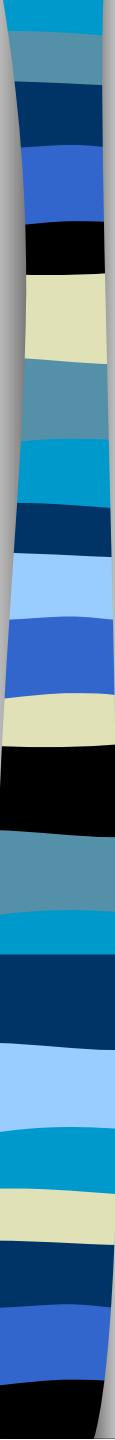


## 2a Kinesiology: Names and Locations of Bones and Posterior Muscles





# 2a Kinesiology:

## Names and Locations of Bones and Posterior Muscles

### Class Outline

Reminders (10 minutes before class display the reminders slide)

5 minutes      Attendance and Breath of Arrival

40 minutes      Bony Landmarks; AOIs: Deltoid and Trapezius

15 minutes      Muscles of the Posterior Upper and Lower Body

60 minutes      Total Class Time

# 2a Kinesiology: Names and Locations of Bones and Posterior Muscles

## Class Reminders

### Assignments:

- 3a Student Handbook Review Questions (A: 115-118)
- 4a Autobiography and Photo (B-4) – *email to your instructor AND [tims@tlcschool.com](mailto:tims@tlcschool.com)*
- 7a Review Questions (A: 119-130)

### Quizzes:

- 6a Kinesiology Quiz (A: 73, and 75-80)
  - 20 multiple-choice questions in 20 minutes
  - Study terms on packet page A-51
  - AOIs for deltoid, traps, lats, teres major, rhomboids, triceps, and erectors

### Preparation for upcoming classes:

- 3a Self-Care: Health, Wellness, Nutrition, and Stress Reduction
  - Trail Guide: latissimus dorsi and teres major
  - Salvo: Chapter 4
  - Packet H: 1-6
  - Packet A: 123-124
- 3b Body Mechanics, Client Positioning, and Draping
  - Salvo: Chapter 7, Packet F: 17-24, and Packet A: 125-126
  - Wear close-fitting clothing to allow for better draping practice
  - Bring a twin sheet set including 2 pillow cases and a blanket

# 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!

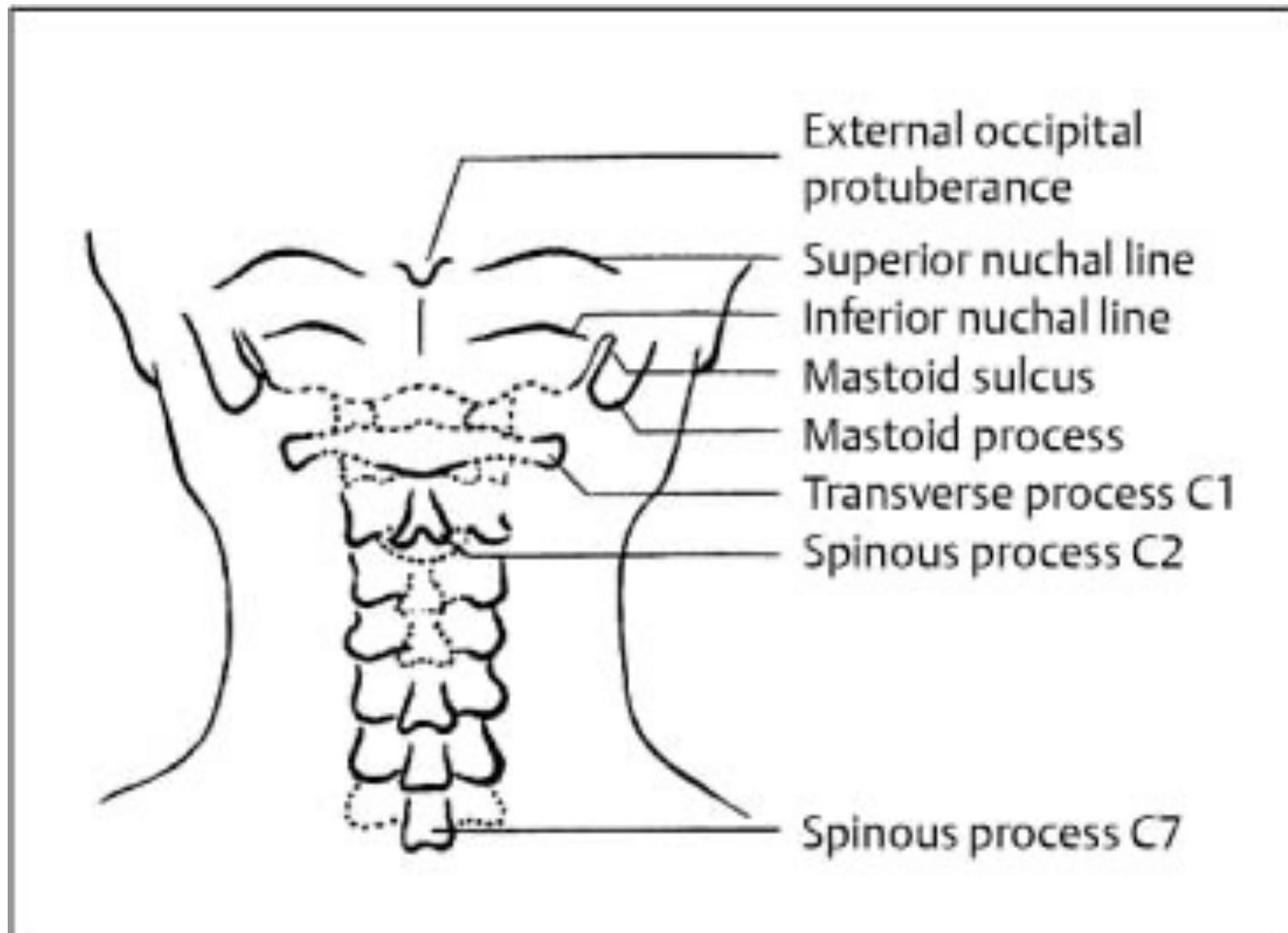


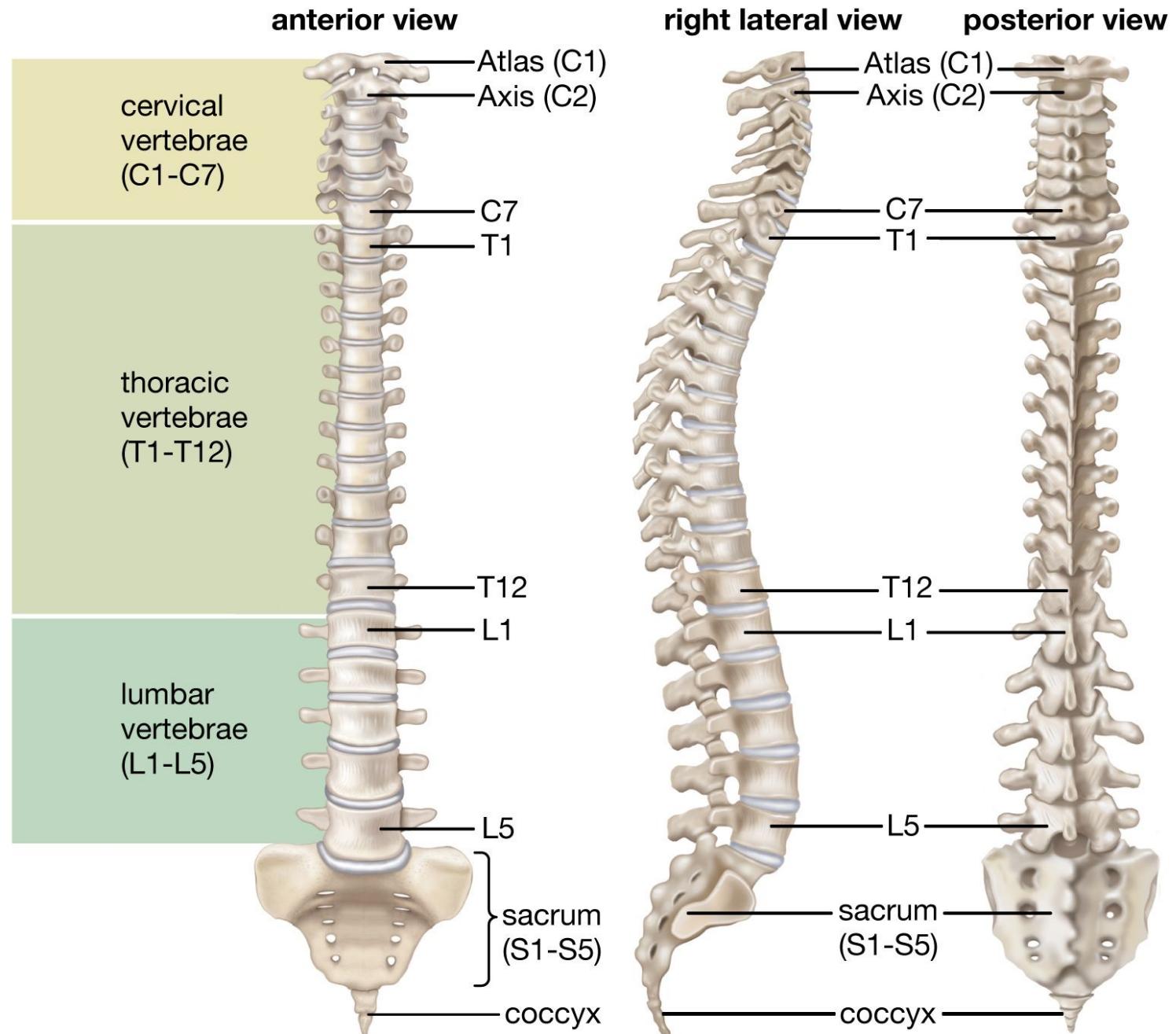
And put it away!

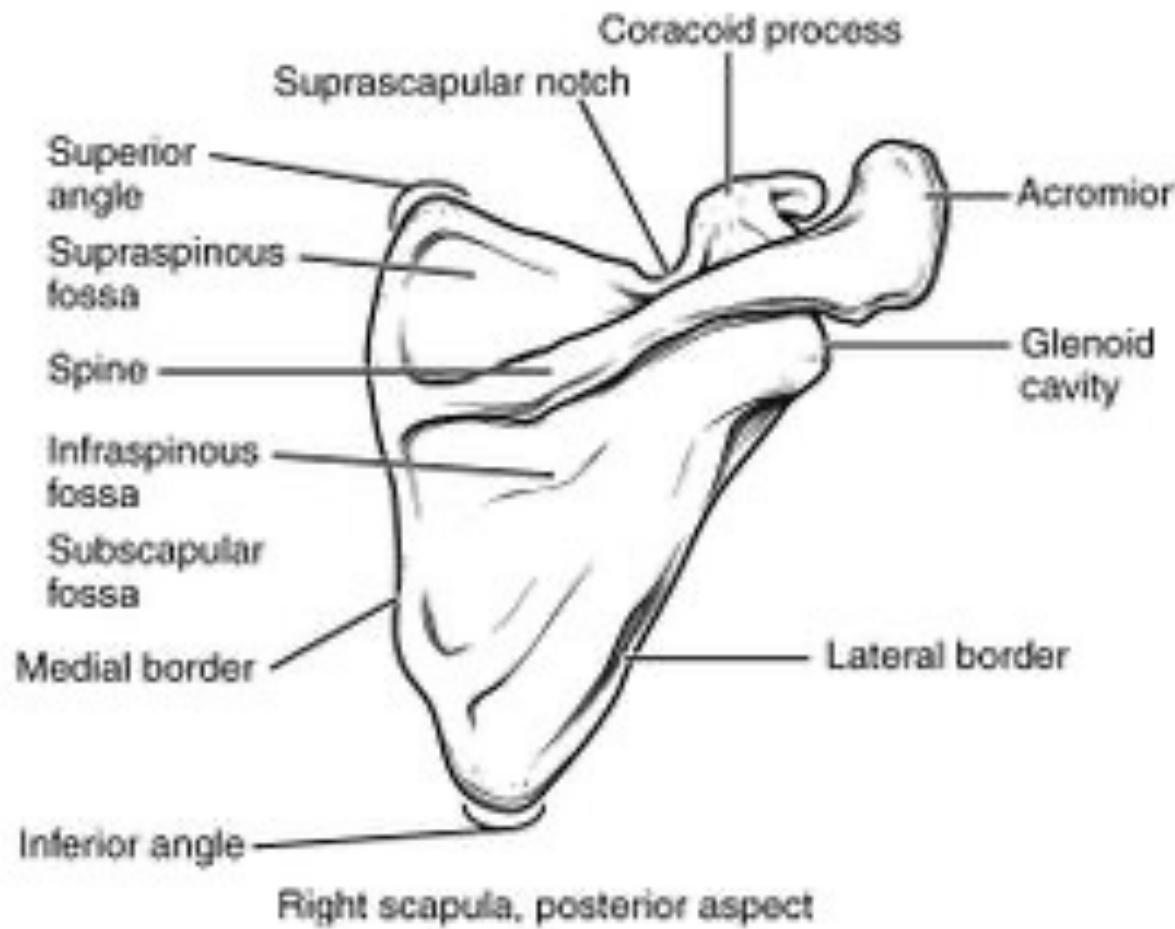
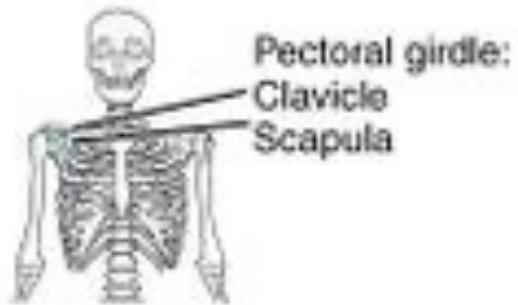
# Bony Landmarks – Introduction to Terminology

*Helpful terms to become acquainted with as we get started learning muscle attachments and actions:*

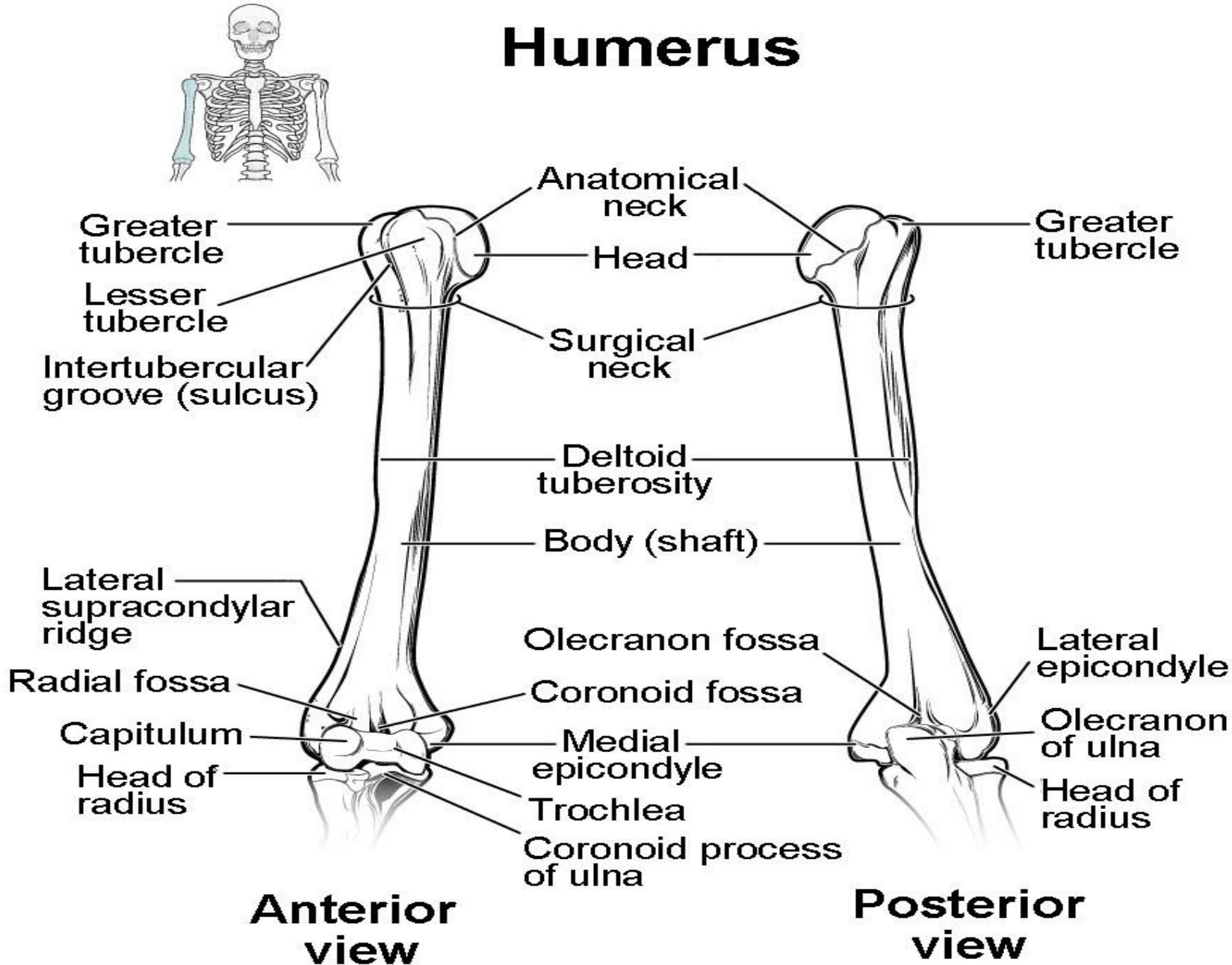
- **Condyle**  
Rounded projection that forms a joint.
- **Fossa**  
Shallow depression in a bone.
- **Head**  
Rounded end of a bone. Example: head of the humerus.
- **Process**  
General term for any prominence or prolongation from a bone.
- **Tuberosity**  
Large, rounded rough projection.

