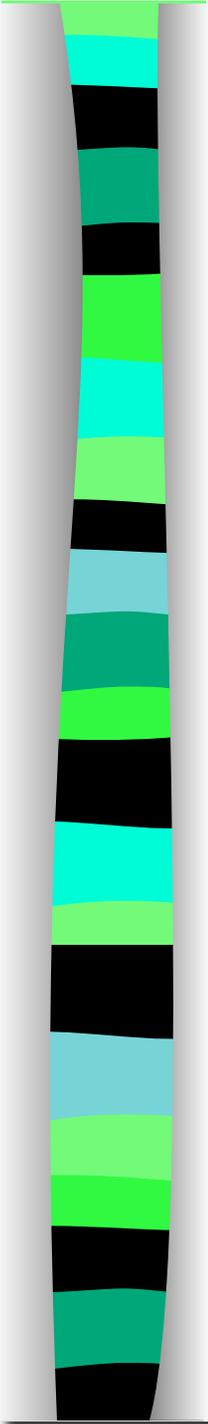
- 1.
- 2.
- 3.
- 4.



Fill in the Blanks

Tissue types

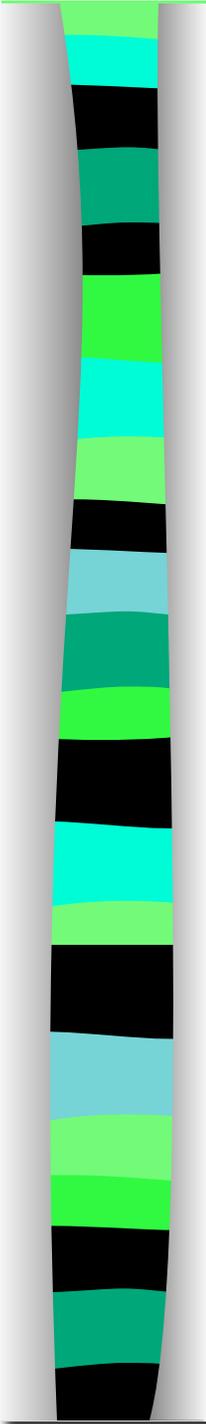
- 1. Epithelial
- 2. Connective
- 3. Muscular
- 4. Nervous



Fill in the Blanks

Connective tissue types

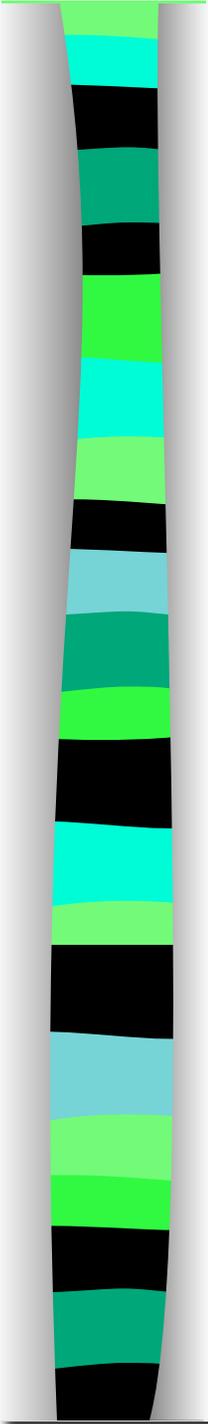
- 1.
- 2.
- 3.
- 4.



Fill in the Blanks

Connective tissue types

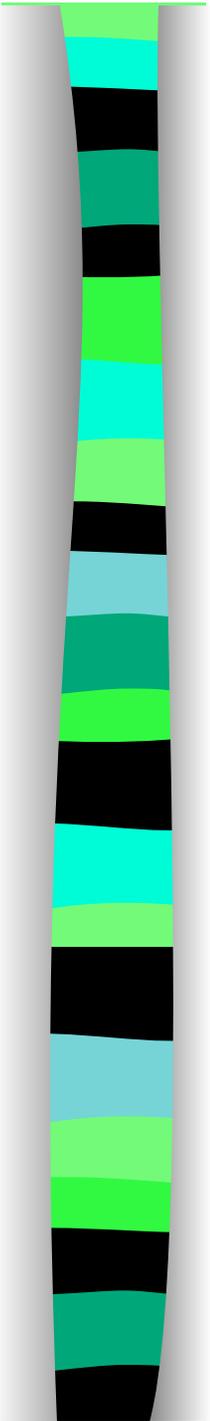
- 1. Fibrous
- 2. Bone
- 3. Cartilage
- 4. Liquid



