

dh



Muscle review

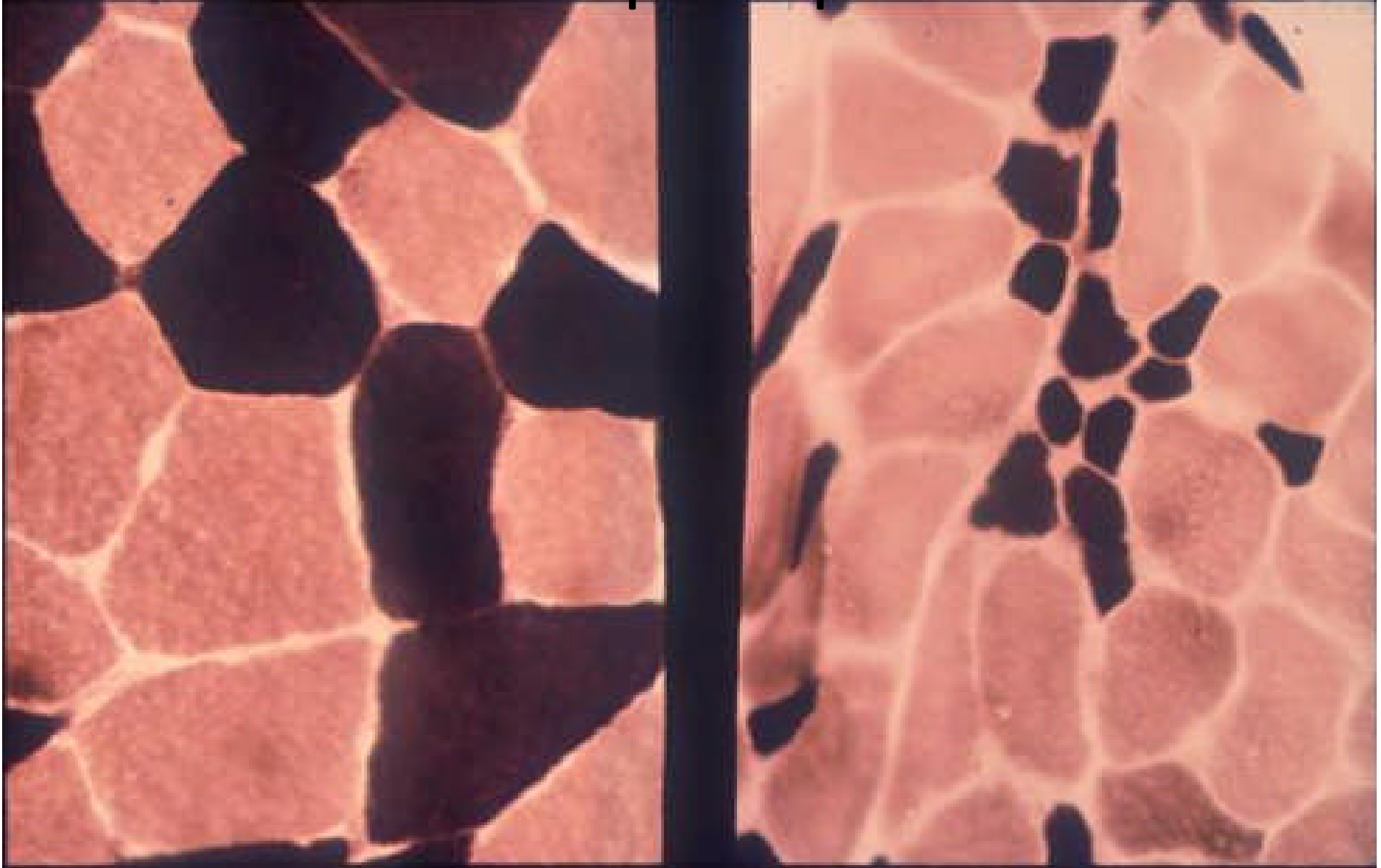
hope you know  
them

\$%\$#@ @ @ @ \$\$\$



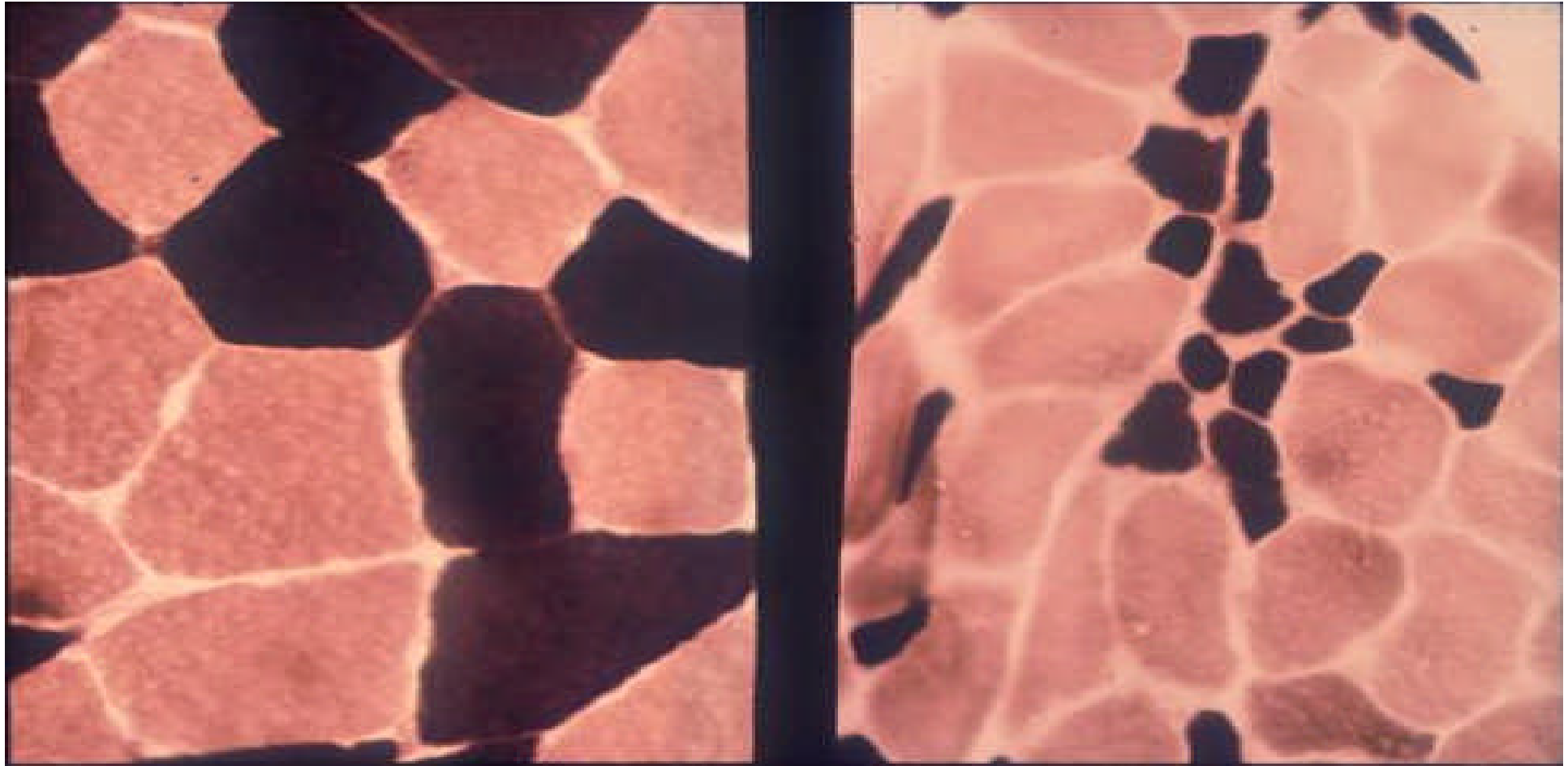
- <http://www.gwc.maricopa.edu/class/bio201/muscle/mustut.htm>

What this pic represents



*Disuse causes atrophy -- USE IT OR LOSE IT!*

Individual fiber atrophy (loss of myofibrils) with no loss in fibers.

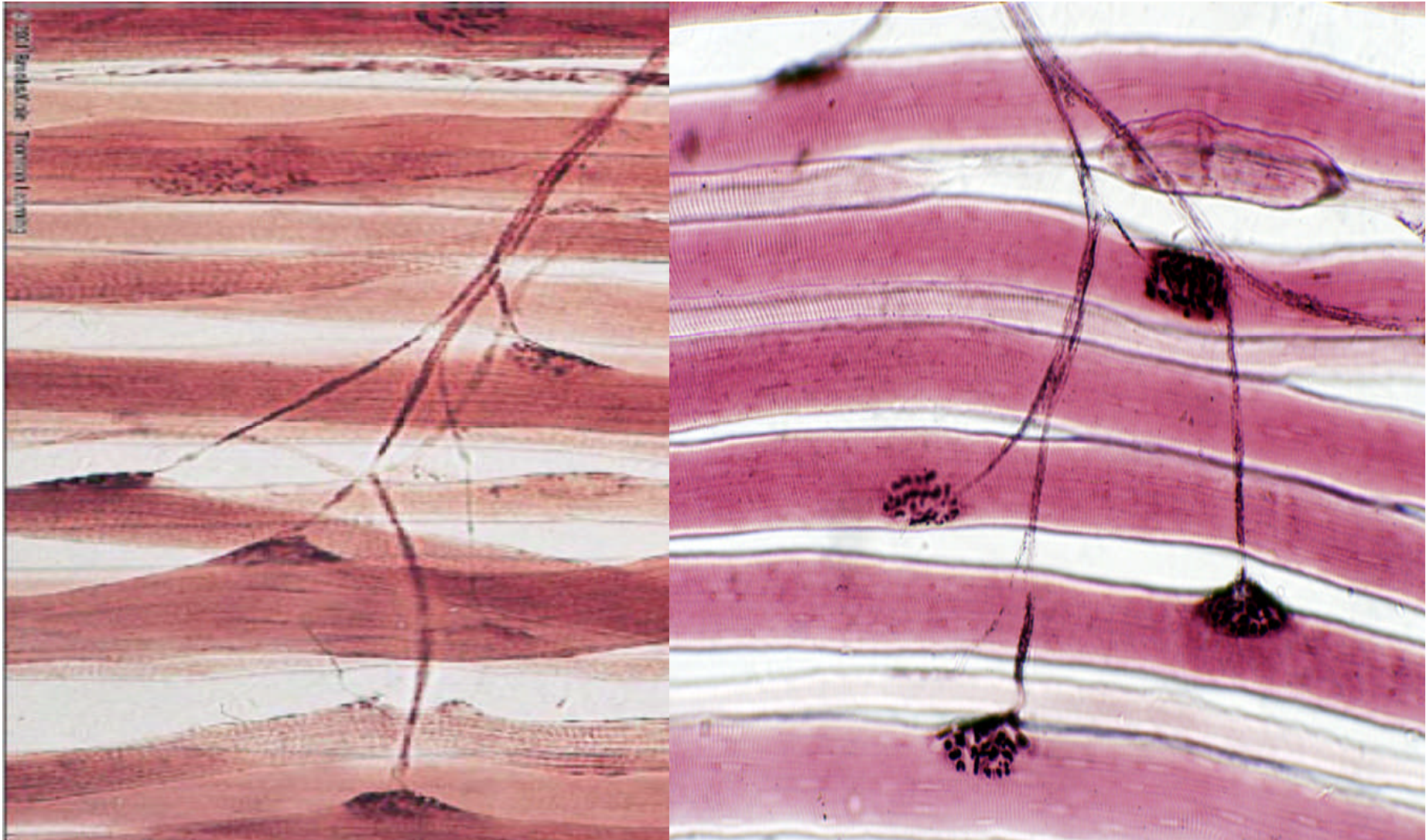


Control

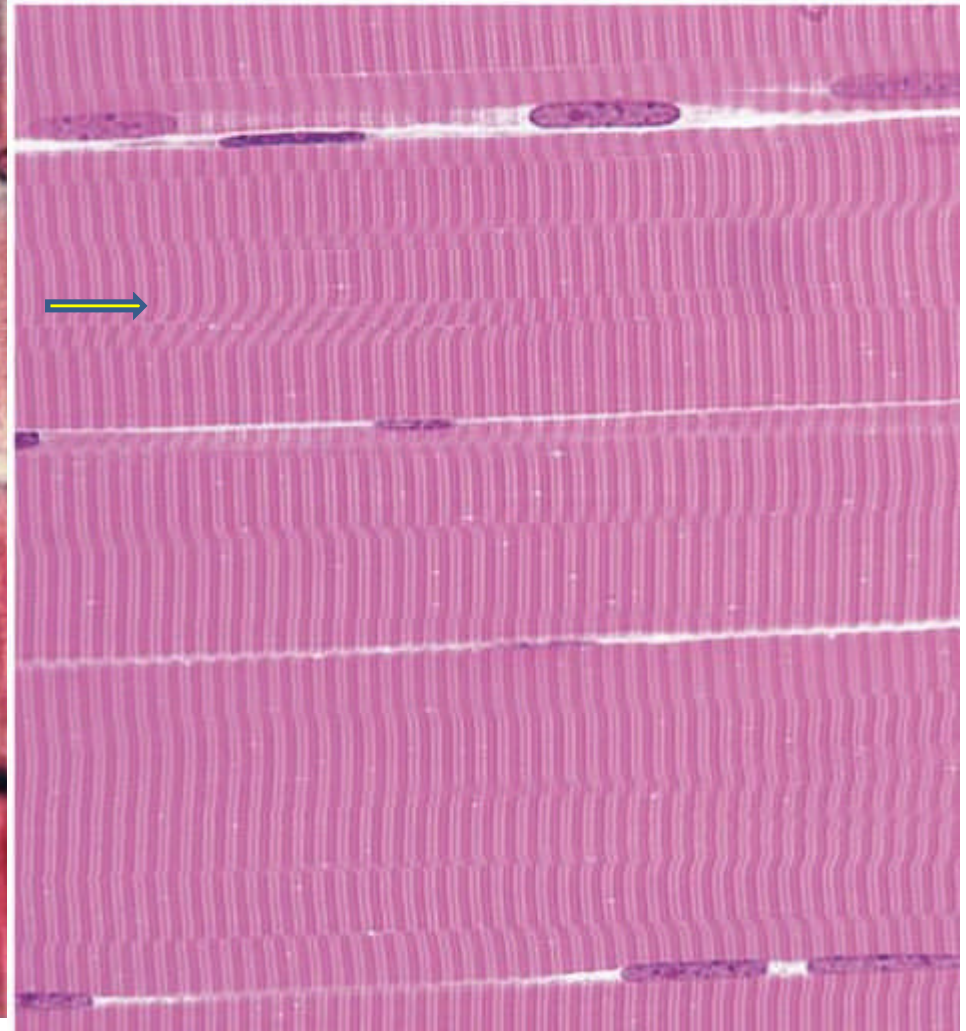
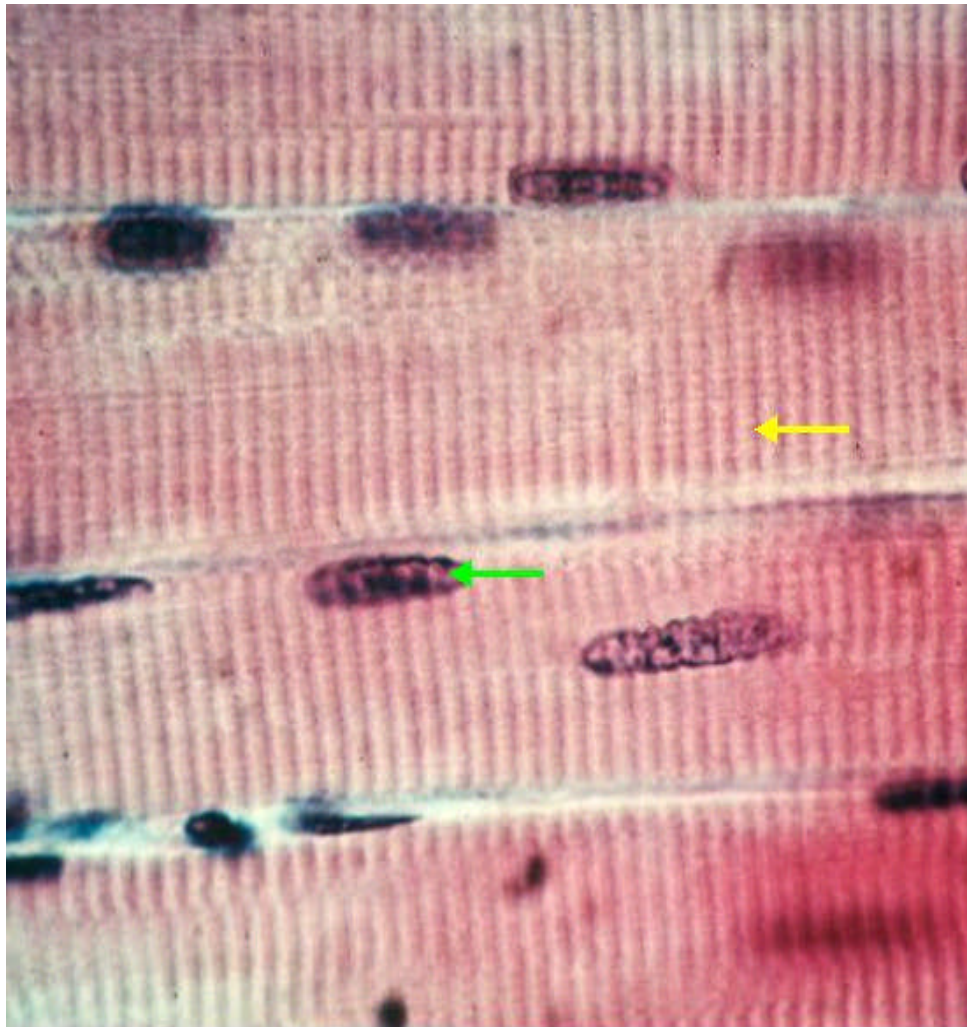
Prolonged  
bed rest



