

## 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          |
| <u>15 minutes</u> | <u>Muscles of the Posterior Upper and Lower Body</u> |
| 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!



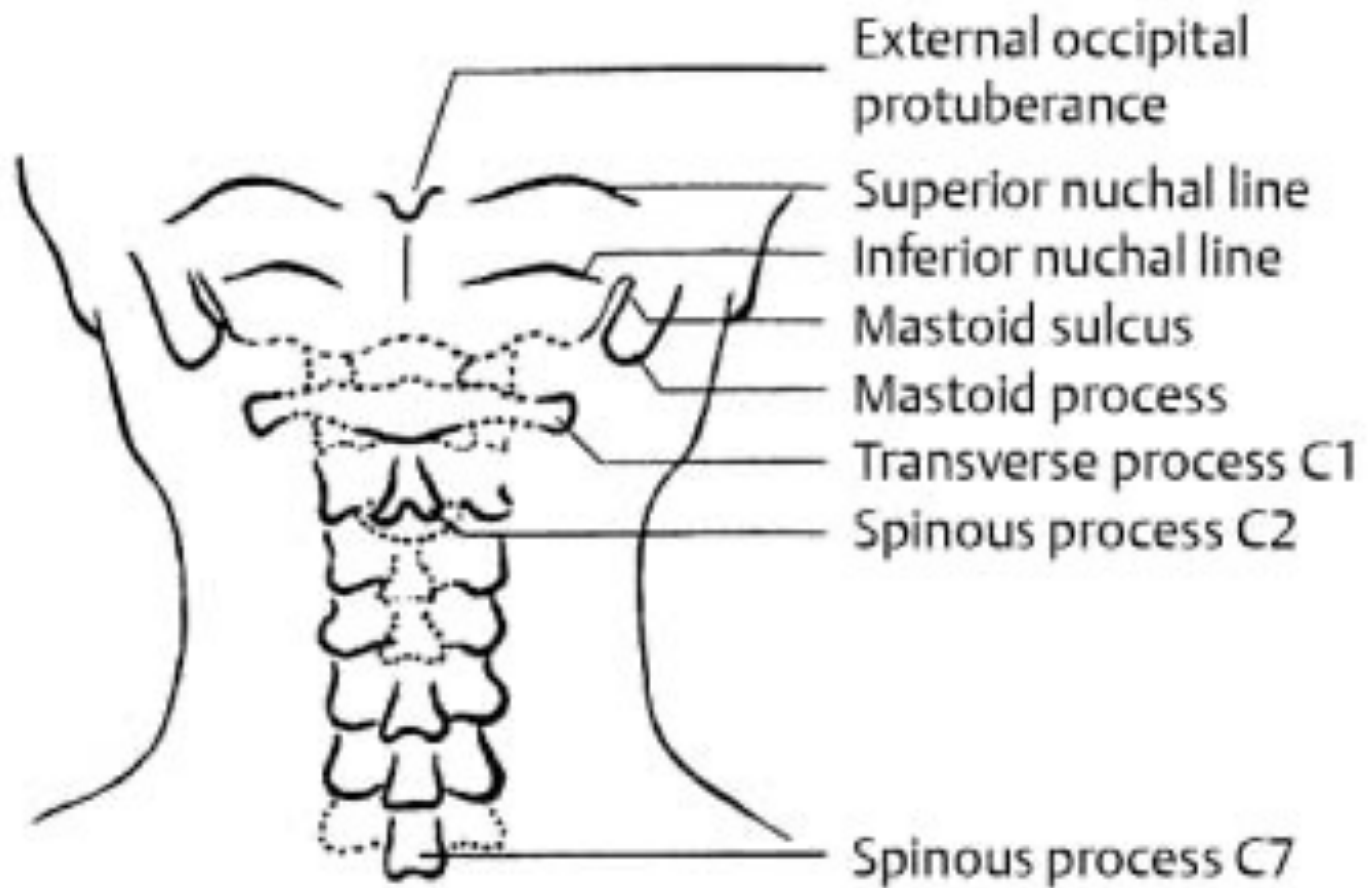
And put it away!

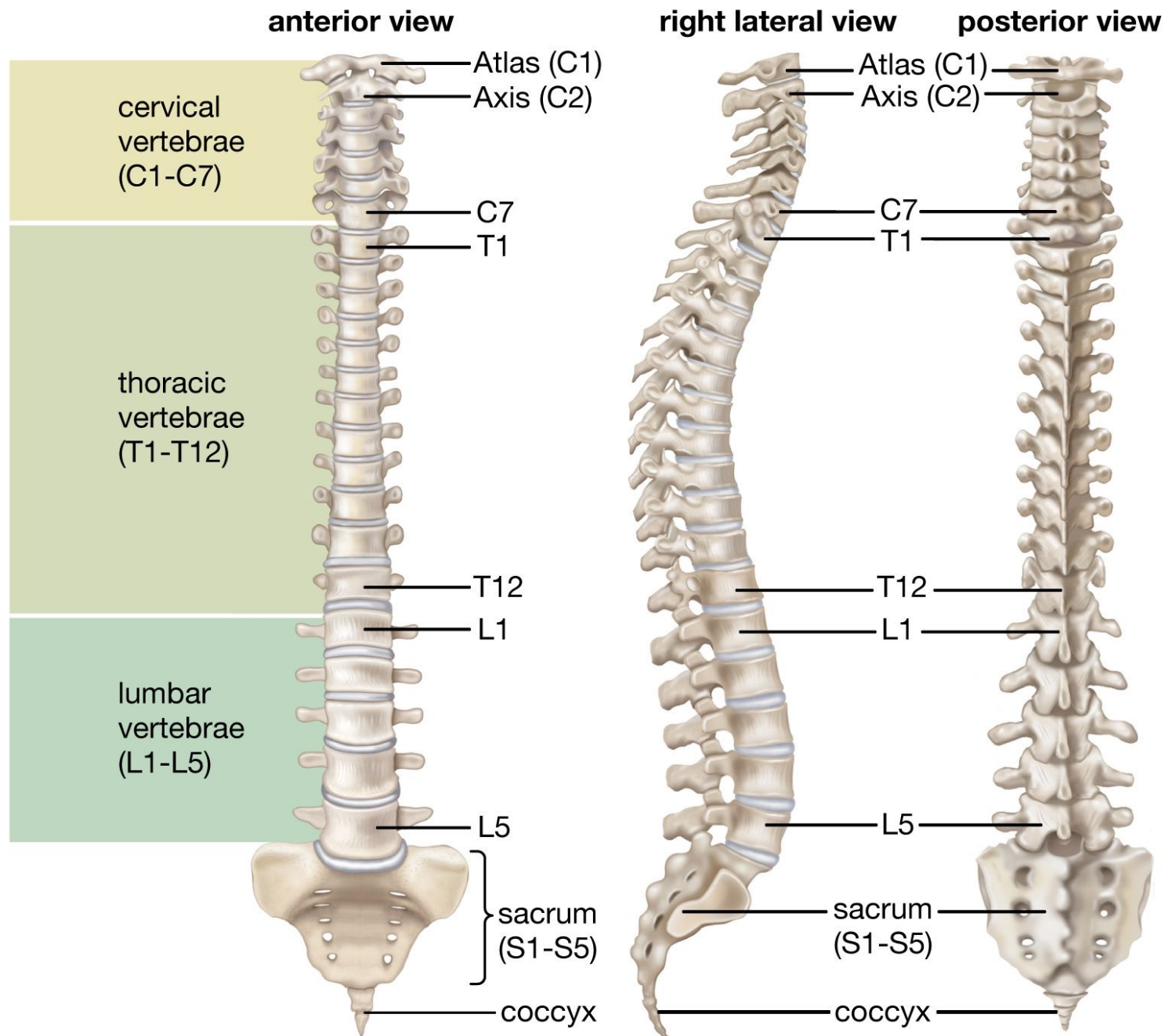


# Bony Landmarks – Introduction to Terminology

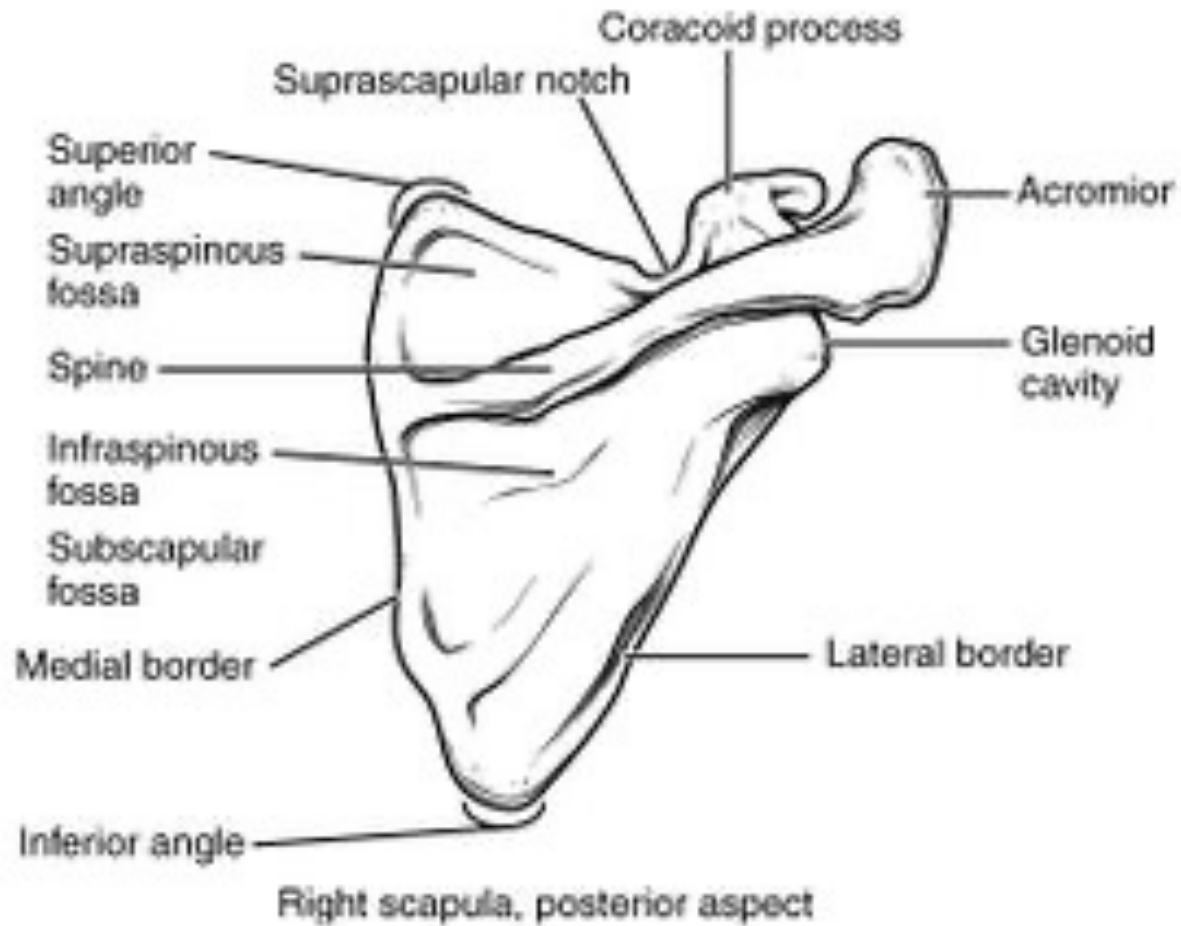
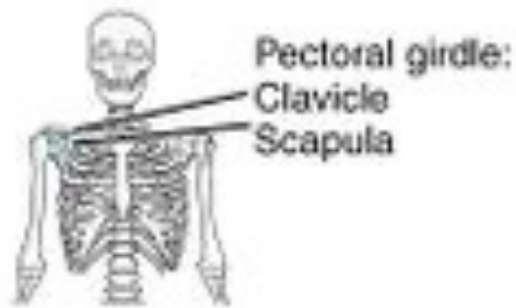
*Helpful terms to become acquainted with as we get started learning muscle attachments and actions:*

- **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.





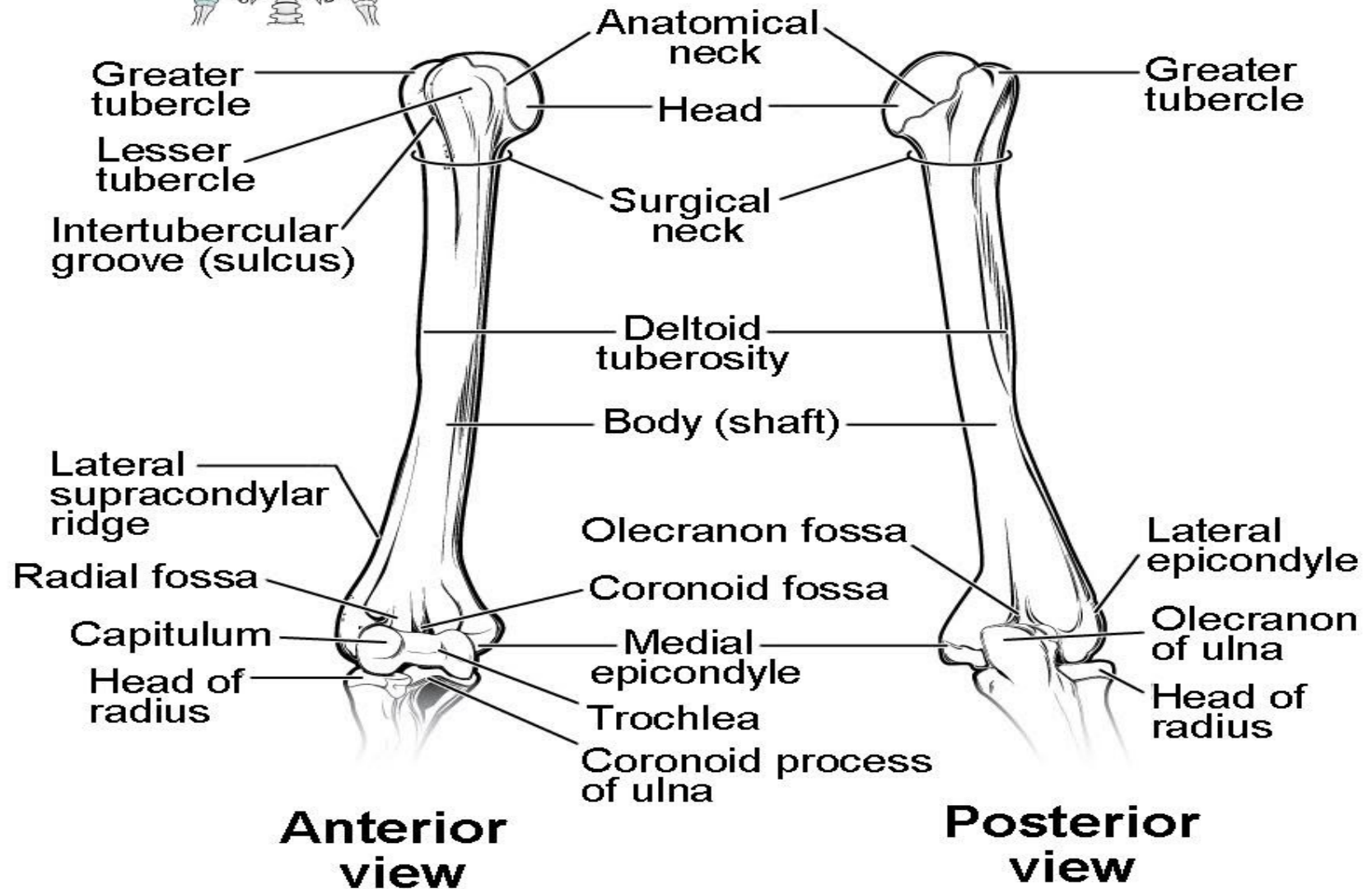




# Bony Landmarks – Introduction to Terminology



## Humerus





# The Trail Guide to the Body

## Muscles of the Human Body

Abdominals 209

Adductor Group 319

Anconeus 139

Biceps Brachii 95

Brachioradialis 132

Coracobrachialis 99

Deltoid 67

Diaphragm 213

Erector Spinae Group 196

Extensor Indicis 139

...