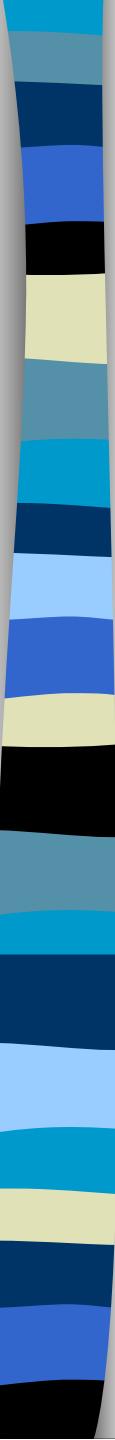






# Bony Landmarks – Introduction to Terminology





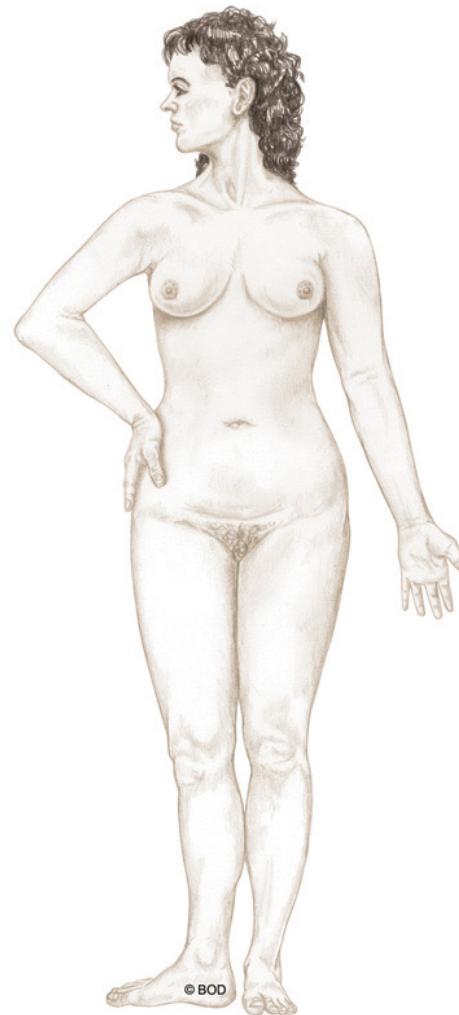
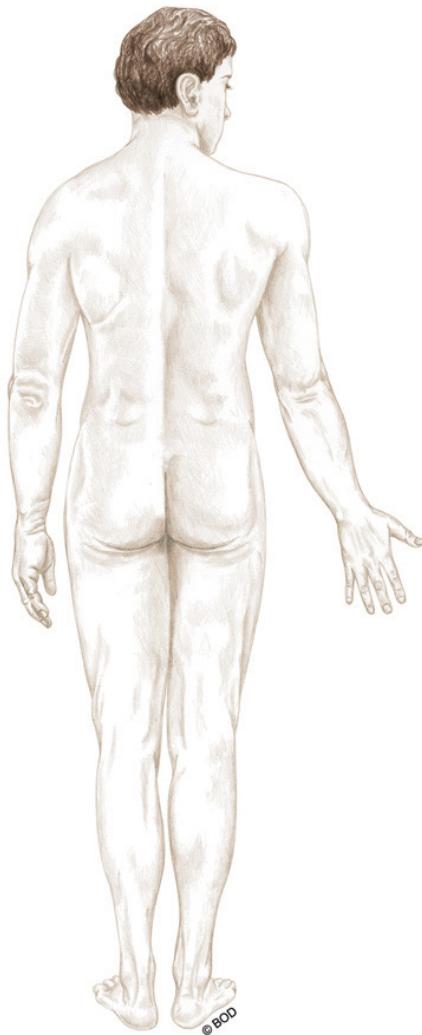
# The Trail Guide to the Body

## Muscles of the Human Body

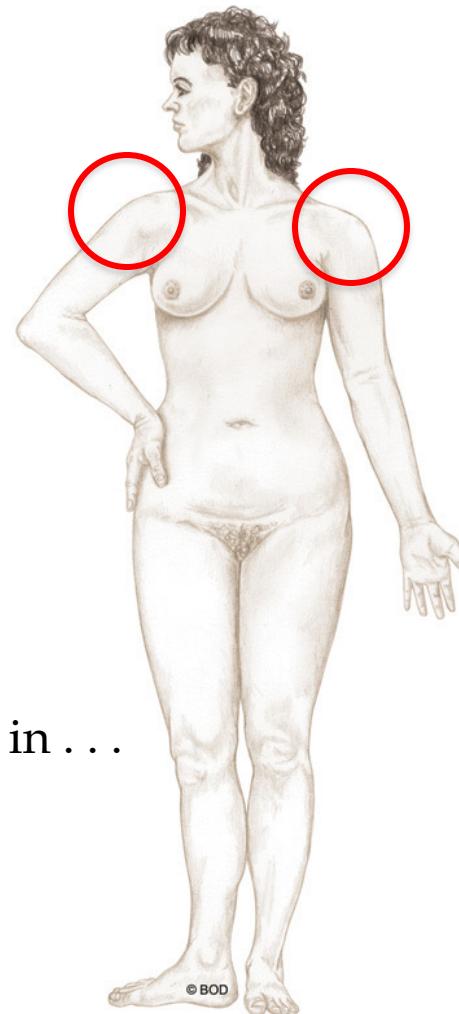
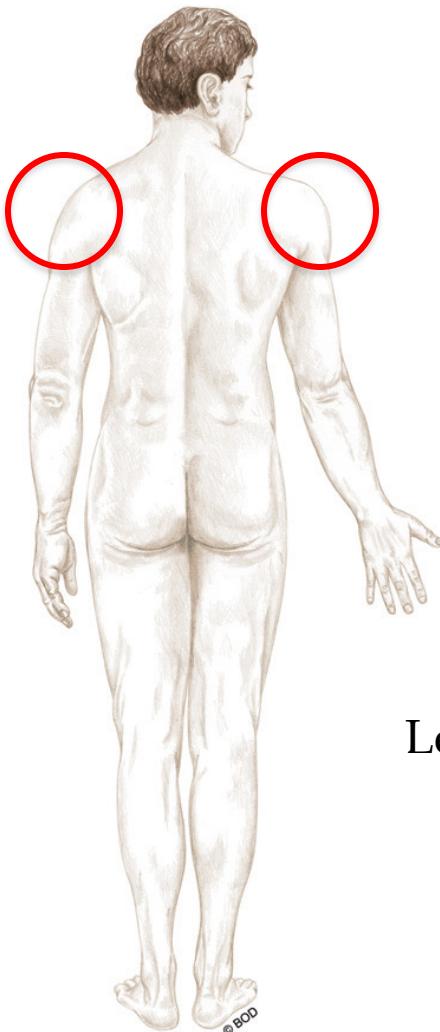
Abdominals	209	Pectoralis Major	89
Adductor Group	319	Pectoralis Minor	92
Anconeus	139	Peroneus Longus and Brevis	376
Biceps Brachii	95	Plantaris	374
Brachioradialis	132	Platysma	257
Coracobrachialis	99	Popliteus	375
<b>Deltoid</b>	<b>67</b>	Pronator Teres	146
Diaphragm	213	Psoas Major	332
Erector Spinae Group	196	Pterygoids	259
Extensor Indicis	139	Quadratus Lumborum	207
...		...	

Please turn to page 67 . . .

# Where are the deltoid muscles located?

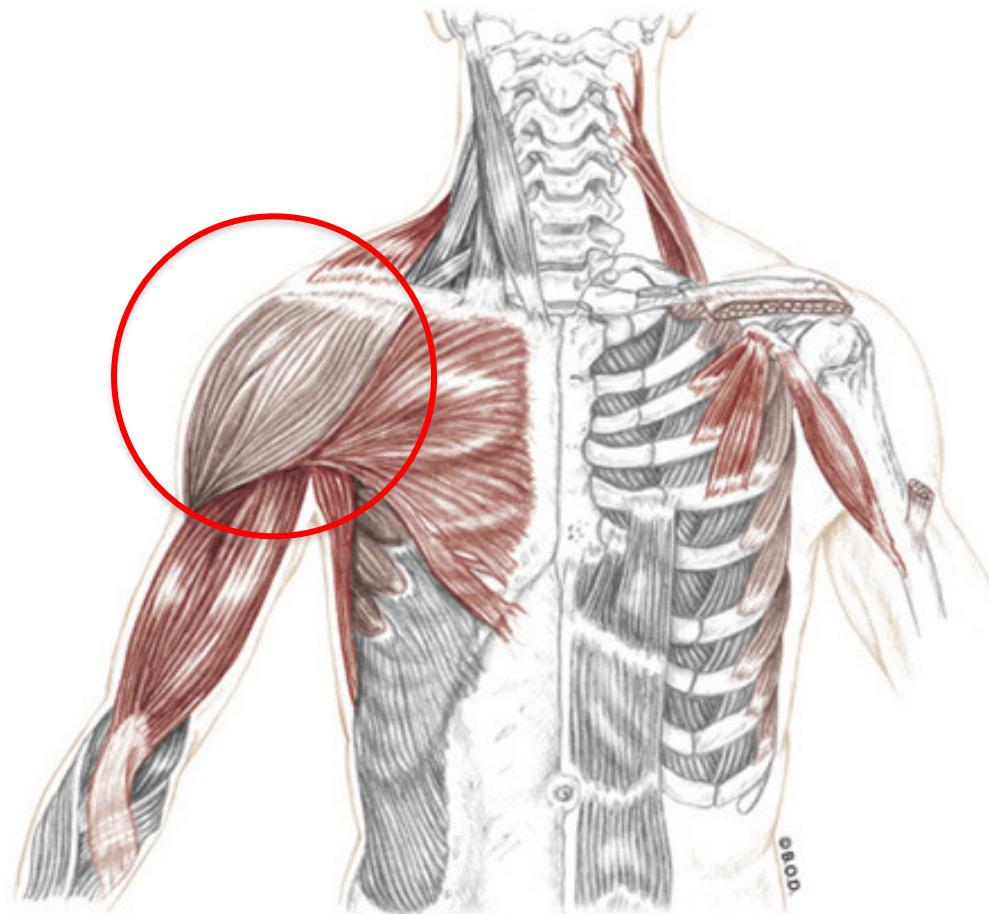


# The deltoid muscles are located on the caps of the shoulders!



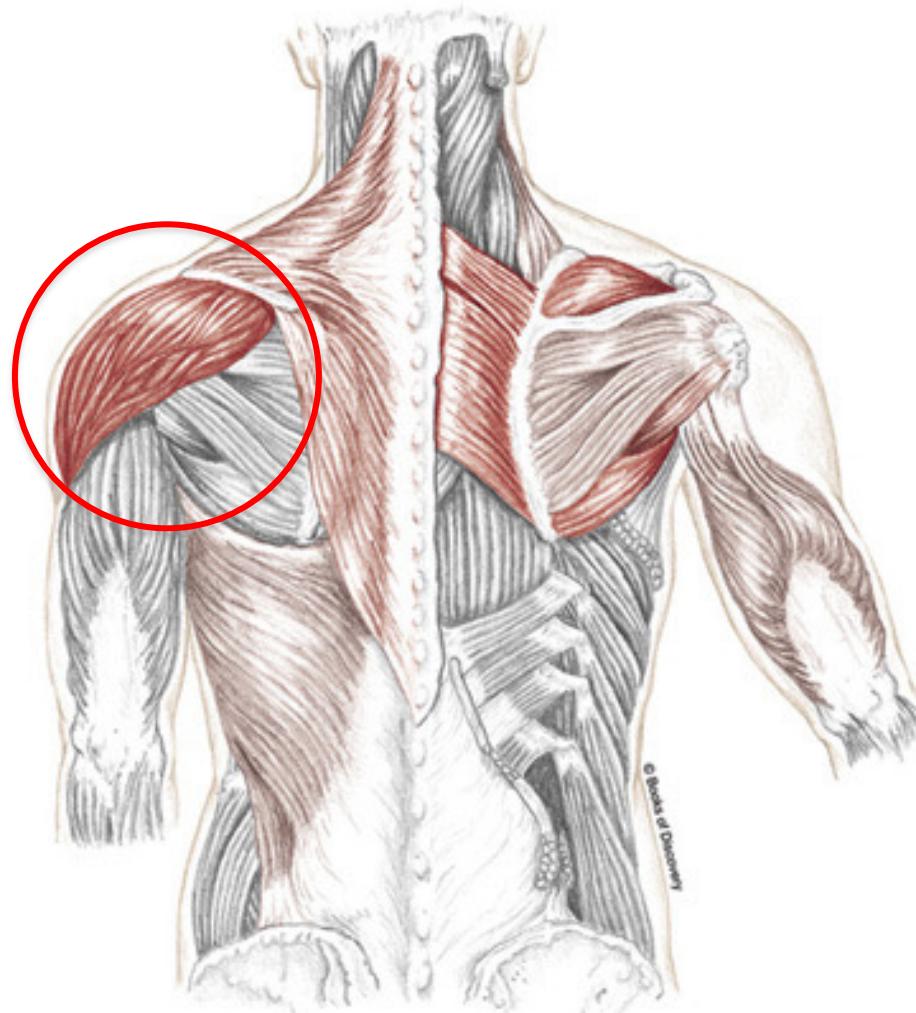
Let's zoom in . . .

# Anterior view of the deltoid



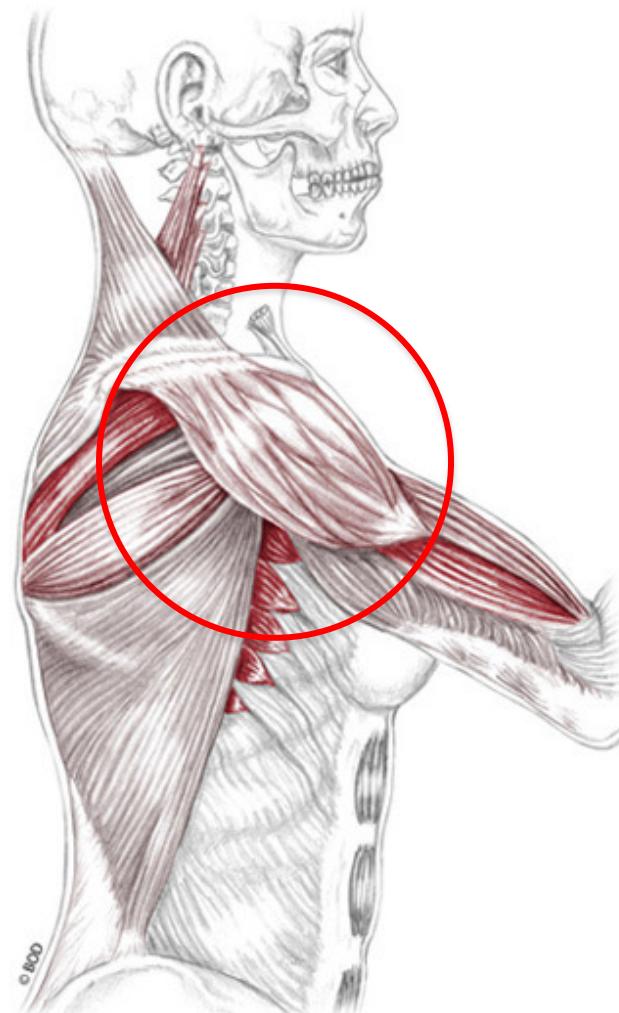
Now let's take a look at deltoid from the back . . .

# Posterior view of the deltoid



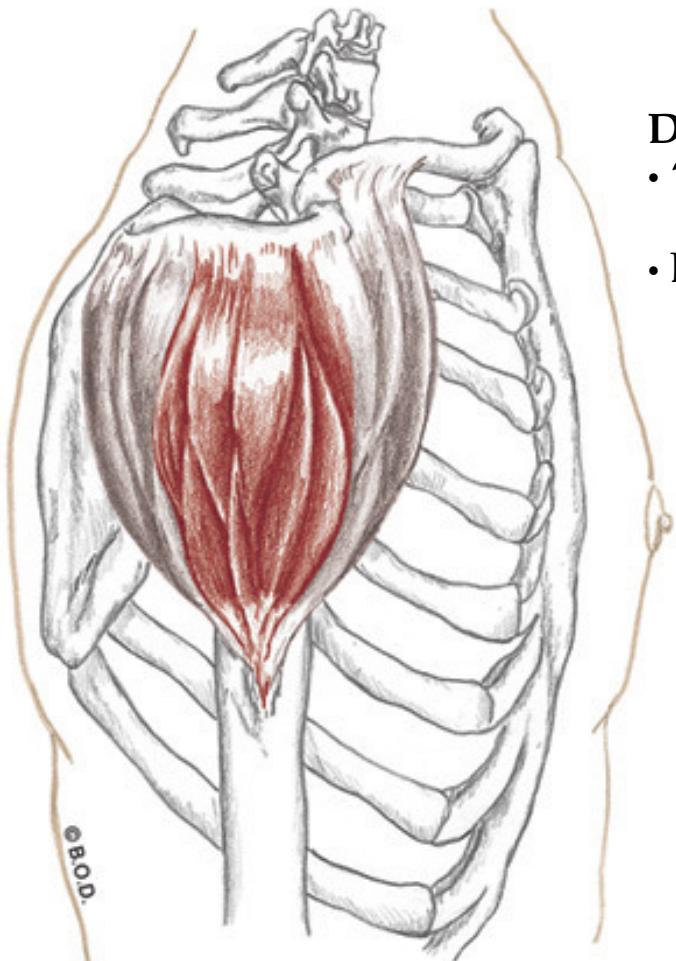
And next a view from the side . . .

# Lateral view of the deltoid



Next, a view of deltoid by itself . . .