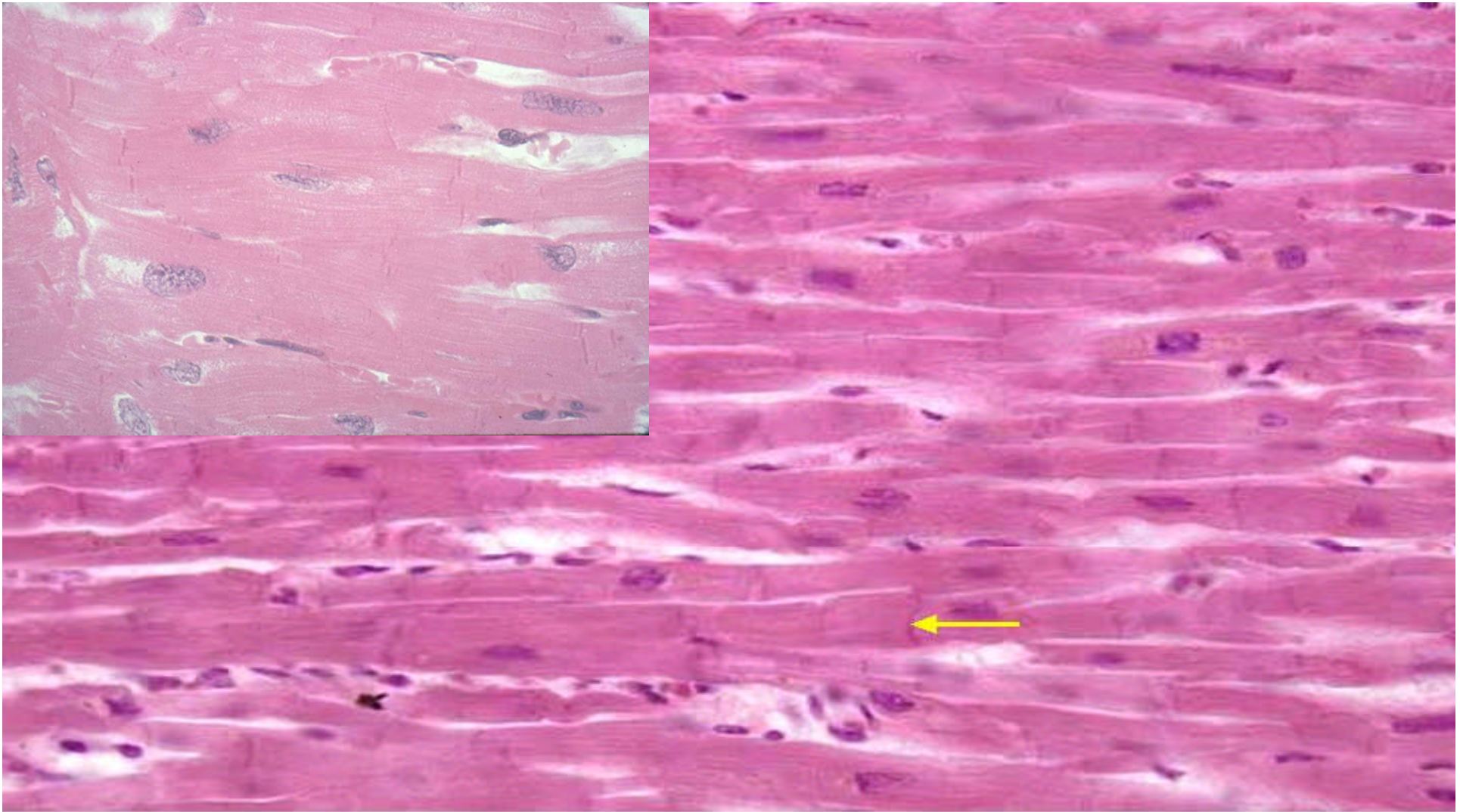
**6/ identify the below structure**







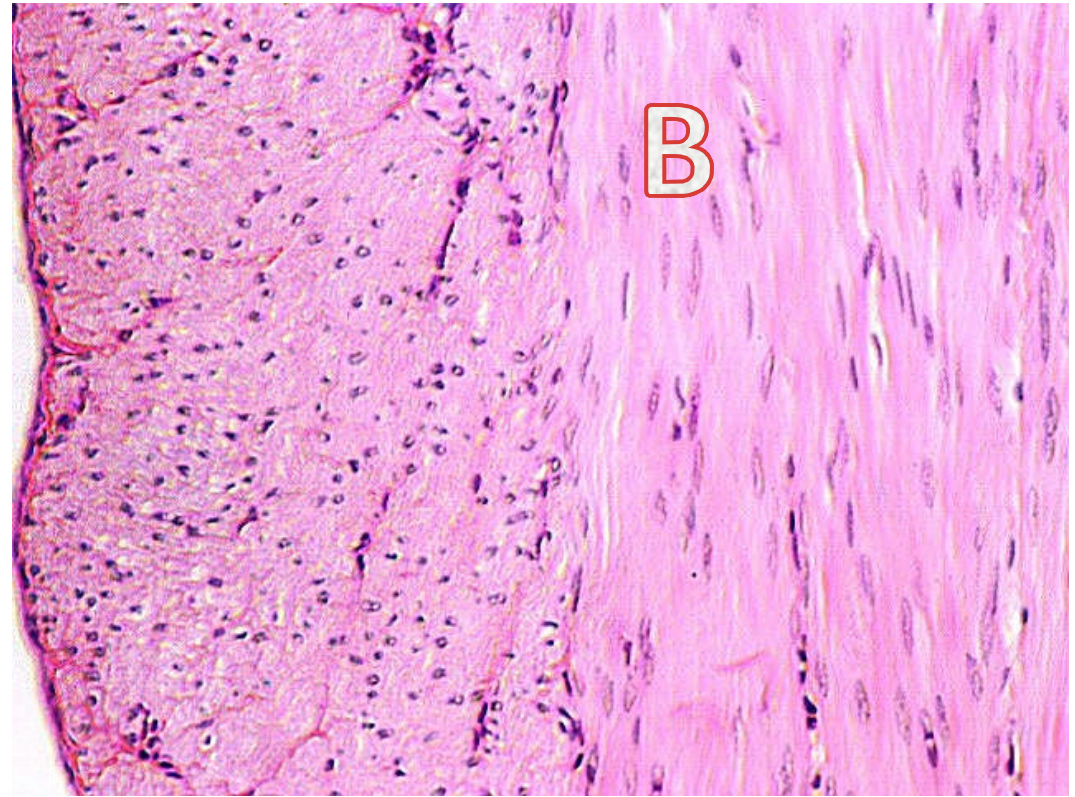
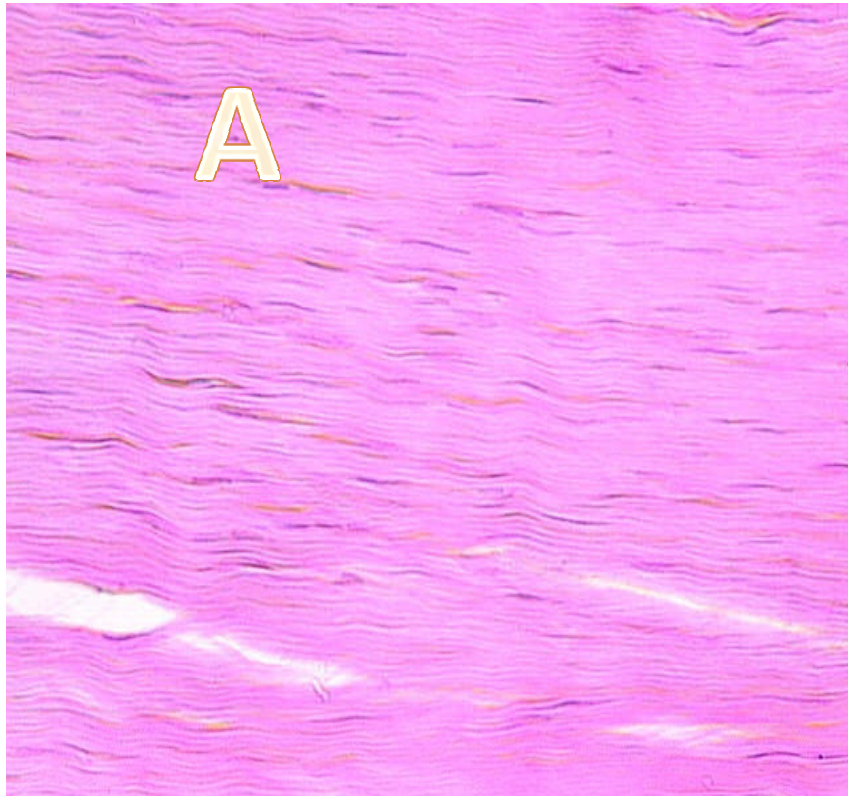
7/ The overlap of \_\_\_\_\_ creates the structure yellow arrow.



**8/ Identify the tissue.**

**9/Identify the structure indicated by the yellow arrow:**

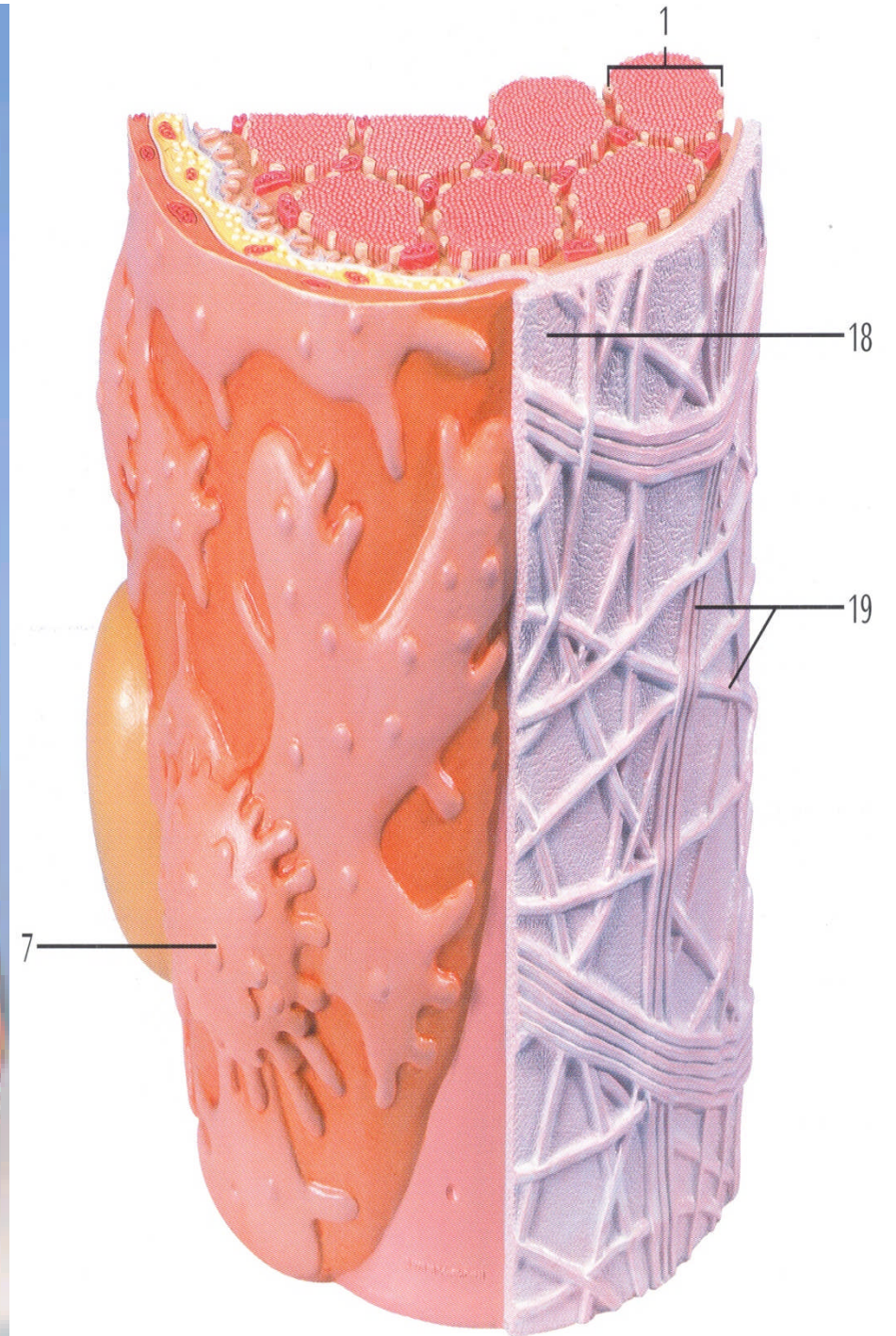




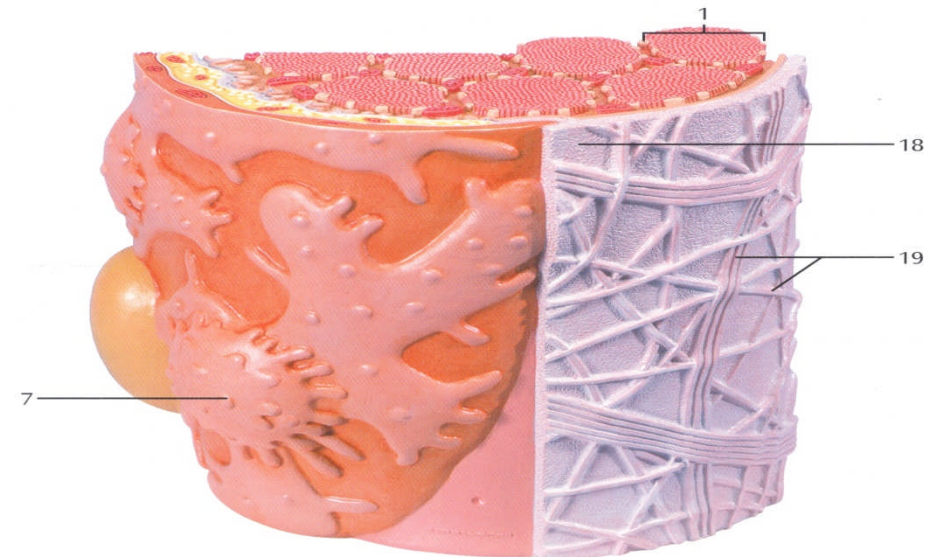
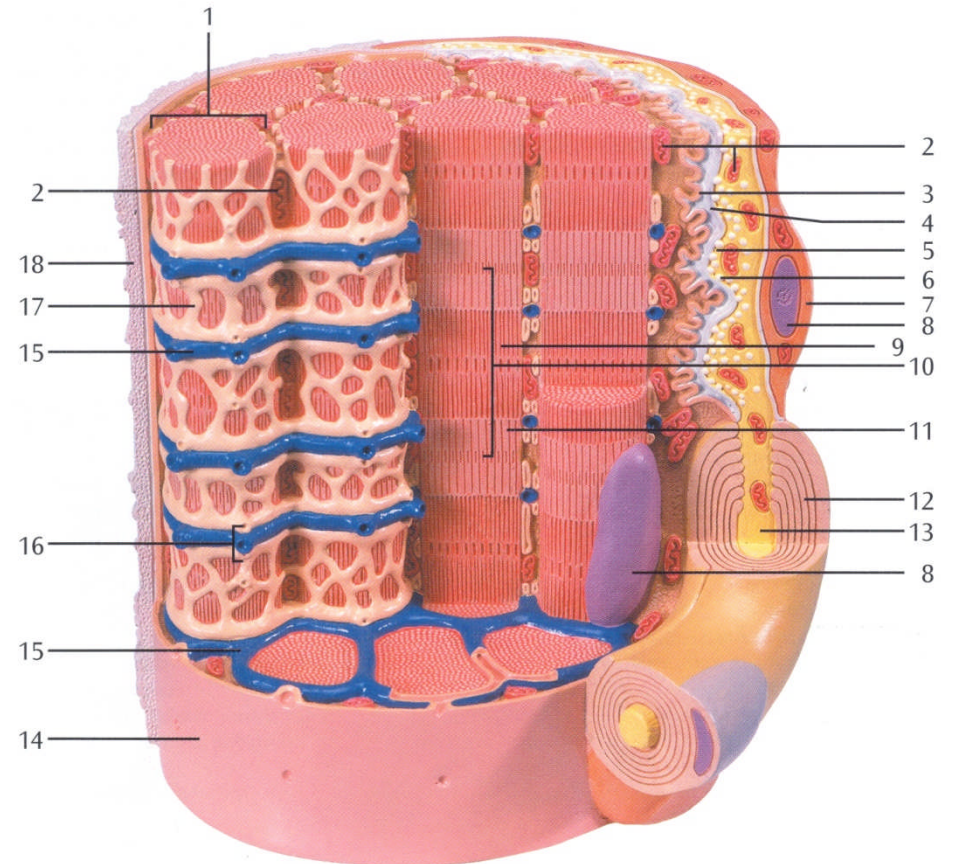
**15/ IDENTIFY THE MUSCLE A OR B?**