Pectoralis Major 89

Pectoralis Minor 92

Peroneus Longus and Brevis 376

Plantaris 374

Platysma 257

Popliteus 375

Pronator Teres 146

Psoas Major 332

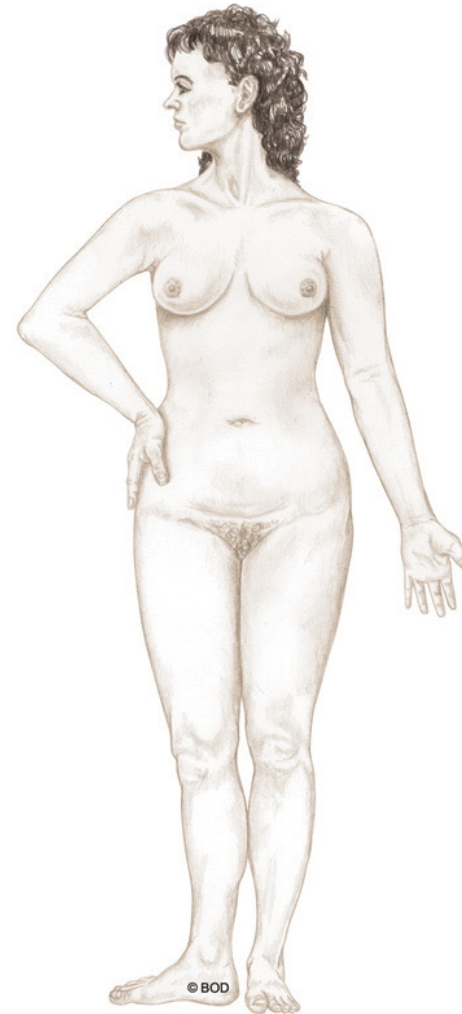
Pterygoids 259

Quadratus Lumborum 207

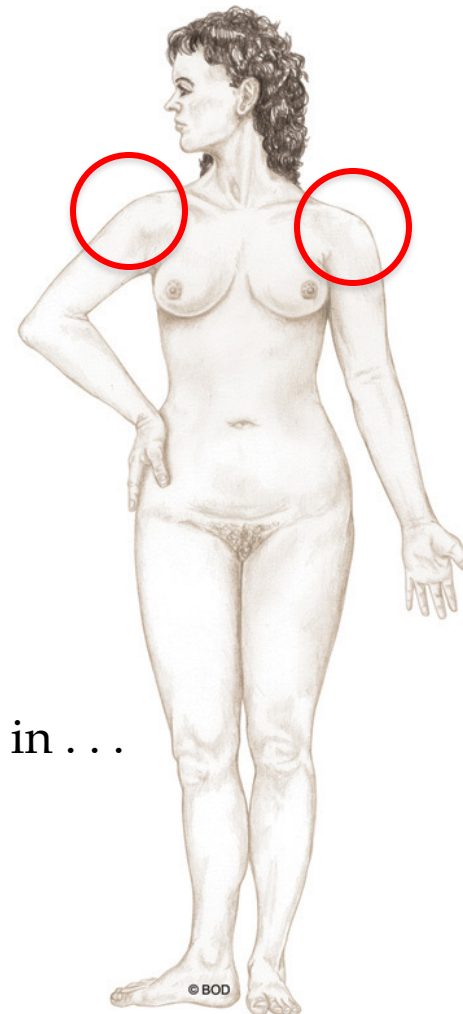
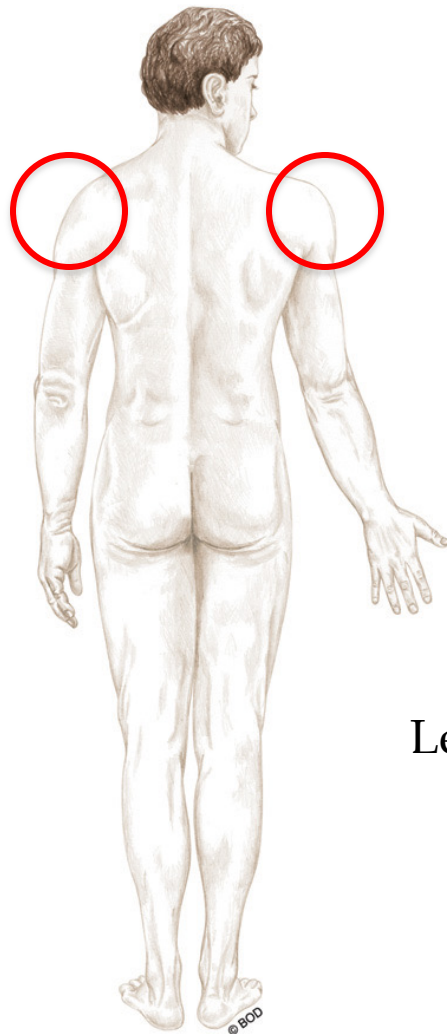
...

Please turn to page 67 ...

# Where are the deltoid muscles located?

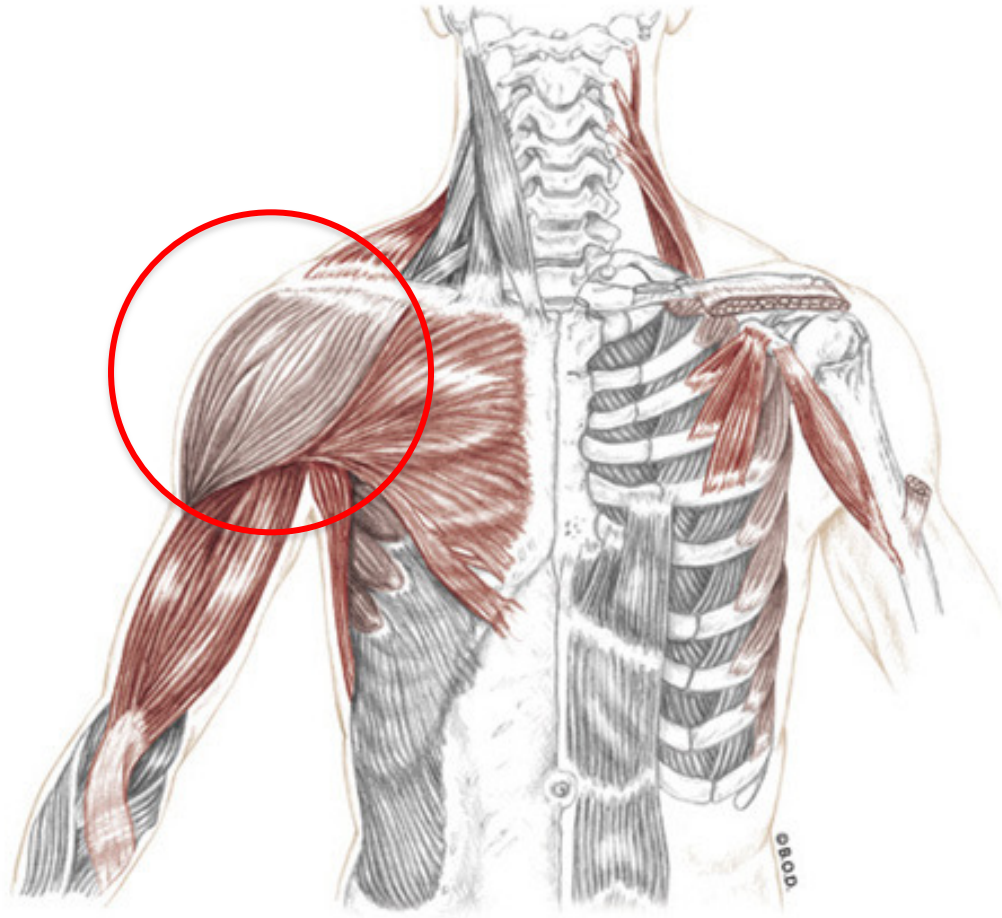


# The deltoid muscles are located on the caps of the shoulders!



Let's zoom in . . .

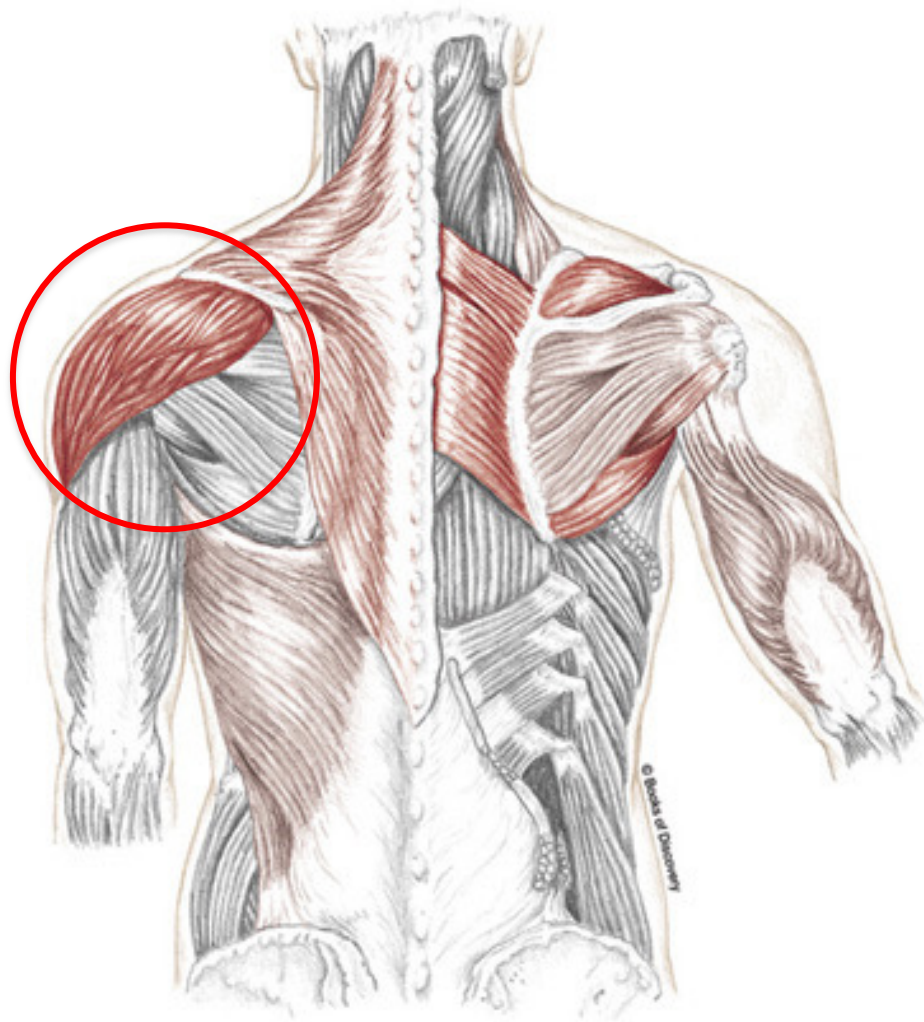
# Anterior view of the deltoid



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

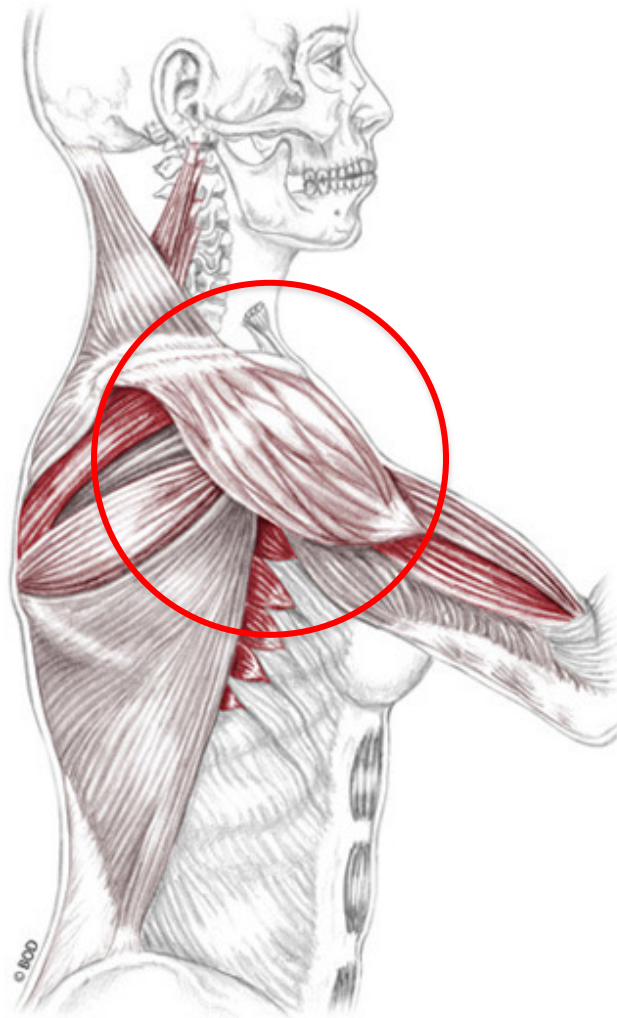


# Posterior view of the deltoid



And next a view from the side . . .

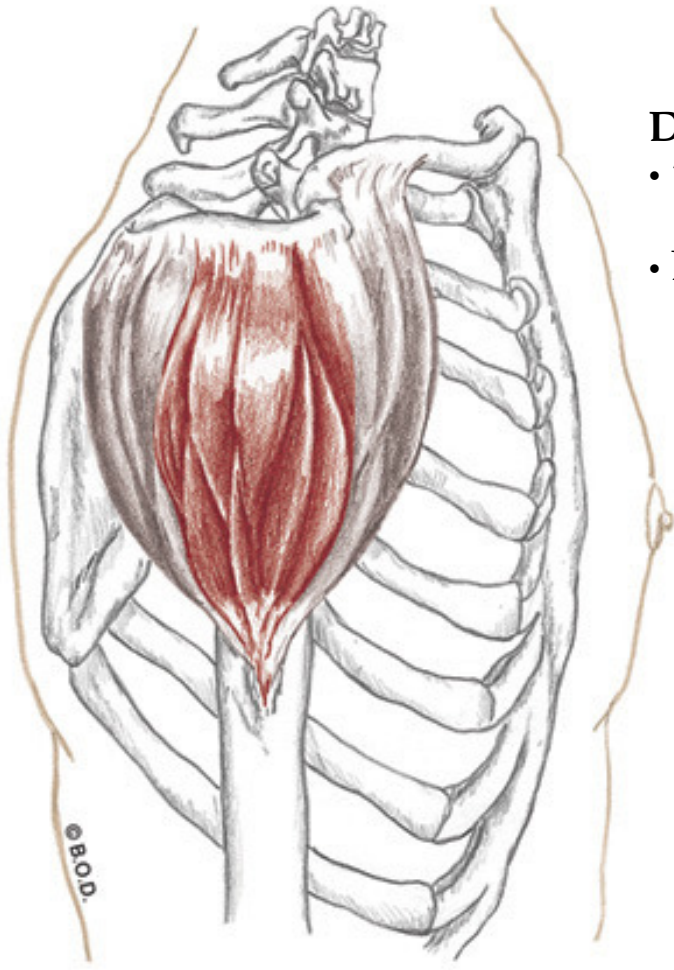
# Lateral view of the deltoid



Next, a view of deltoid by itself . . .



# What does deltoid mean?



## **Deltoid**

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

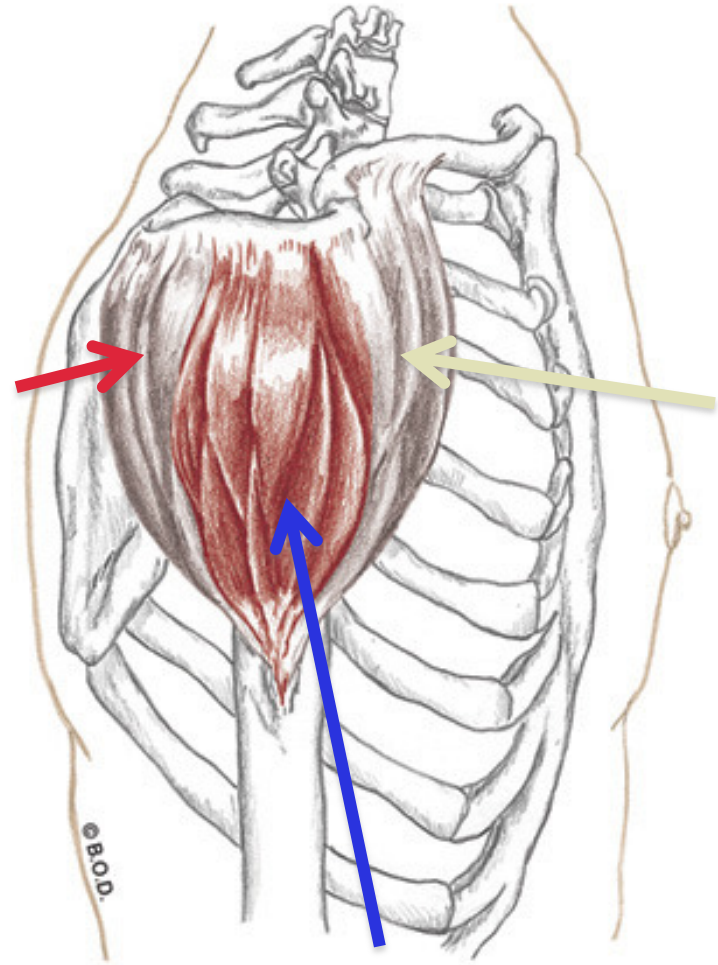
Lateral View

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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Anterior View