# What does deltoid mean?



Lateral View

## Deltoid

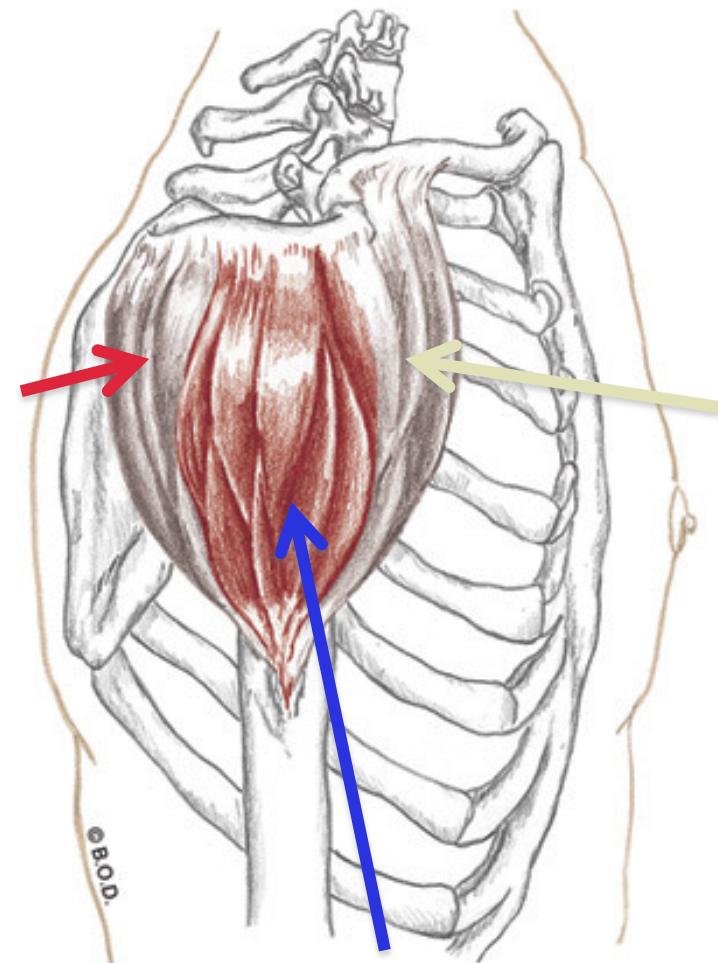
- “Triangle-shaped”
- Delta ( $\Delta$ ) is the capital letter D in the Greek alphabet

The deltoid fibers can be divided into three segments:

Posterior fibers

Middle fibers

Anterior fibers



Lateral View

# Deltoid, Trail Guide page 67

A All fibers:

**Abduct** the shoulder (G/H joint)

Anterior fibers:

**Flex** the shoulder (G/H joint)

**Medially rotate** the shoulder (G/H joint)

**Horizontally adduct** the shoulder (G/H joint)

Posterior fibers:

**Extend** the shoulder (G/H joint)

**Laterally rotate** the shoulder (G/H joint)

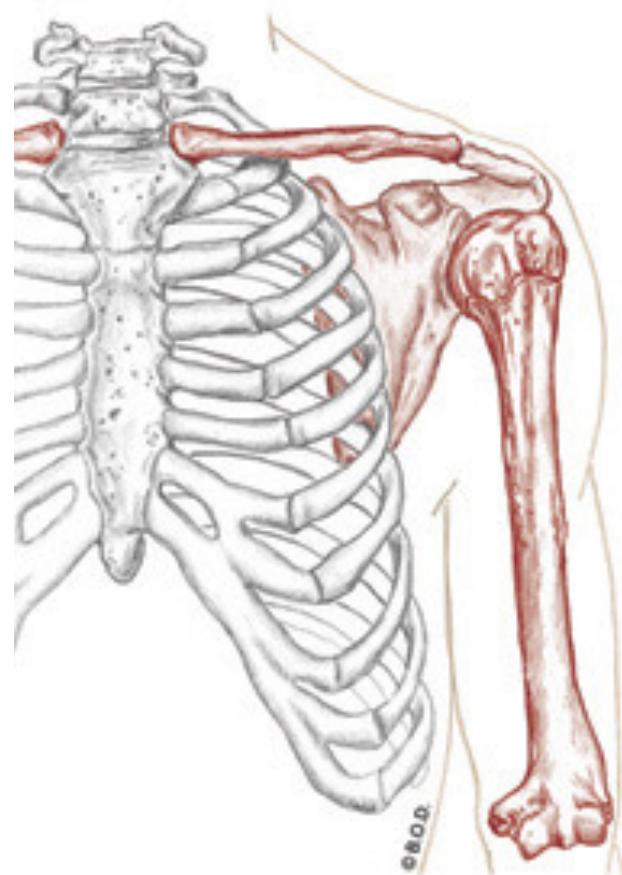
**Horizontally abduct** the shoulder (G/H joint)

O Lateral one-third of clavicle

Acromion

Spine of scapula

I Deltoid tuberosity



Anterior View

# Deltoid, Trail Guide page 67

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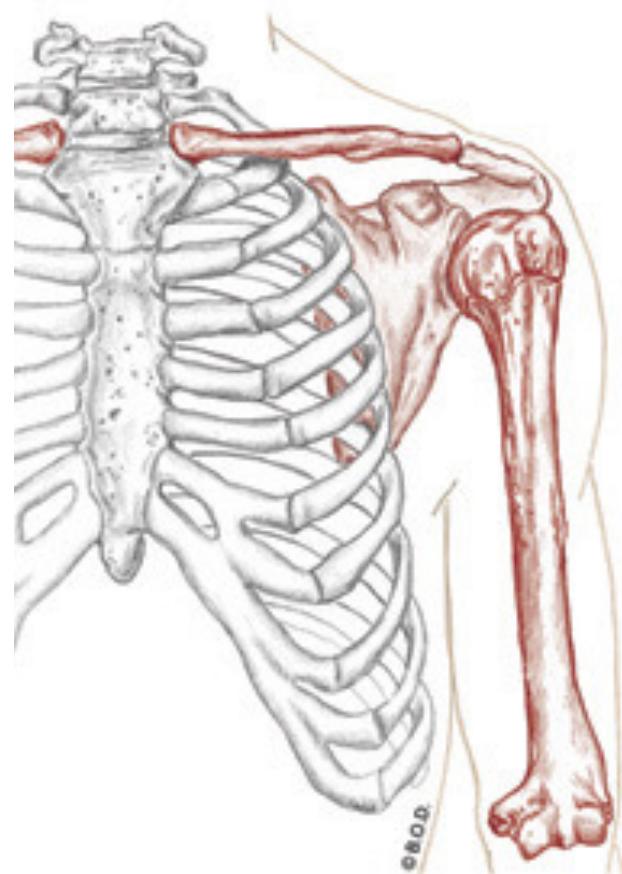
**Horizontally abduct** the shoulder (G/H joint)

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Anterior View

# Deltoid, Trail Guide page 67

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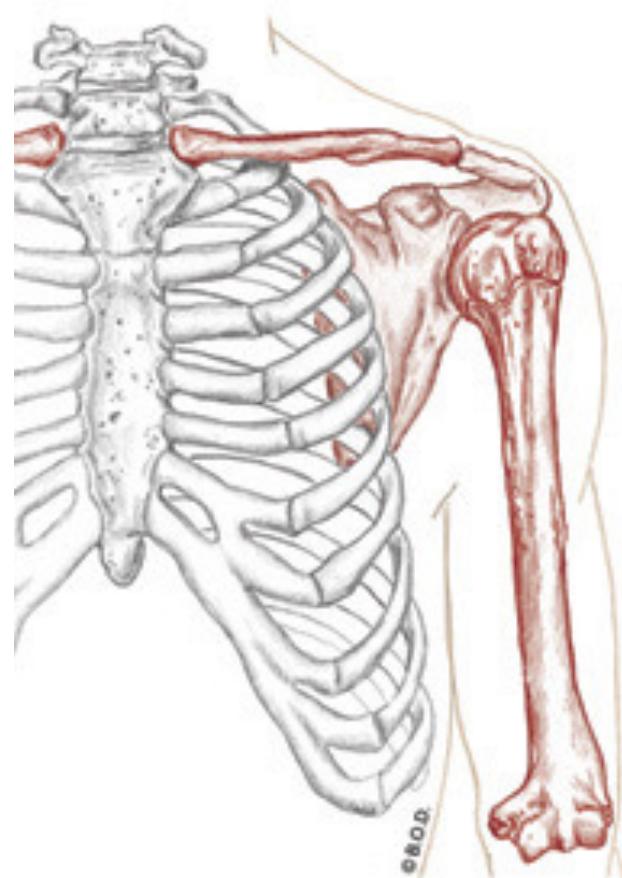
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Anterior View

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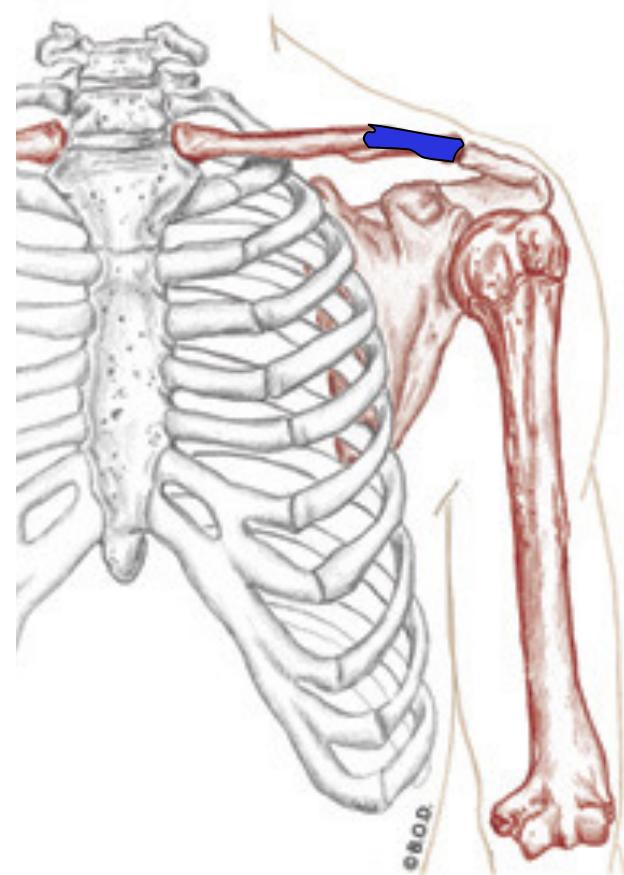
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Anterior View

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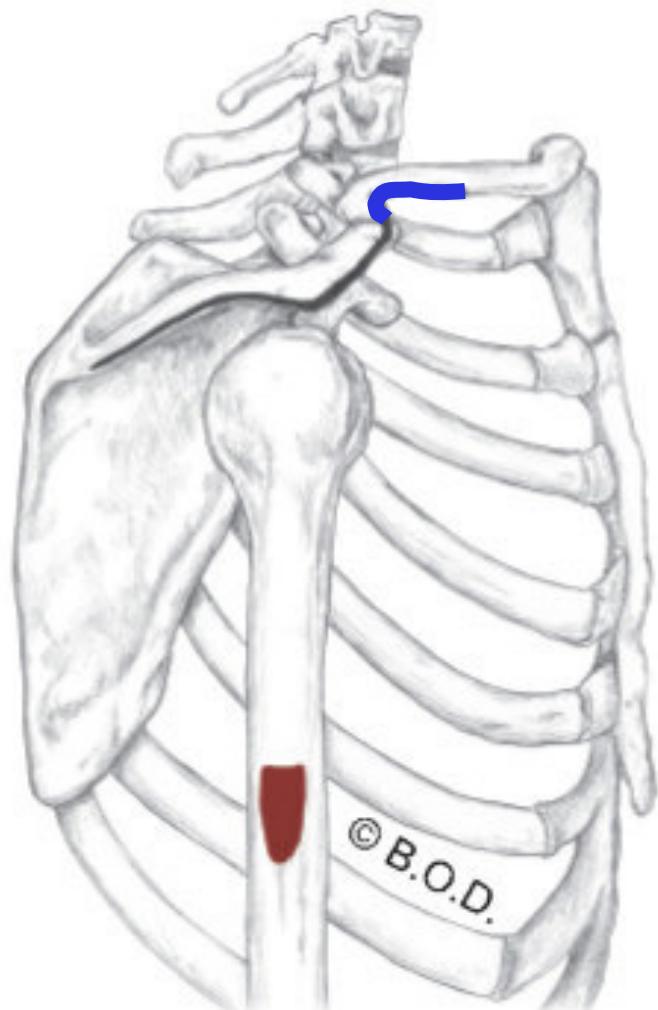
**Horizontally abduct** the shoulder (G/H joint)

O **Lateral one-third of clavicle**

Acromion

Spine of scapula

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Lateral View

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**Laterally rotate** the shoulder (G/H joint)

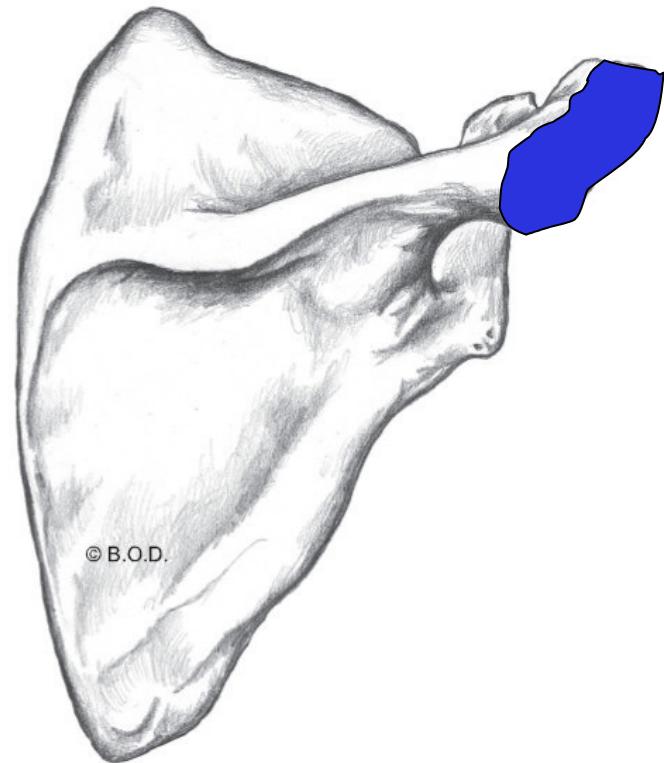
**Horizontally abduct** the shoulder (G/H joint)

O Lateral one-third of clavicle

Acromion

Spine of scapula

I Deltoid tuberosity



Posterior View

# Deltoid

A All fibers:

**Abduct** the shoulder (G/H joint)

Anterior fibers:

**Flex** the shoulder (G/H joint)

**Medially rotate** the shoulder (G/H joint)

**Horizontally adduct** the shoulder (G/H joint)

Posterior fibers:

**Extend** the shoulder (G/H joint)

**Laterally rotate** the shoulder (G/H joint)

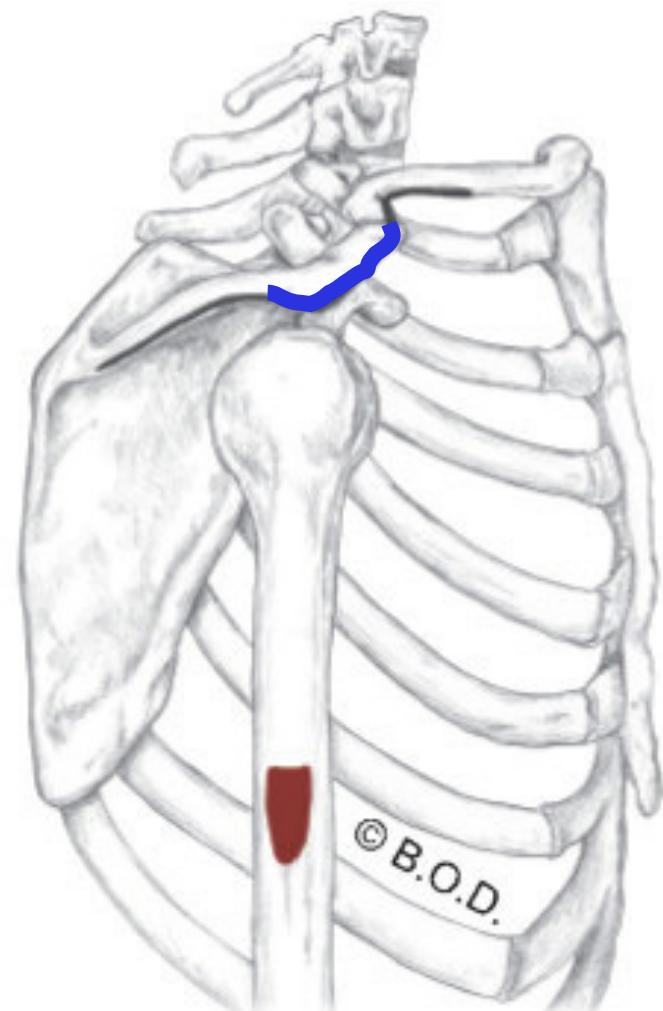
**Horizontally abduct** the shoulder (G/H joint)

O Lateral one-third of clavicle

Acromion

Spine of scapula

I Deltoid tuberosity



Lateral View

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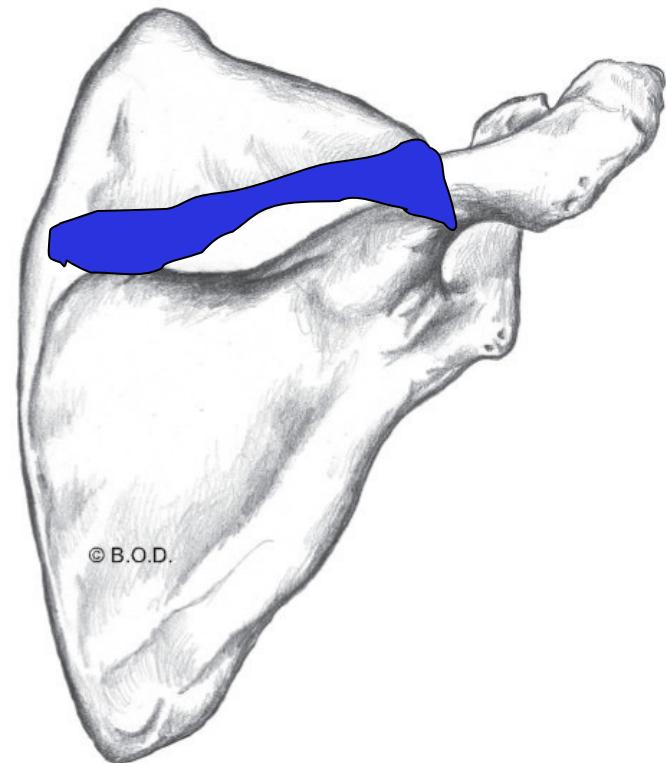
**Horizontally abduct** the shoulder (G/H joint)

O Lateral one-third of clavicle

Acromion

Spine of scapula

I Deltoid tuberosity



Posterior View

# Deltoid

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Anterior fibers:

**Flex** the shoulder (G/H joint)

**Medially rotate** the shoulder (G/H joint)

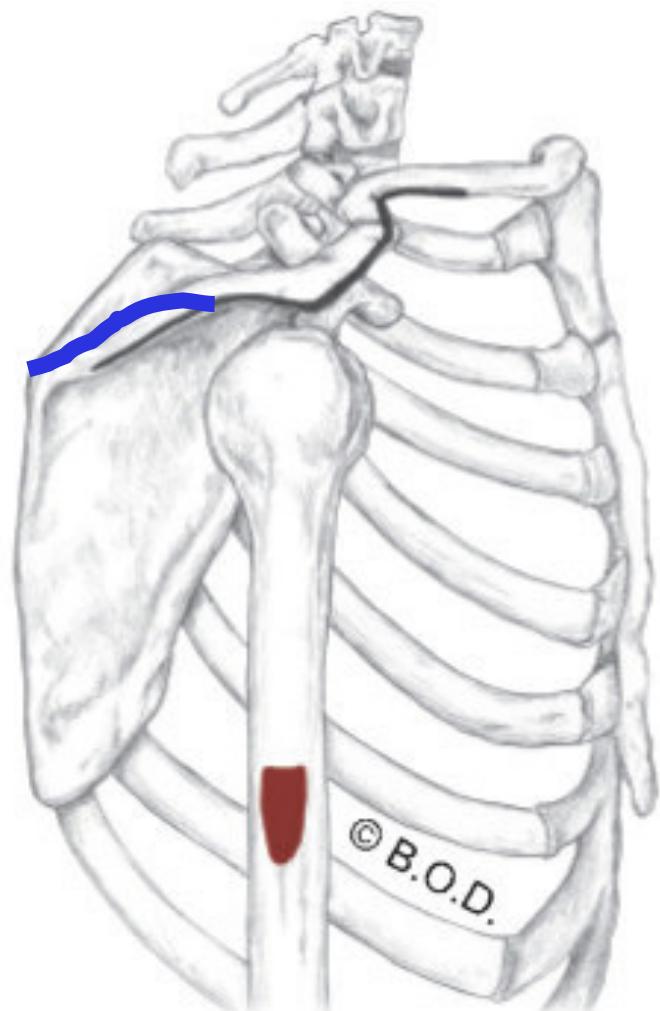
**Horizontally adduct** the shoulder (G/H joint)