**16/ WHAT TYPE OF MUSCLE DOES IT REPRESENT?**



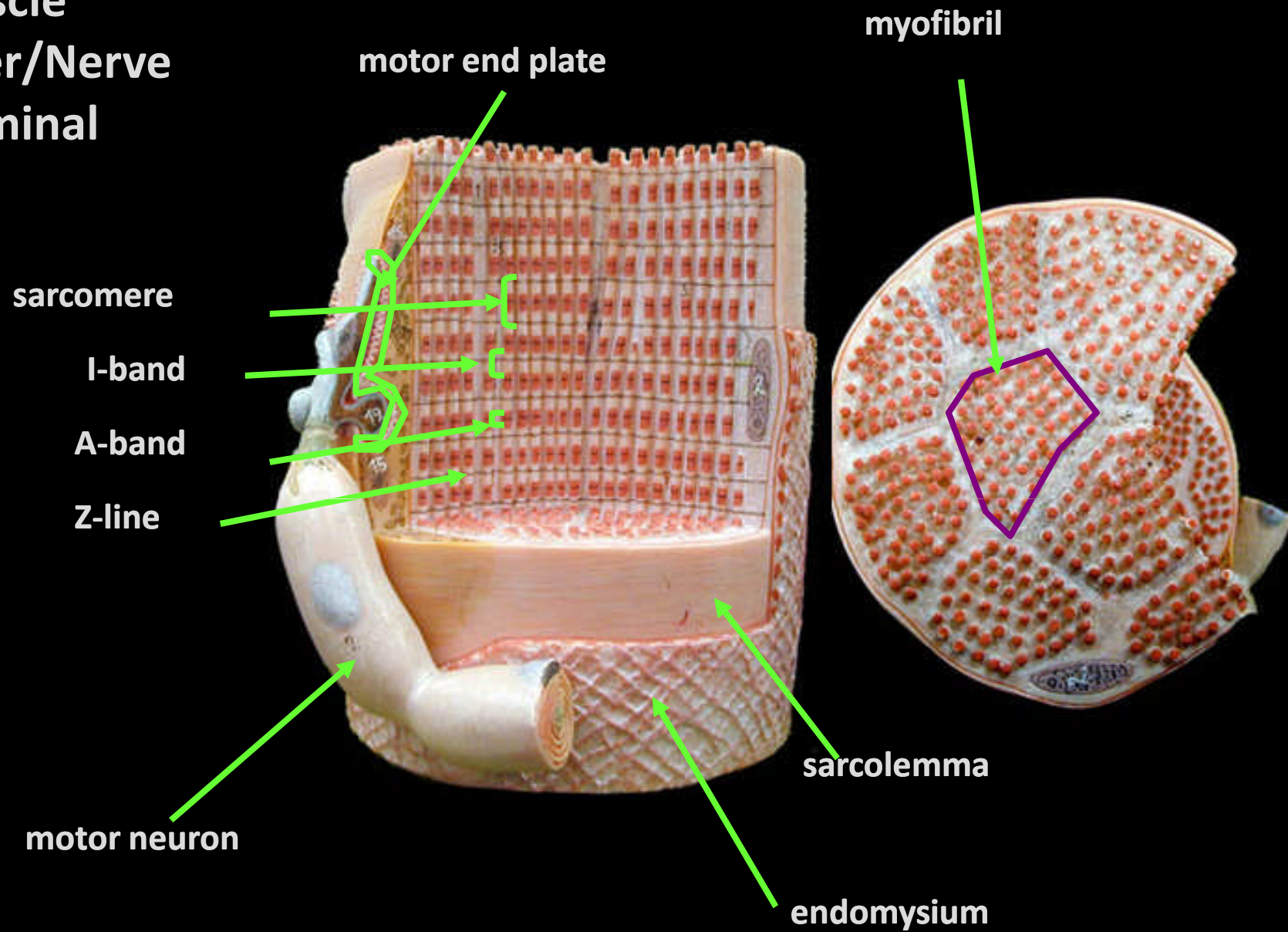


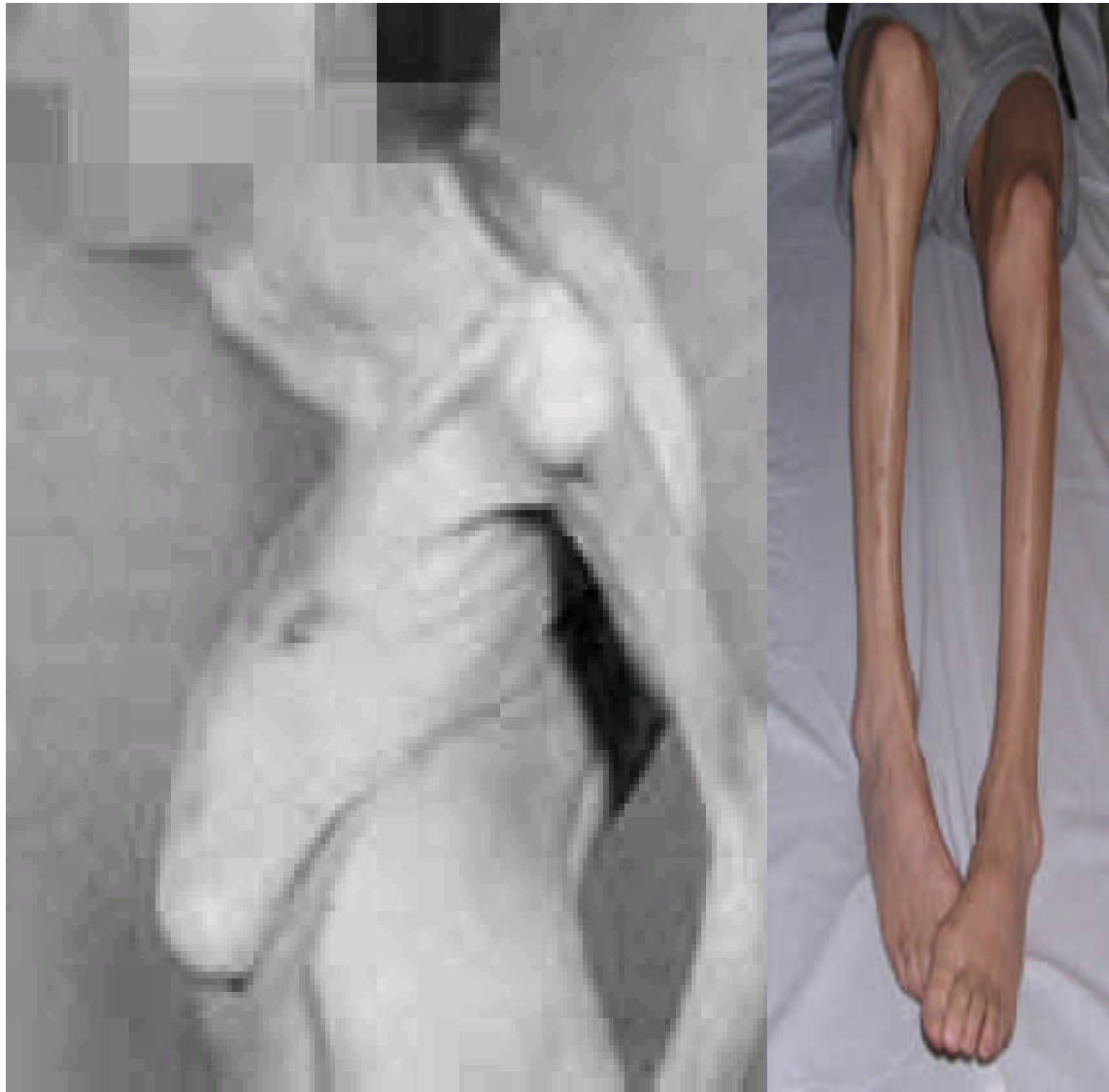
1. Myofibrils
2. Mitochondrion
3. Postsynaptic membrane
4. Synaptic gap with basal lamina
5. Presynaptic membrane
6. Presynaptic vesicle
7. Schwann cell
8. Nucleus
9. Actin filament
10. Sarcomere
11. Myosin filament
12. Myelin sheath
13. Neurofibers
14. Cell membrane (sarcolemma)
15. Transverse membrane tube
16. Triad
17. Sarcoplasmic reticulum
18. Basal lamina
19. Reticular fibers





# Muscle Fiber/Nerve Terminal



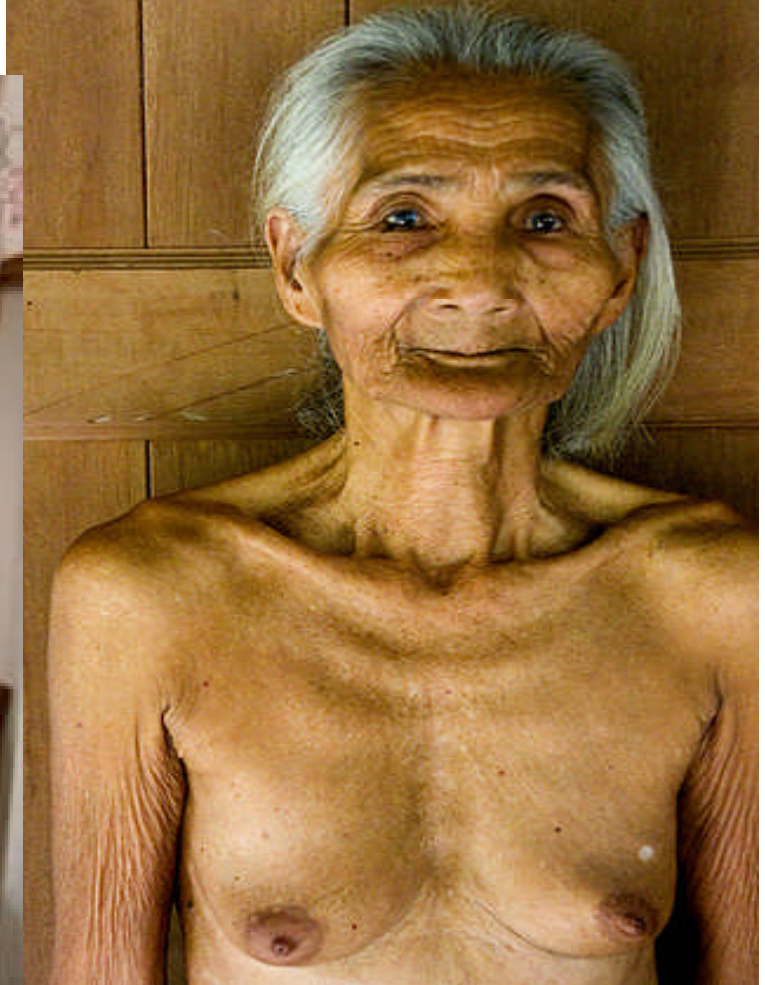
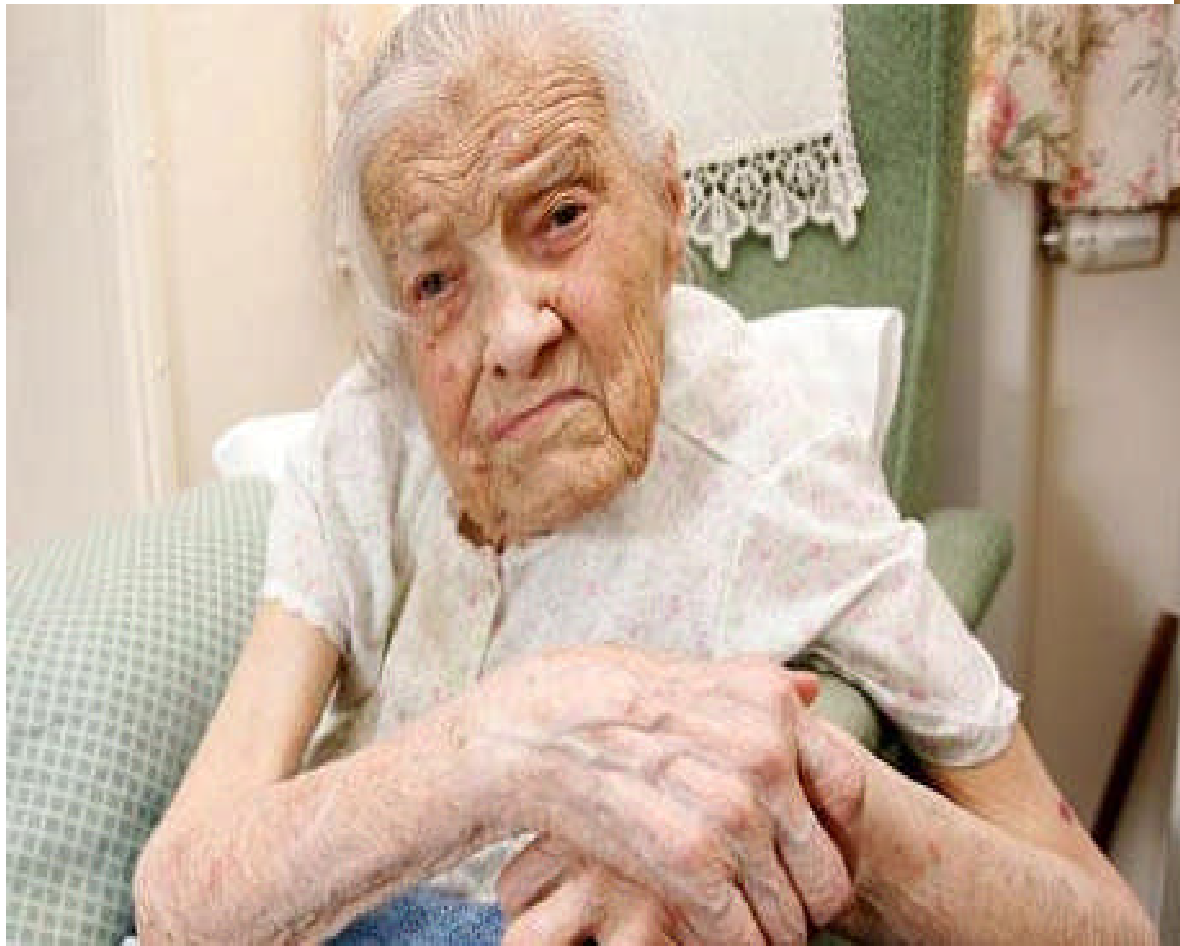