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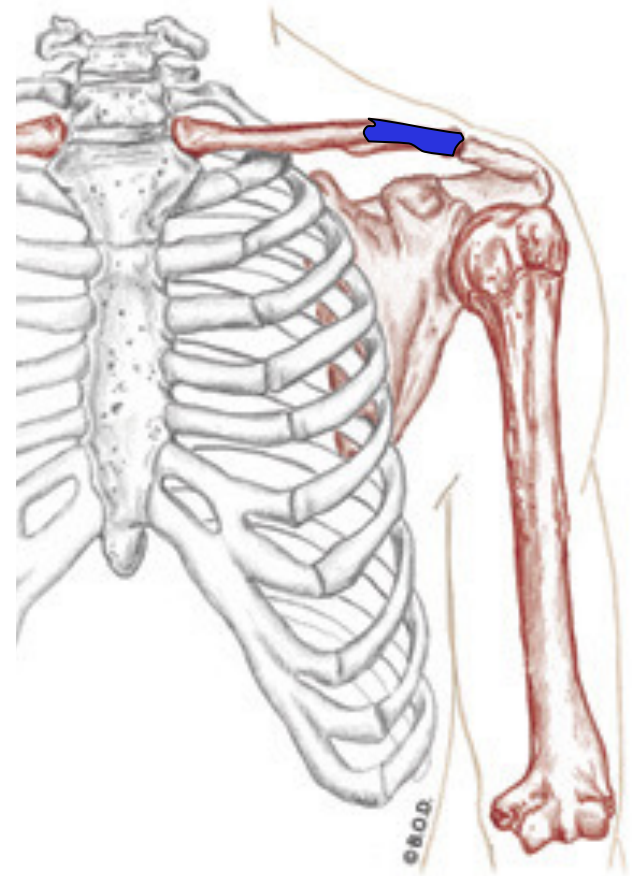
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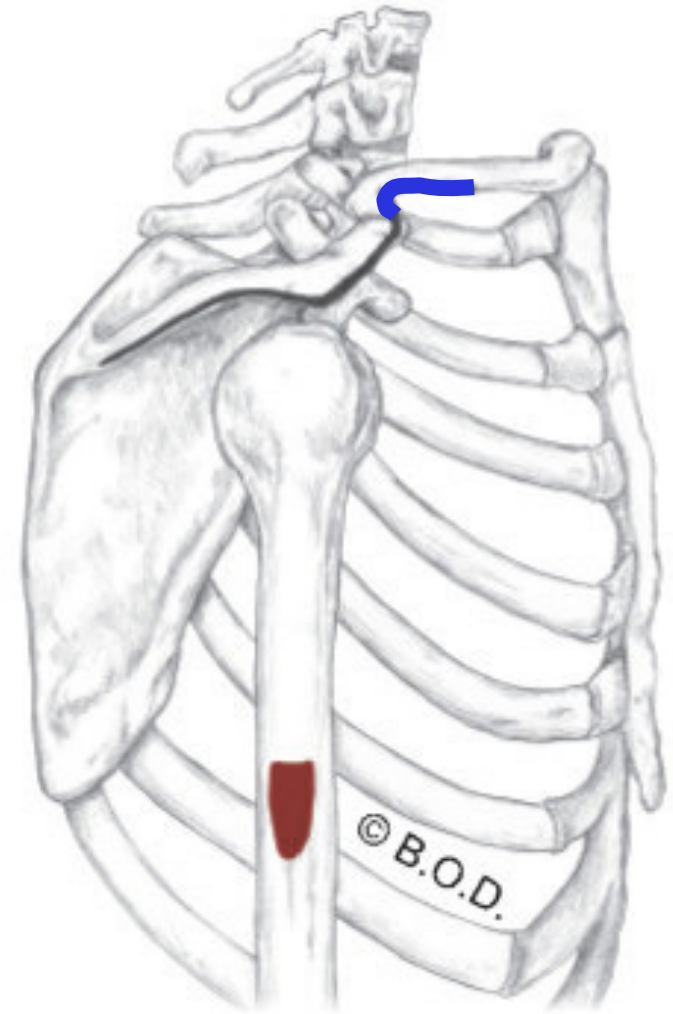
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Lateral View

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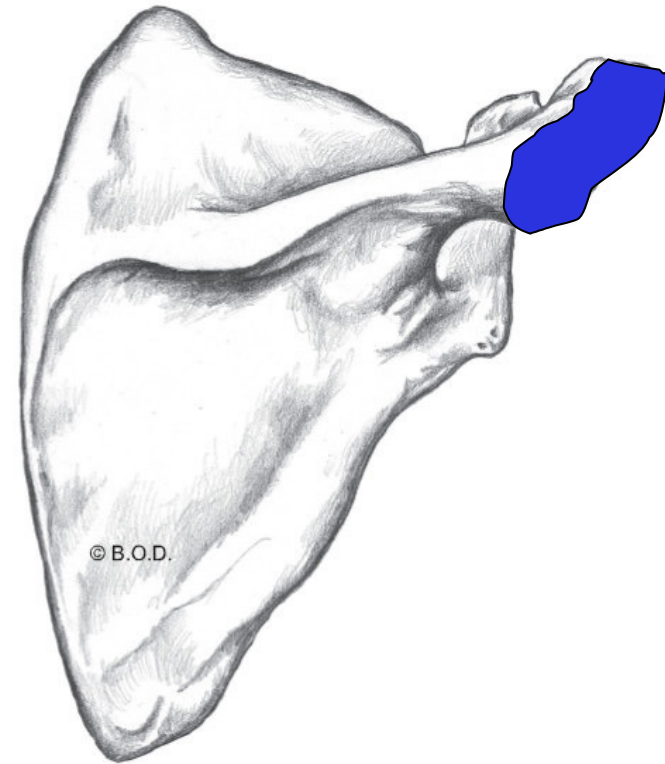
**Horizontally abduct** the shoulder (G/H joint)

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Posterior View



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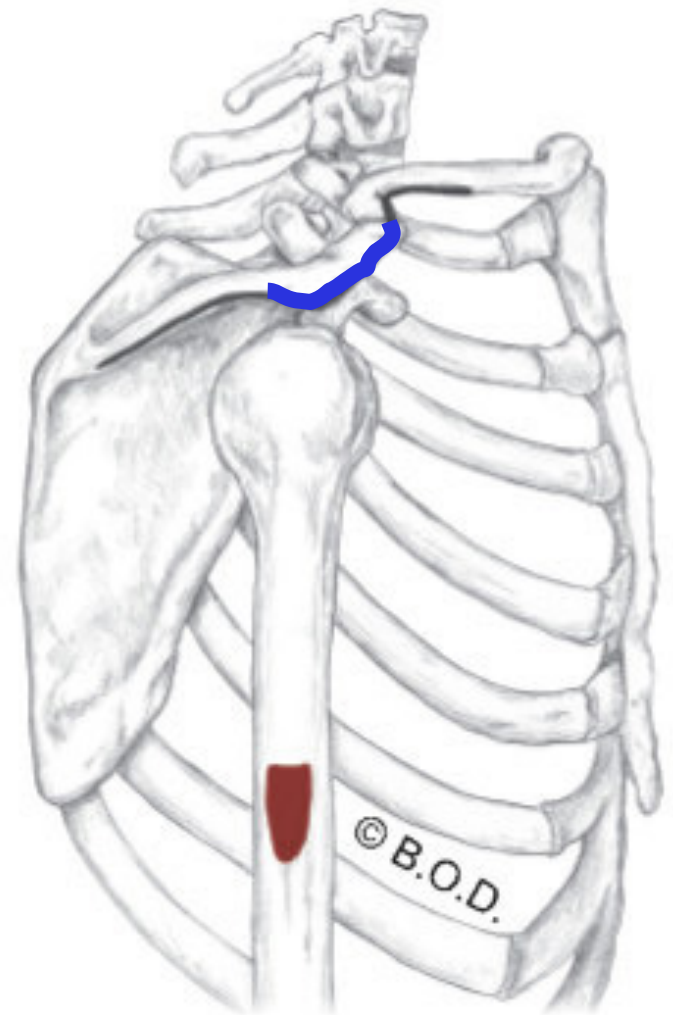
**Horizontally abduct** the shoulder (G/H joint)

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Lateral View

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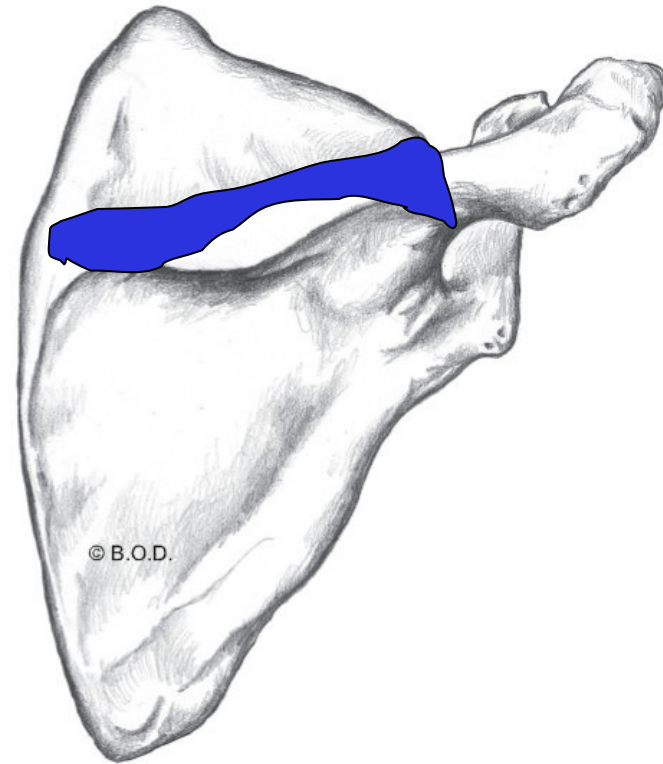
**Horizontally abduct** the shoulder (G/H joint)

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Posterior View

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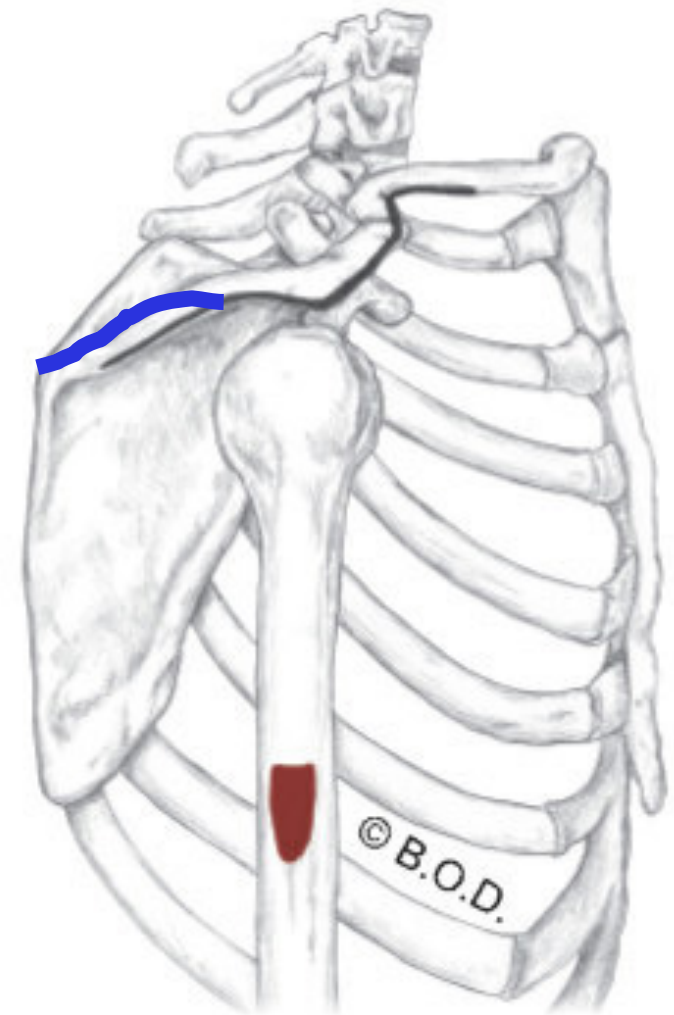
**Horizontally abduct** the shoulder (G/H joint)

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Lateral View

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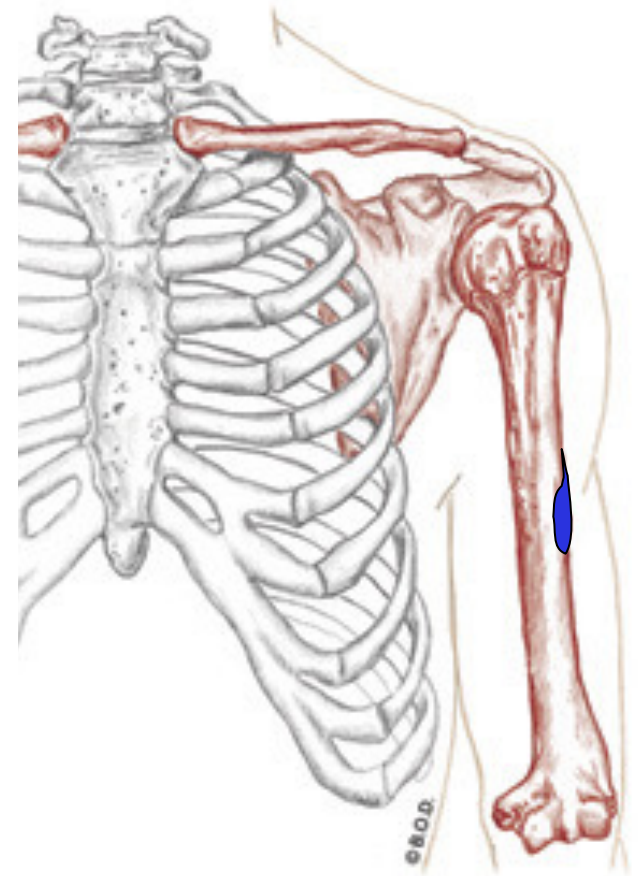
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Anterior View

# Deltoid

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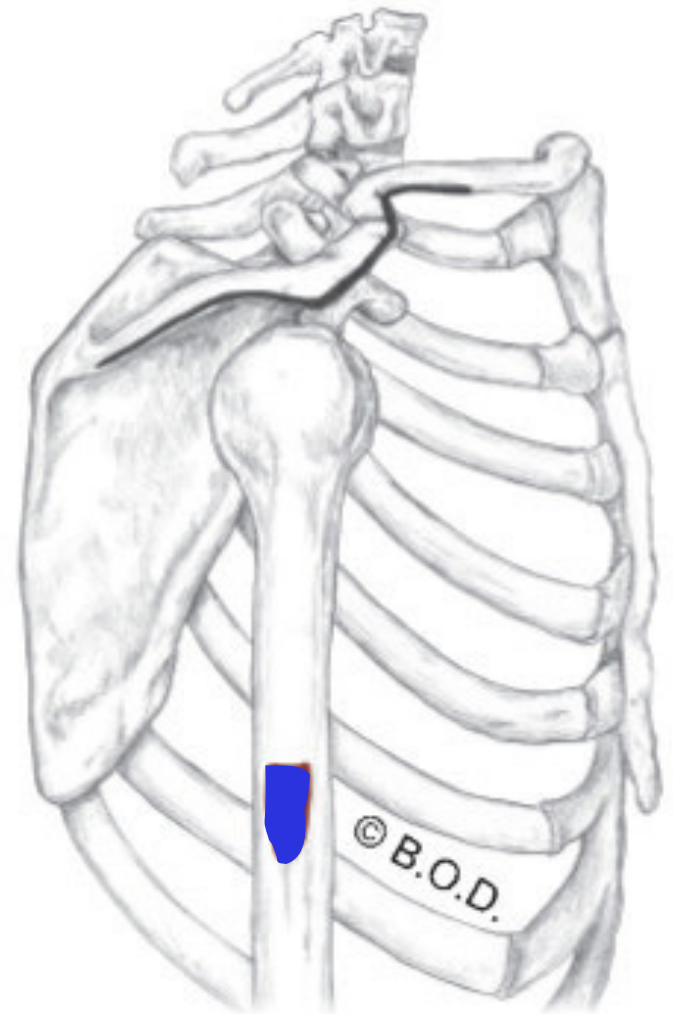
**Horizontally abduct** the shoulder (G/H joint)