O Lateral one-third of clavicle

Acromion

Spine of scapula

I Deltoid tuberosity



Lateral View

# Deltoid

A All fibers:

**Abduct** the shoulder (G/H joint)

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**Horizontally adduct** the shoulder (G/H joint)

Posterior fibers:

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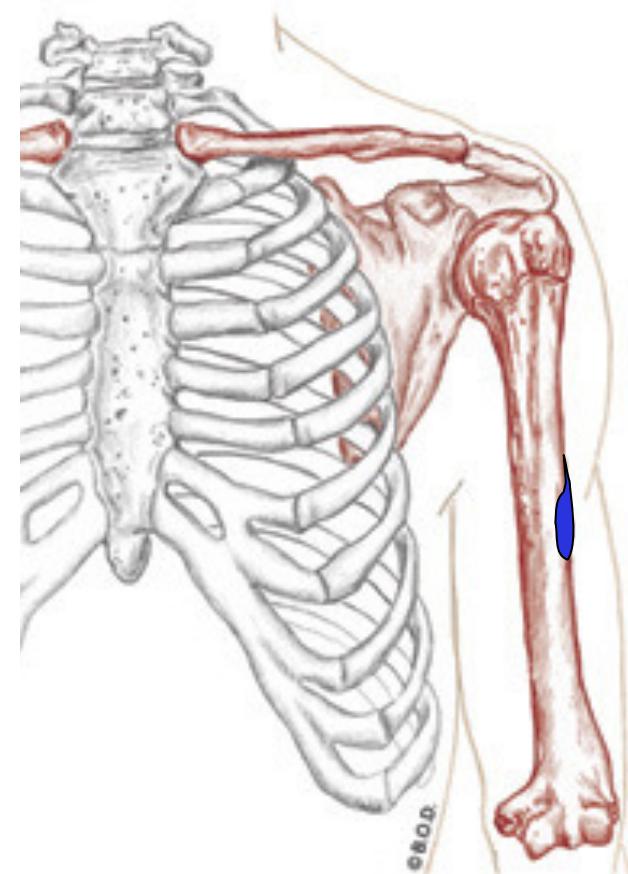
**Horizontally abduct** the shoulder (G/H joint)

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Acromion

Spine of scapula

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Anterior View

# Deltoid

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Posterior fibers:

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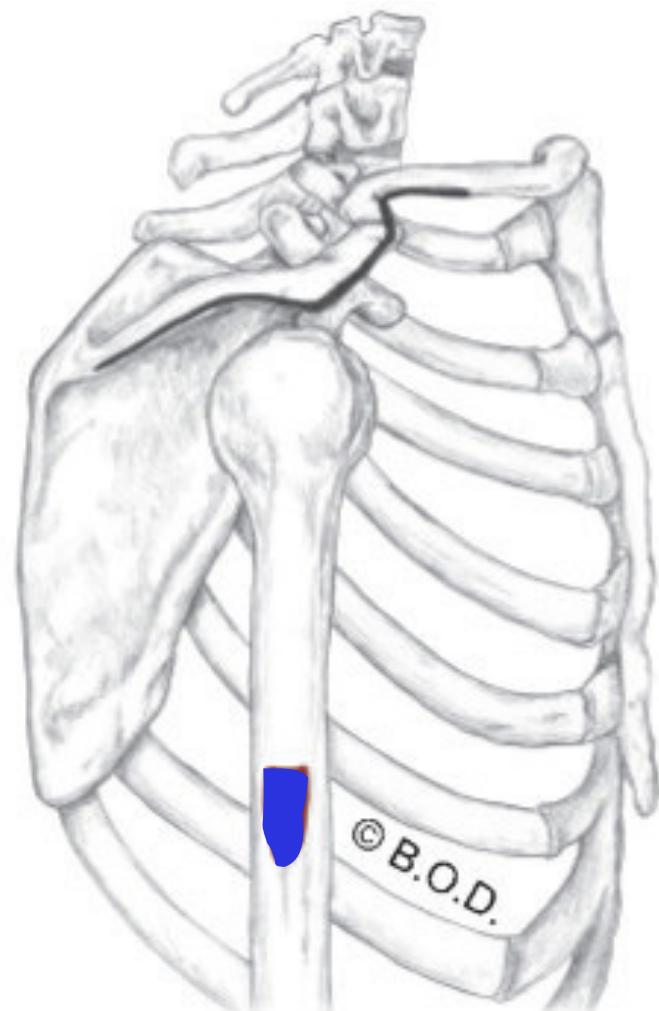
**Horizontally abduct** the shoulder (G/H joint)

O Lateral one-third of clavicle

Acromion

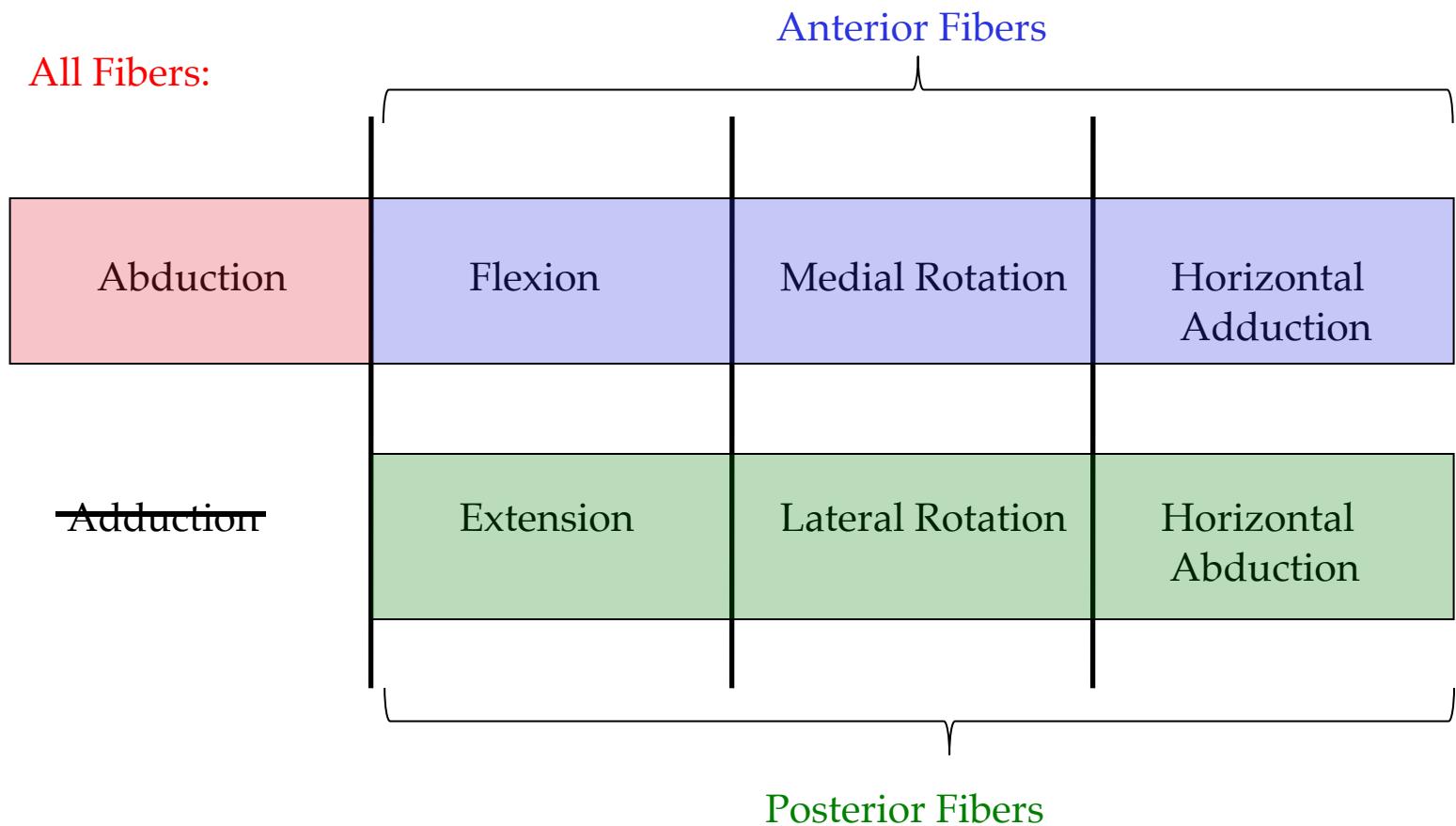
Spine of scapula

I Deltoid tuberosity



Lateral View

Deltoid: 7 actions  
(consider drawing this on A-52!)



# Trapezius

## Trail Guide, Page 68



Trapezius is a superficial muscle of the upper back and neck.

It comes from a Greek word meaning “little table” or “trapezoid shape”.

When do you use trapezius?

# Trapezius

## Trail Guide, Page 68



Posterior View

Trapezius is used to:

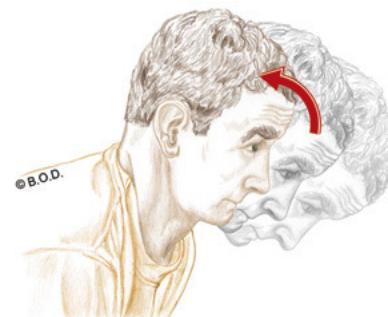
- Extend your neck over the handlebars of a bicycle
- Hold a phone between your ear and shoulder
- Carry articles strapped over your shoulder
- Pull your shoulders back in a military fashion

What actions are performed by the upper fibers of trapezius?

# Actions of trapezius upper fibers



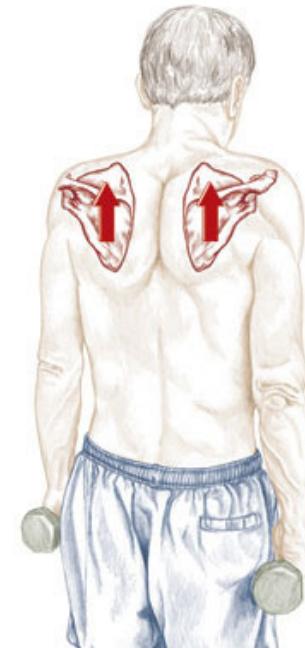
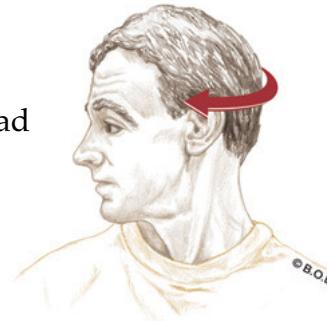
Extension of the head and neck



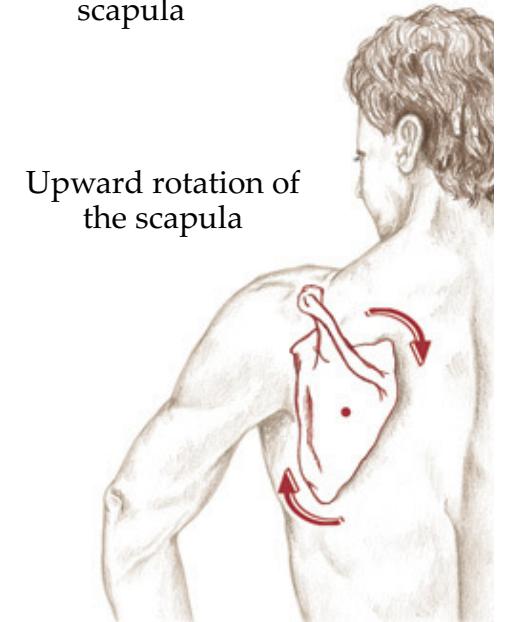
Lateral flexion of the head and neck



Rotation of the head and neck to the **opposite** side

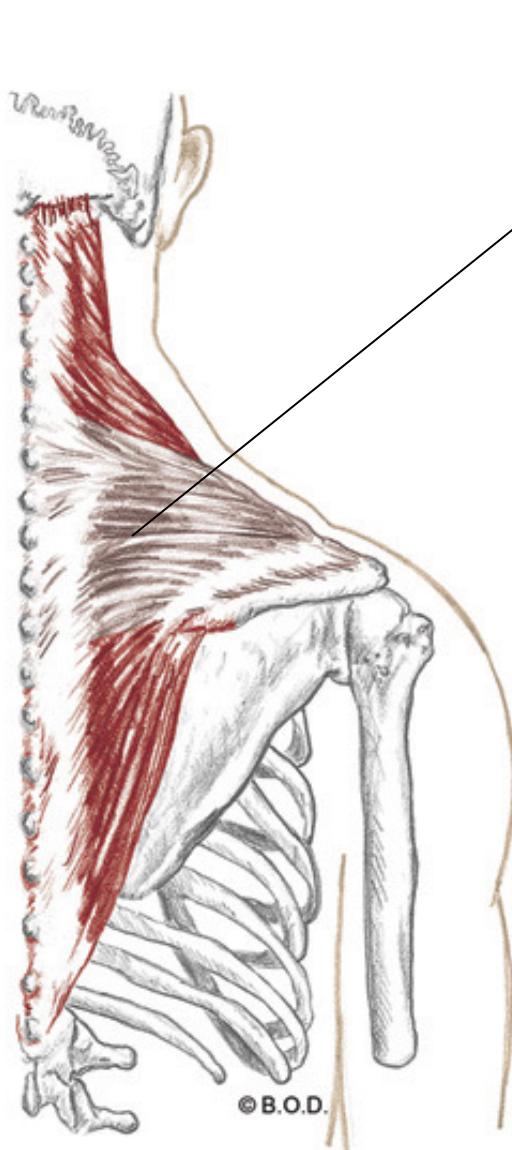


Elevation of the scapula



Upward rotation of the scapula

# Actions of trapezius middle fibers



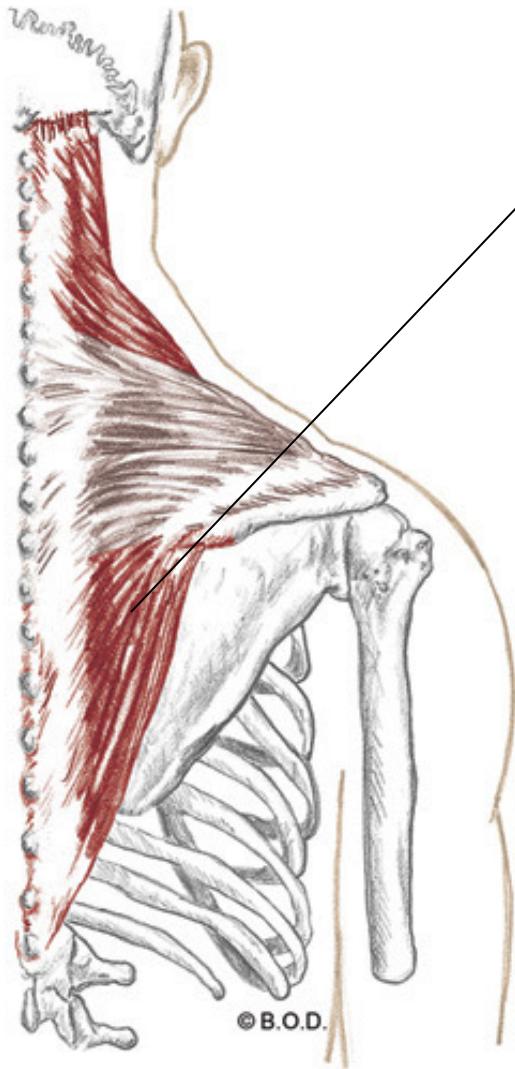
Adduction of the scapula.

Also called retraction of the scapula!

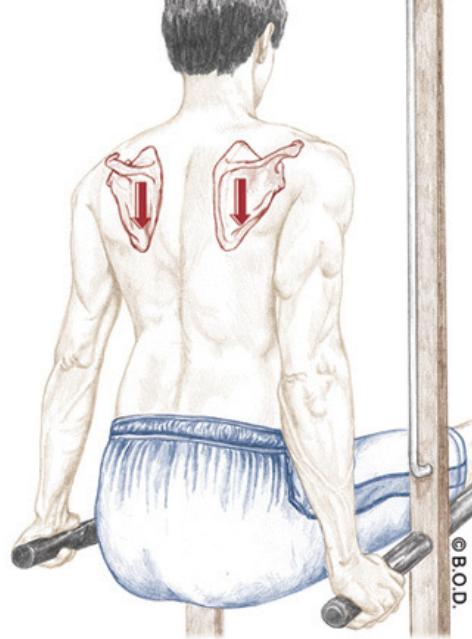


Middle fibers of trapezius are also responsible for stabilizing the scapula so that it remains in a fixed position.