**51/ WHAT IS GOING ON WITH THESE TWO INDIVIDUALS?**



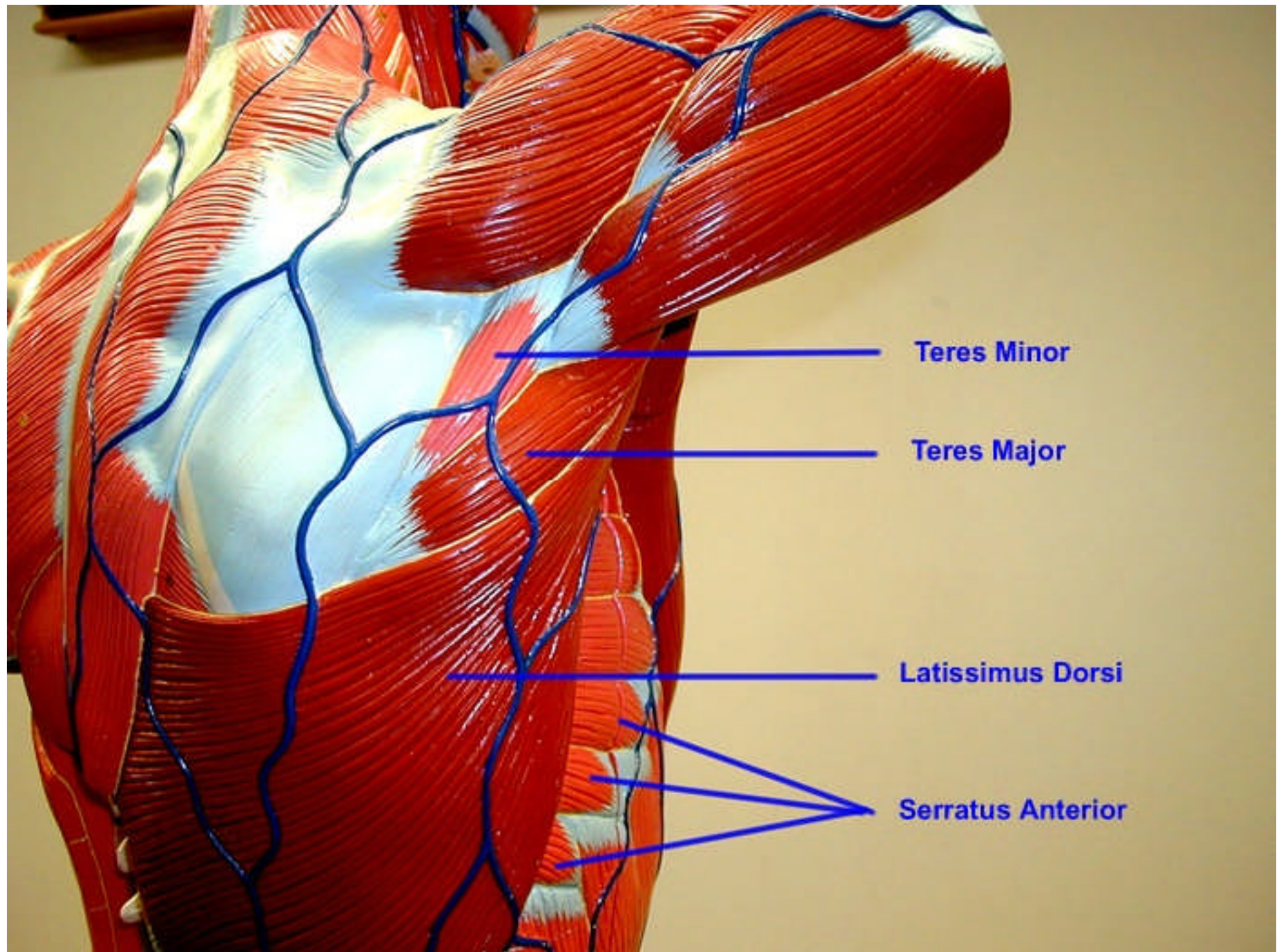


**53/WHAT DO YOU CALL THIS  
NORMAL  
EVOLUTION OF THE MUSCLES IN  
ELDERLY ?**





**WHAT IS  
MISSING??????  
????????**





**Supraspinatus**

**Trapezius**

**Infraspinatus**

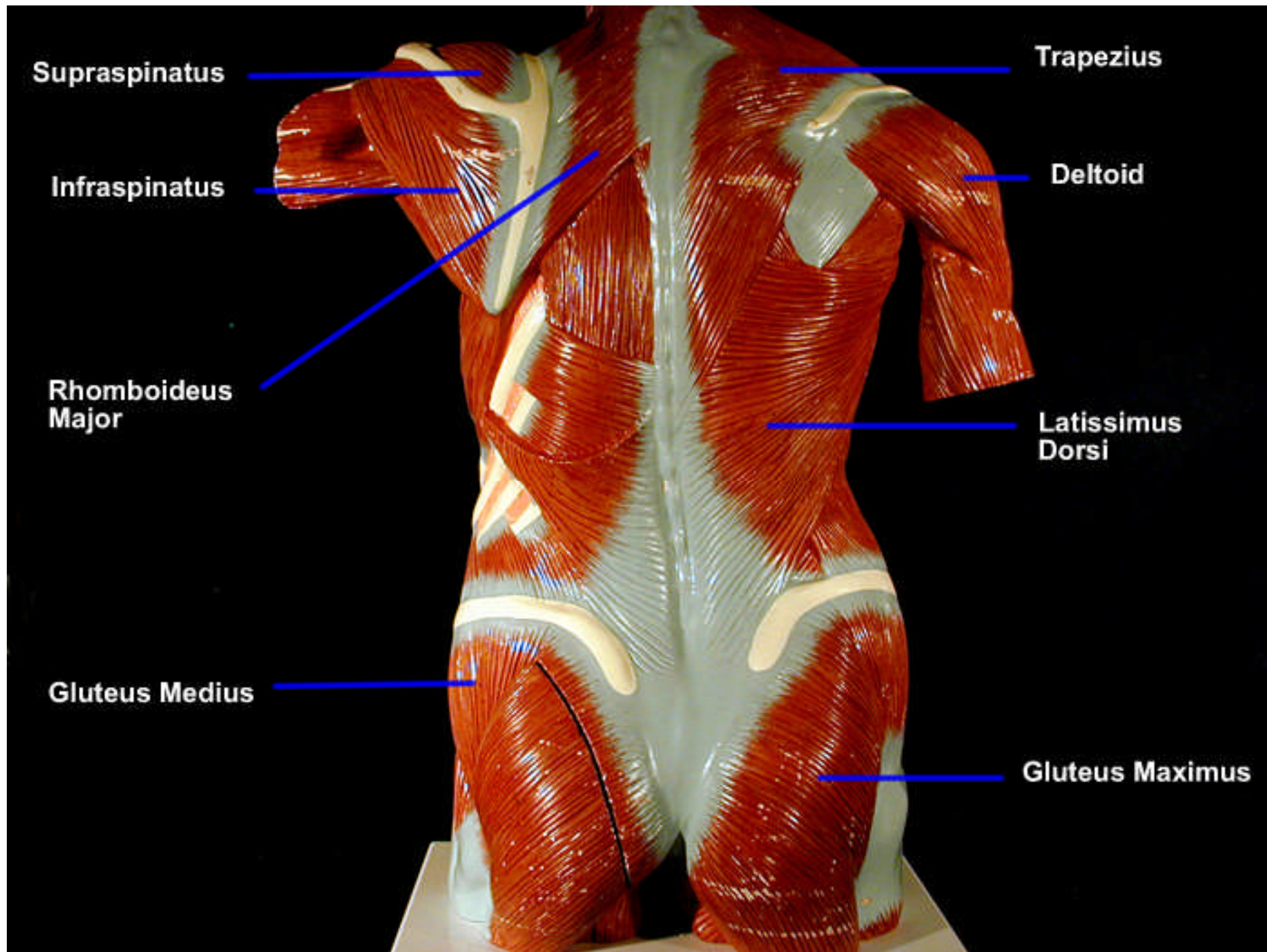
**Deltoid**

**Rhomboideus  
Major**

**Latissimus  
Dorsi**

**Gluteus Medius**

**Gluteus Maximus**



**Deltoid**

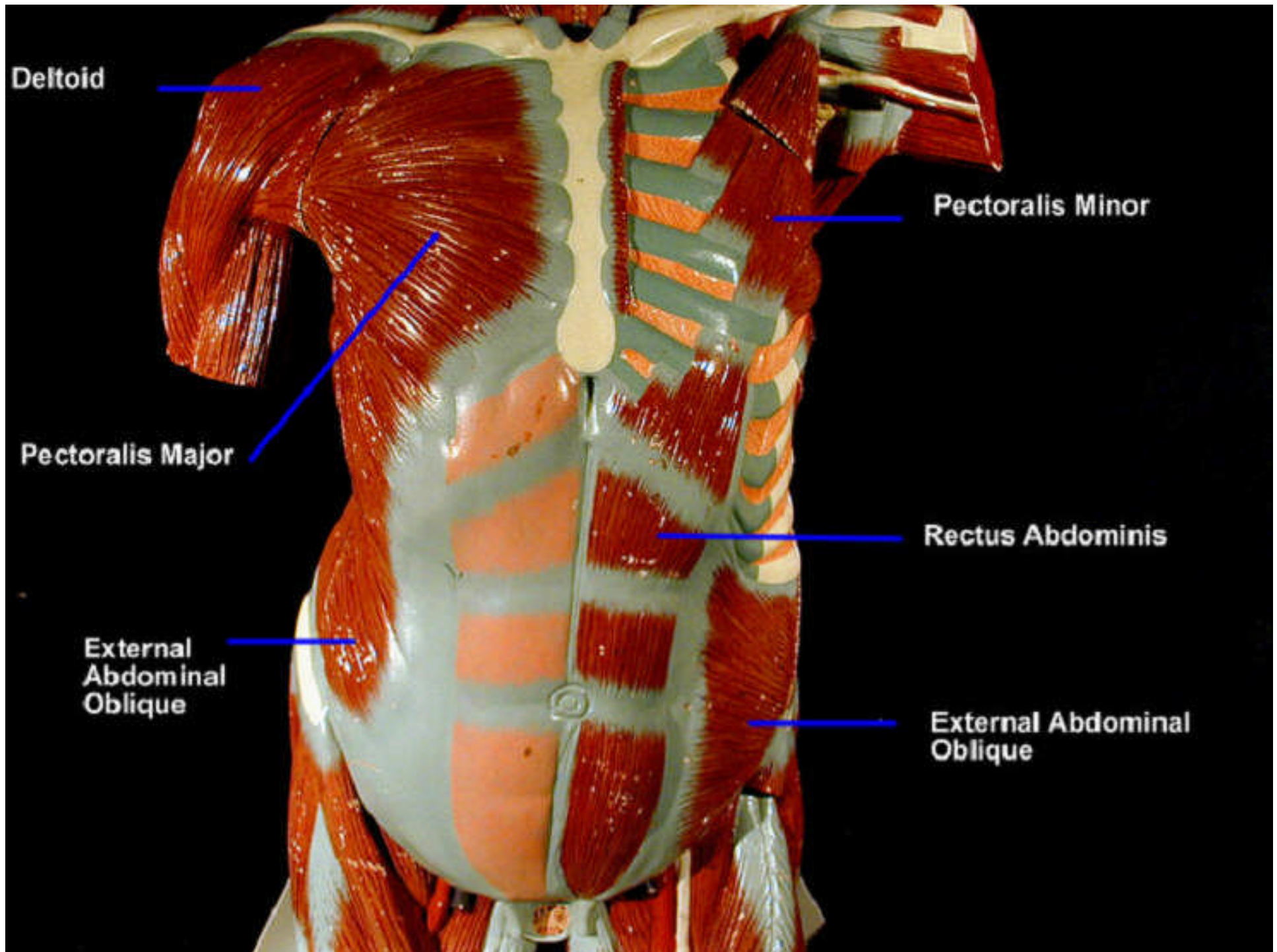
**Pectoralis Minor**

**Pectoralis Major**

**Rectus Abdominis**

**External  
Abdominal  
Oblique**

**External Abdominal  
Oblique**



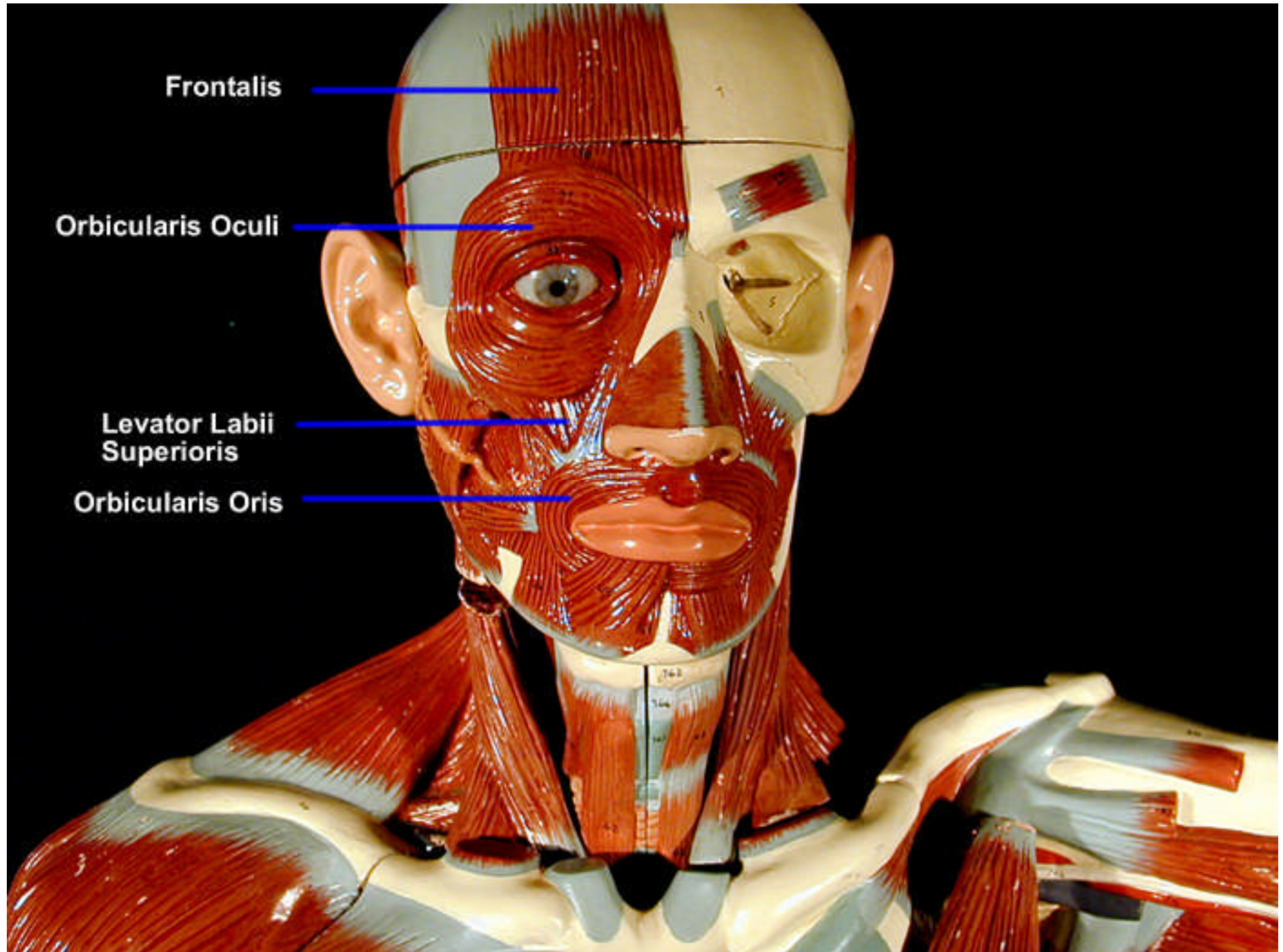


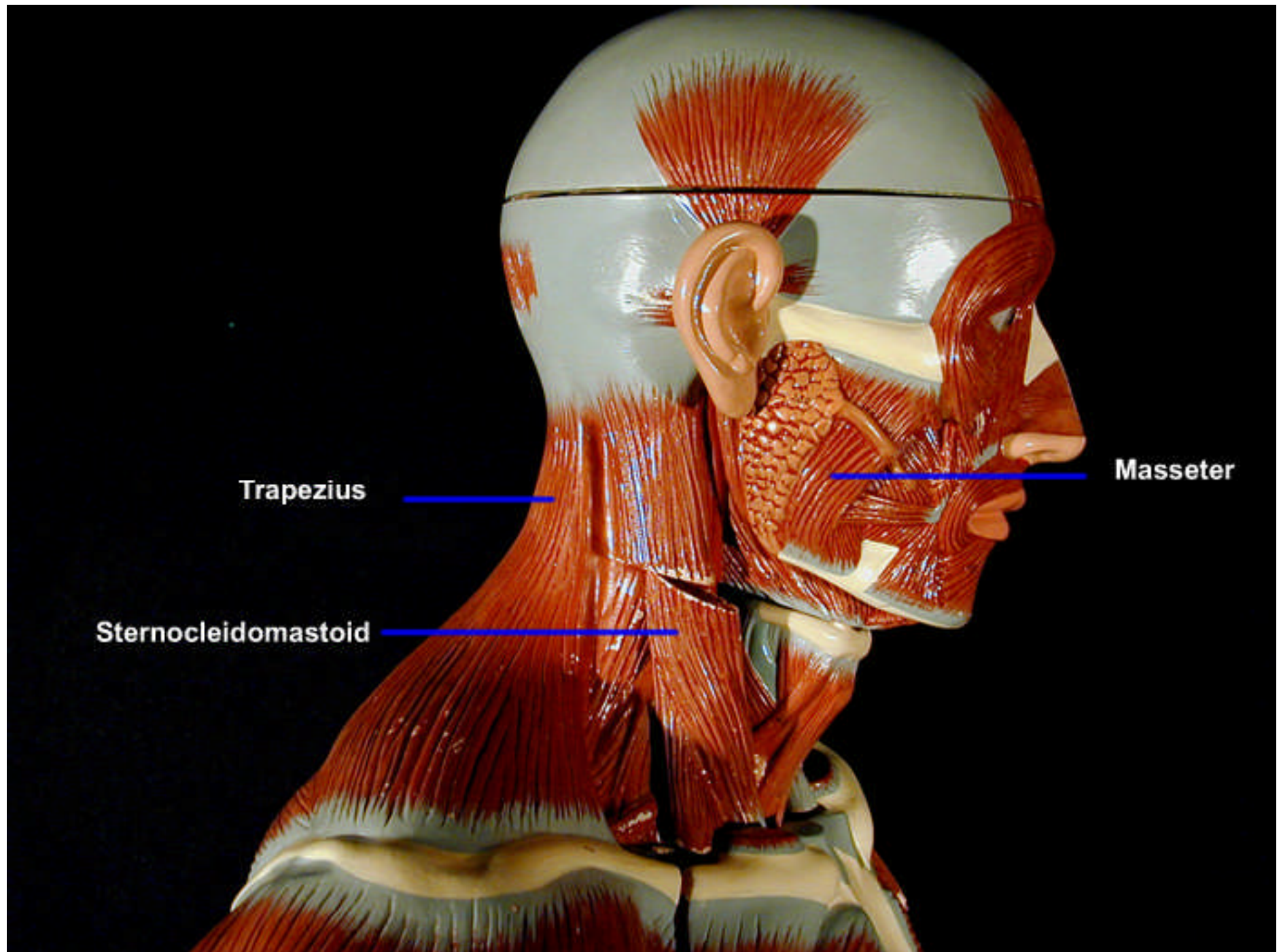
**Frontalis**

**Orbicularis Oculi**

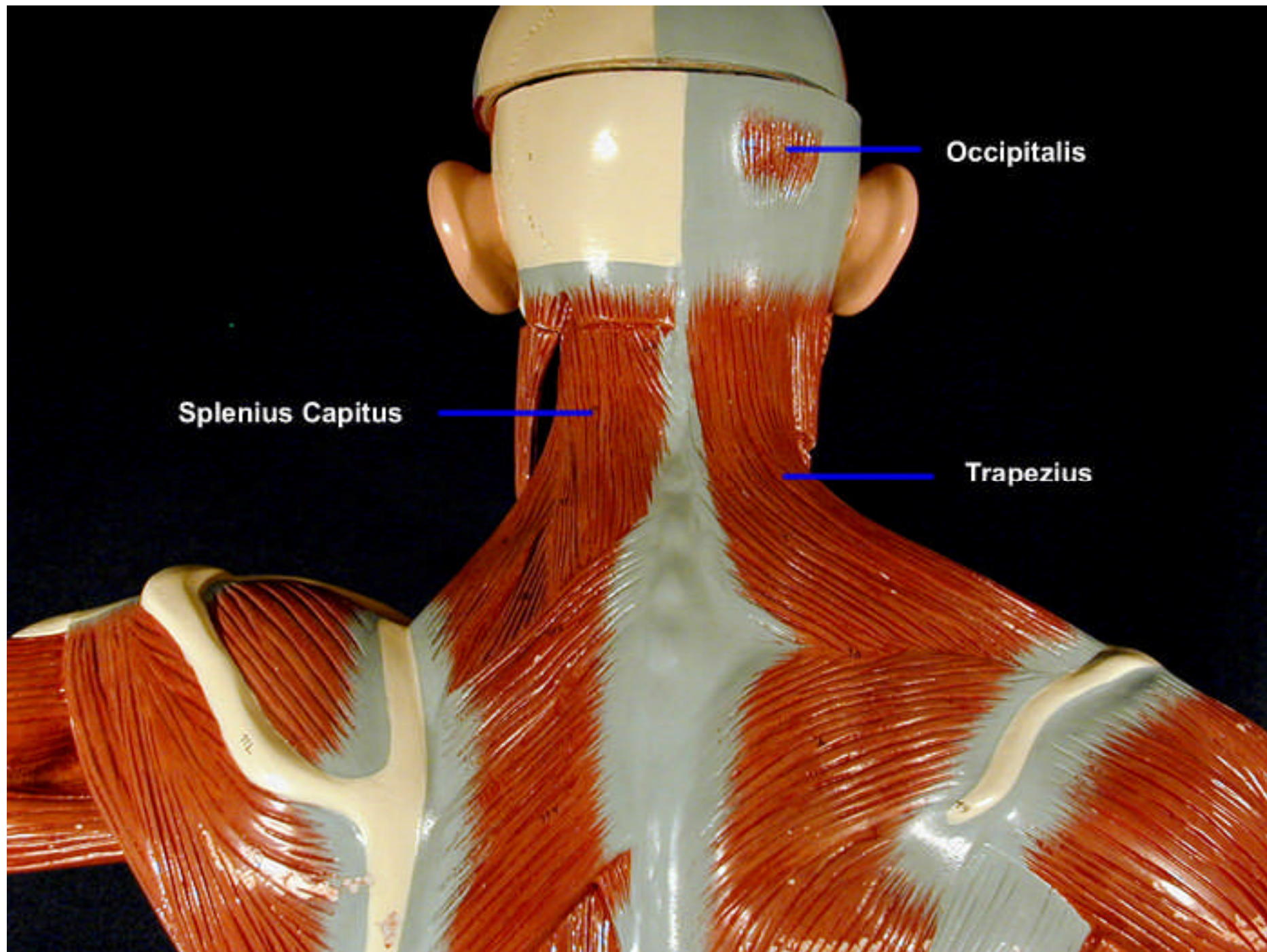
**Levator Labii  
Superioris**

**Orbicularis Oris**









Occipitalis

Splenius Capitus

Trapezius



Quadriceps (front of legs) Squat • Leg press • Lunge • Leg raise • Leg extension

Hamstrings (back of legs) Deadlift • Leg curl

Calves Calf raise

Pectorals (chest) **Bench press** • Chest fly • Machine fly • Push-up

Lats and trapezius (upper back) Bent-over row • Chin-up • Pulldown • Pullup • Seated row • Shoulder shrug • Supine row

Deltoids (shoulders) Front raise • Handstand push-up • Lateral raise • Military press • Shoulder press • Upright row • Rear delt raise

Biceps (front of arms) Biceps curl

Triceps (back of arms) Dip • Pushdown • Triceps extension

Abdomen and obliques (belly) Crunch • Sit-up • Leg raise • (any rotational movement will engage the obliques)

Lower back Back extension • Deadlift • Good-morning • Hyperextension







## PRESS BUNCH :

- **stimulate the pectorals,**
- **deltoids,**
- **triceps**

The exercise focuses on the development of the

- pectoralis major muscle

other supporting muscles including the

- anterior deltoids,
  - serratus anterior,
  - coracobrachialis,
  - scapulae fixers,
  - trapezii,
  - the triceps.