O Lateral one-third of clavicle

Acromion

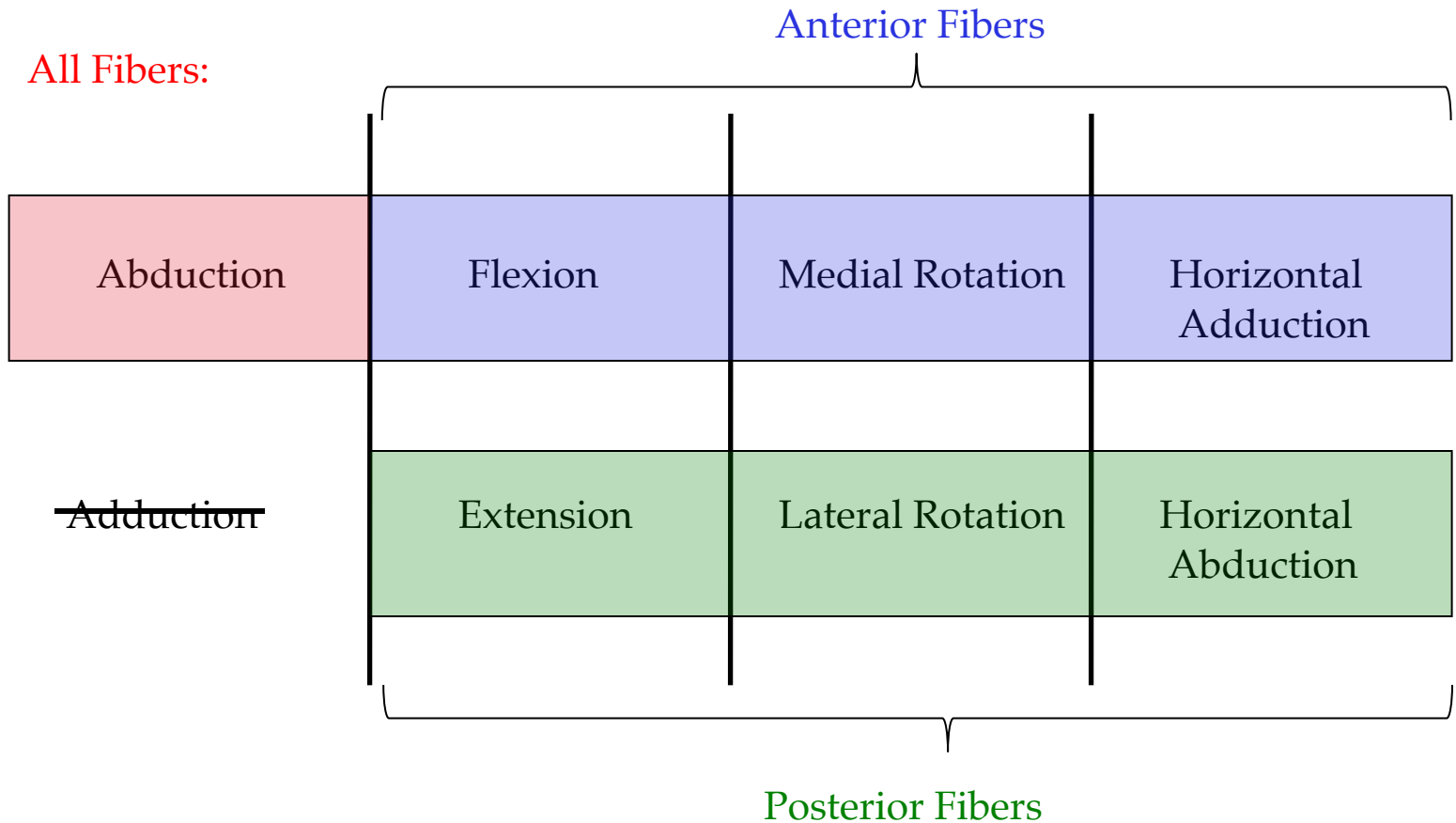
Spine of scapula

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

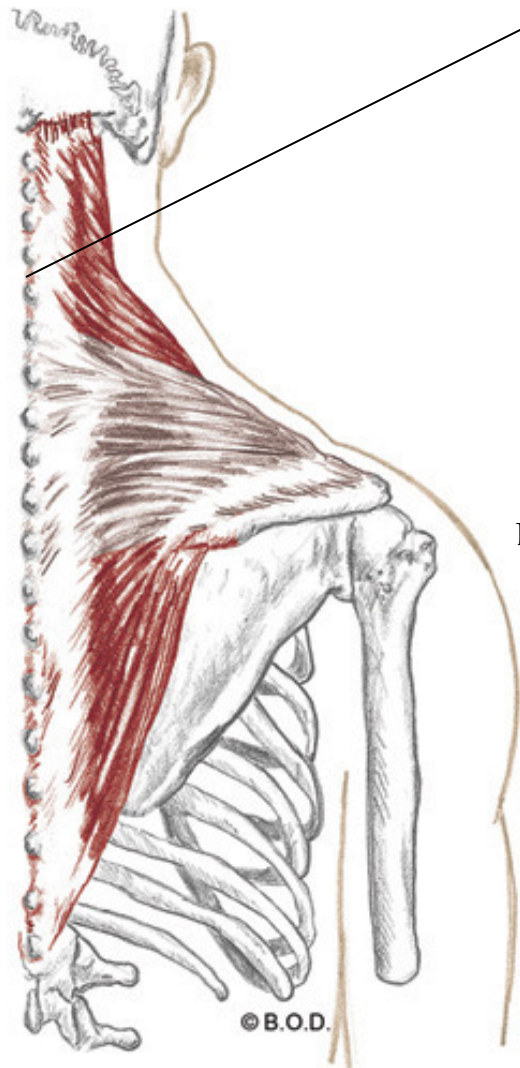
Trapezius is used to:

- 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



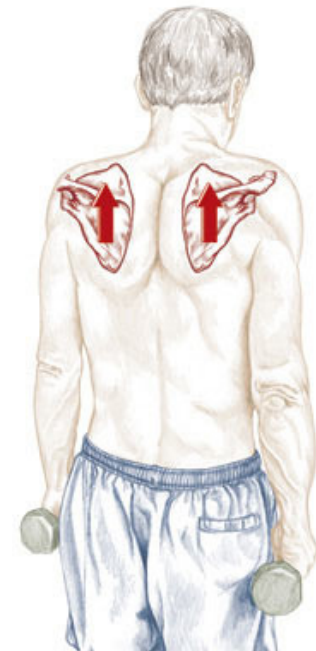
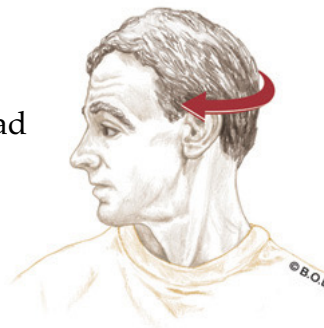
Extension of the head and neck



Lateral flexion of the head and neck

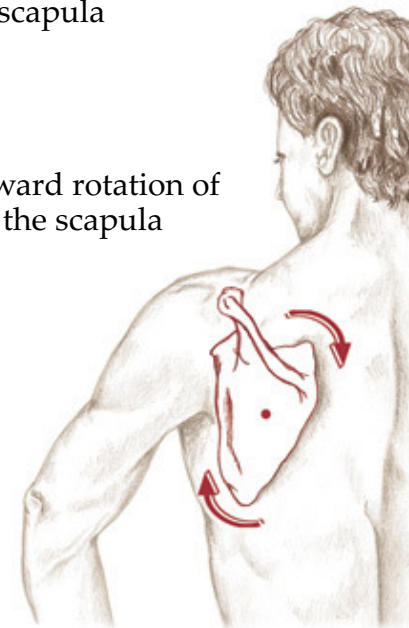


Rotation of the head and neck to the opposite side

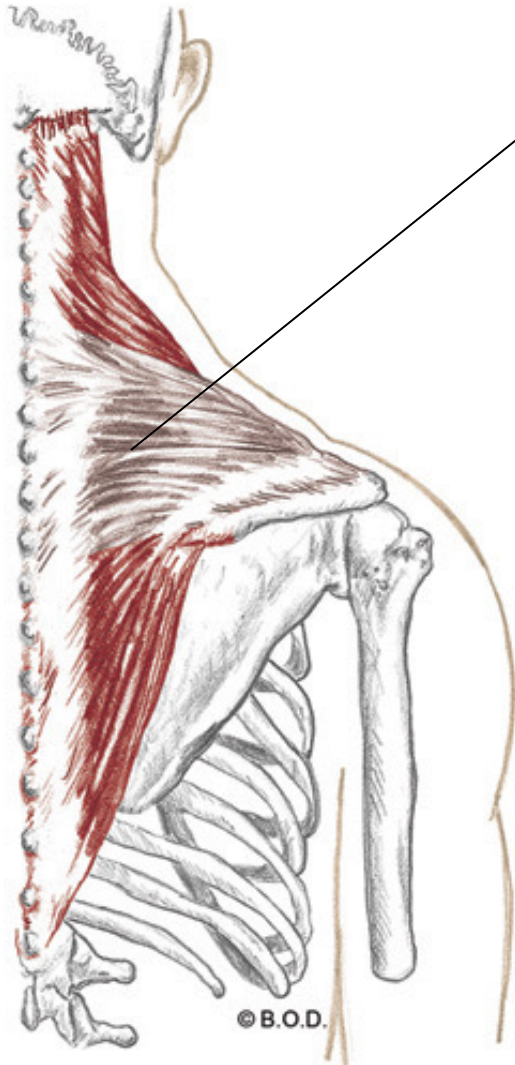


Elevation of the scapula

Upward rotation of the scapula

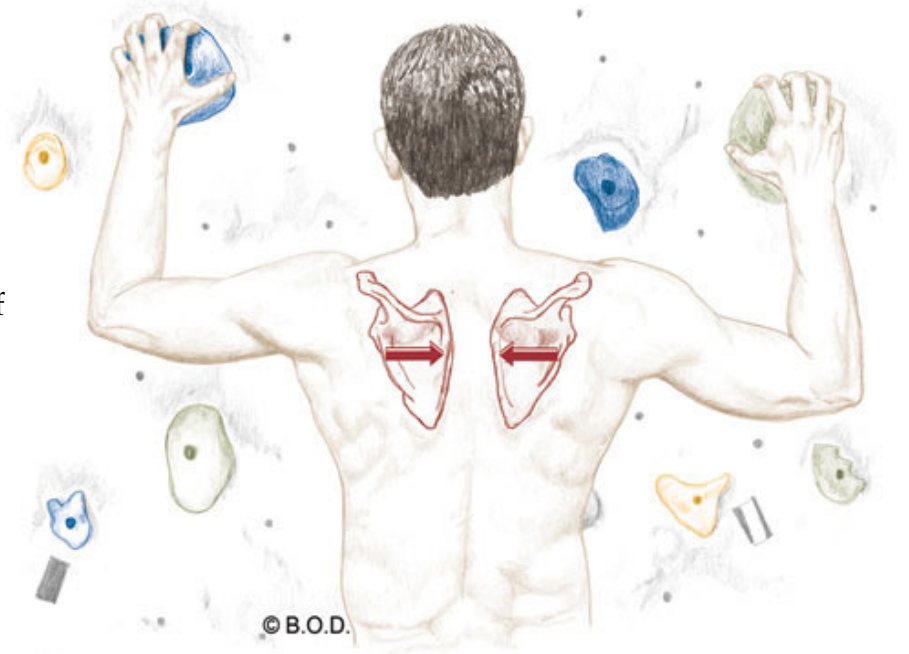


# Actions of trapezius middle fibers



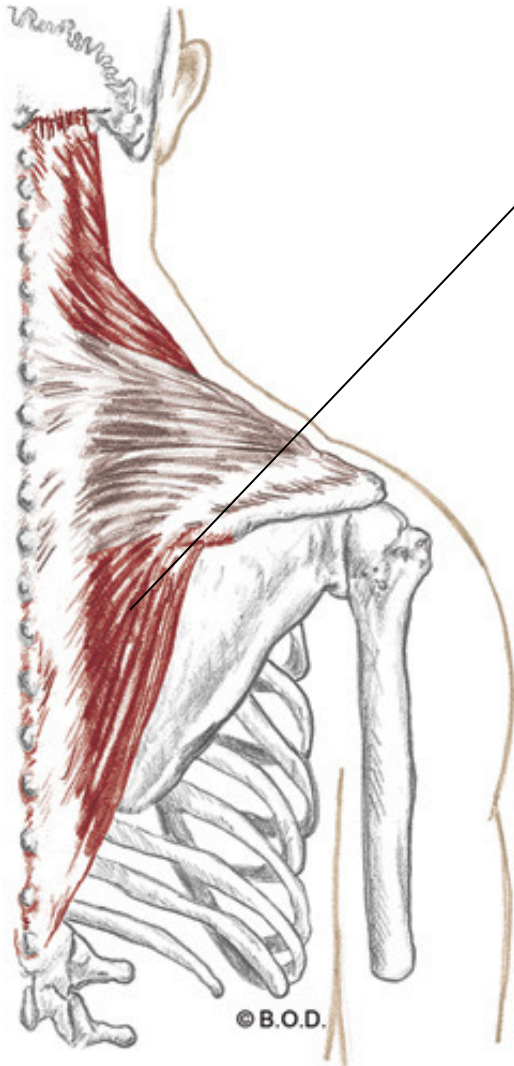
Adduction of  
the scapula.

Also called  
retraction of  
the scapula!

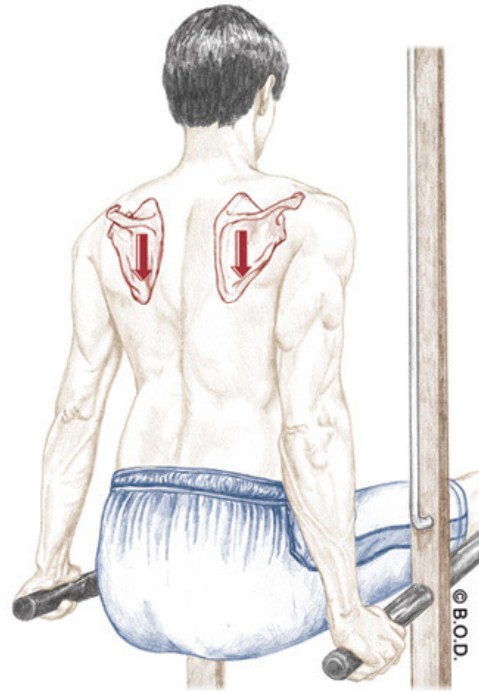


Middle fibers of trapezius  
are also responsible for  
stabilizing the scapula so  
that it remains in a fixed  
position.

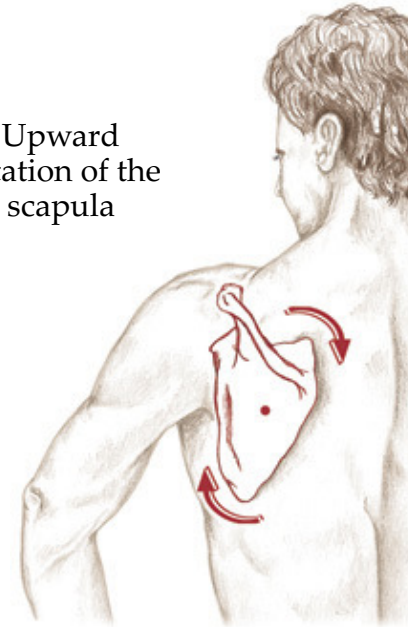
# Actions of trapezius lower fibers



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

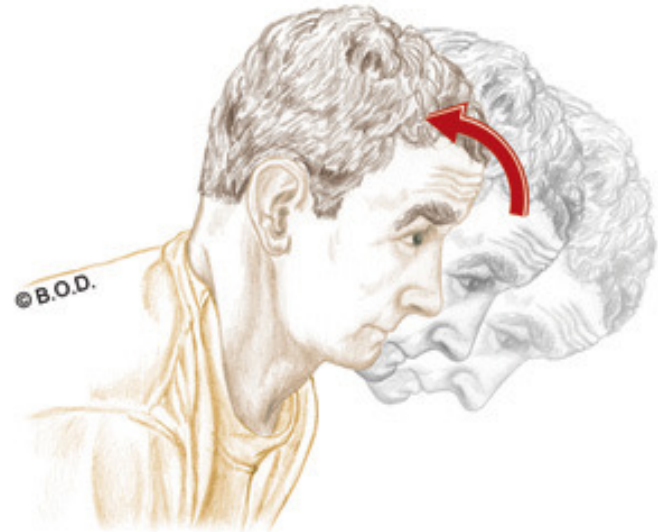
Ligamentum nuchae

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:

**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



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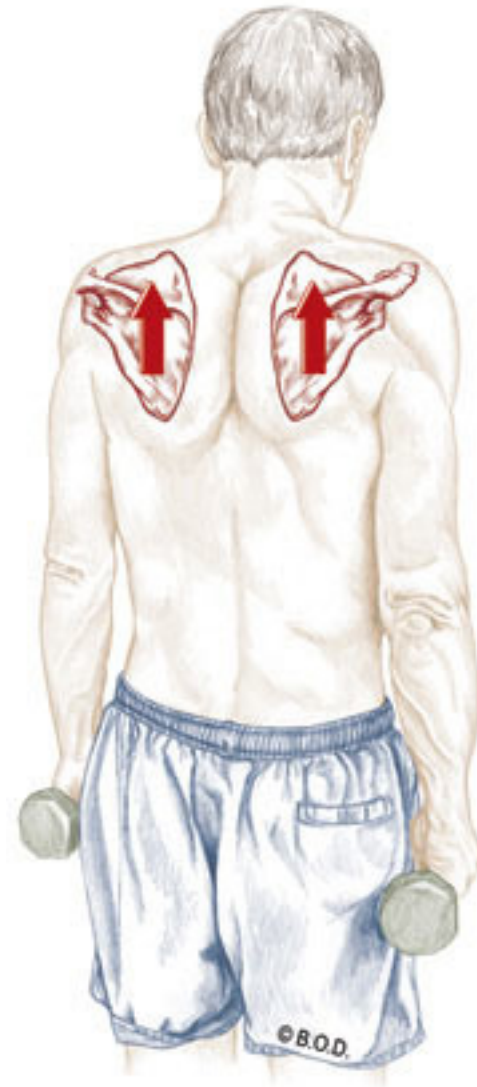
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**Stabilize** the scapula (S/T joint)