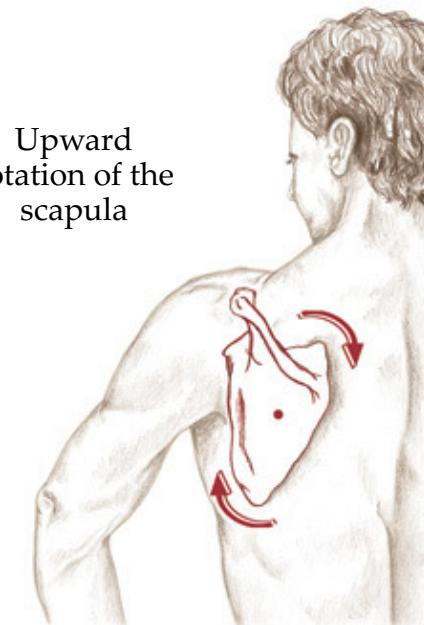
# Actions of trapezius lower fibers



Depression of  
the scapula



Upward  
rotation of the  
scapula



# Trapezius

**A** *Upper fibers:*

Bilaterally

**Extend** the head and neck

Unilaterally

**Laterally flex** the head and neck to the same side

**Rotate** the head and neck to the opposite side

**Elevate** the scapula (scapulothoracic joint)

**Upwardly rotate** the scapula (S/T joint)

*Middle fibers:*

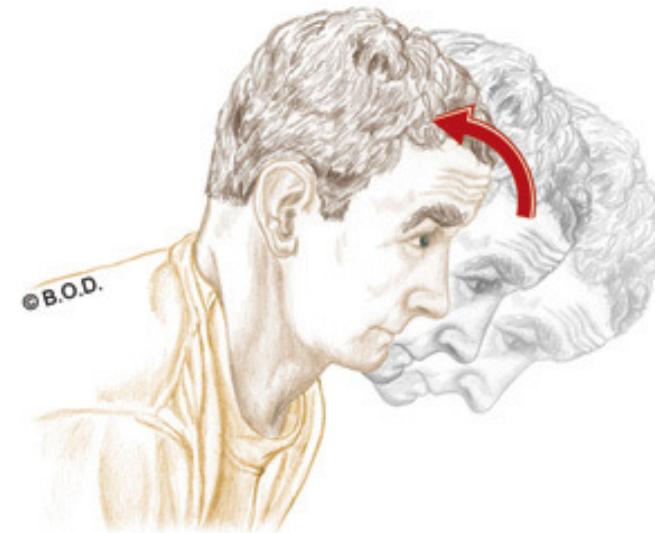
**Adduct** the scapula (S/T joint)

**Stabilize** the scapula (S/T joint)

*Lower fibers:*

**Depress** the scapula (S/T joint)

**Upwardly rotate** the scapula (S/T joint)



**O** External occipital protuberance

Medial portion of superior nuchal line

Ligamentum nuchae

Spinous processes of C-7 through T-12

**I** Lateral one-third of clavicle

Acromion

Spine of scapula

# Trapezius

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*Middle fibers:*

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**Stabilize** the scapula (S/T joint)

*Lower fibers:*

**Depress** the scapula (S/T joint)

**Upwardly rotate** the scapula (S/T joint)

**O**

External occipital protuberance

Medial portion of superior nuchal line

Ligamentum nuchae

Spinous processes of C-7 through T-12

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Lateral one-third of clavicle

Acromion

Spine of scapula



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**Stabilize** the scapula (S/T joint)

*Lower fibers:*

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**Upwardly rotate** the scapula (S/T joint)

**O**

External occipital protuberance

Medial portion of superior nuchal line

Ligamentum nuchae

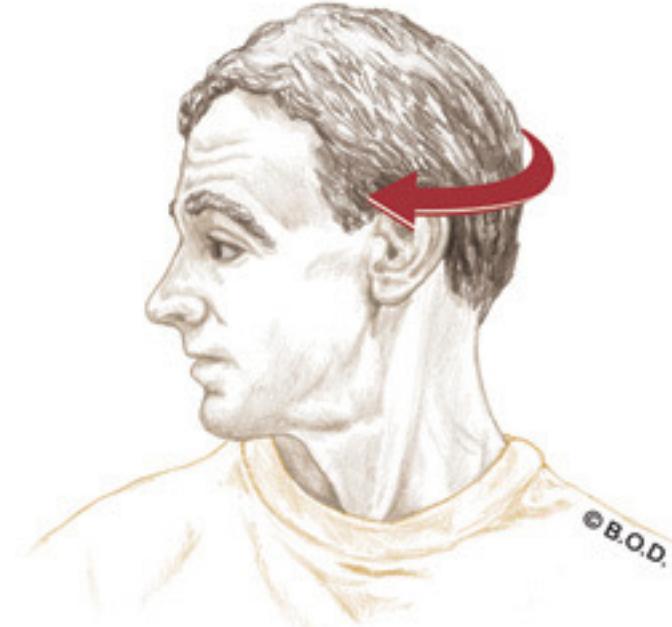
Spinous processes of C-7 through T-12

**I**

Lateral one-third of clavicle

Acromion

Spine of scapula



# Trapezius

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## Middle fibers:

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**Stabilize** the scapula (S/T joint)

## Lower fibers:

**Depress** the scapula (S/T joint)

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Medial portion of superior nuchal line  
Ligamentum nuchae  
Spinous processes of C-7 through T-12

**I** Lateral one-third of clavicle  
Acromion  
Spine of scapula



# Trapezius

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**Depress** the scapula (S/T joint)

**Upwardly rotate** the scapula (S/T joint)

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External occipital protuberance

Medial portion of superior nuchal line

Ligamentum nuchae

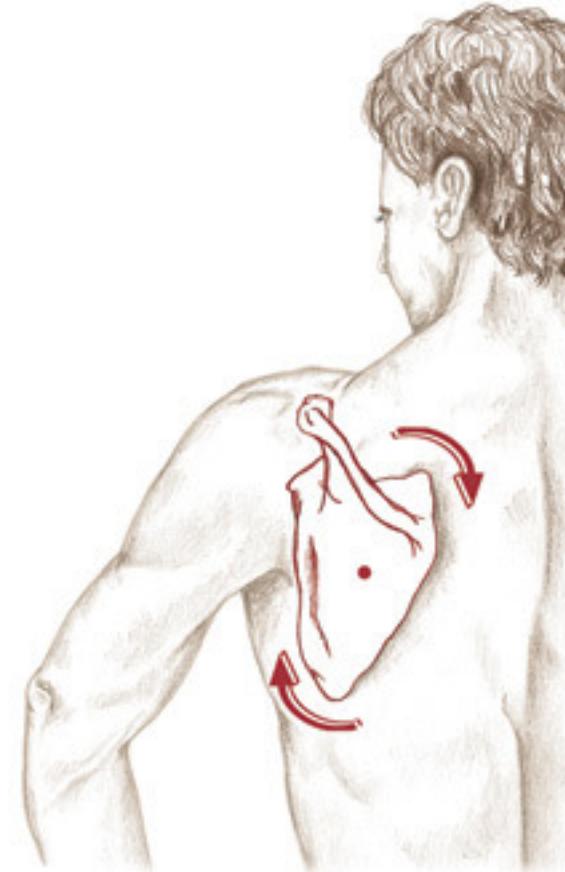
Spinous processes of C-7 through T-12

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Acromion

Spine of scapula



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## O

External occipital protuberance

Medial portion of superior nuchal line

Ligamentum nuchae

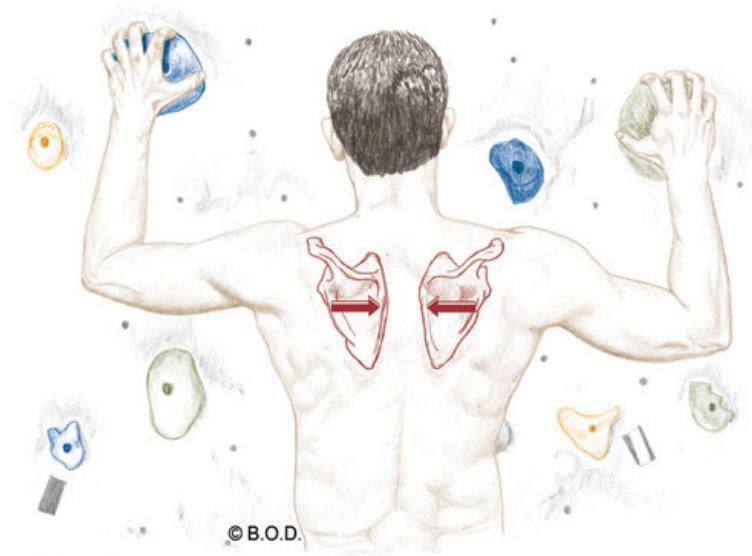
Spinous processes of C-7 through T-12

## I

Lateral one-third of clavicle

Acromion

Spine of scapula



# Trapezius

**A** *Upper fibers:*

Bilaterally

**Extend** the head and neck

Unilaterally

**Laterally flex** the head and neck to the same side

**Rotate** the head and neck to the opposite side

**Elevate** the scapula (scapulothoracic joint)

**Upwardly rotate** the scapula (S/T joint)

*Middle fibers:*

**Adduct** the scapula (S/T joint)

**Stabilize** the scapula (S/T joint)

*Lower fibers:*

**Depress** the scapula (S/T joint)

**Upwardly rotate** the scapula (S/T joint)

**O**

External occipital protuberance

Medial portion of superior nuchal line

Ligamentum nuchae

Spinous processes of C-7 through T-12

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## Middle fibers:

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**Stabilize** the scapula (S/T joint)

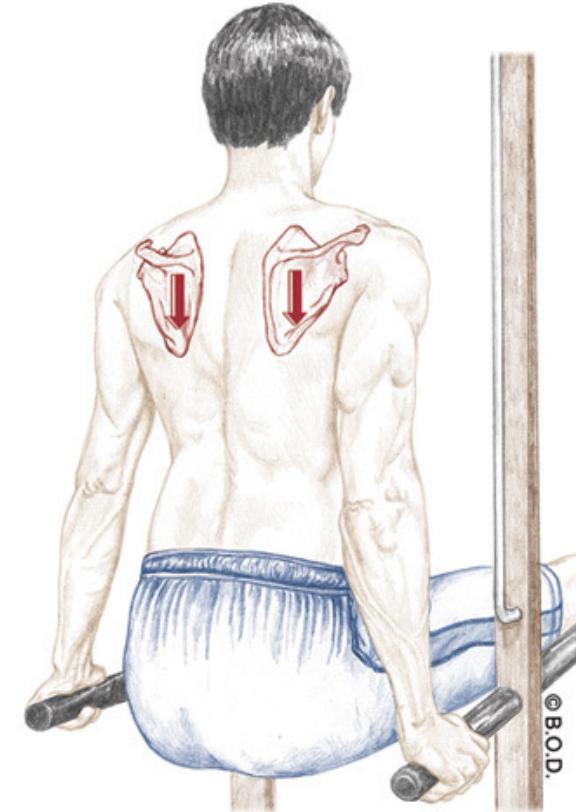
## Lower fibers:

**Depress** the scapula (S/T joint)

**Upwardly rotate** the scapula (S/T joint)

**O** External occipital protuberance  
Medial portion of superior nuchal line  
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Spinous processes of C-7 through T-12

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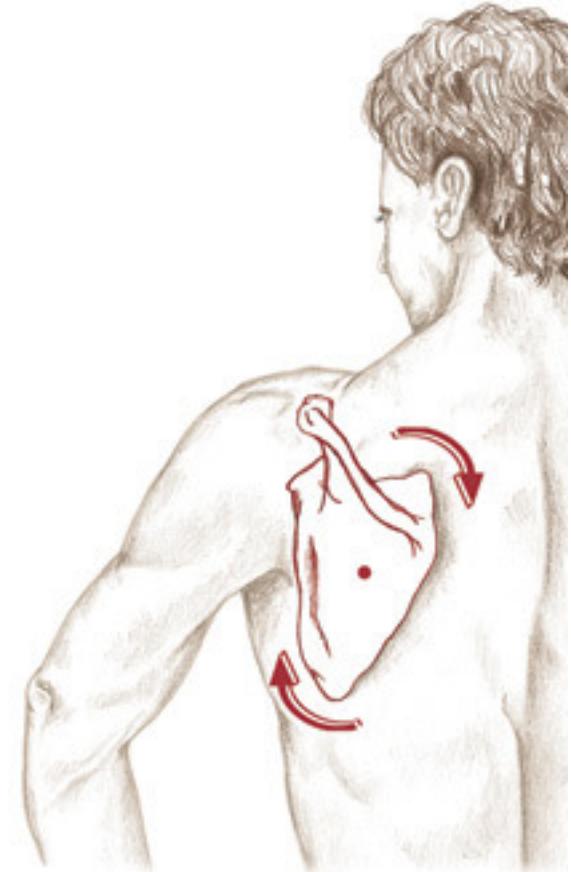
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**Depress** the scapula (S/T joint)

**Upwardly rotate** the scapula (S/T joint)

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Medial portion of superior nuchal line