57

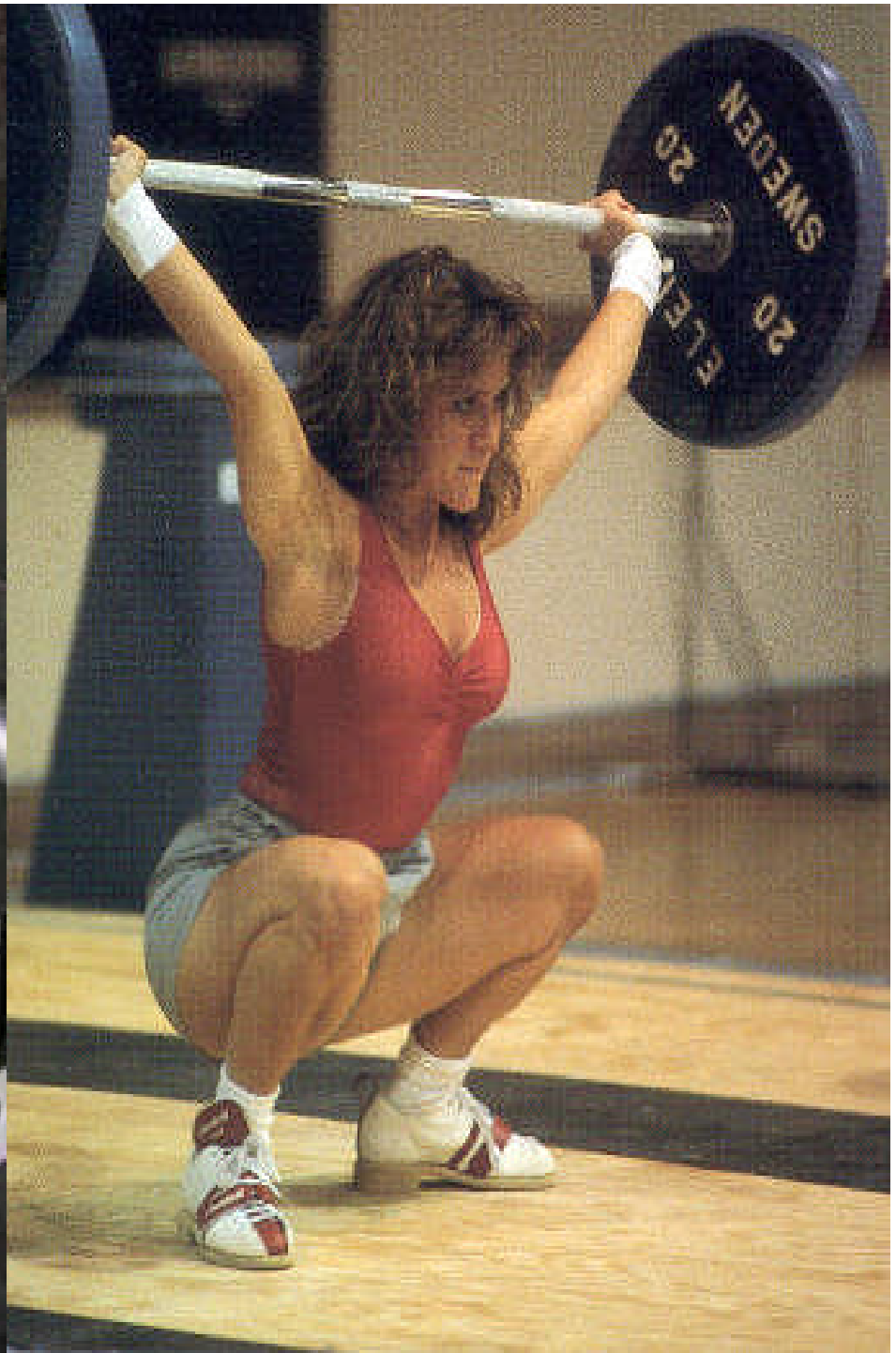


59











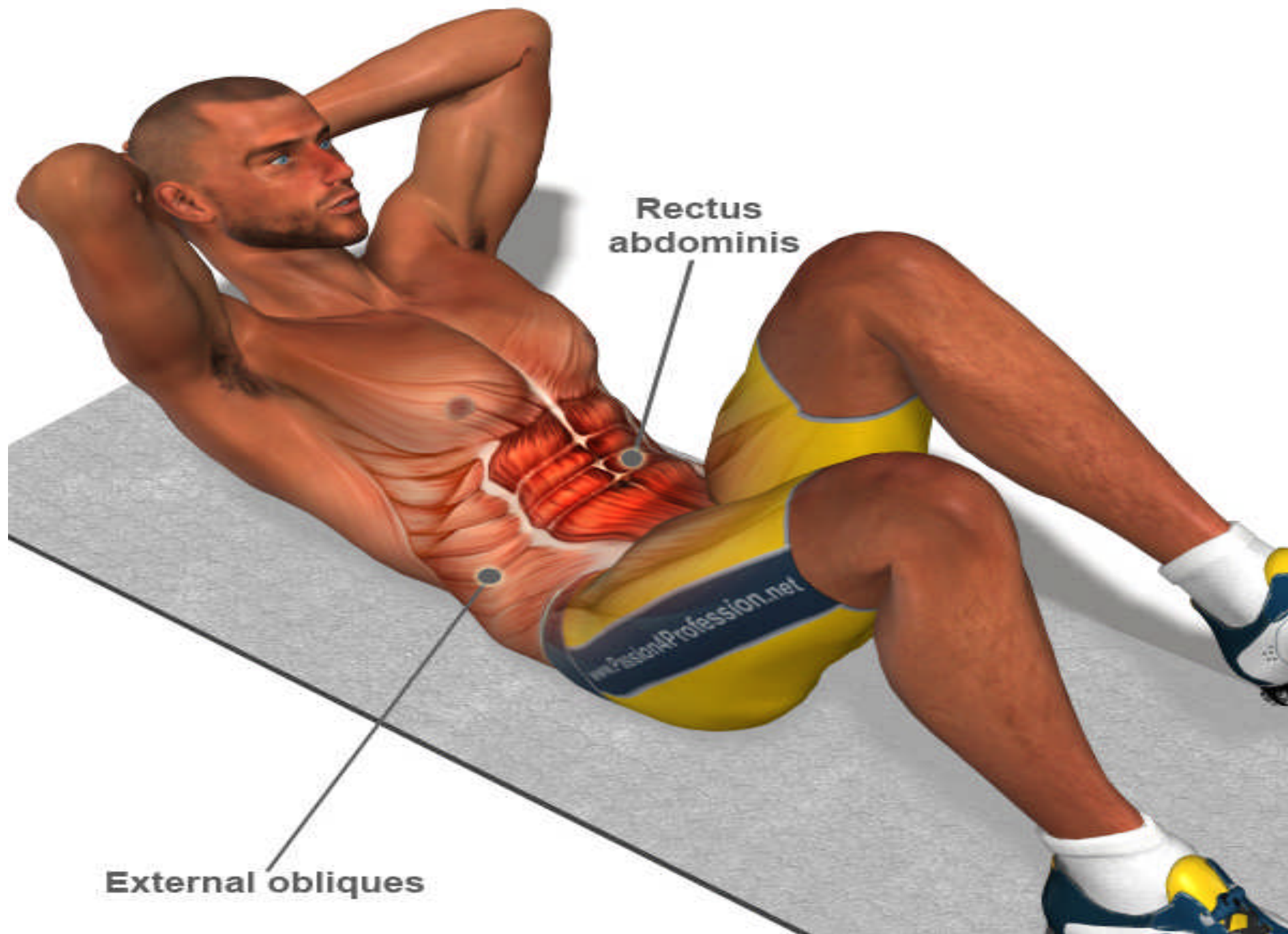




PHOTOS BY: ISAAC HINDS

**BODY  
BUILDING**.cc

**BODY  
BUILDING**.cc





Latissimus dorsi exercise



## QUADRICEPS MUSCLES

### **Rectus femoris**

O. Anterior inferior iliac spine

I. Tibial tuberosity via patellar ligament

F. Extends knee; flexes thigh on hip

INN. Femoral

### **Vastus lateralis**

Greater trochanter; linea aspera  
knee; stabilizes knee

Tibial tuberosity via patellar ligament Extends  
Femoral

### **Vastus intermedius**

linea aspera Tibial tuberosity via patellar ligament  
Extends knee; stabilizes knee

Femoral

### **Vastus medialis**

Anterolateral proximal femur  
Extends knee; stabilizes knee

Tibial tuberosity via patellar ligament  
Femoral







The **deadlift**

The grip strength (finger flexors) and the lower back (erector spinae) work isometrically to keep the bar held in the hands and to keep the spine from rounding.

**The gluteus maximus and hamstrings** work to extend the hip joint.

The quadriceps are stressed less compared to the squat, but contribute significantly by bringing the hips lower relative to the knee.

**The adductor magnus** works to stabilize the legs.

### hamstrings

#### **Biceps femoris**

O .Ischial tuberosity / linea alba      I.Lateral condyle of tibia; fibula F.Extends thigh, flexes knee; laterally rotates leg INN(branch) Tibial

#### **Semimembranosus**

O.Ischial tuberosity      I.Medial proximal tibia  
F.Extends thigh, flexes knee; medially rotates leg      INN.(branch) Tibial

#### **Semitendinosus**

Ischial tuberosity      Medial proximal tibia      Extends thigh,  
flexes knee; medially rotates leg      (branch)  
Tibial





## **Push-ups exercise the**

- **pectoral muscles,**
- **triceps,**
- **anterior deltoids,**

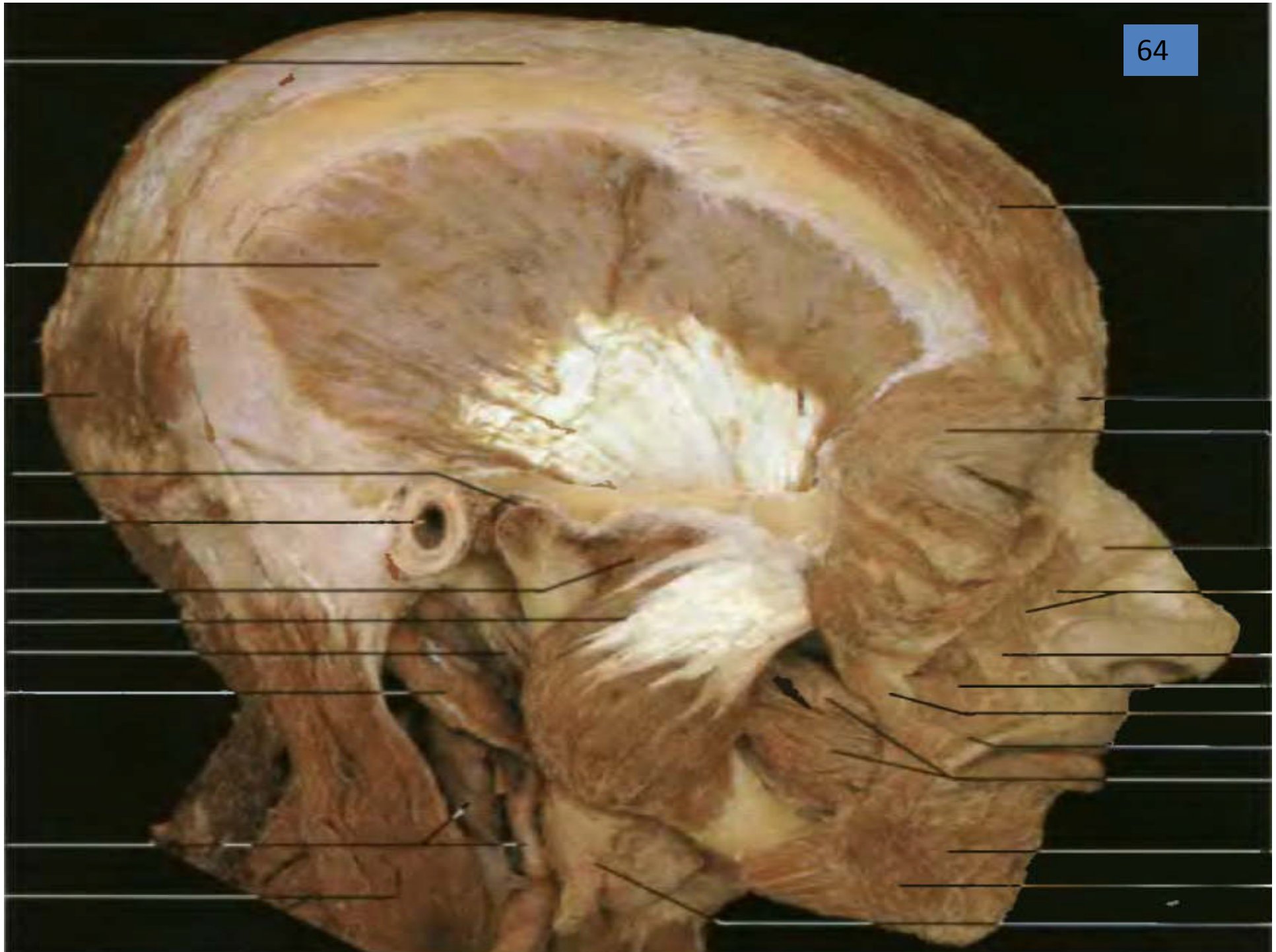
**•with ancillary benefits to  
the rest of the  
deltoids, serratus  
anterior, coracobrachialis**

## **Primary muscles**

- Anterior and medial deltoids ("delts")
- Triceps
- Pectoralis major and pectoralis minor ("pecs")

## **Secondary muscles (synergists or stabilizers)**

- Rhomboid major and rhomboid minor
- Erector spinae
- Rotator cuff
- Posterior deltoids ("delts")
- Serratus anterior
- Rectus abdominus ("abs")
- Transverse abdominus
- Gluteus maximus ("glutes")
- Quadriceps ("quads")



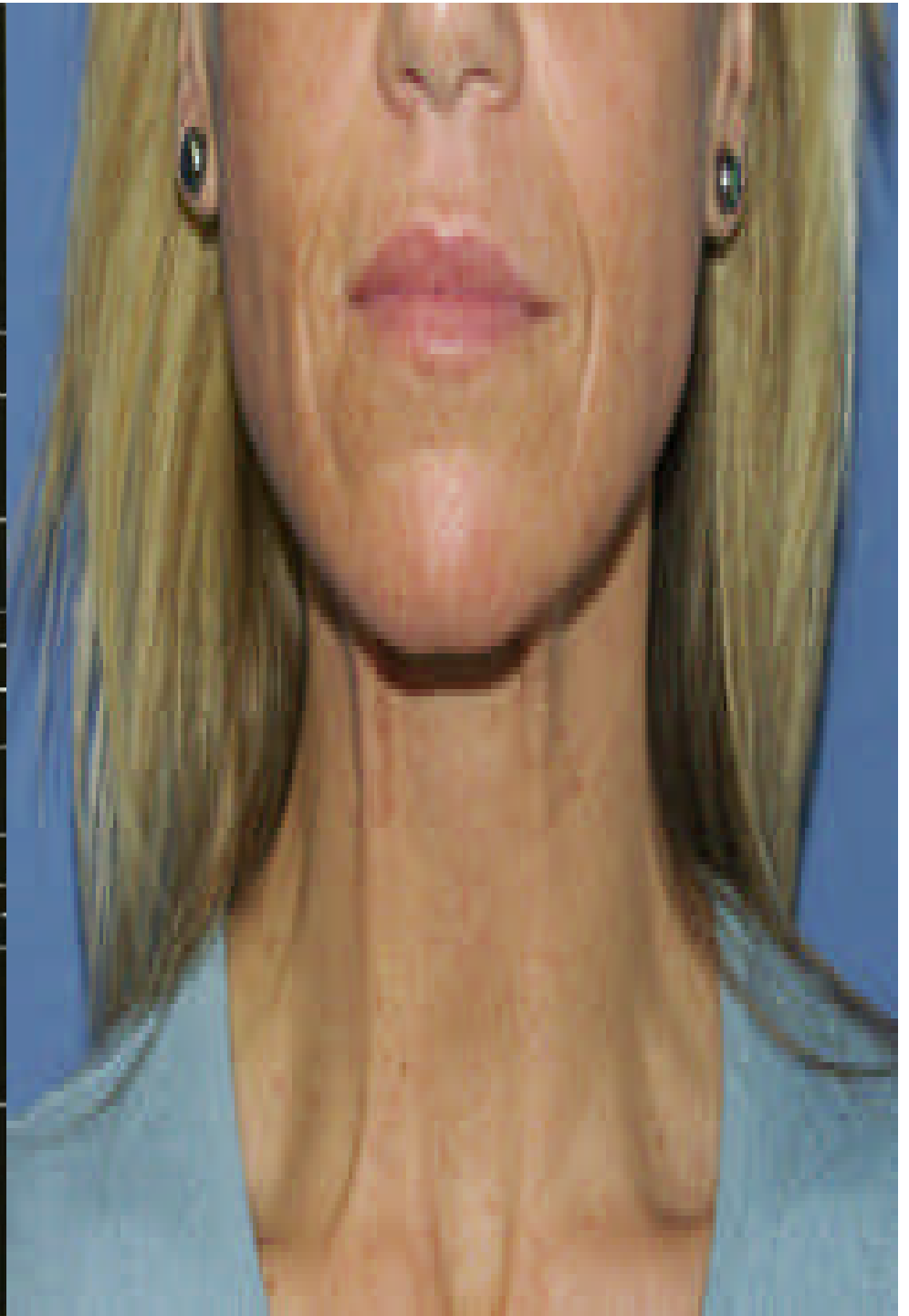
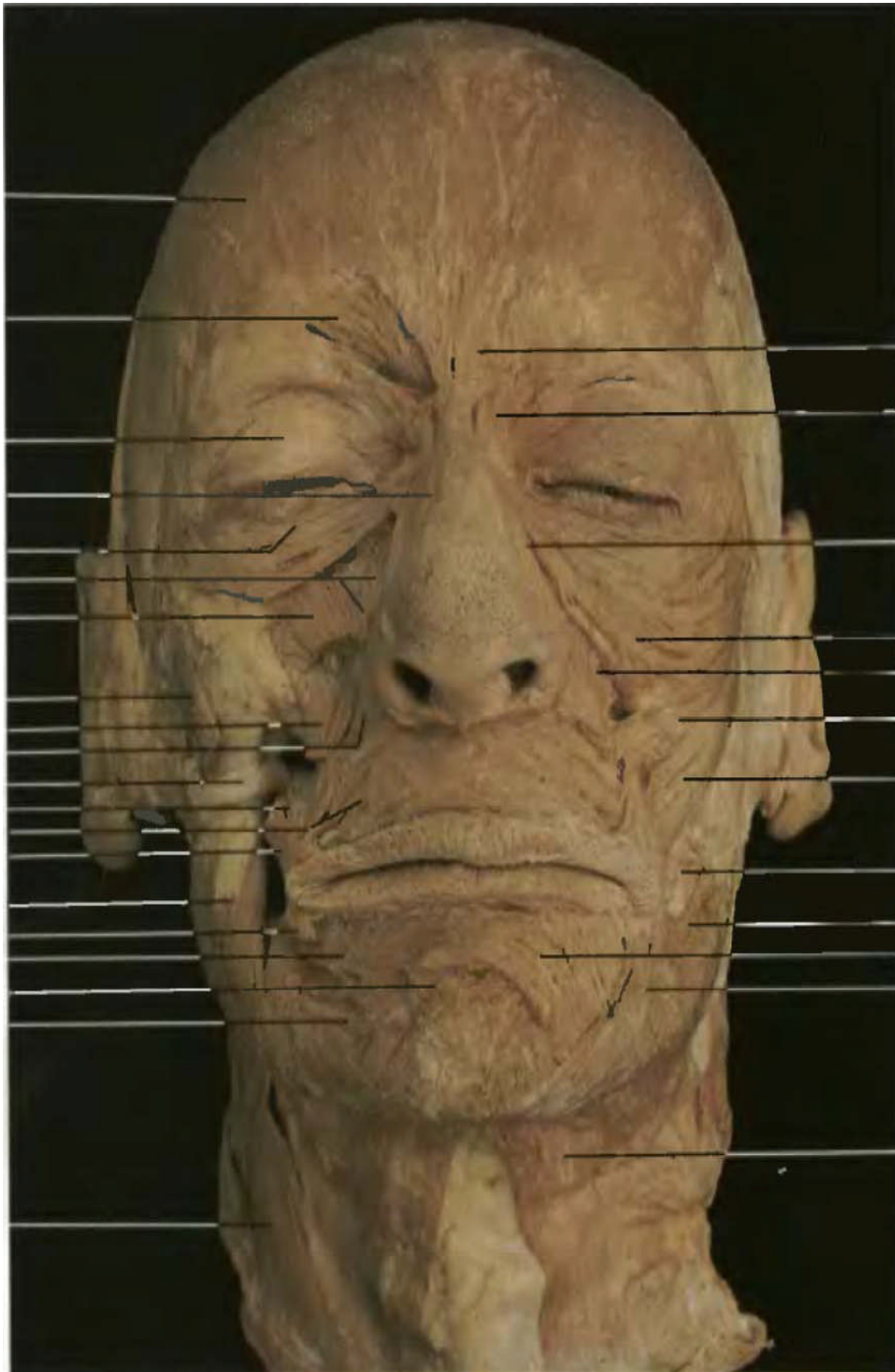
### **Masseter**

- o. Zygomatic arch and maxilla**
- i. Body and ramus of mandible**
- f. Prime mover of mandible elevation**
- inn. Trigeminal (Mandibular Branch)**

### **Temporalis**

- o. Temporal fossa**
- i. Coronoid process of mandible**
- f. Elevates, retracts and moves mandible side-to-side**
- inn. Trigeminal (Mandibular Branch)**





Platysma :  
Depresses mandible (agonist); pulls lip  
down and back; tenses skin of neck



Name  
Function  
Innervation  
Insertion  
origin



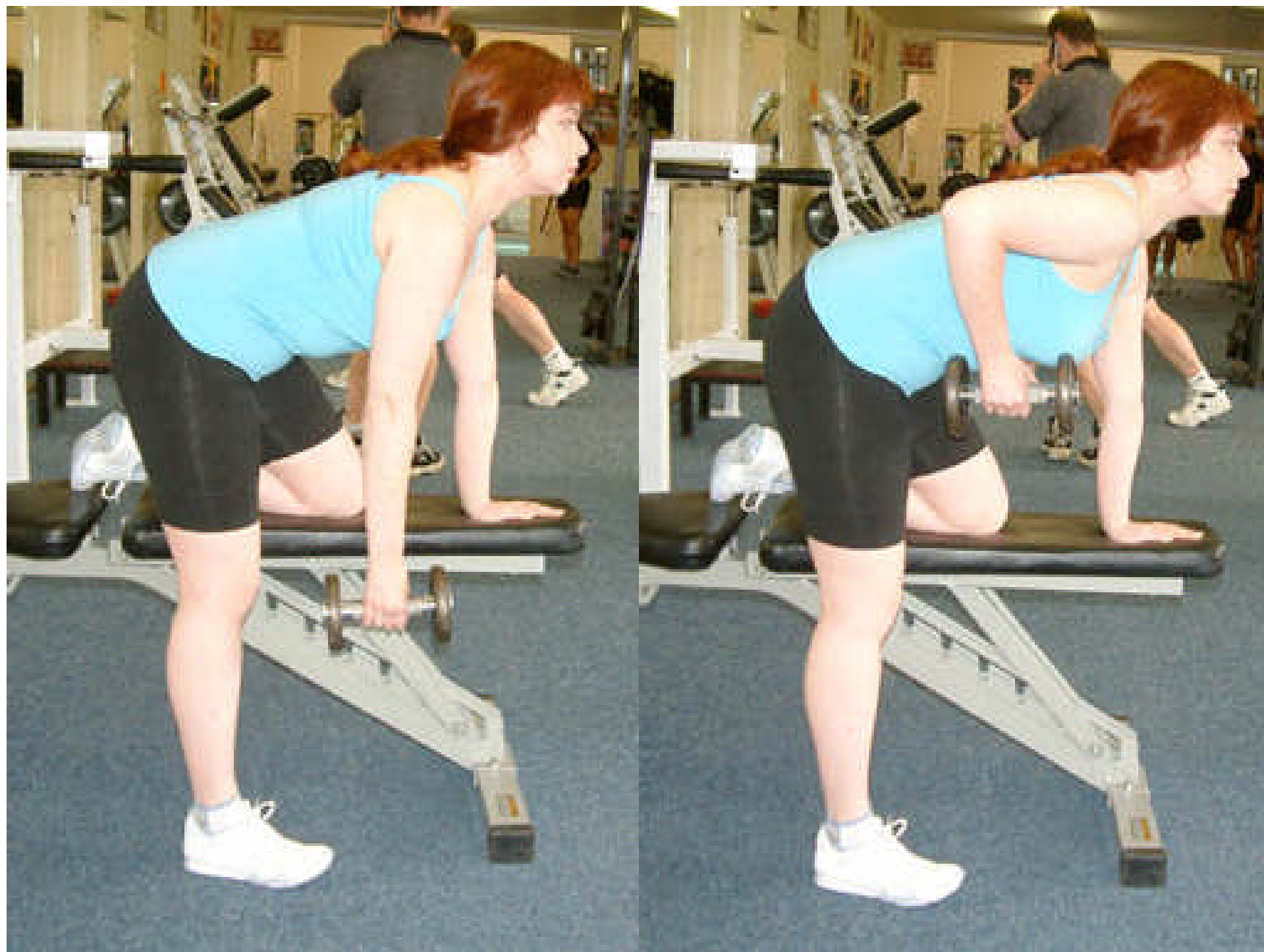
**Deltoid** o= Clavicle; acromion & spine

i: Deltoid tuberosity

f: Abduction, flexion and extension of arm at shoulder; medial rotation (anterior); lateral rotation (posterior)

N: Axillary





## **bent-over row (or barbell row)**

The latissimus dorsi muscles

. It is assisted by the lower trapezius fibers in adducting the scapulae.