*Lower fibers:*

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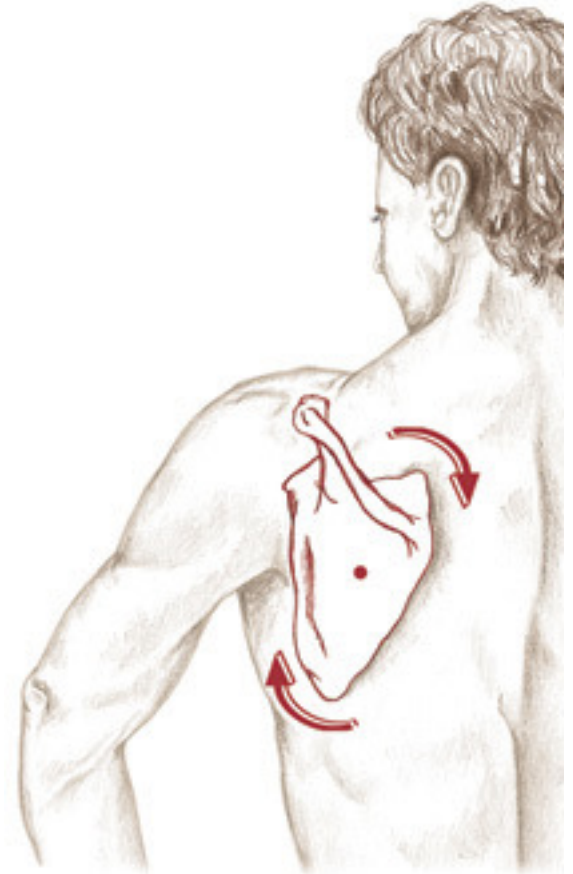
- Adduct** the scapula (S/T joint)  
**Stabilize** the scapula (S/T joint)

*Lower fibers:*

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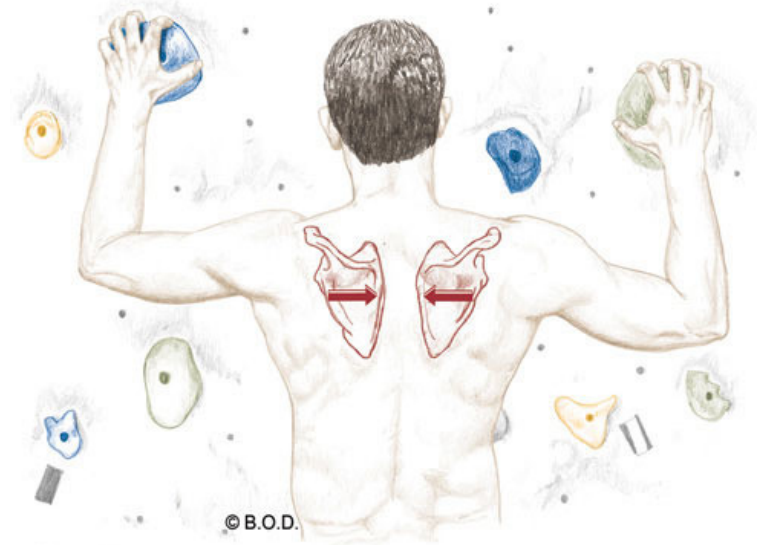
*Lower fibers:*

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    - Rotate** the head and neck to the opposite side
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**Elevate** the scapula (scapulothoracic joint)  
**Upwardly rotate** the scapula (S/T joint)

*Middle fibers:*

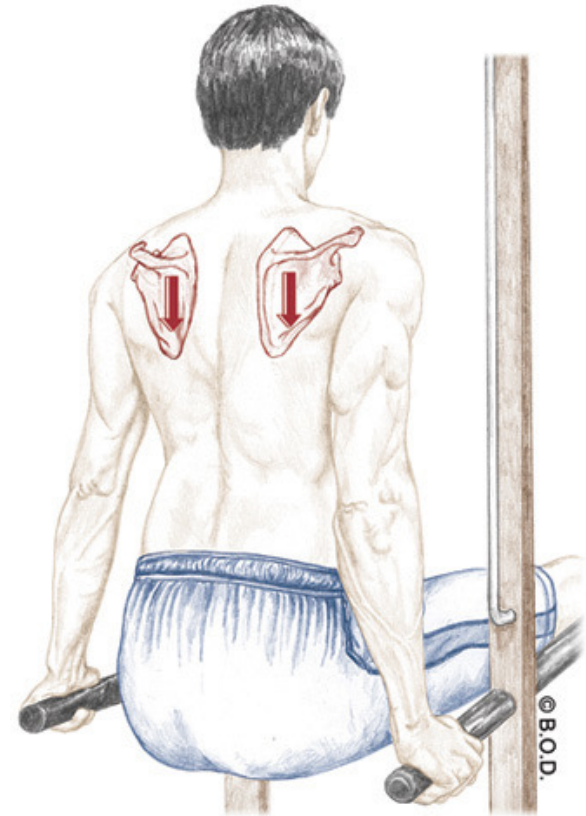
- Adduct** the scapula (S/T joint)  
**Stabilize** the scapula (S/T joint)

*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

## 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)

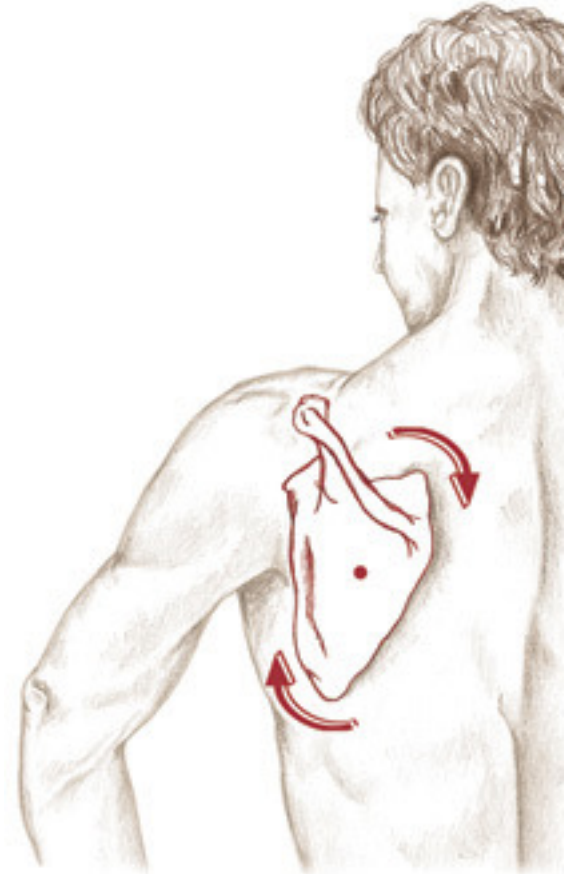
## Lower fibers:

**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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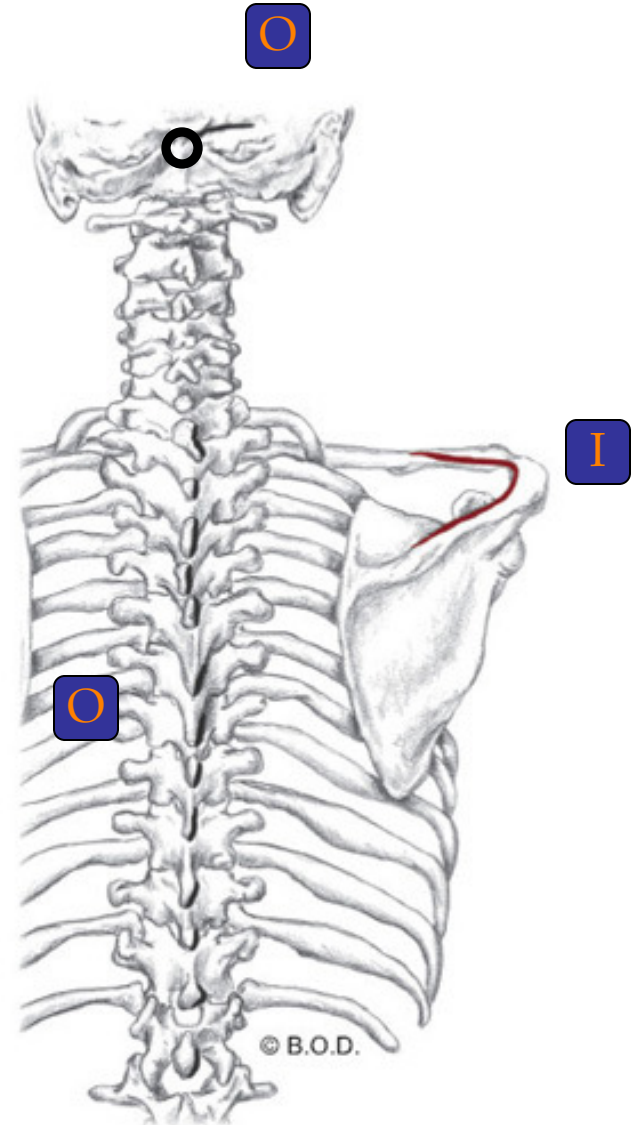
**O** External occipital protuberance

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

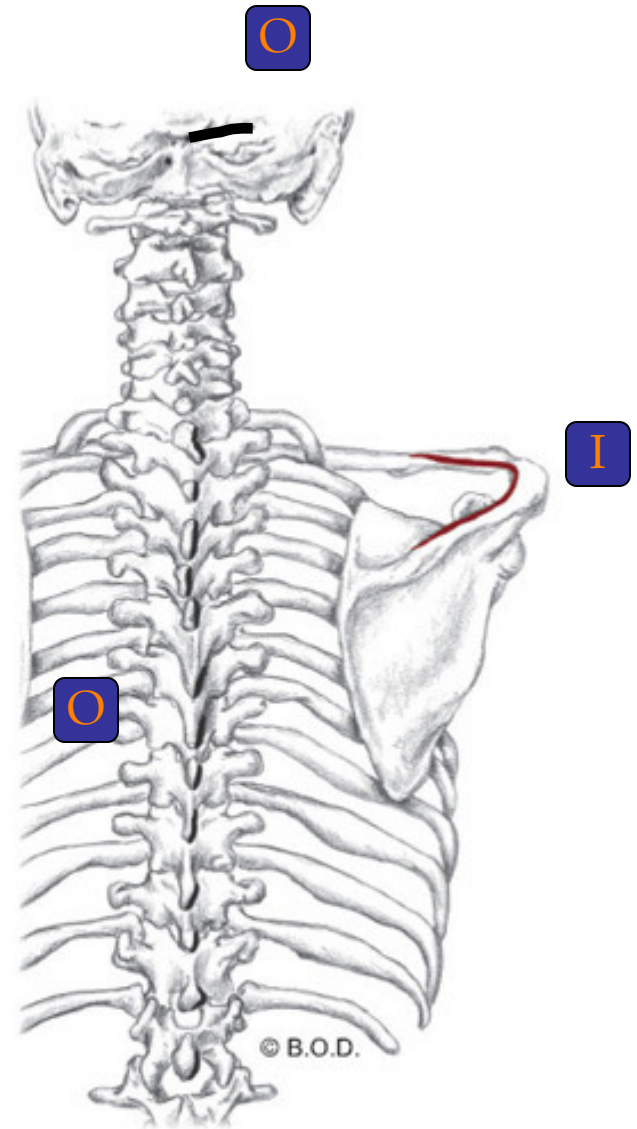
- A** *Upper fibers:*  
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Unilaterally  
**Laterally flex** the head and neck to the same side  
**Rotate** the head and neck to the opposite side  
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**Upwardly rotate** the scapula (S/T joint)

- 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)

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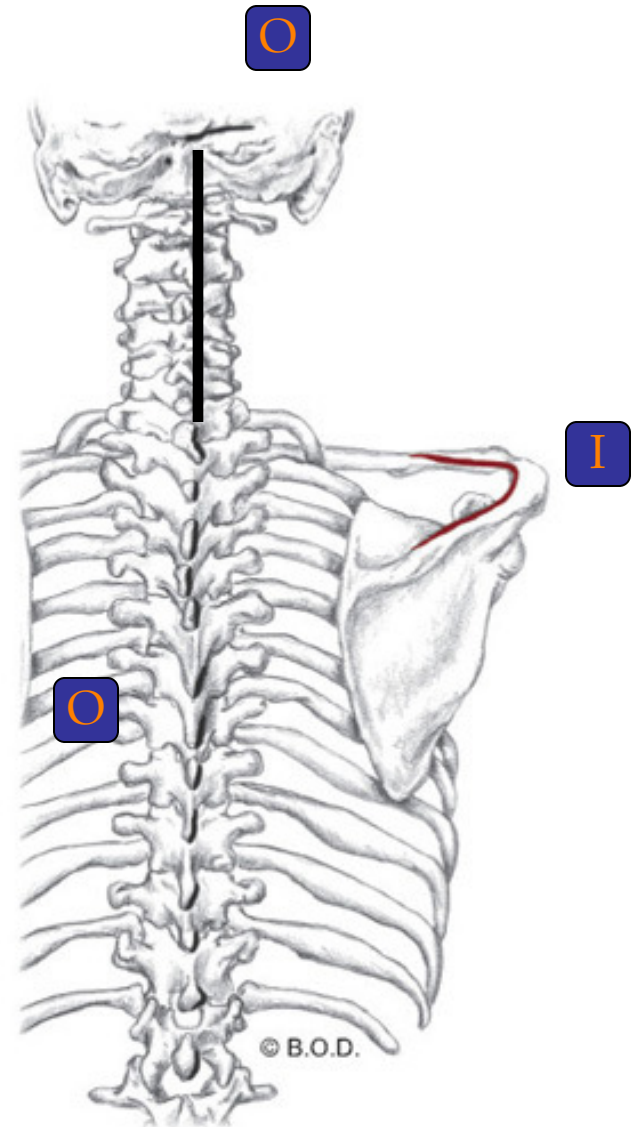
## Lower fibers:

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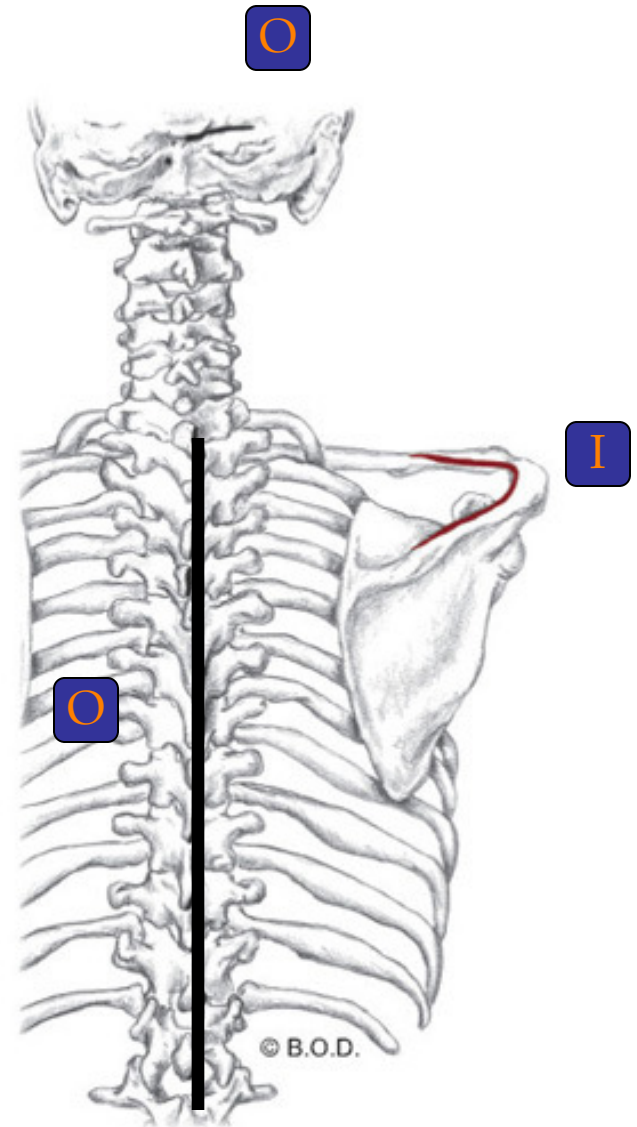
**Depress** the scapula (S/T joint)

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

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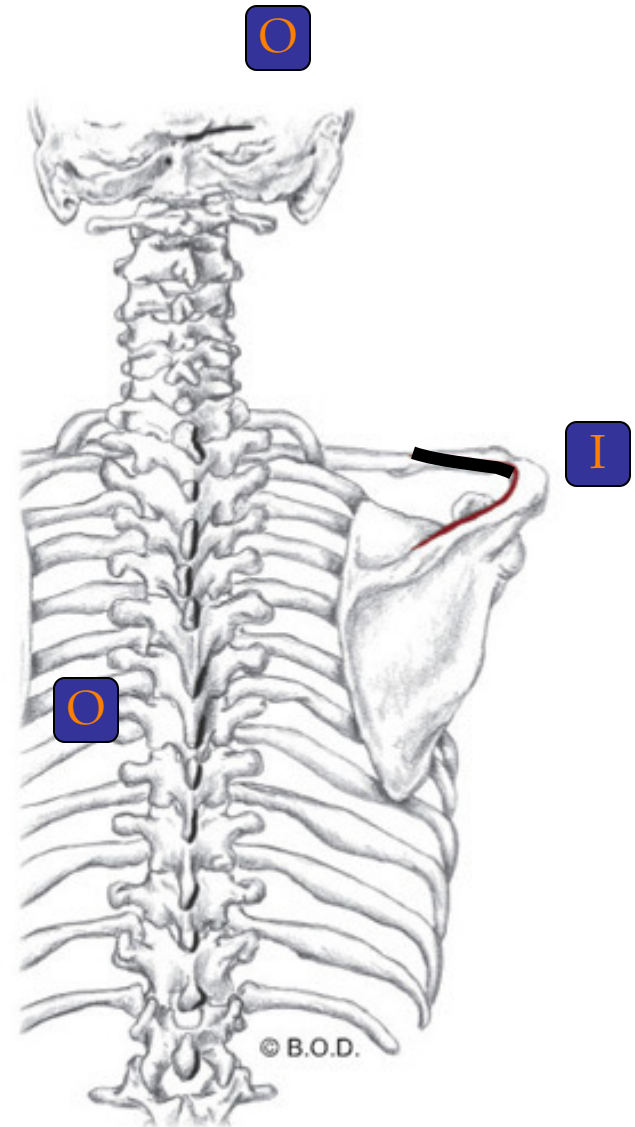
**Upwardly rotate** the scapula (S/T joint)