Ligamentum nuchae

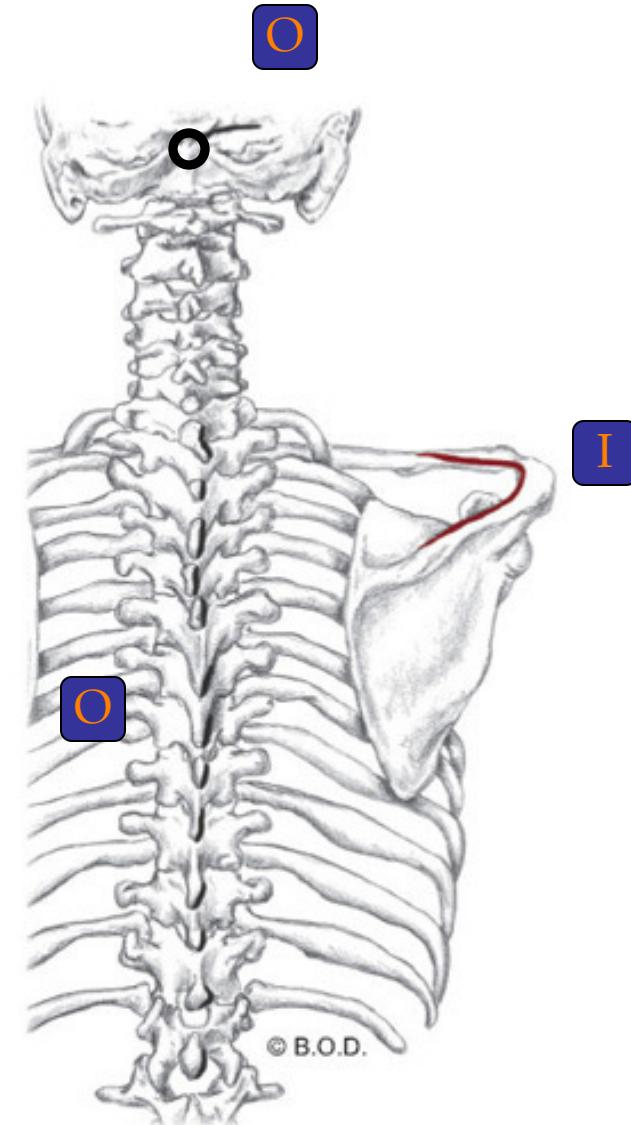
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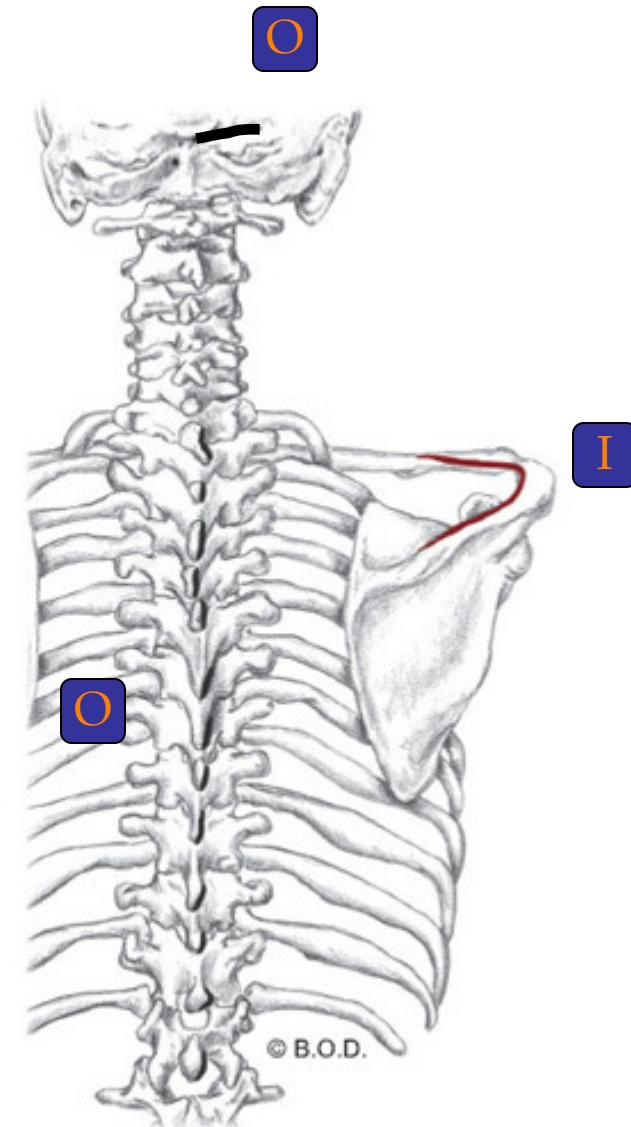
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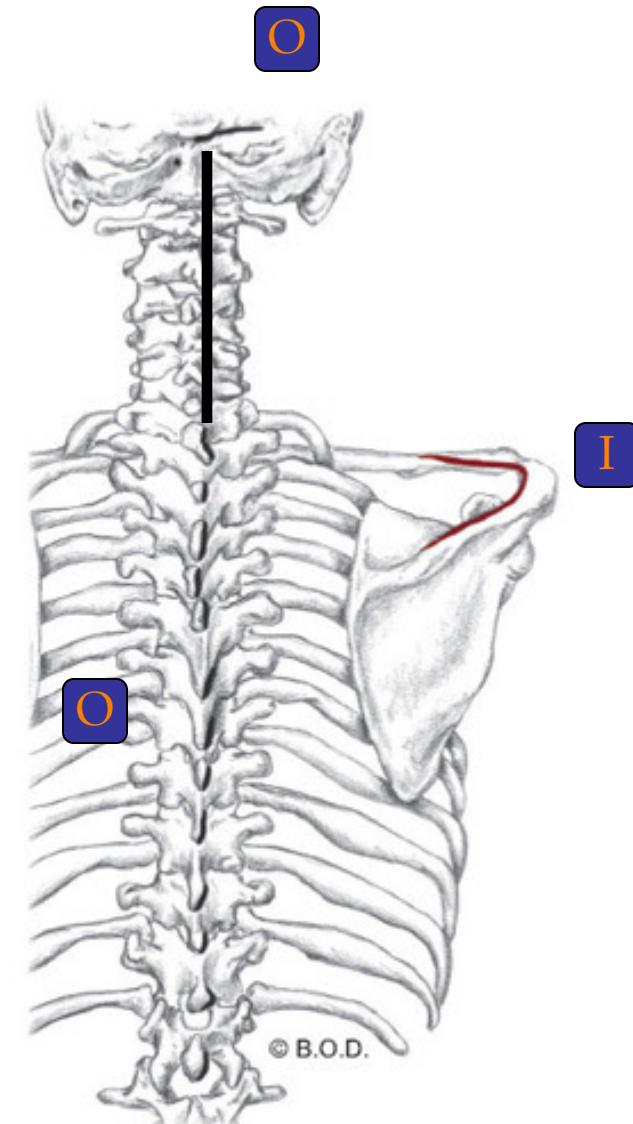
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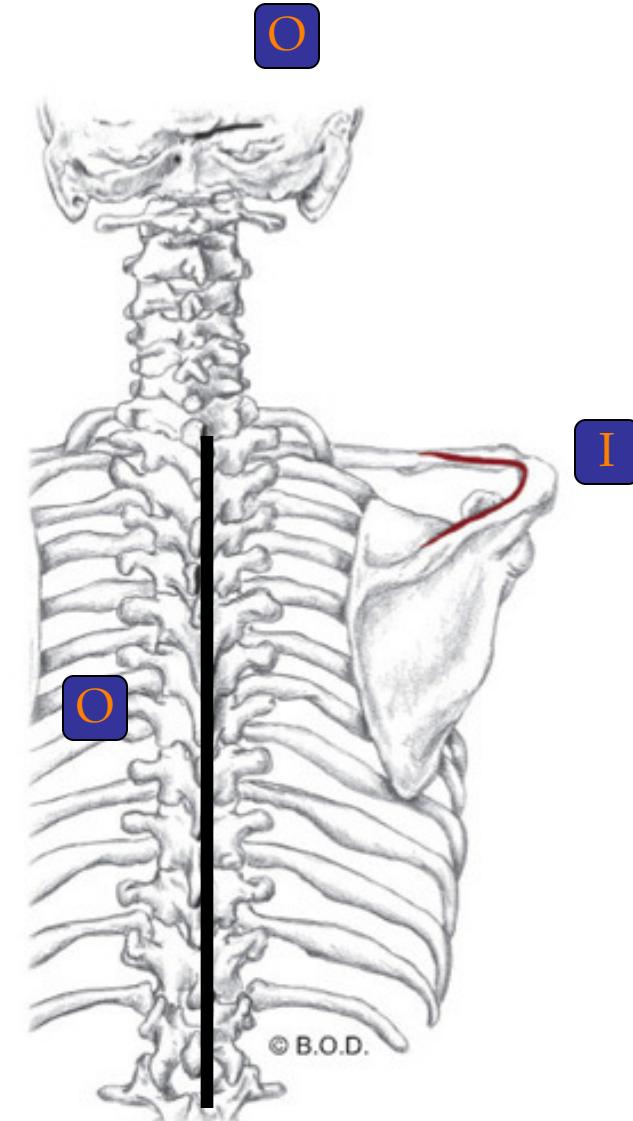
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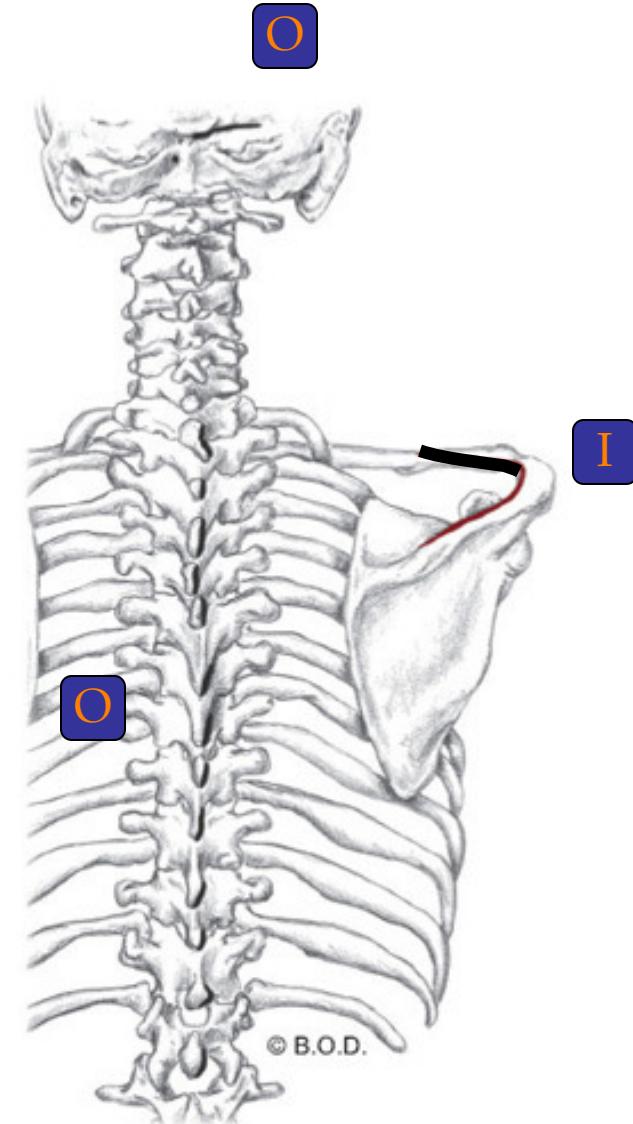
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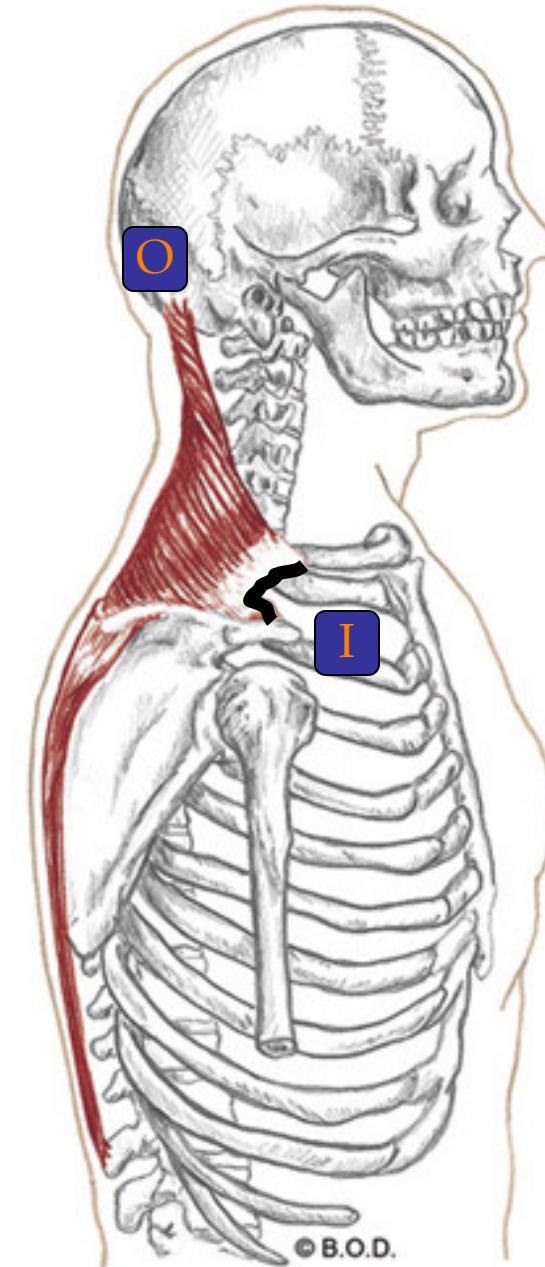
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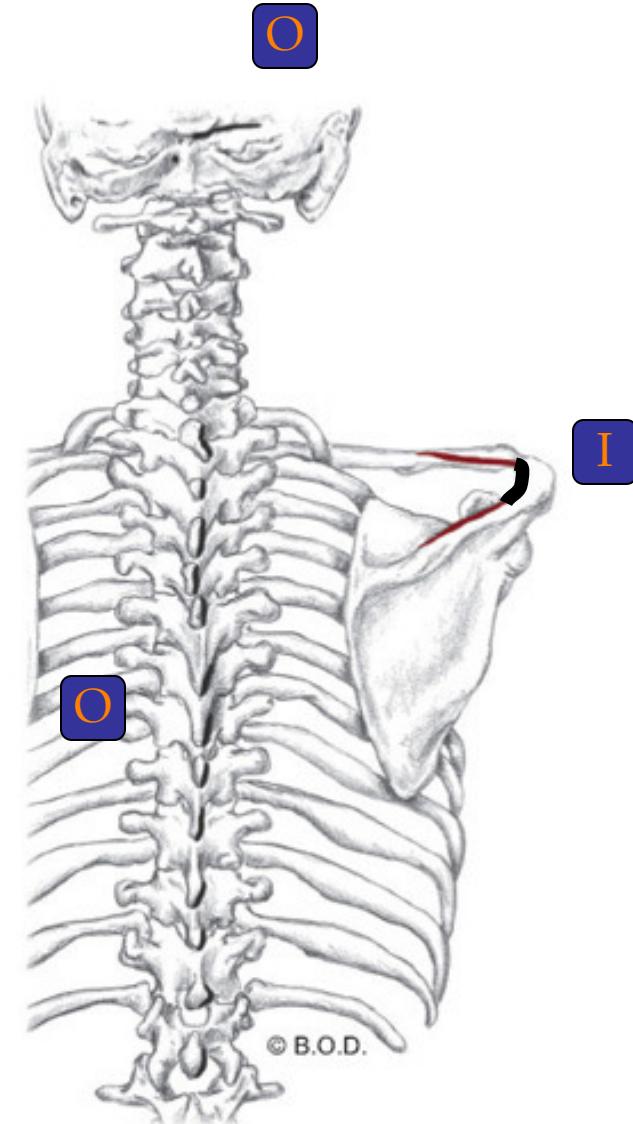
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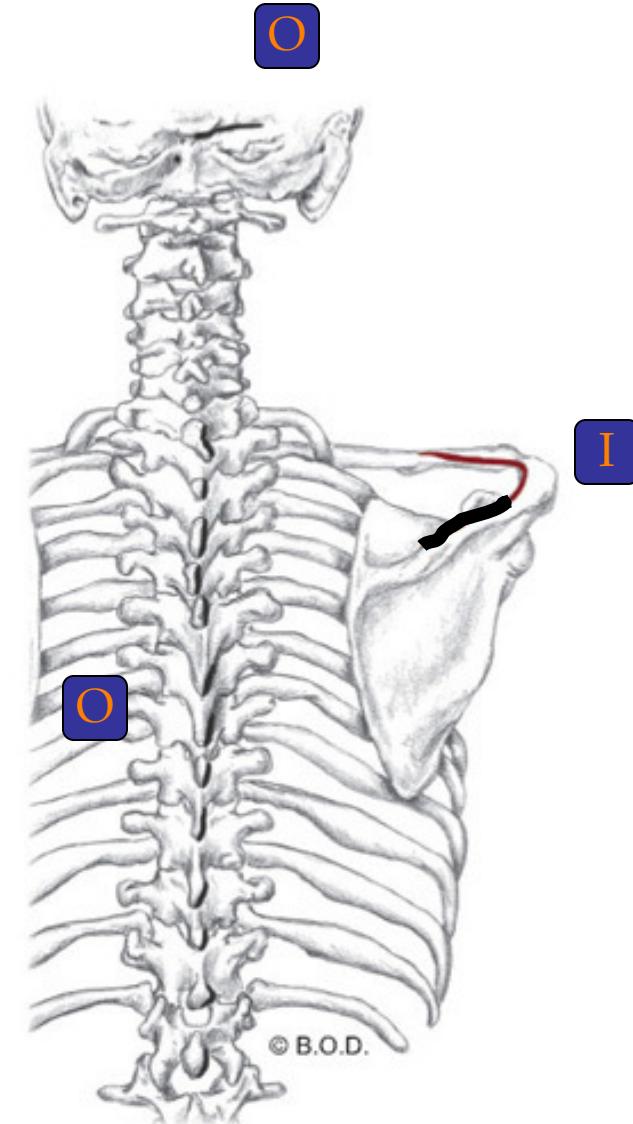
Spinous processes of C-7 through T-12

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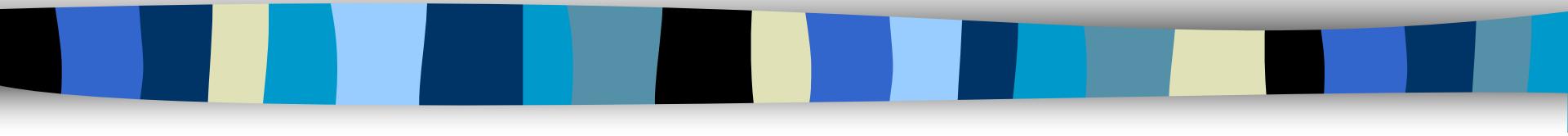
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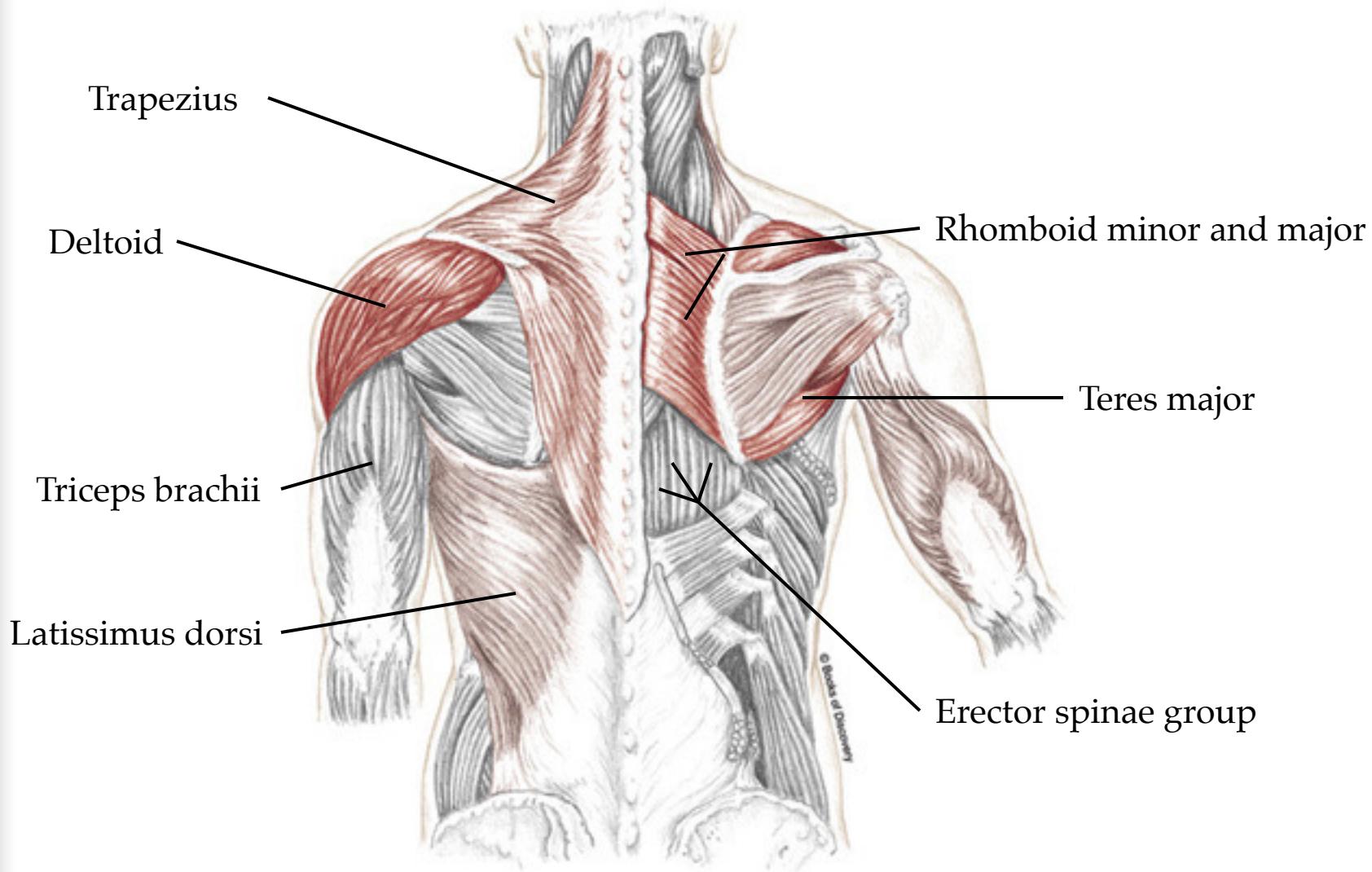
Spine of scapula