Fill in the Blanks

Fibrous connective tissue

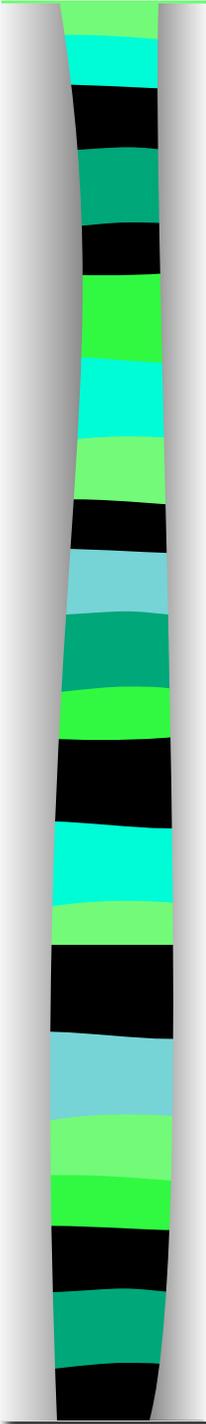
- 1.
- 2.
- 3.
- 4.



Fill in the Blanks

Fibrous connective tissue

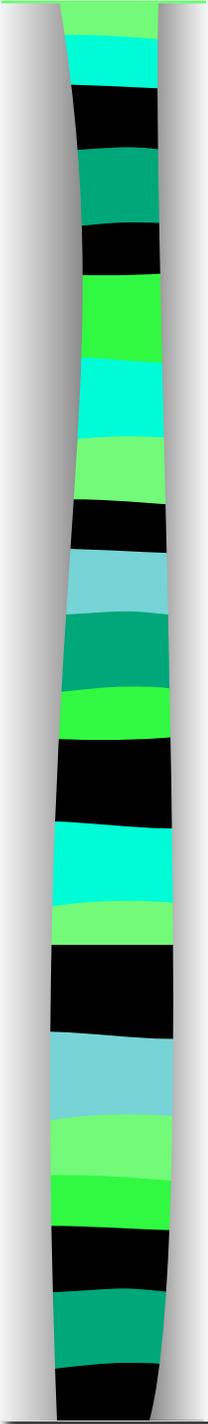
- 1. Loose
- 2. Adipose
- 3. Reticular
- 4. Dense



Fill in the Blanks

Cartilage connective tissue

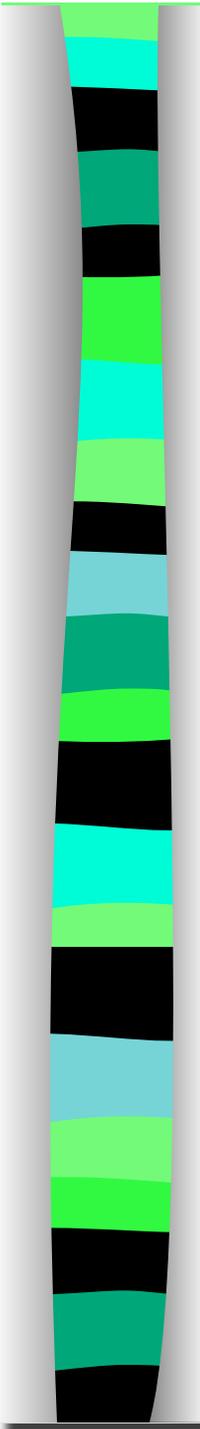
- 1.
- 2.
- 3.



Fill in the Blanks

Cartilage connective tissue

- 1. Hyaline cartilage
- 2. Fibrocartilage
- 3. Elastic cartilage



Response Moment

I. **Epithelial** – covers and lines

Lots of types to be discussed in integumentary system class

II. **Connective** – abundant and diverse

Fibrous: loose, adipose, reticular, dense (regular and irregular)

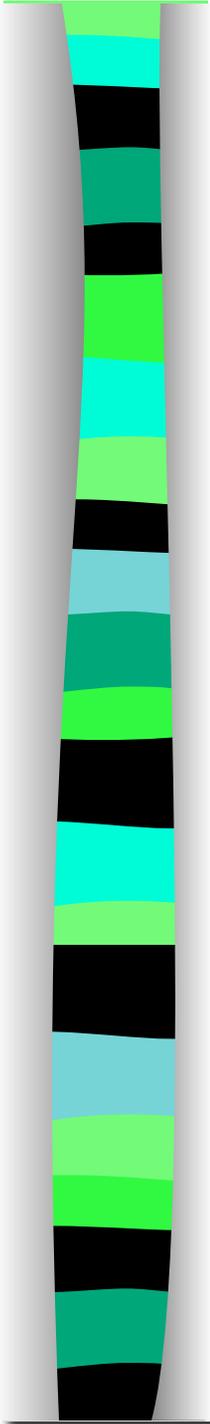
Bone: compact, spongy

Cartilage: hyaline, fibrocartilage, elastic

Liquid: blood, lymph

III. **Muscular** – movement - smooth, cardiac, skeletal.

IV. **Nervous** – transmit electrical impulses



6a A&P: Introduction to the Human Body - Tissues