**O** External occipital protuberance  
Medial portion of superior nuchal line  
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**Stabilize** the scapula (S/T joint)

## Lower fibers:

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

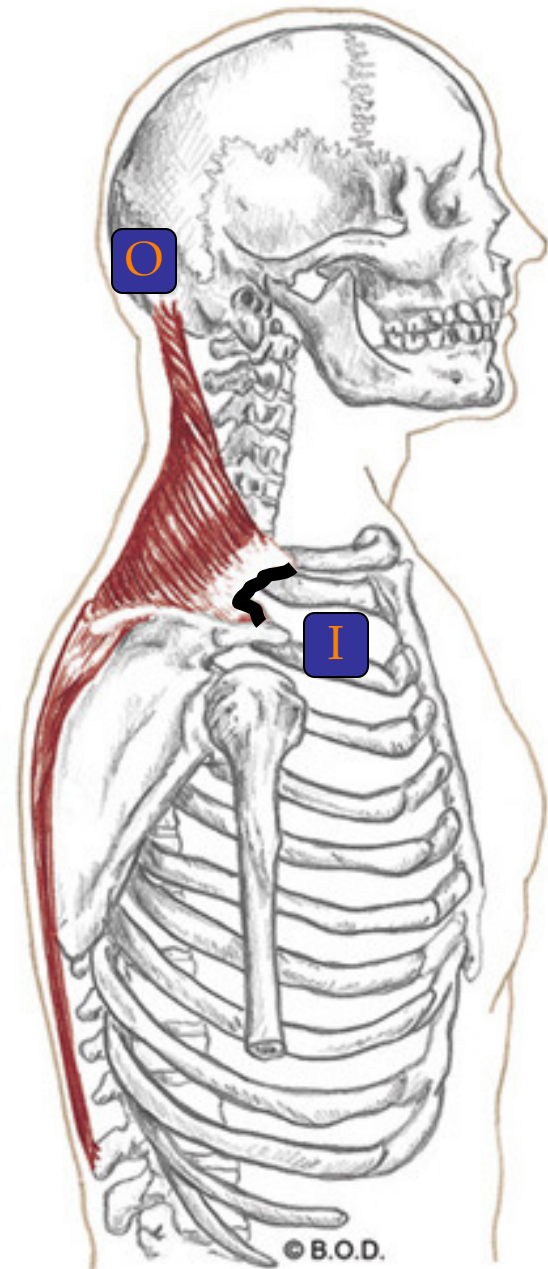
**Upwardly rotate** the scapula (S/T joint)

**O** External occipital protuberance  
Medial portion of superior nuchal line  
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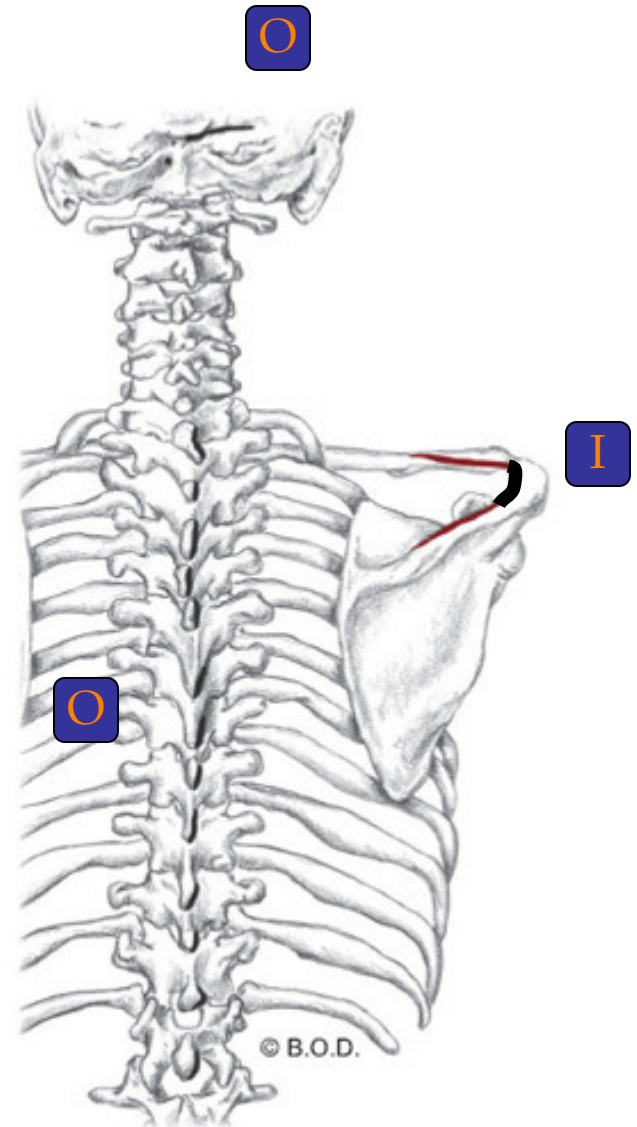
## Lower fibers:

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

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

O External occipital protuberance  
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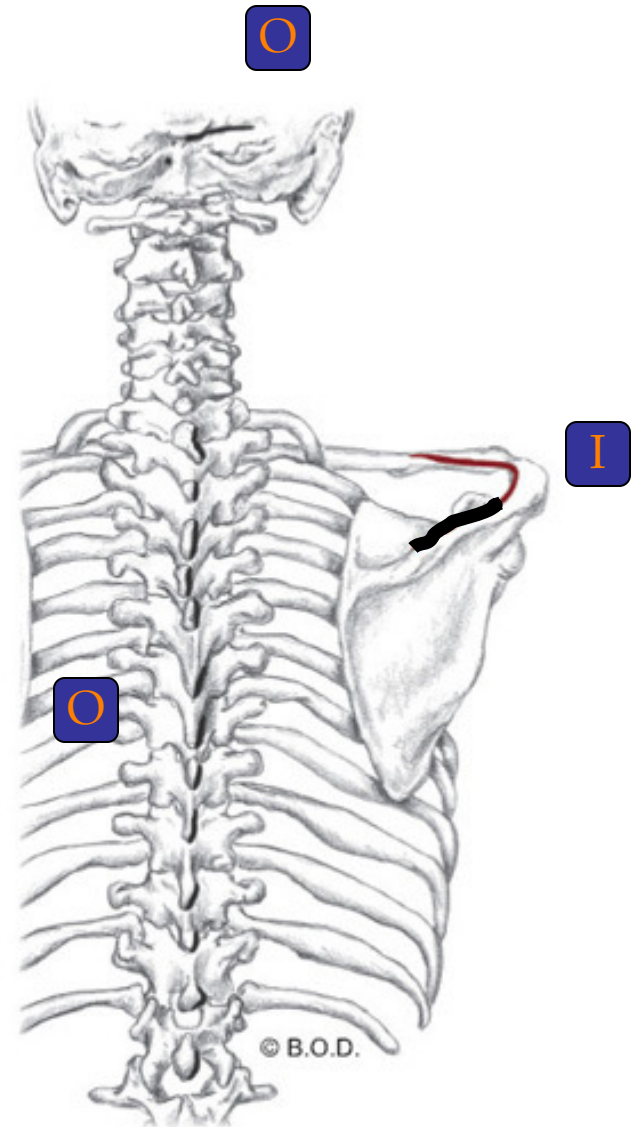
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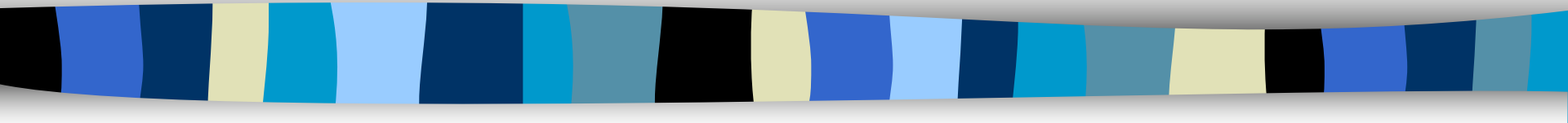
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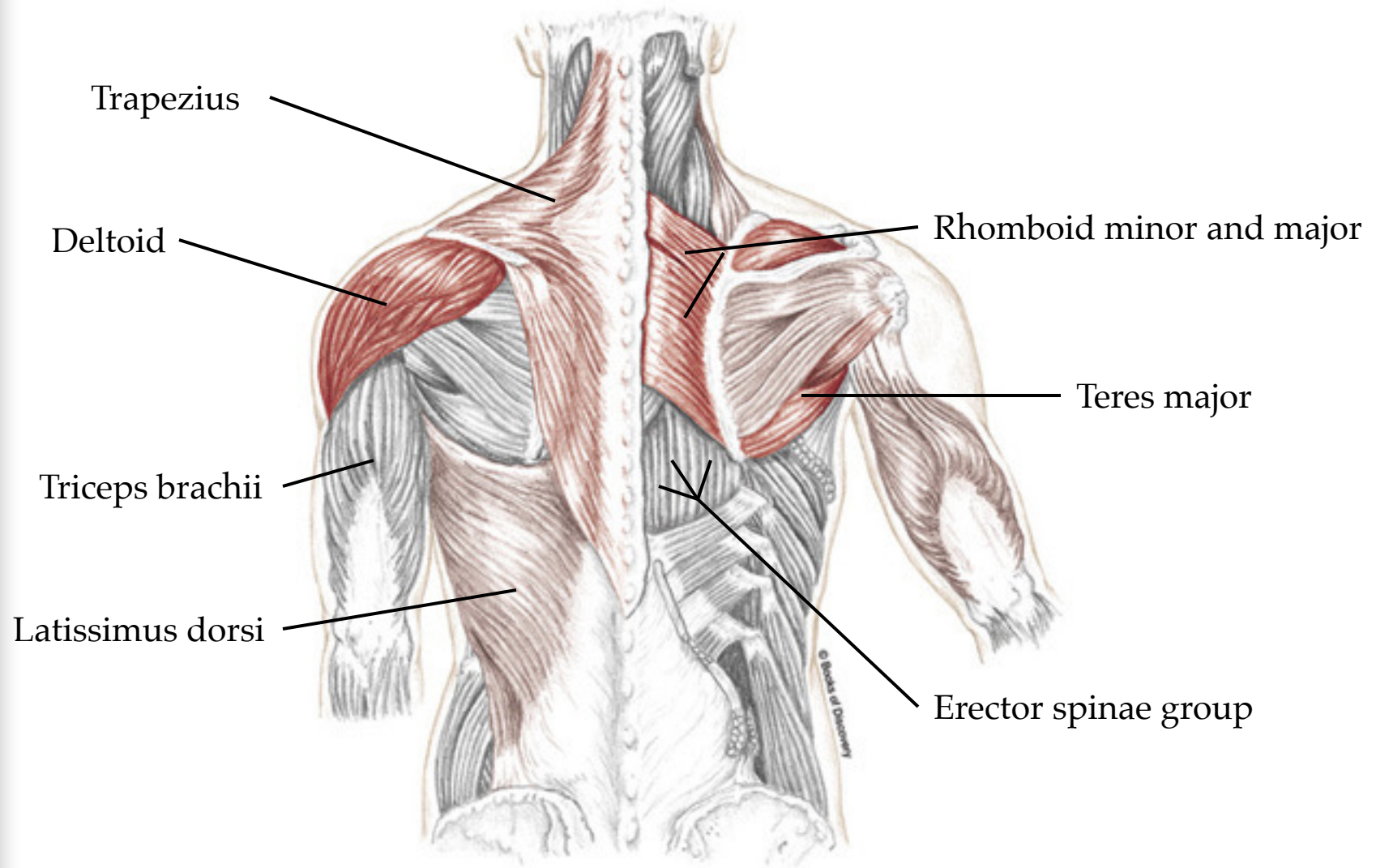




2a Kinesiology:  
Names and Locations of Bones and Posterior Muscles  
E – 17 (part of Class 22a)

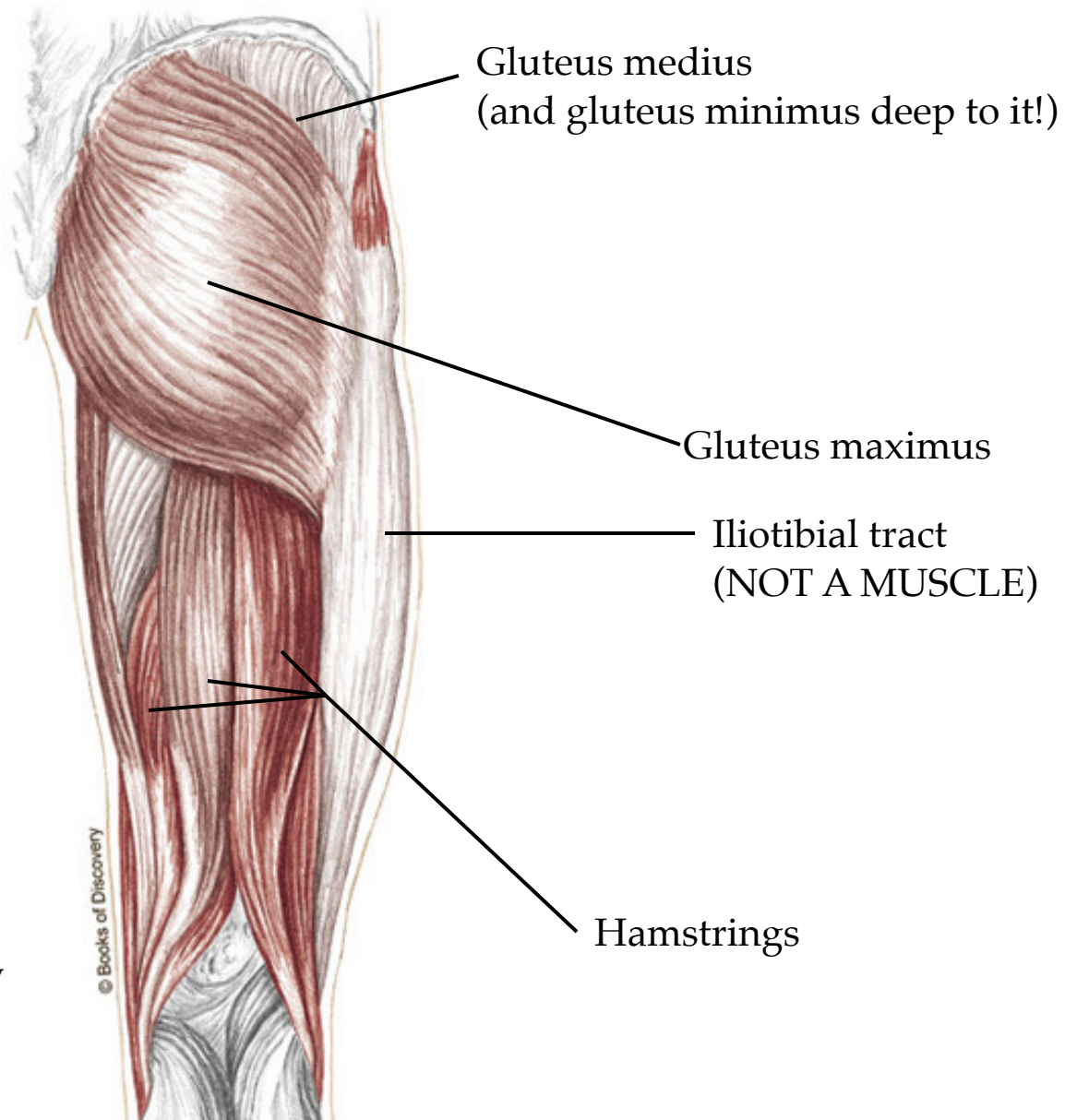


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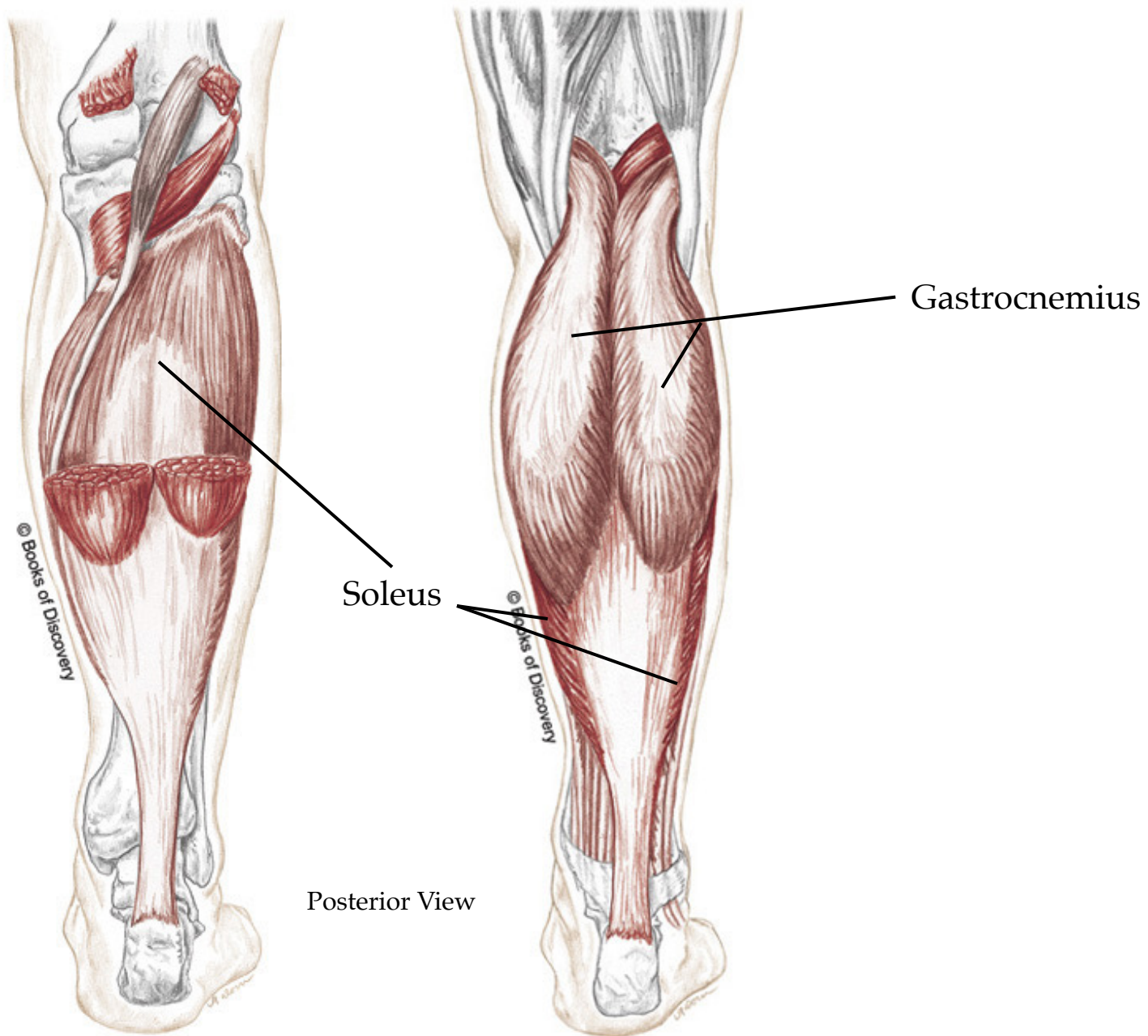
Posterior View