# 2a Kinesiology: Names and Locations of Bones and Posterior Muscles E – 17 (part of Class 22a)

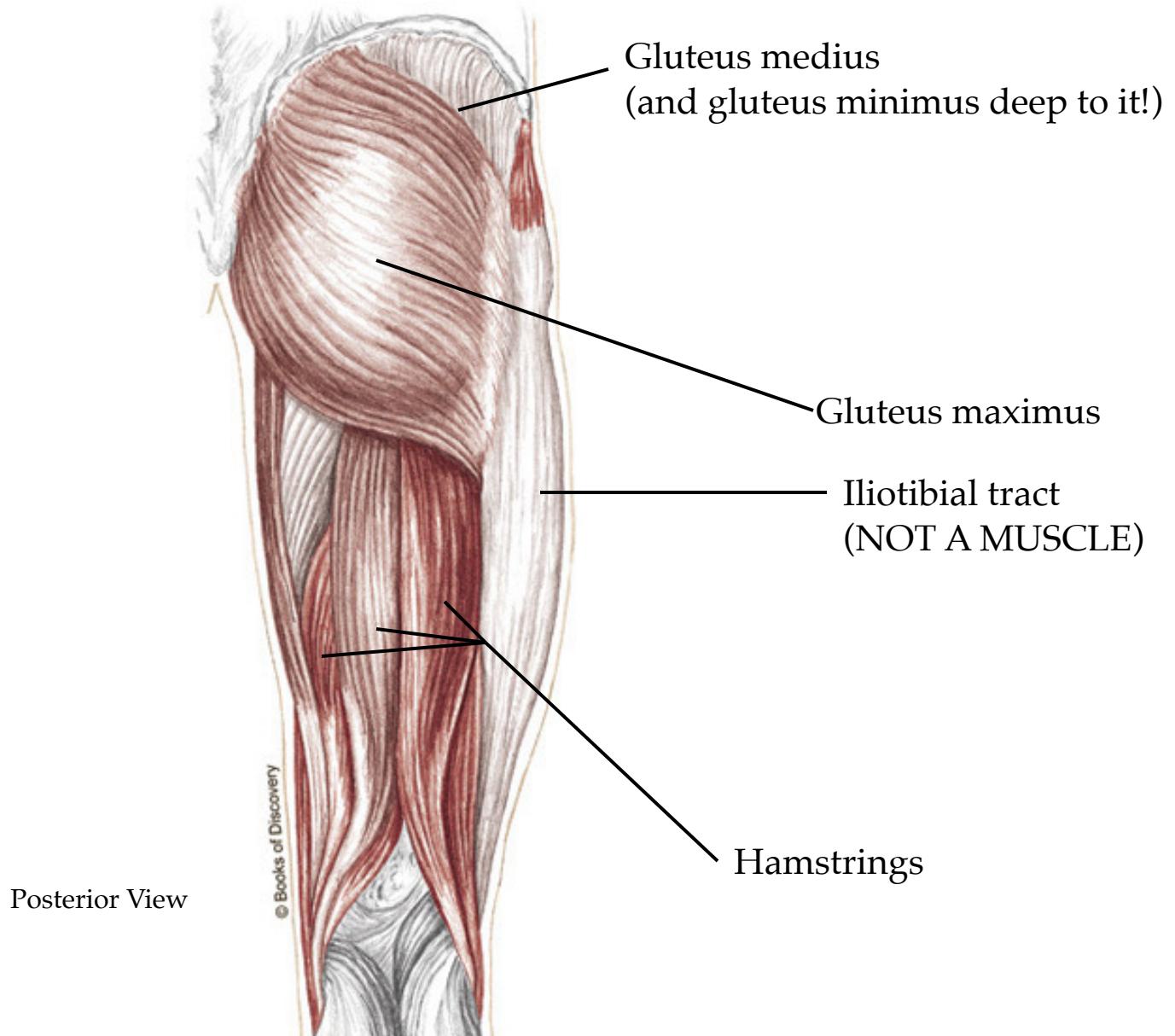


## Trail Guide, Page 61

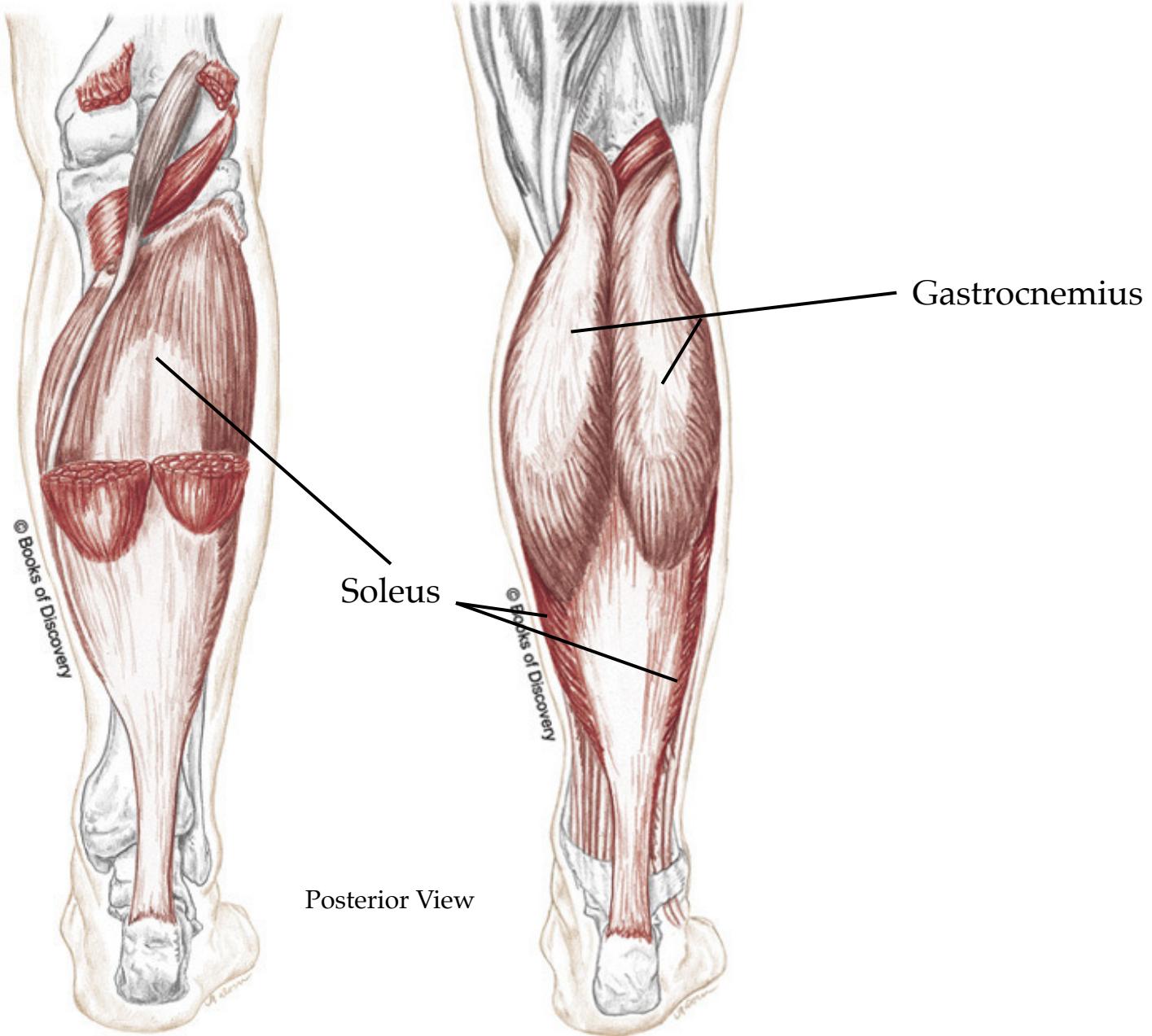


### Posterior View

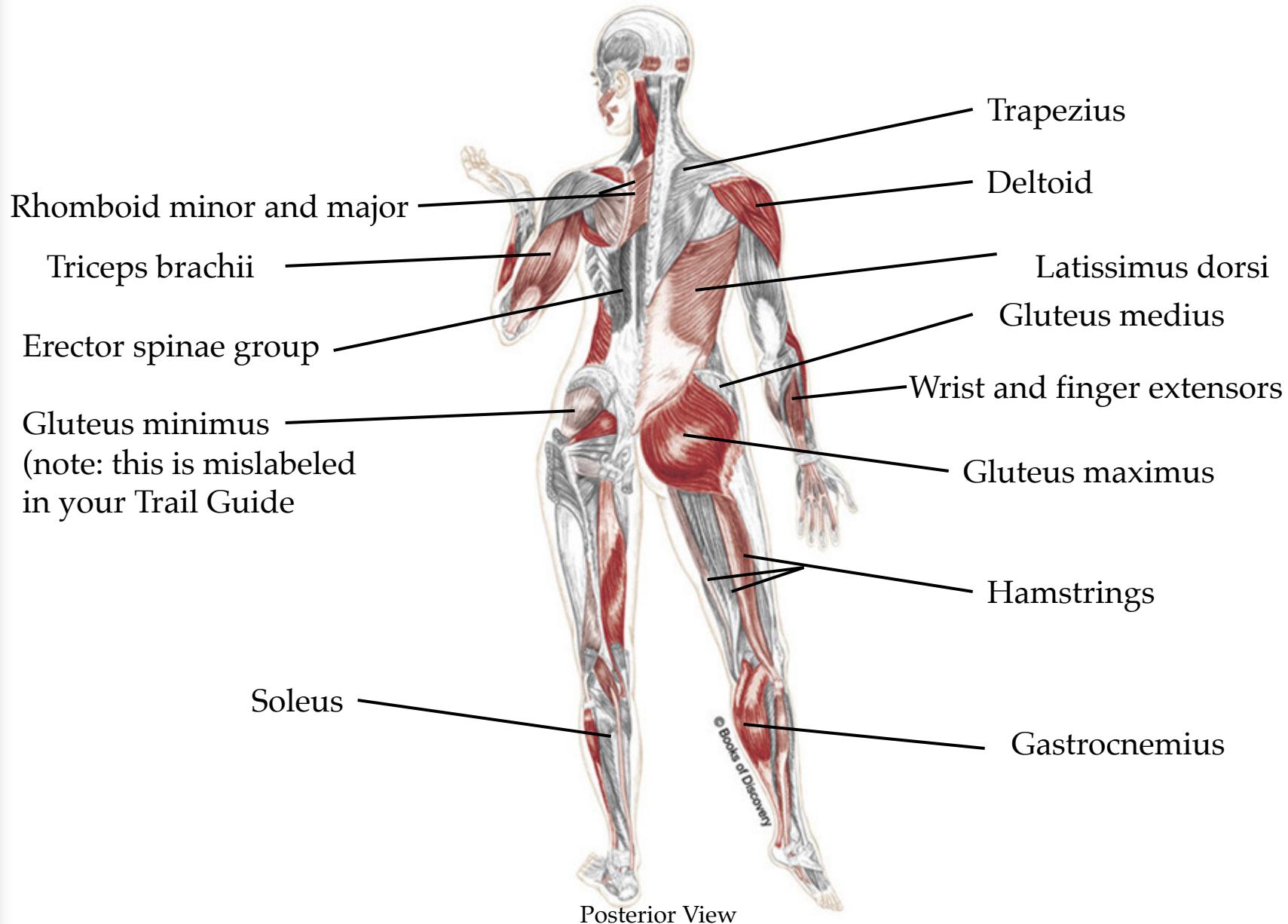
# Trail Guide, Page 297



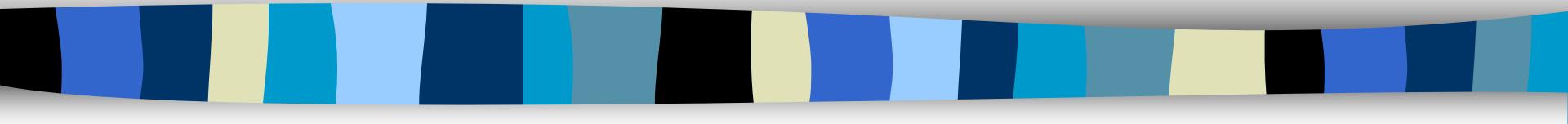
# Trail Guide, Page 366



# Trail Guide, Page 36



# Active Study Skills



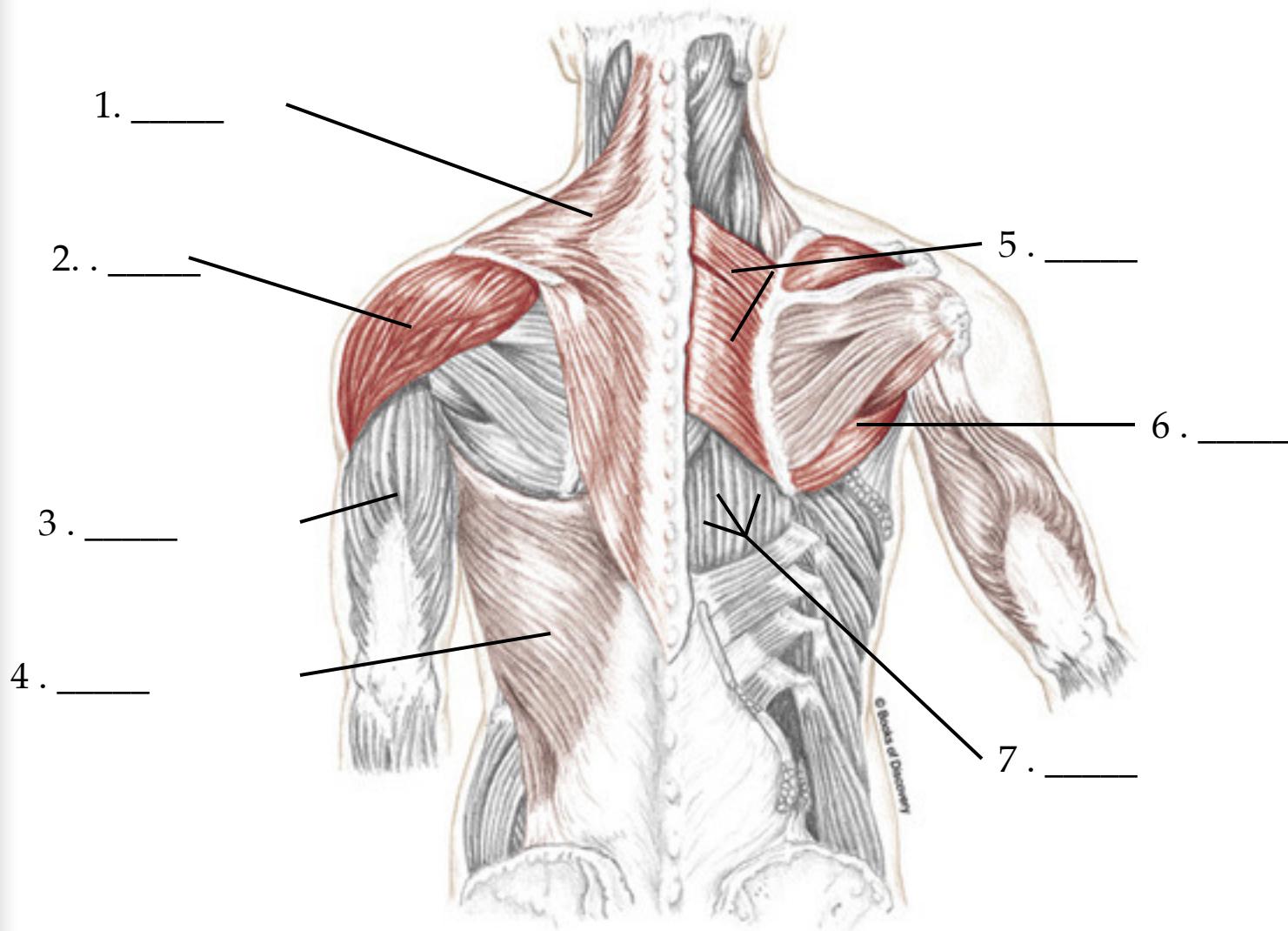
Engage in active studying of this new material using:

- Trail Guide (pages 36, 61, 297, 366, and any others that help you)
- Your body (link the muscles in the book with those on your body)
- Movement (touch the muscle as you contract it and say its name out loud)
- Drawings (draw the basic shapes of the muscles and label them)
- Drilling (with a partner, name or write the muscle as they point at it)
- Writing (write the names of all of the muscles)
- Speaking (name all of the muscles)

# Review

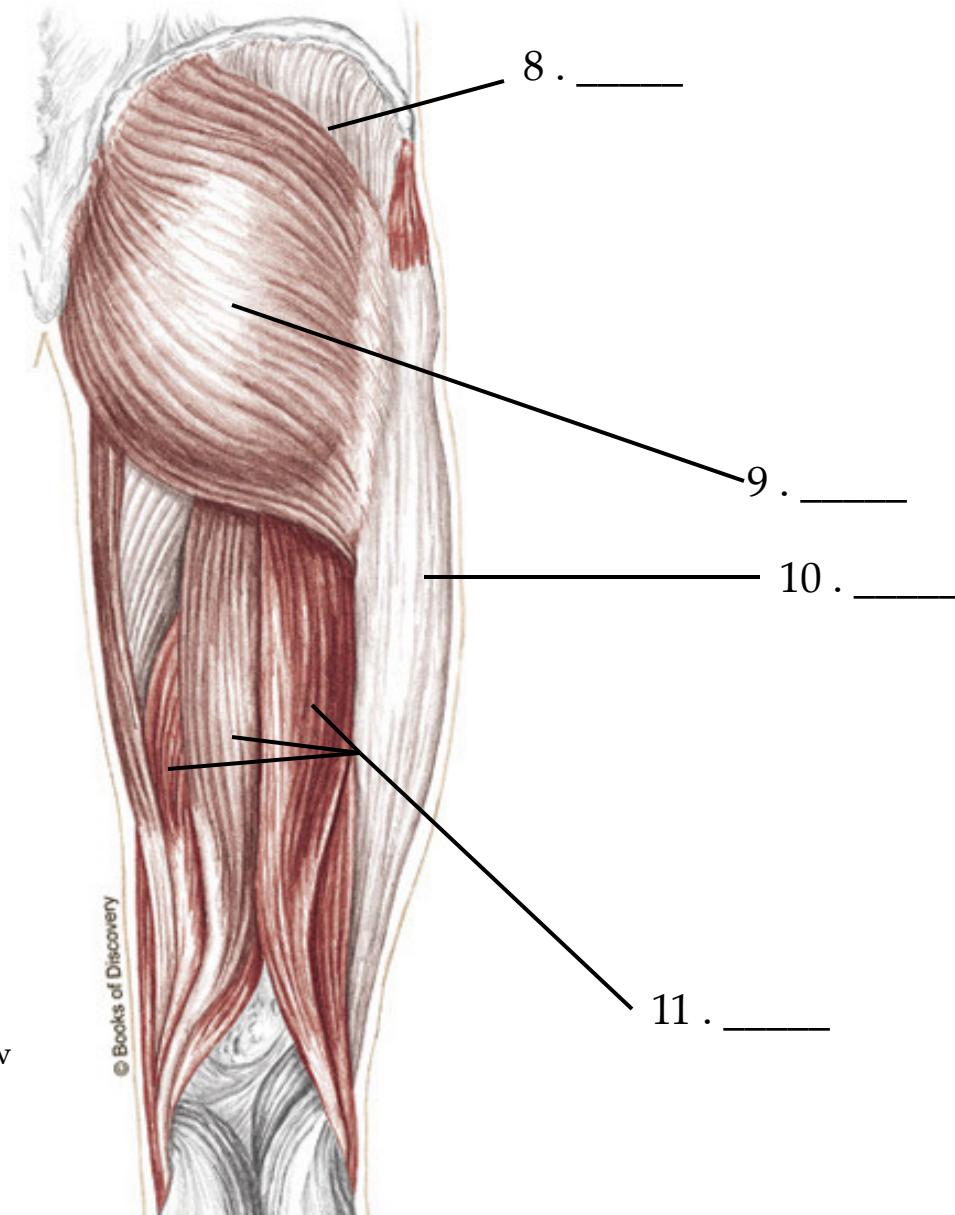
Write the name of the muscle for each number