The transverse extensors (**posterior deltoid muscle fibers and the infraspinatus and teres minor of the rotor cuff**), along with scapular retractors such as the **rhomboids and entire trapezius**, are better targeted when the elbows are brought outwards..

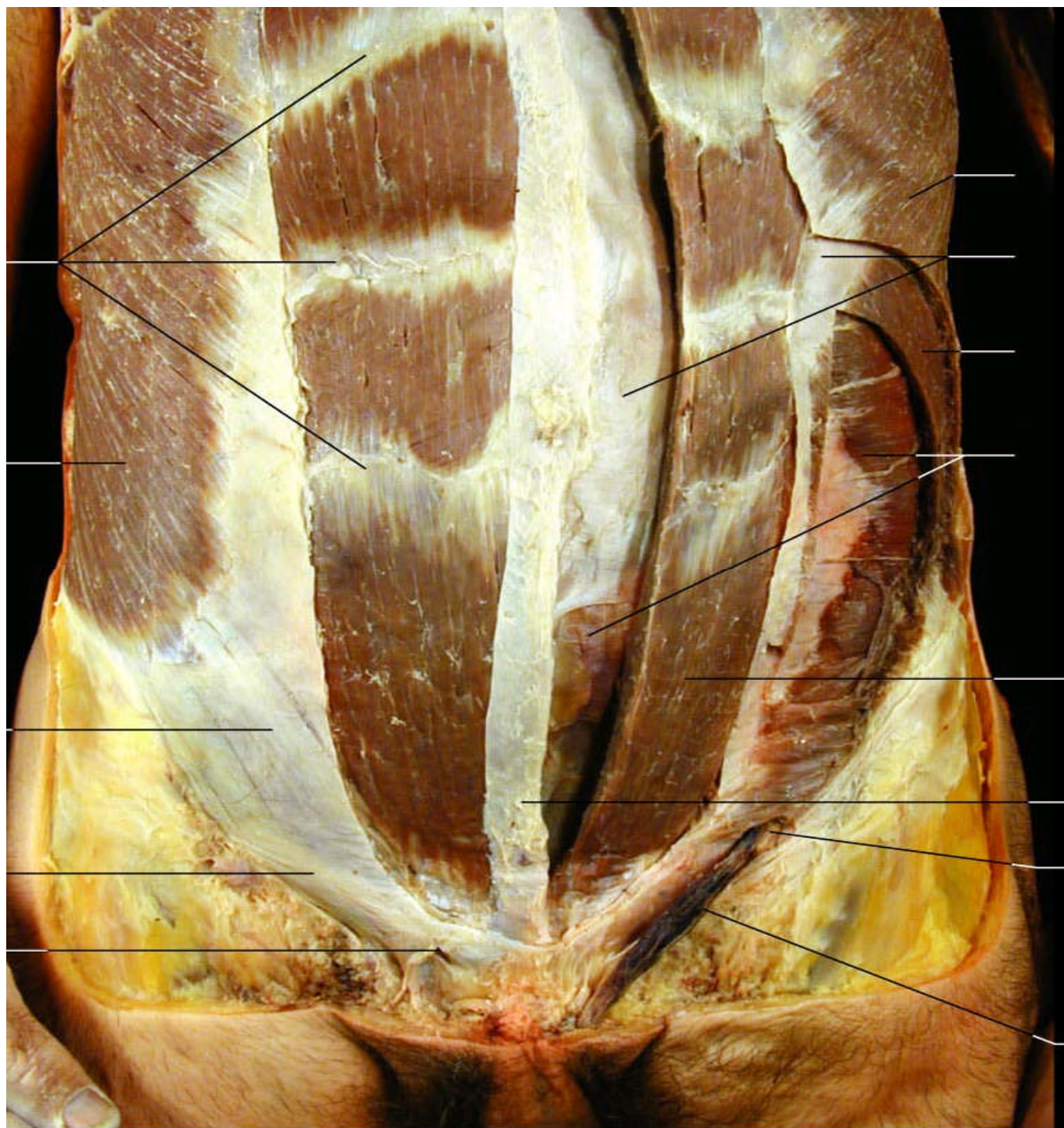
**Biceps brachii, brachialis**

Pronator teres



Name the facial muscles innervated by the facial nerve

- **Epicranius**
- **Orbicularis oculi and oris**
- **Buccinator**
- **Platysma**





Muscles that move the shoulder are located on the chest and the back.

- Muscles that move the shoulder are located on the chest and the back.

**Pectoralis minor\***. The primary action of this muscle is to draw the scapula anteriorly and downward.

This muscle originates on ribs 3-5, and it inserts on the coracoid process of the scapula.

**Serratus anterior**. This muscle is named for its appearance on the chest, which is similar to the edge of a serrated knife. Its primary action is to hold the scapula firmly against the rib cage.

This is important when pushing an object or punching.

**Trapezius**. This is a very large muscle, and you should learn three primary actions, depending upon which fibers of the muscle are activated:

- (1) The superior fibers elevate the scapula;
- (2) the middle fibers adduct the scapula;
- (3) the inferior fibers depress the scapula.

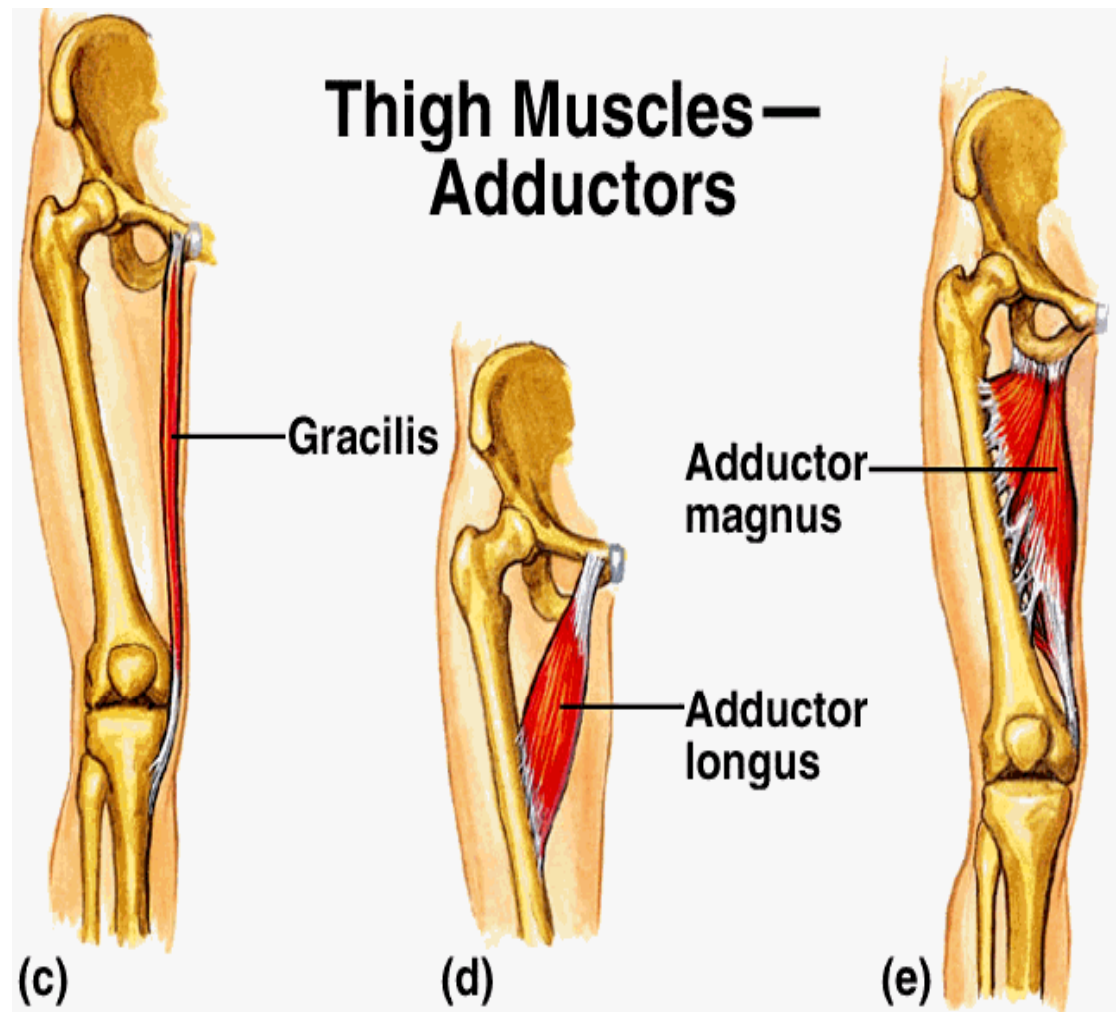
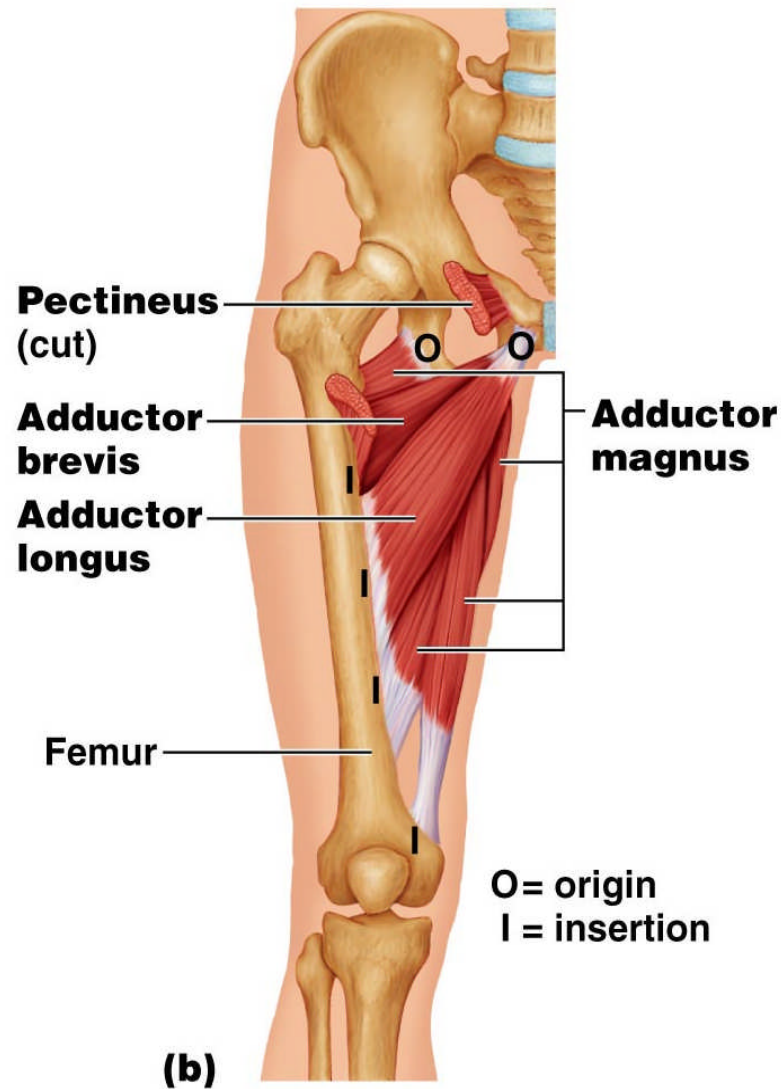
## **Muscles that move the thigh**



# Muscles that move the thigh

- **Iliacus.** The primary action of this muscle is to flex the thigh.
- **Psoas major.** The primary action of this muscle is to flex the thigh.
- **Sartorius.** Notice the way this muscle wraps from the lateral surface of the hip to the medial surface of the knee. As this muscle contracts, the thigh flexes and rotates.
- **Adductor magnus.** As the name implies, this muscle adducts the thigh.
- **Adductor longus.** The primary action of this muscle is to adduct the thigh.
- **Gracilis.** This muscle also adducts the thigh.
- **Tensor fascia latae.** This muscle flexes and abducts the thigh. This muscle inserts onto an aponeurosis called the **iliotibial tract**, which is part of the fascia that covers the thigh muscles (the fascia lata).
- **Gluteus maximus.** This muscle extends the thigh.
- **Gluteus medius\*.** This muscle abducts the thigh. It originates on the lateral surface of the ilium, and it inserts on the greater trochanter of the femur.

Muscle thigh adductors?



The **adductor brevis**, **adductor longus**, **adductor magnus**, **pectineus**, and **gracilis** make up the adductor group.

The adductors all **originate on the pubis and insert on the medial, posterior surface of the femur**, with the exception of the gracilis which inserts just below the medial condyle of the tibia.



Harmstrings function?

# Hamstrings

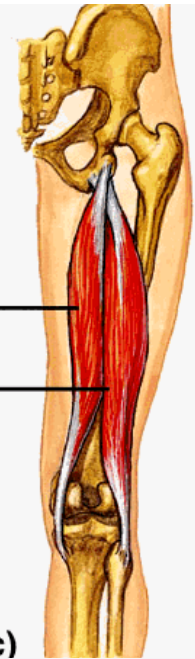
## Thigh Extenders and Knee Flexors

### Posterior Thigh Muscles — Flexors (2)

Semitendinosus

Biceps femoris (long head)

Semitendinosus

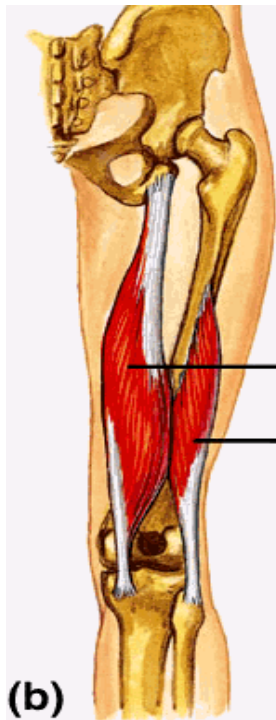


### Posterior Thigh Muscles — Flexors

Semimembranosus

Biceps femoris (short head)

Biceps femoris:

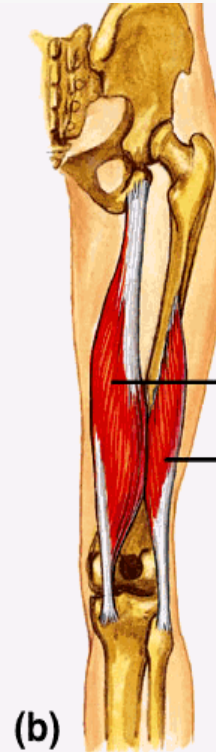


### Posterior Thigh Muscles — Flexors (1)

Semimembranosus

Biceps femoris (short head)

Semimembranosus



# Muscle Identification

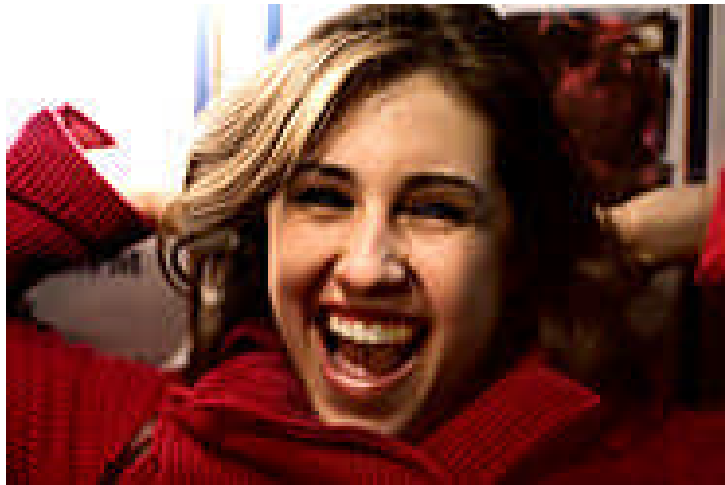


**1. What muscle on Barbie's face is sore from her smiling so much?**



**2. By doing sit-ups this woman is working her rectus abdominis. Where is the origin of this muscle?**





A Duchenne smile engages the muscles around the mouth and eyes.