# Trail Guide, Page 297

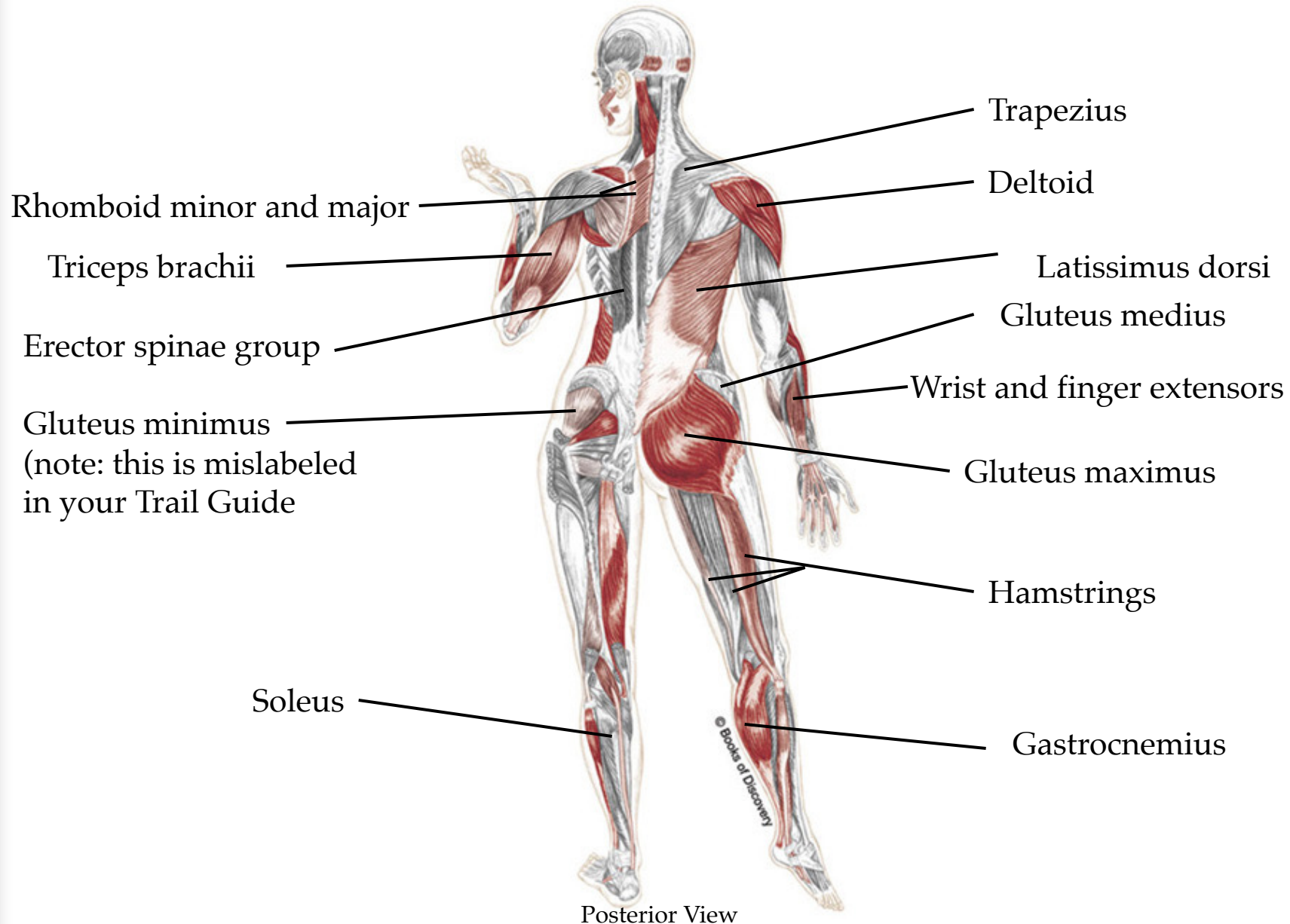


Posterior View

# Trail Guide, Page 366



# Trail Guide, Page 36



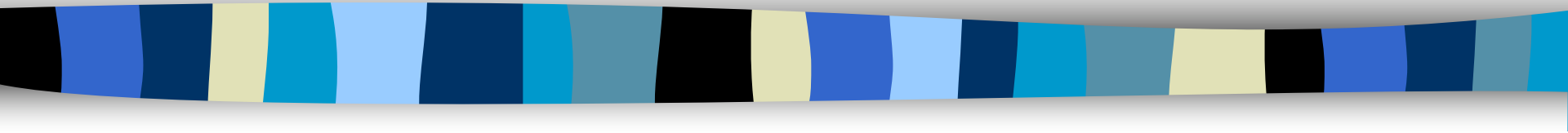
# Active Study Skills

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)

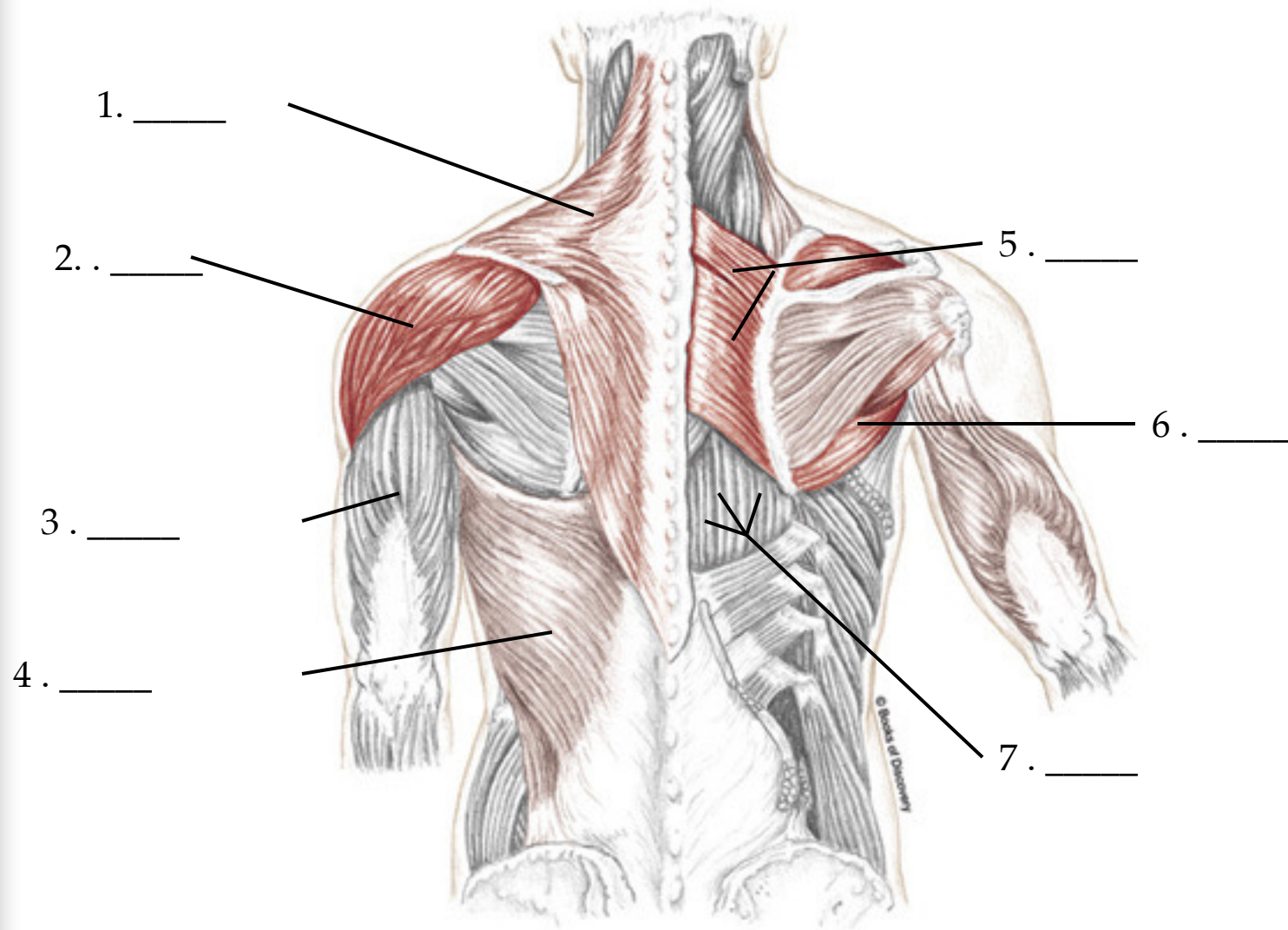


# Review



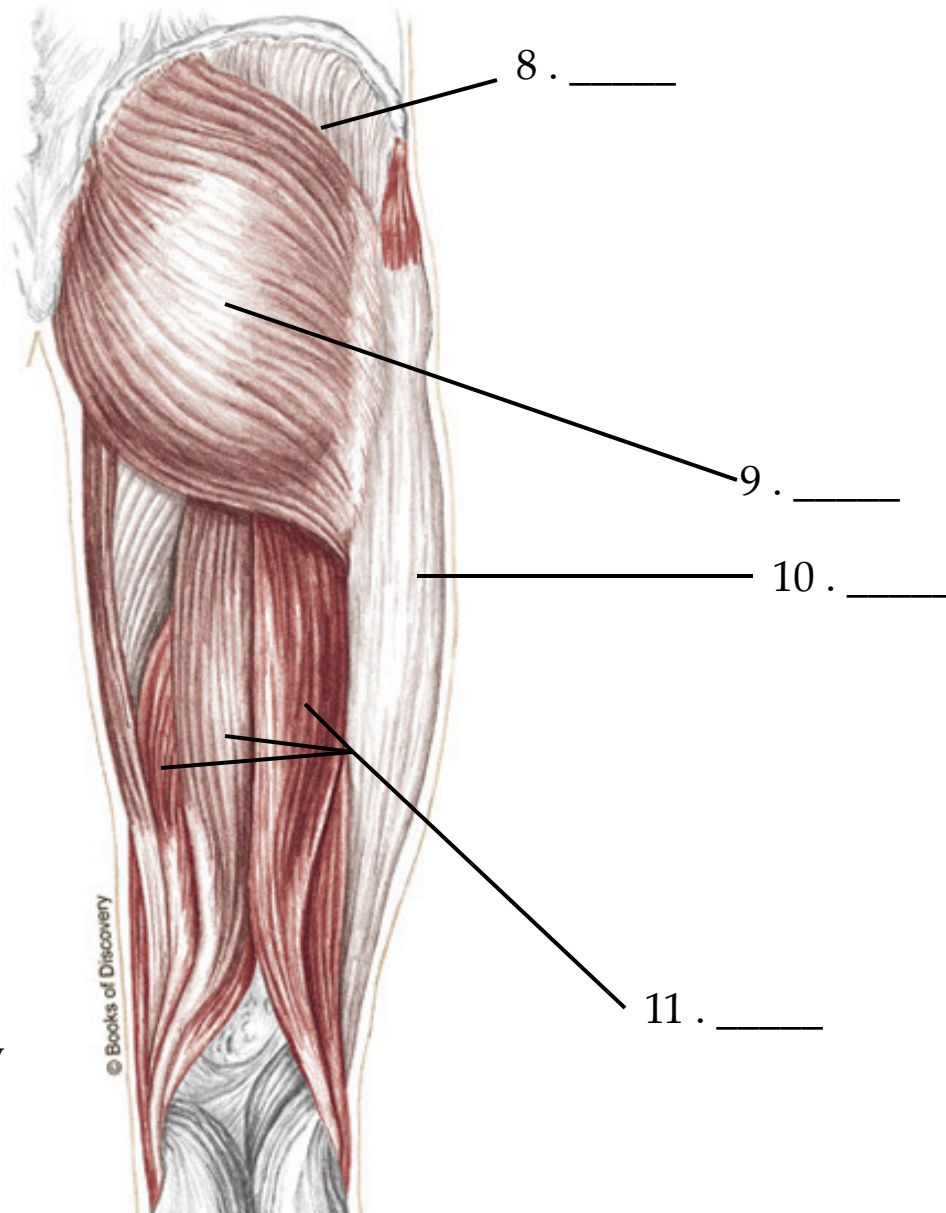
Write the name of the muscle for each number

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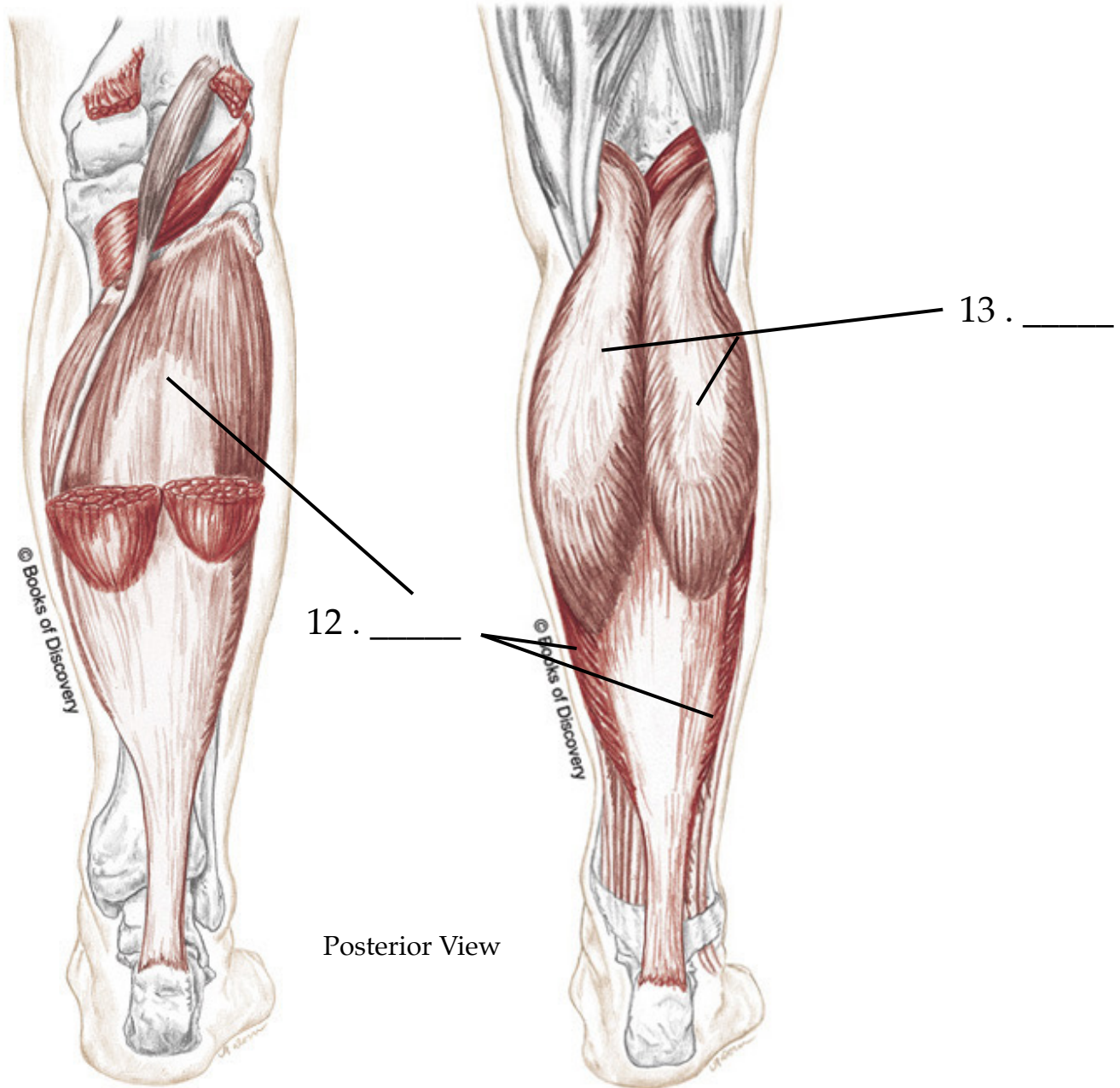
Posterior View