# Trail Guide, Page 61



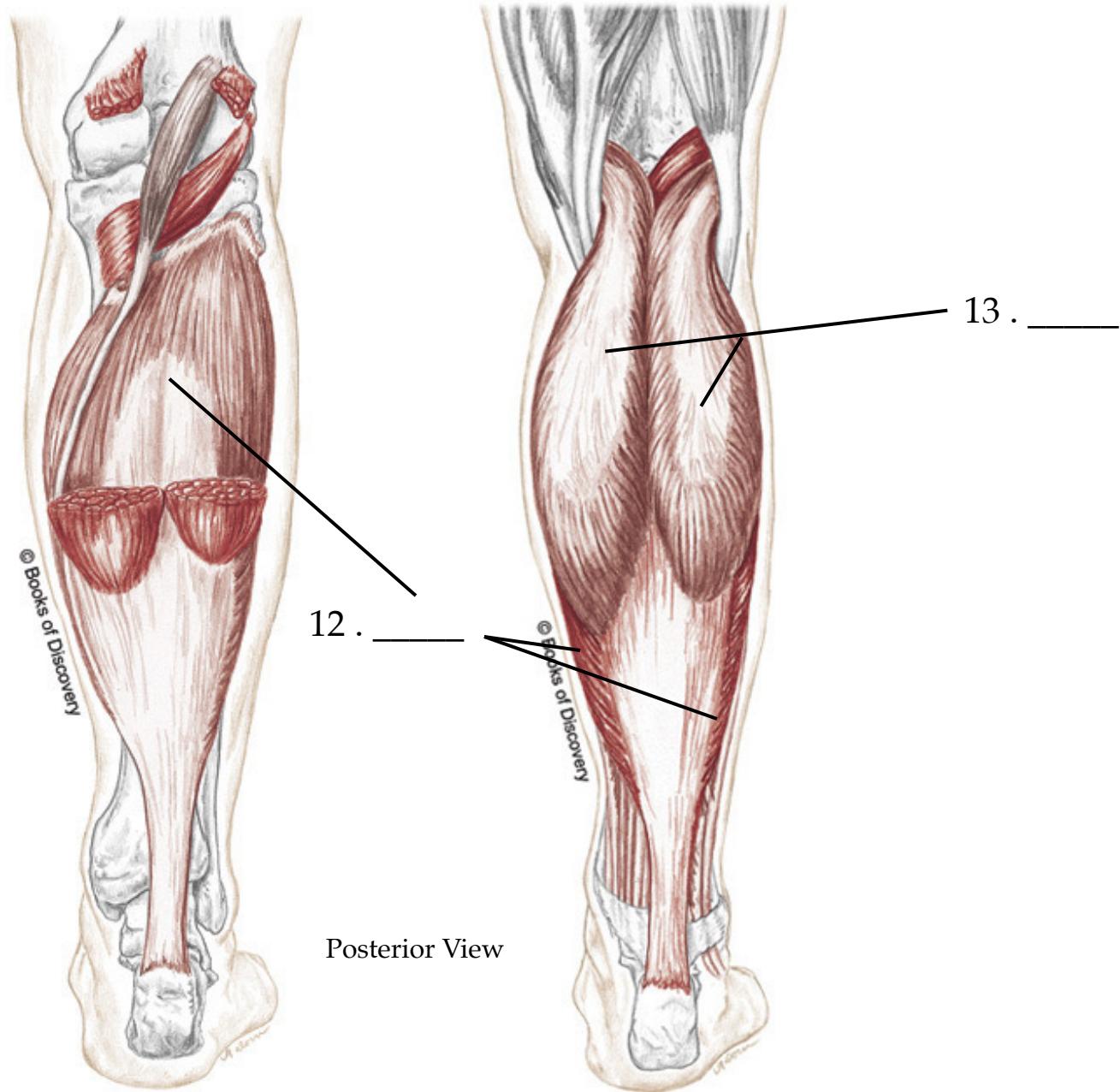
Posterior View

## Trail Guide, Page 297

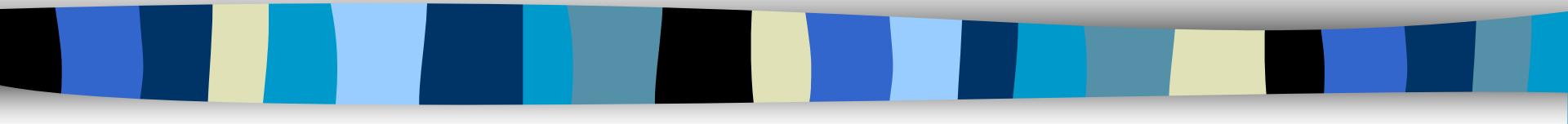


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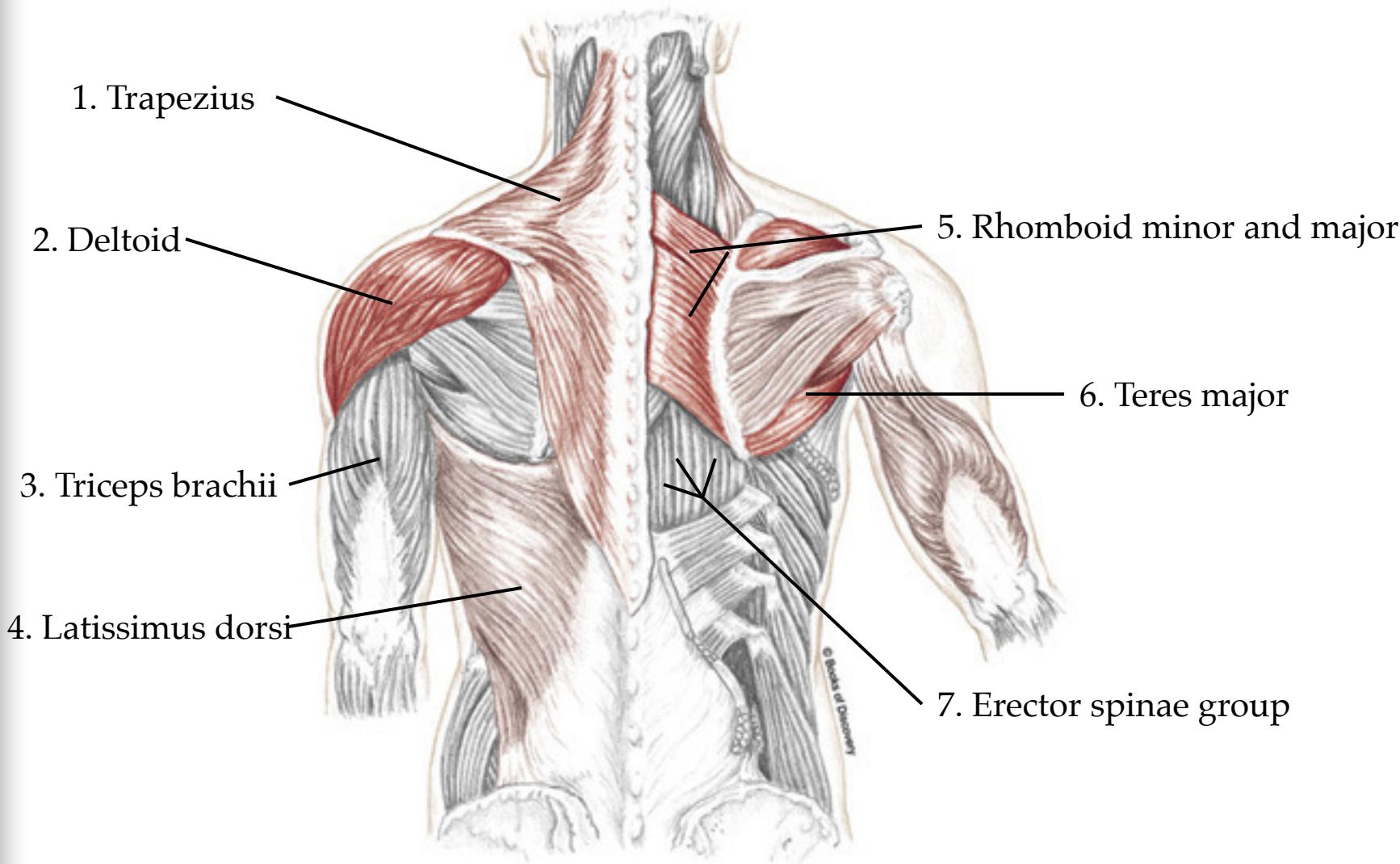
# Trail Guide, Page 366



# Check your answers

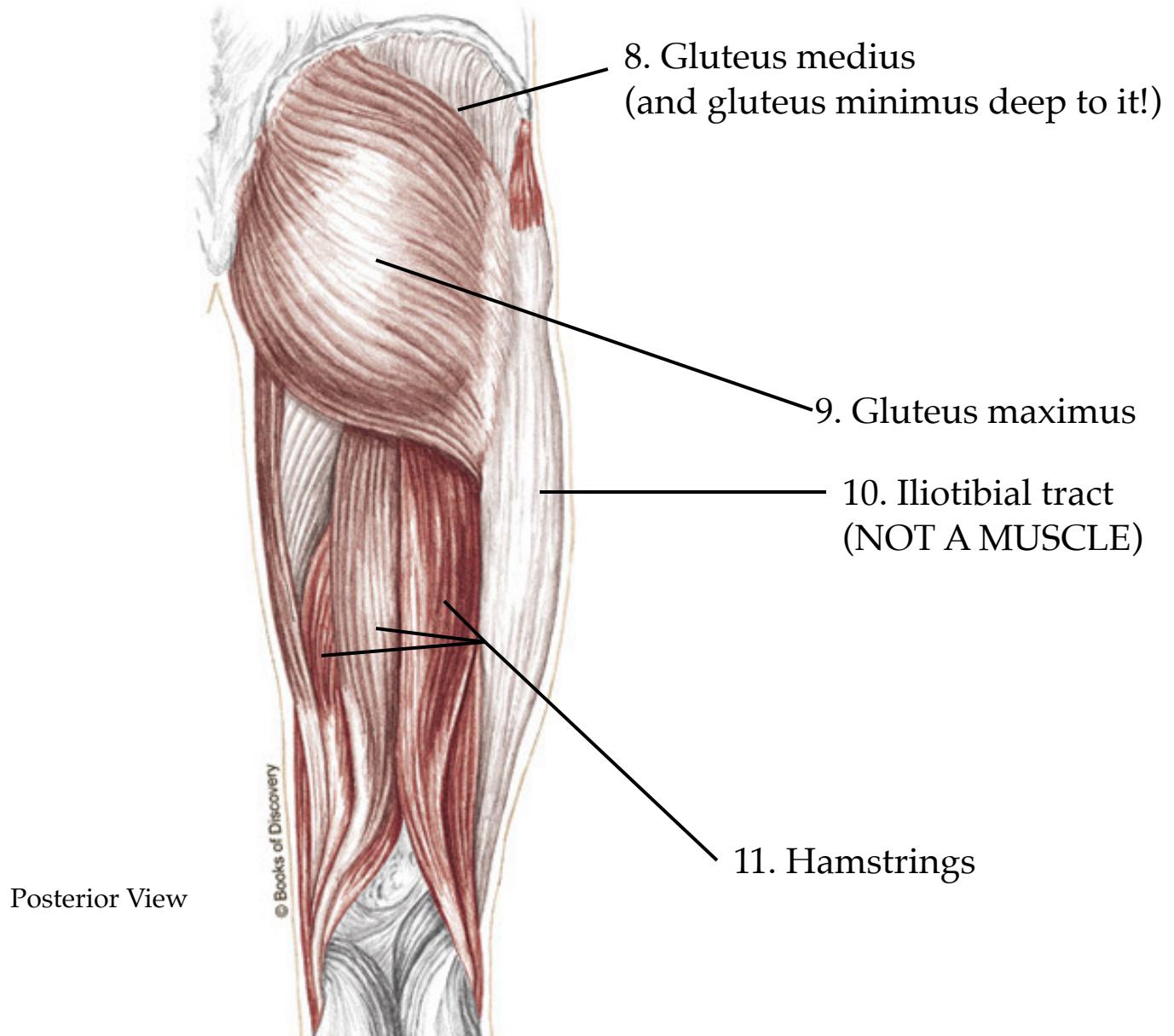


# Trail Guide, Page 61

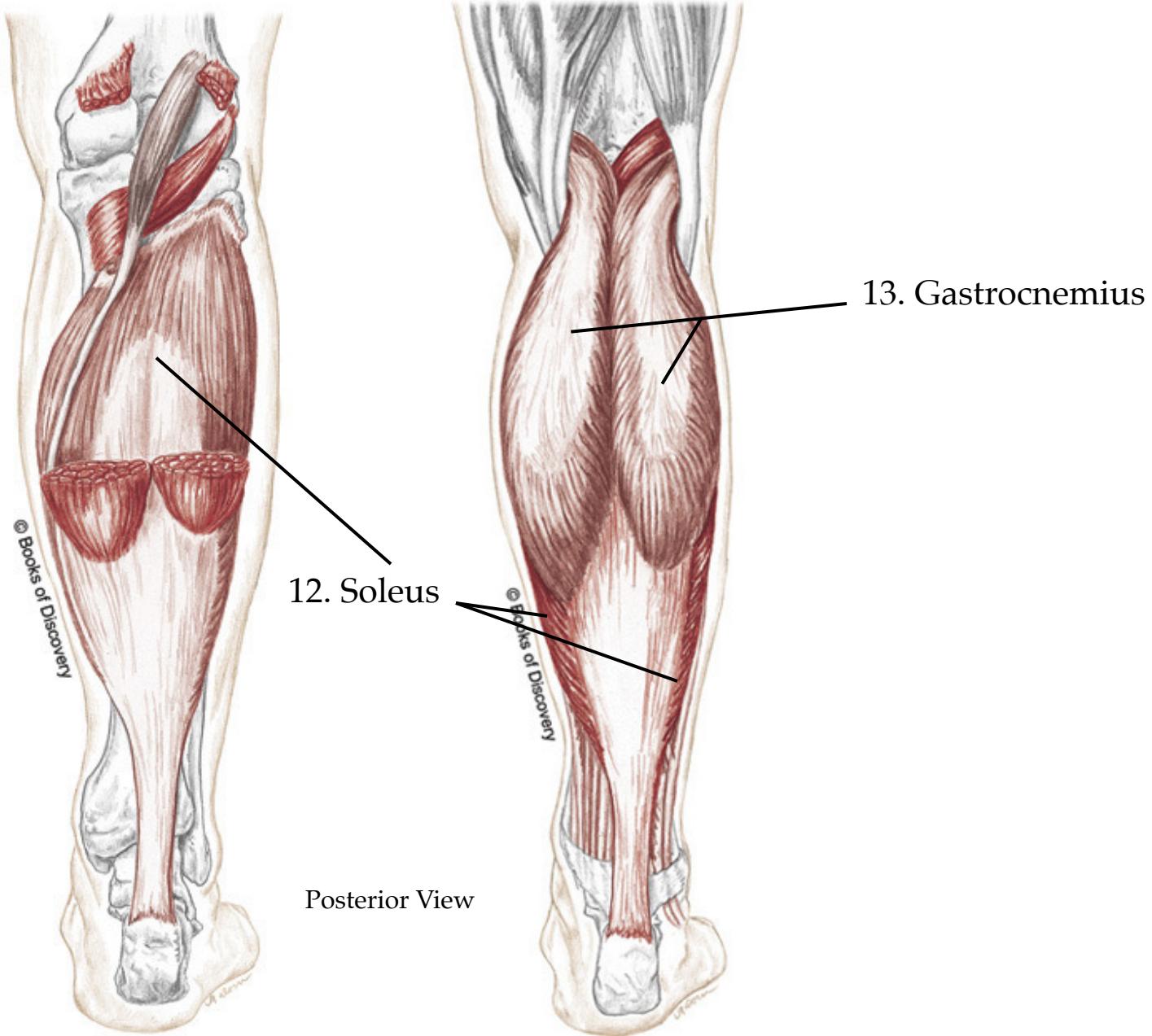


Posterior View

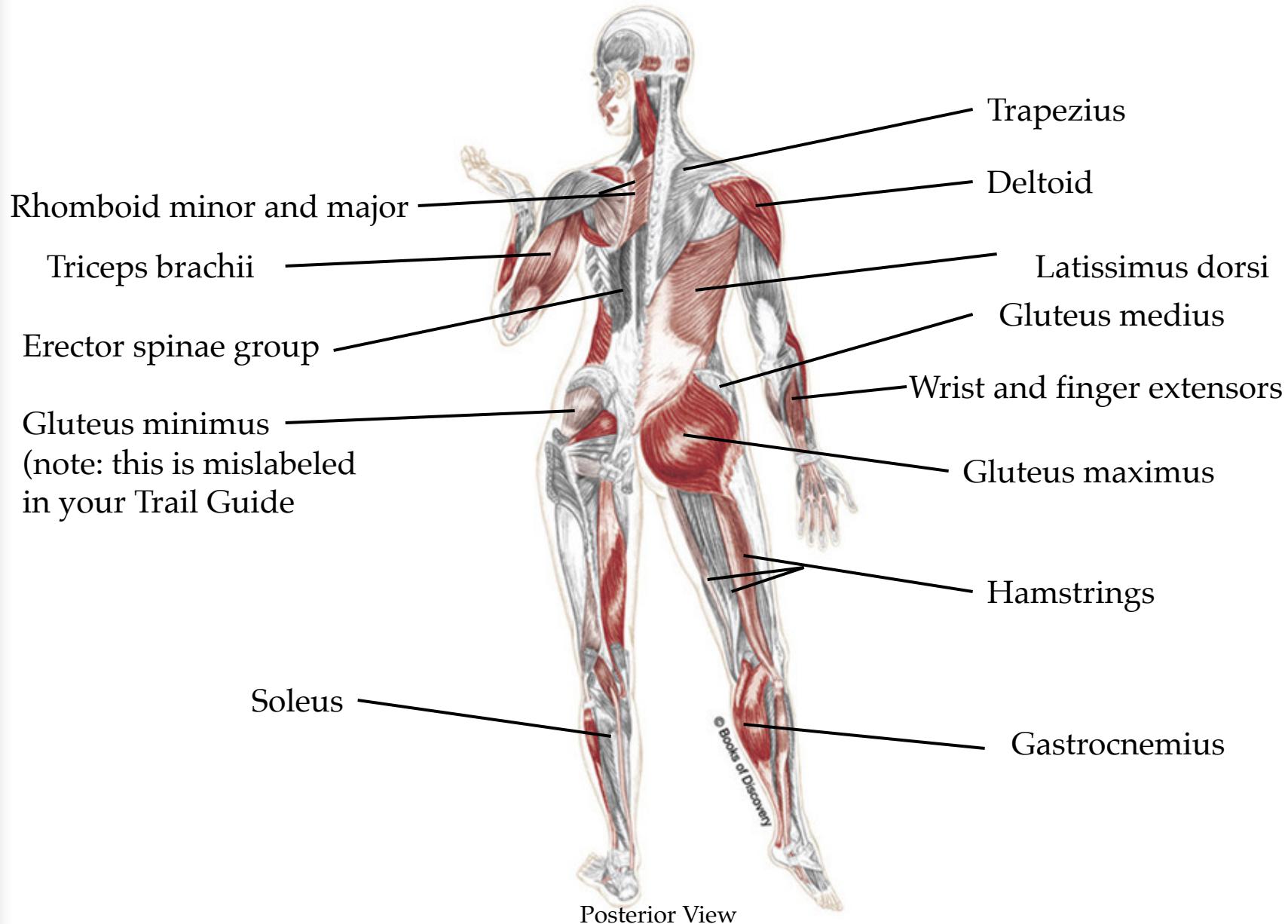
# Trail Guide, Page 297



# Trail Guide, Page 366



# Trail Guide, Page 36



## 2a Kinesiology: Names and Locations of Bones and Posterior Muscles