1/ smile

2/ rectus abdominis

### Rectus abdominis

**0. Pubic crest and symphysis i. Sternum & 5-7 costal cartilages**

**f. Flex and rotate lumbar vertebral column; stabilize pelvis during walking; increase intra-abdominal pressure**

**inn. Intercostal nerves**

Auricularis anterior (2)  
 Auricularis posterior (2)  
 Auricularis superior (2)  
**Buccinator** (2)  
 Corrugator supercilii (2)  
 Depressor anguli oris (2)  
 Depressor labii inferioris (2)  
 Depressor septi nasi (1)  
 Frontalis (1)  
 Levator anguli oris (2)  
 Levator labii superioris (2)  
 Levator labii superioris alaeque nasi (2)  
 Mentalis (1)  
 Nasalis (2)  
 Orbicularis oculi (2)  
**Orbicularis oris** (1)  
 Platysma (1)  
 Procerus (1)  
 Risorius (2)  
**Zygomaticus major** (2)

3 muscles  
used



**7 active muscle groups** when you show your  
angry face

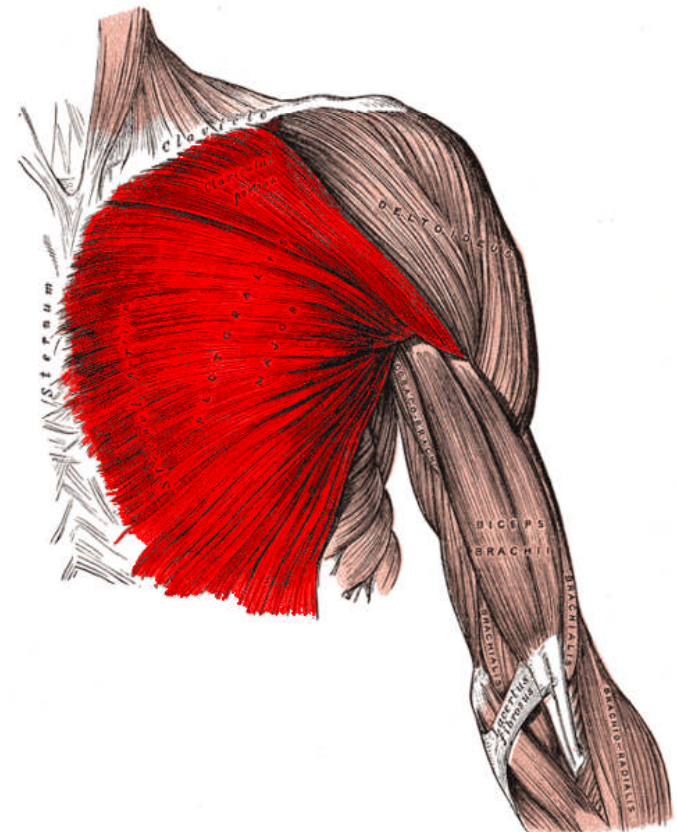
# Muscle Identification



3. What is the action of the gluteus maximus?

4. Name the origin and insertion of the deltoid and biceps brachii.

5. Name the action of the pectoralis major.



3/Major thigh extensor, especially when thigh is flexed (as in climbing);  
laterally rotates & abducts thigh

4/**Deltoid**      o. Clavicle; acromion & spine      in. Deltoid tuberosity

f.Abduction, flexion and extension of arm at shoulder; medial rotation  
(anterior); lateral rotation (posterior)

n. Axillary

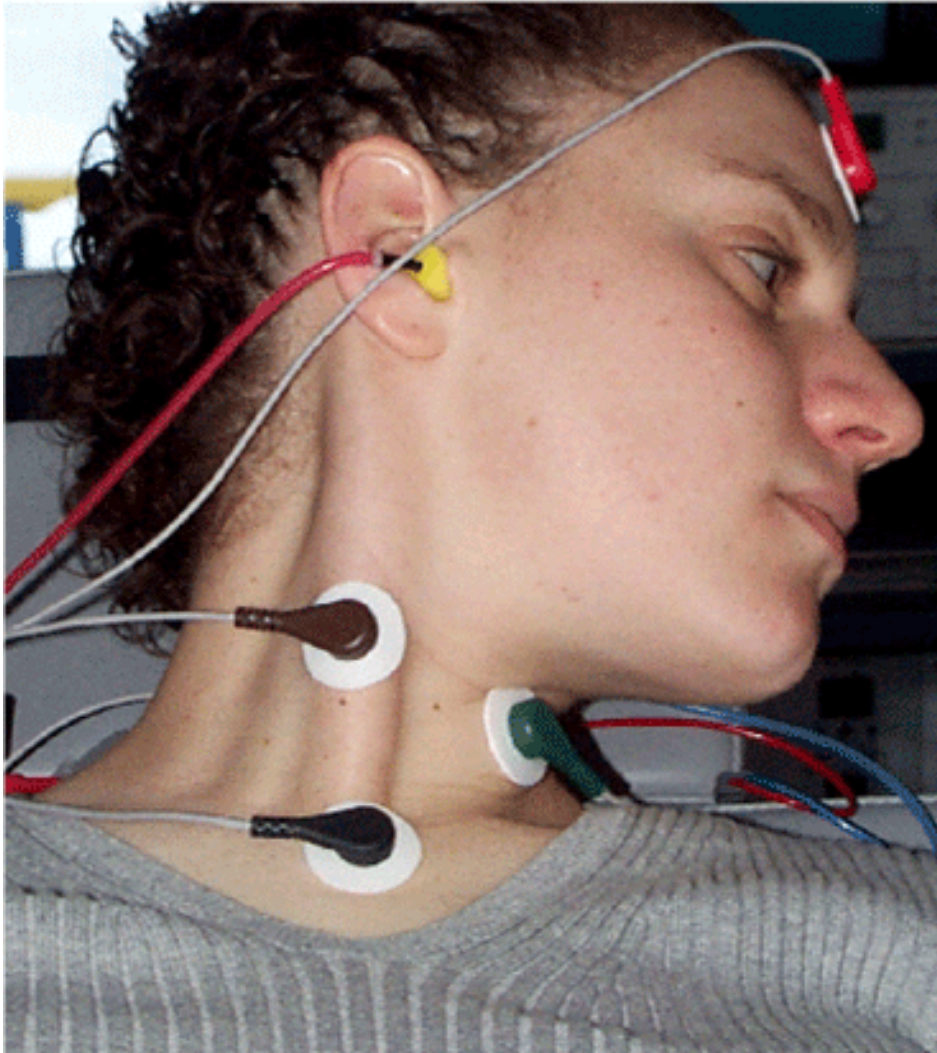
**Biceps brachii**      o.Coracoid process; tubercle over glenoid cavity      i.  
Radial tuberosity      fn.Flexes and supinates arm at elbow; weak flexor  
at shoulder      in. Musculocutaneous

- **5/Pectoralis major**      o.Medial clavicle; sternum; costal cartilages 1-6  
in.Intertubercular groove
- fn:Prime mover of arm flexion at shoulder; rotates arm medially; adducts  
arm against resistance; pulls ribs upward
- in.Pectoral nerves

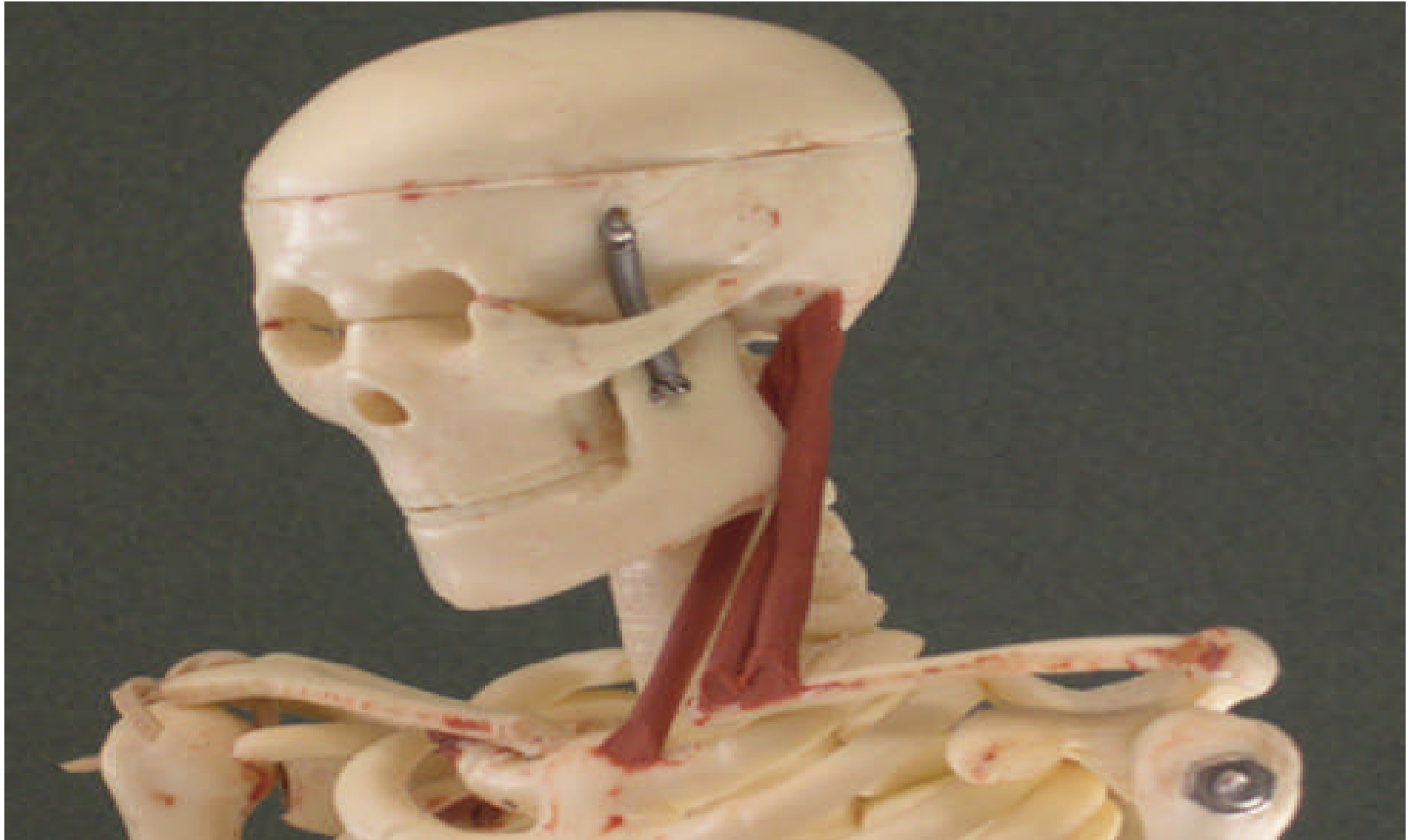


# Muscle Identification

6. What muscle allows this girl to turn his head?



- 6/left sternocleidomastoid



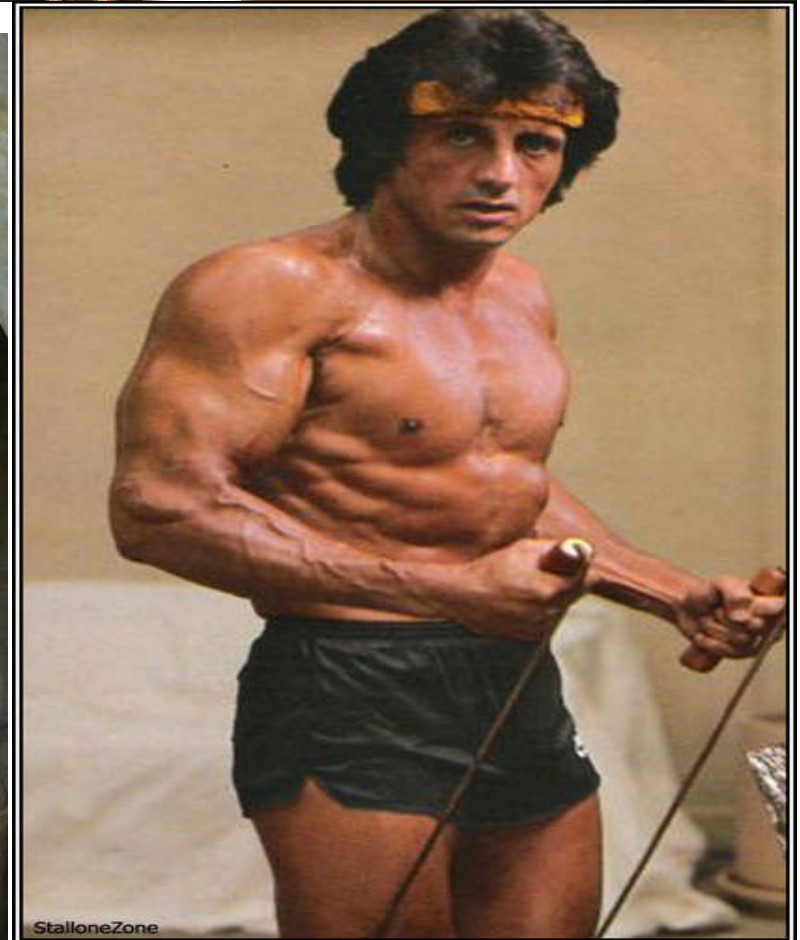
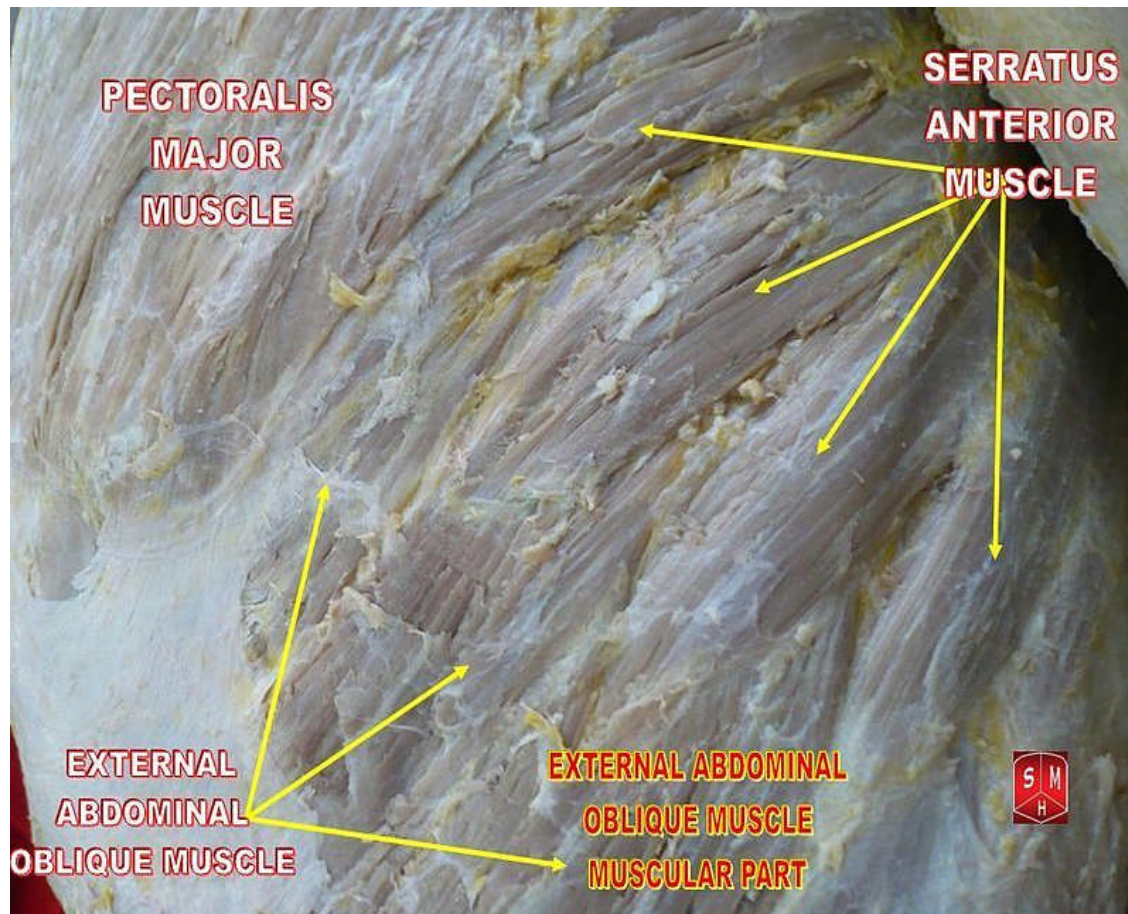
Muscle used to  
push this way



Muscle used to push this way

## Serratus anterior

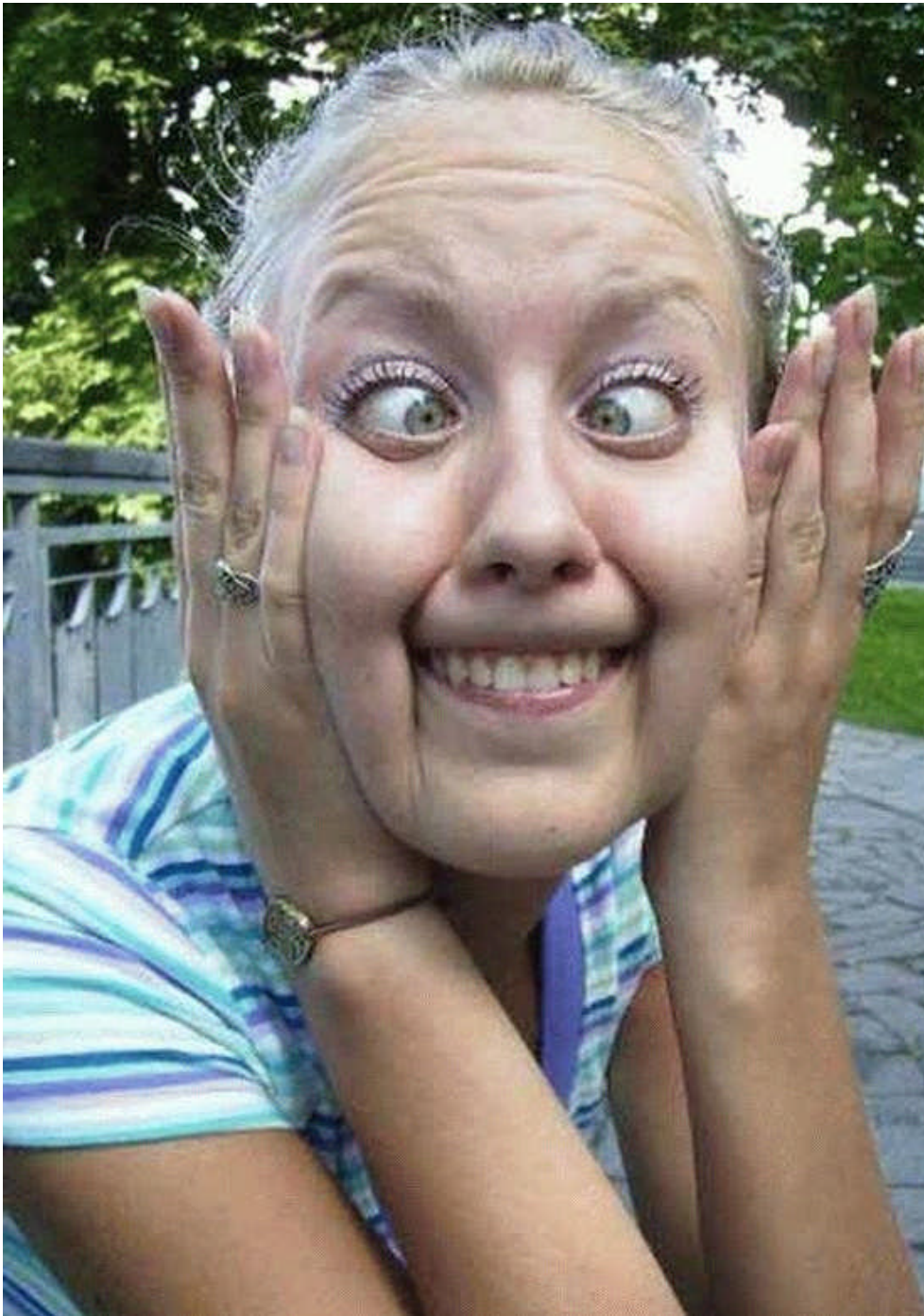
Protracts and holds scapula against ribs;  
rotates scapula laterally and upward; raises  
point of shoulder;





# Serratus Ant. and Long Thoracic Nerve





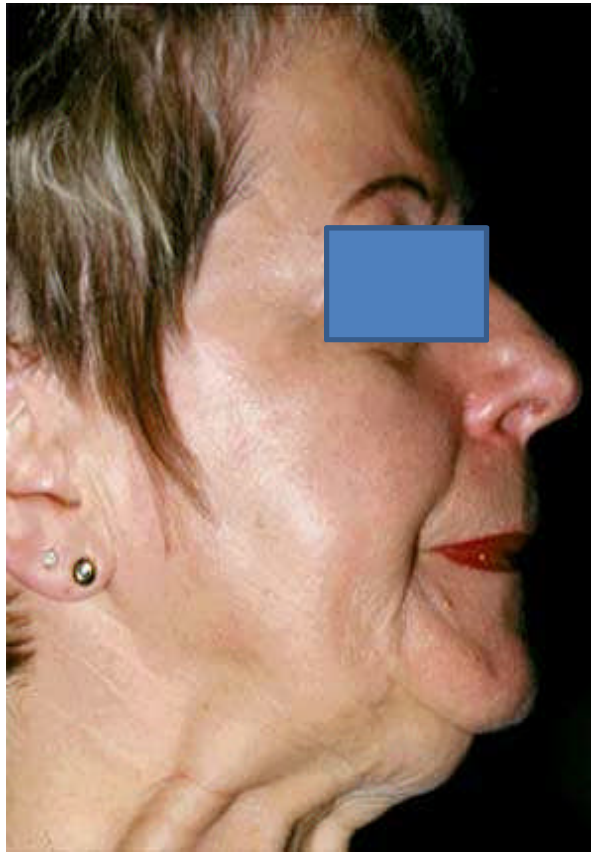
17/What muscle is responsible for putting this girl's both eyes in its current position?

18/What muscles make her mouth going this way?



**19/ Identify the muscle that raised eyebrows.**

**20/this muscles is connected to another muscle in the back by an aponeurosis , do you know its name?**



**21/ before after what  
muscle is seen  
modified?**





# **Muscles that move the arm**

# Muscles that move the arm

- **Pectoralis major.** This muscle flexes the arm. It is commonly exercised by doing “bench presses.”
- **Latissimus dorsi.** This muscle extends the arm. It can be exercised by rowing.
- **Deltoid\*.** This muscle abducts the arm. The deltoid originates on the clavicle, and the acromion and spine of the scapula. It inserts on the deltoid tuberosity of the humerus.
- For your information, adduction of the arm is generally accomplished by a combination of the pectoralis major and the latissimus dorsi.