# Trail Guide, Page 297

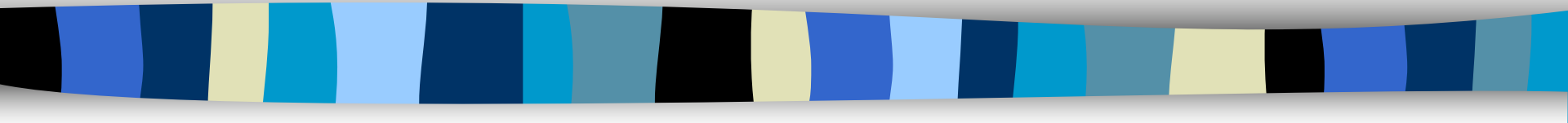


Posterior View

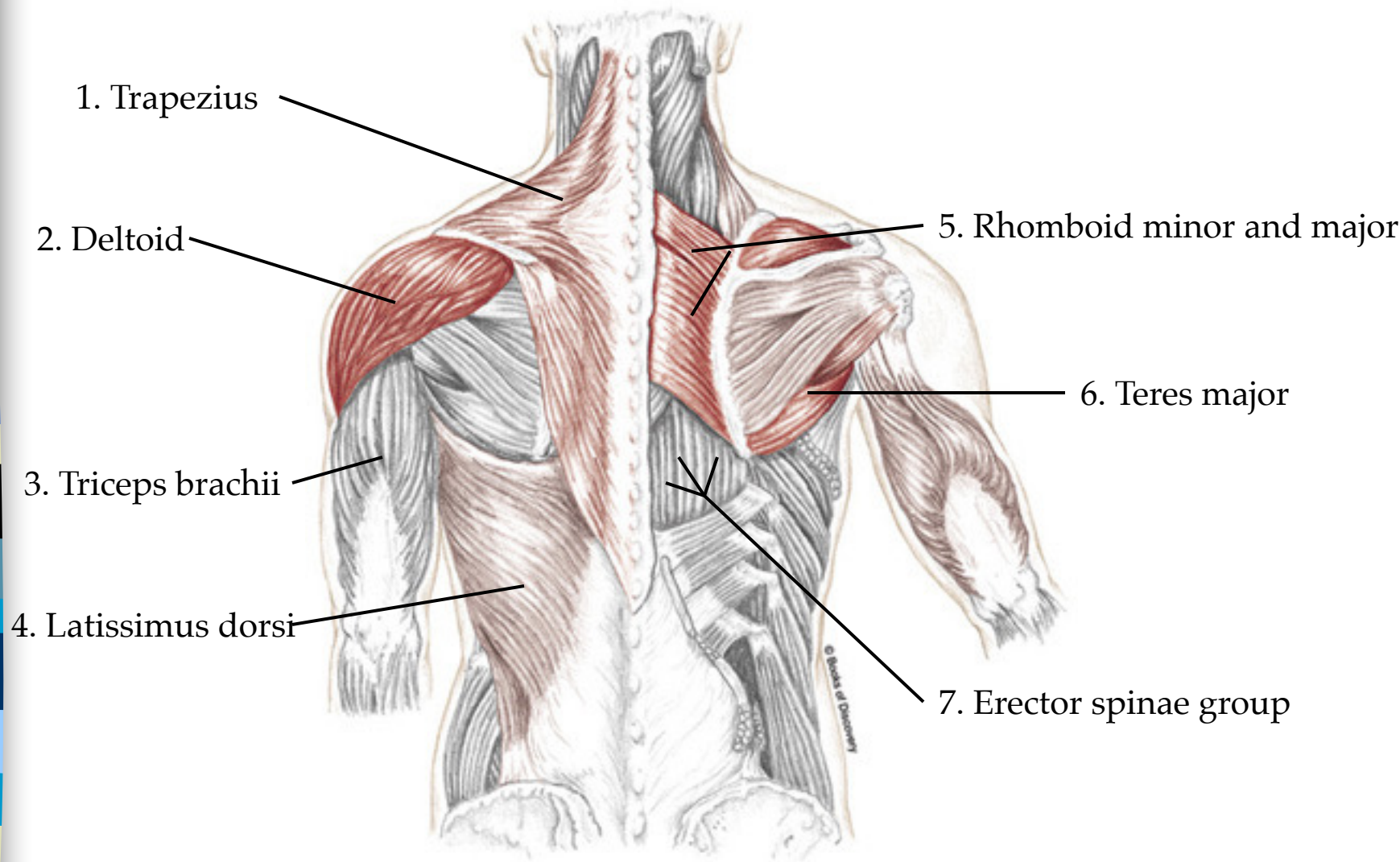
# Trail Guide, Page 366



# Check your answers



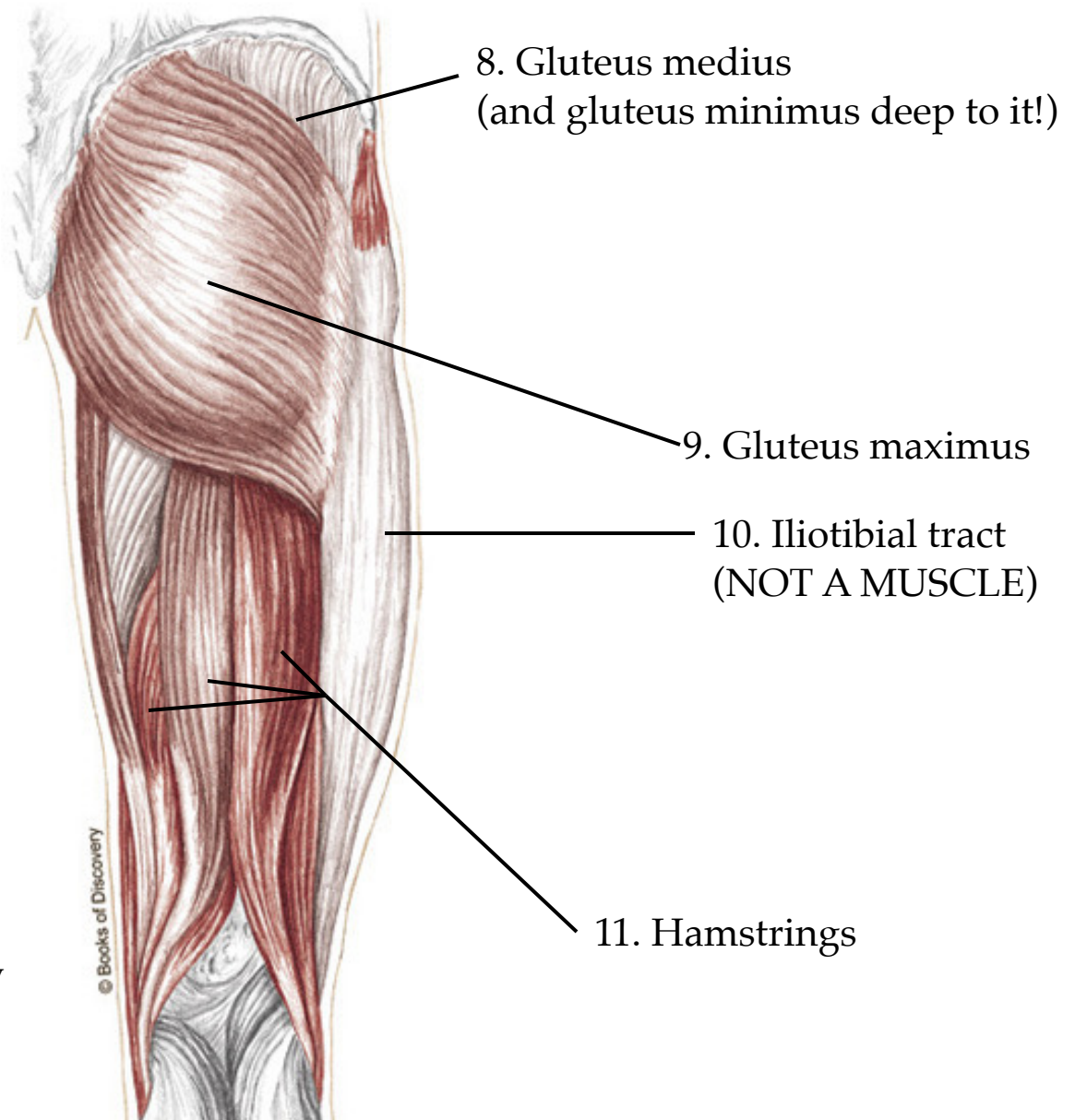
# Trail Guide, Page 61



Posterior View

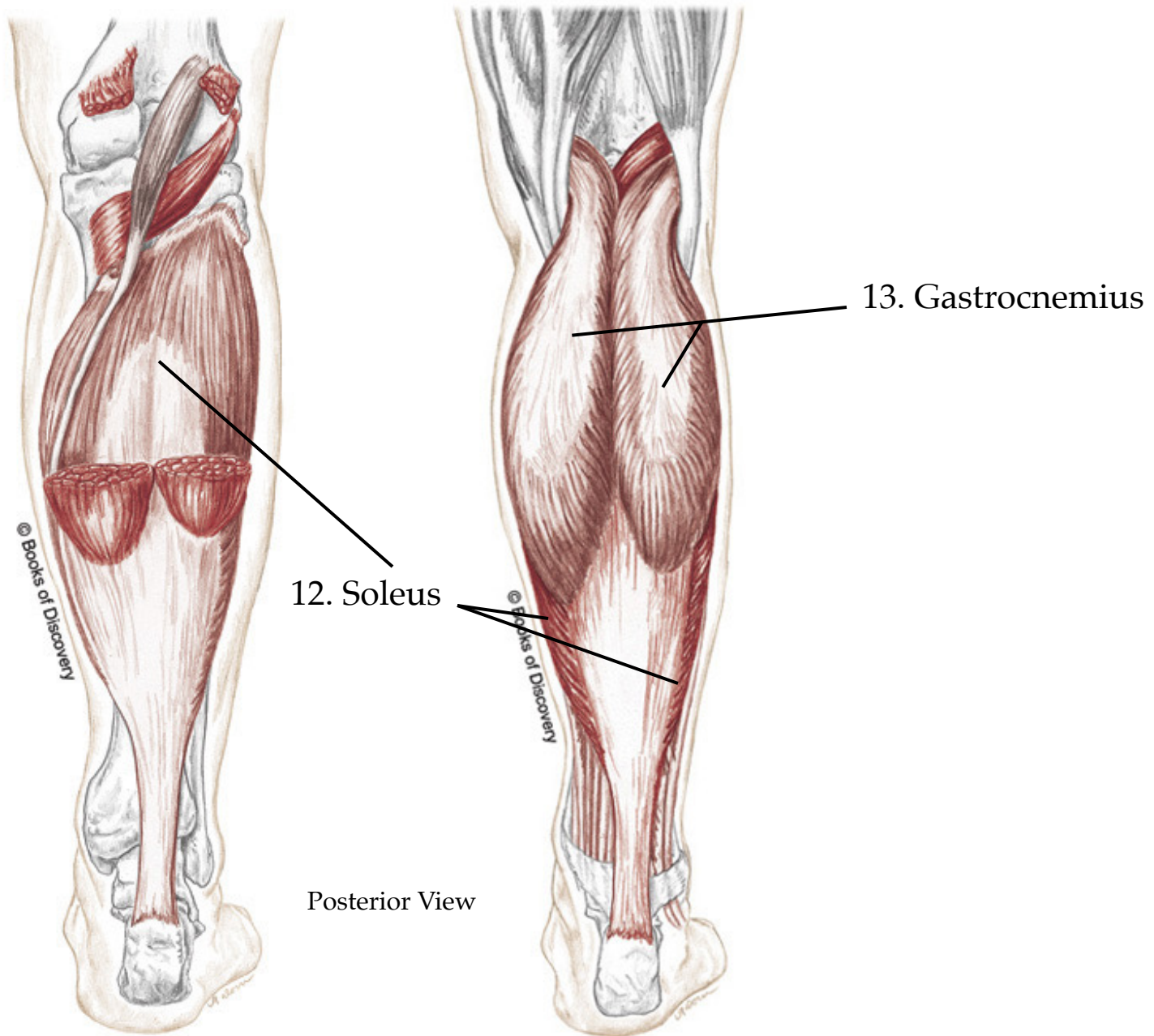


# Trail Guide, Page 297

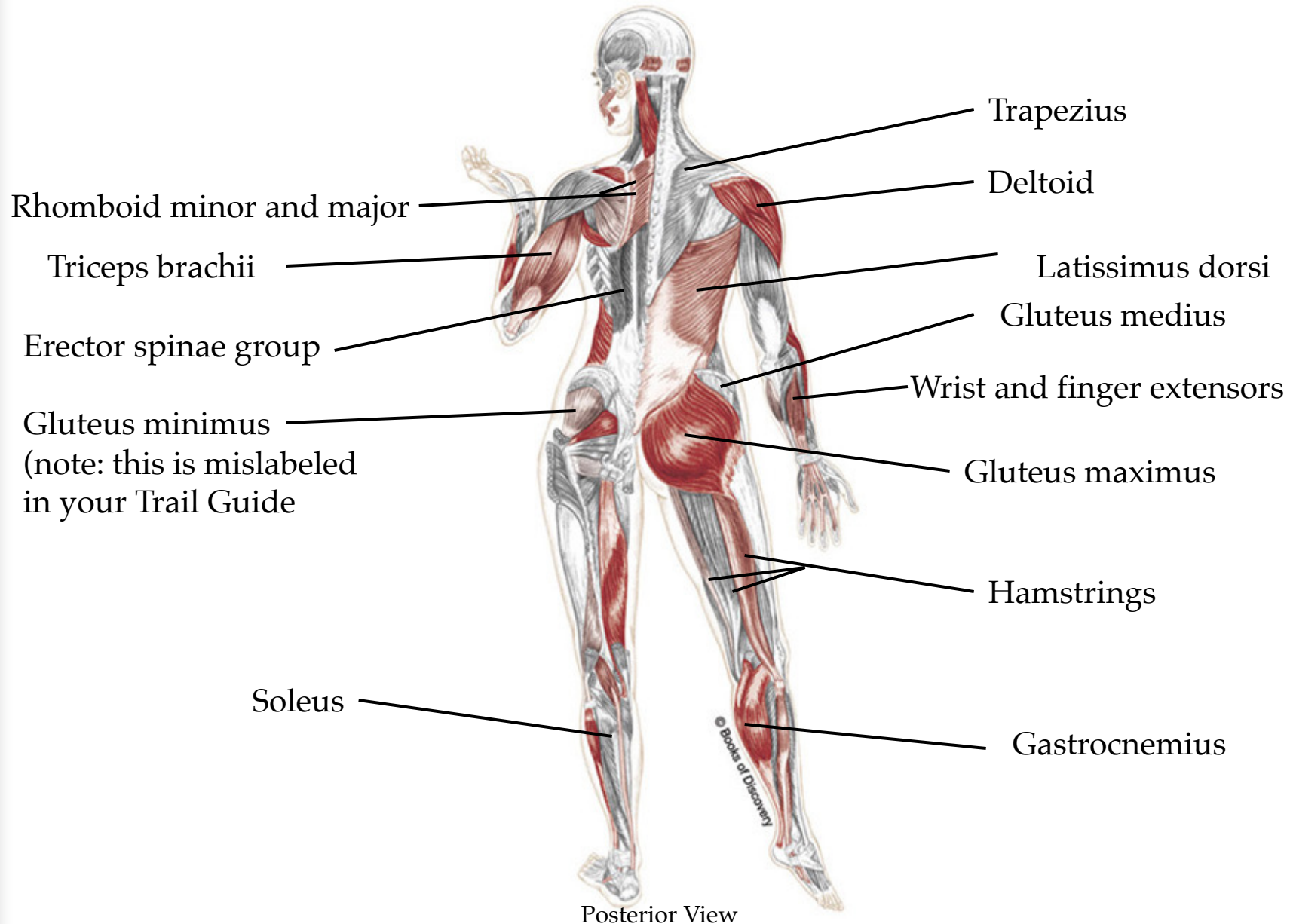


Posterior View

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# Trail Guide, Page 36



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