# **Muscles that move the foot**

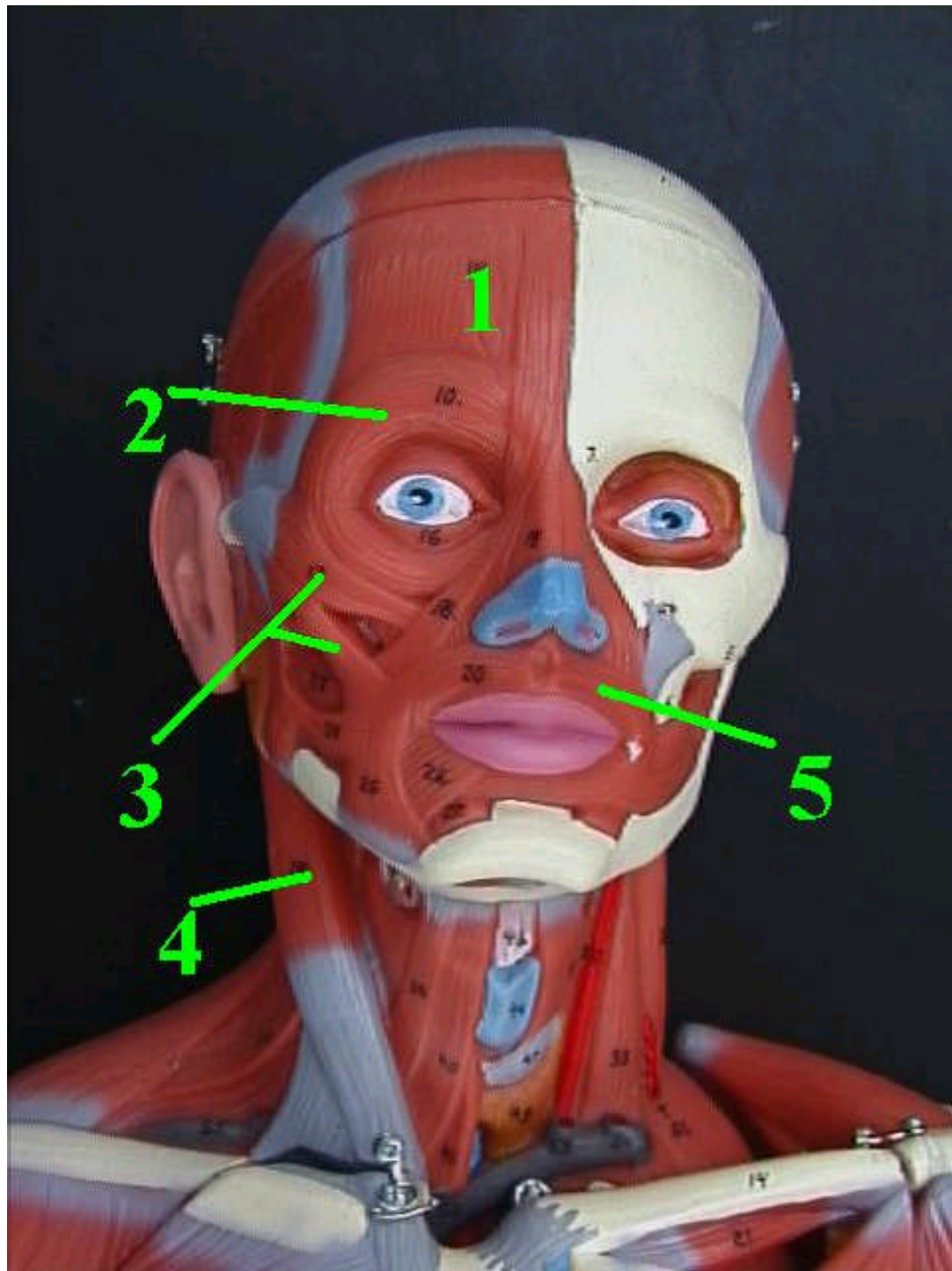
# Muscles that move the foot

The main movers are the **tibialis anterior**, the **extensor digitorum longus**, and the **peroneus** from the front. And the **soleus** and **gastrocnemius** from behind.

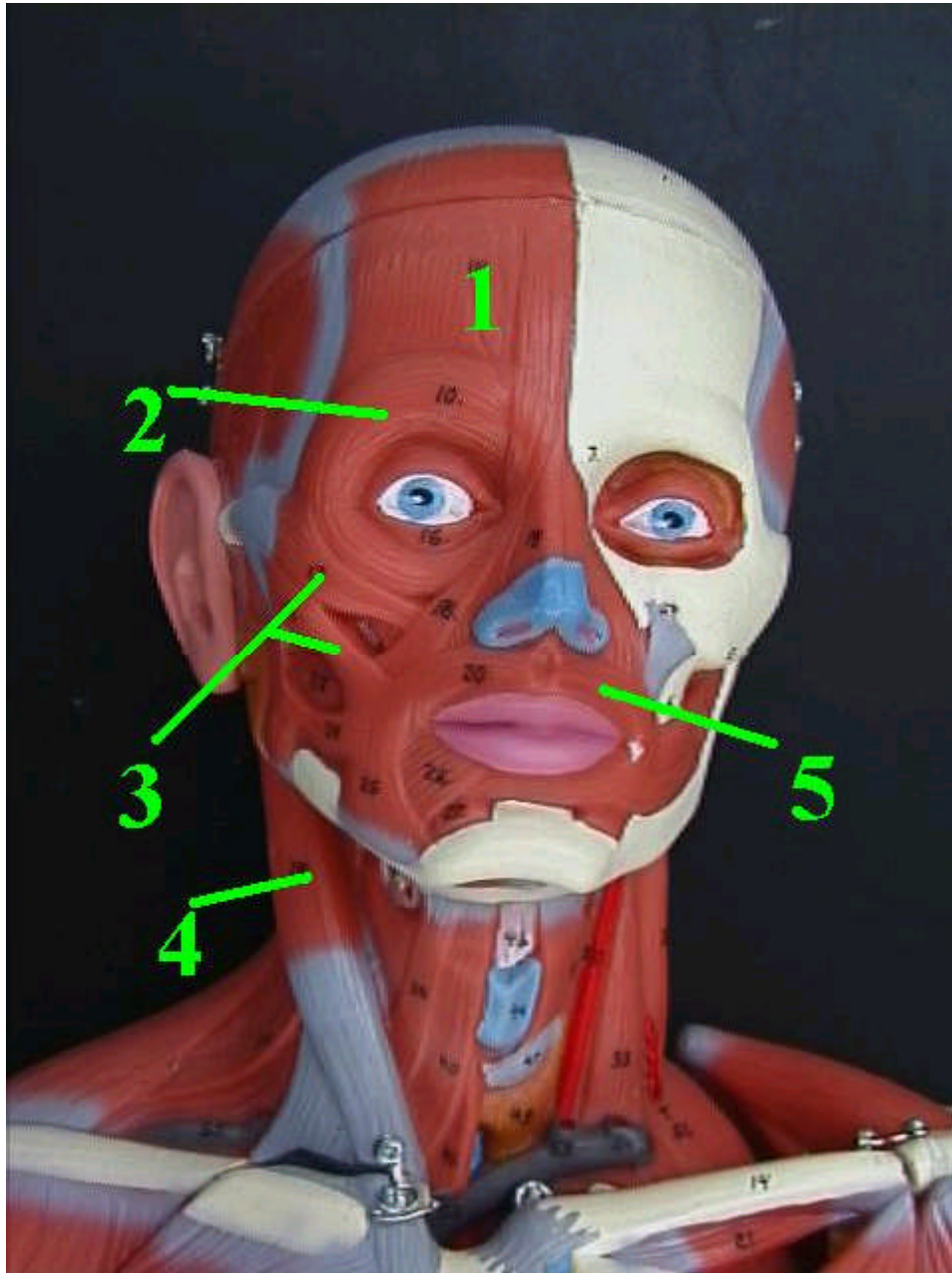
- **Tibialis anterior.** The primary action of this muscle is dorsiflexion.
- **Gastrocnemius\*.** The primary action of this muscle is plantar flexion. This muscle originates from the medial and lateral condyles of the femur, and it inserts on the calcaneus. The tendon that connects the gastrocnemius to the calcaneus is called the
- **calcaneal tendon** (also known as the “Achilles tendon”).
- **Soleus.** The primary action of this muscle is plantar flexion. This muscle also inserts onto the calcaneus via the calcaneal tendon.



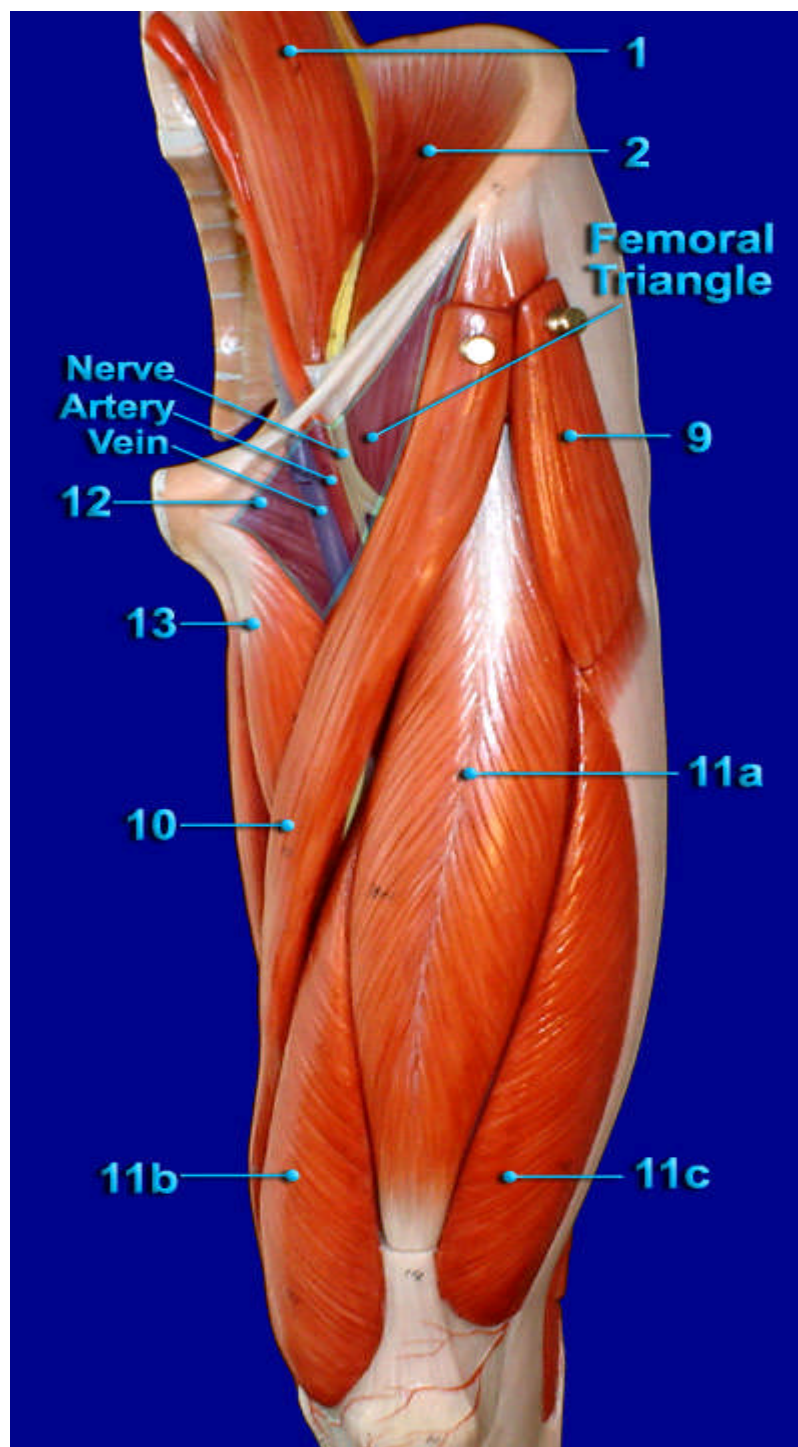




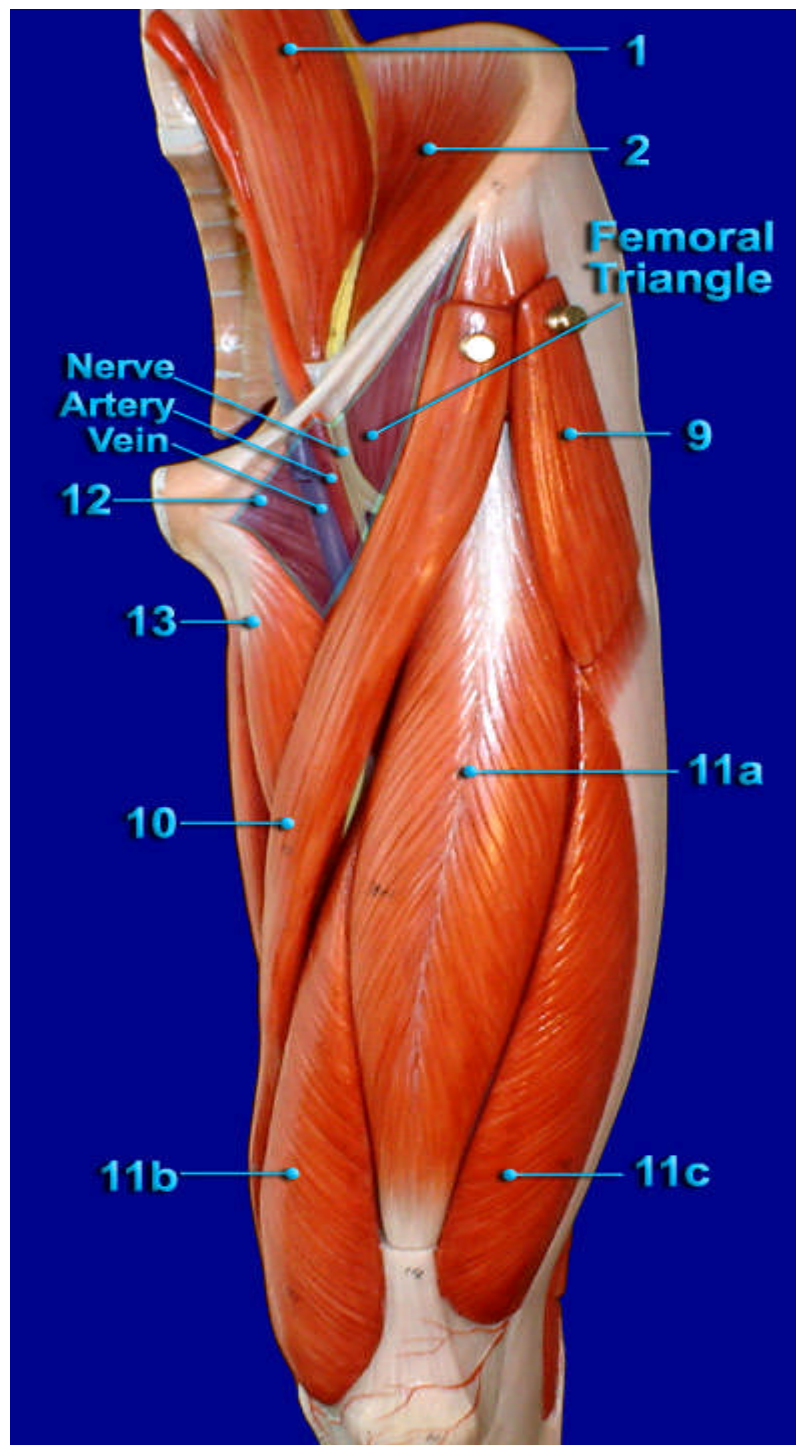
Name the muscles and give the function of each of them?



1. Frontalis : wrinkling the forehead
2. Orbicularis oculi :closing the eye
3. Zygomaticus:smiling
4. Stenocleidiomastoid: turning the head
5. Orbicularis oris: compress the lips

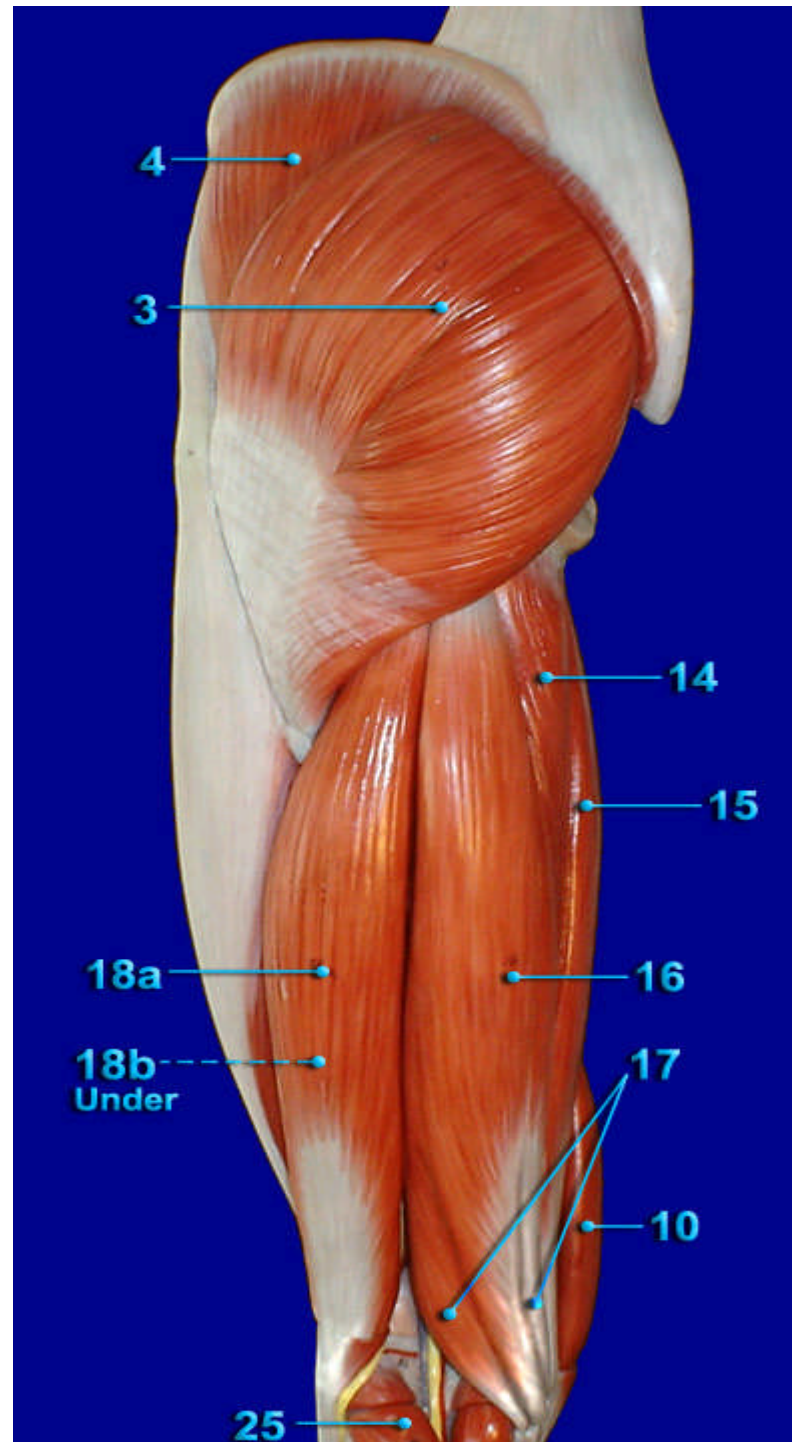


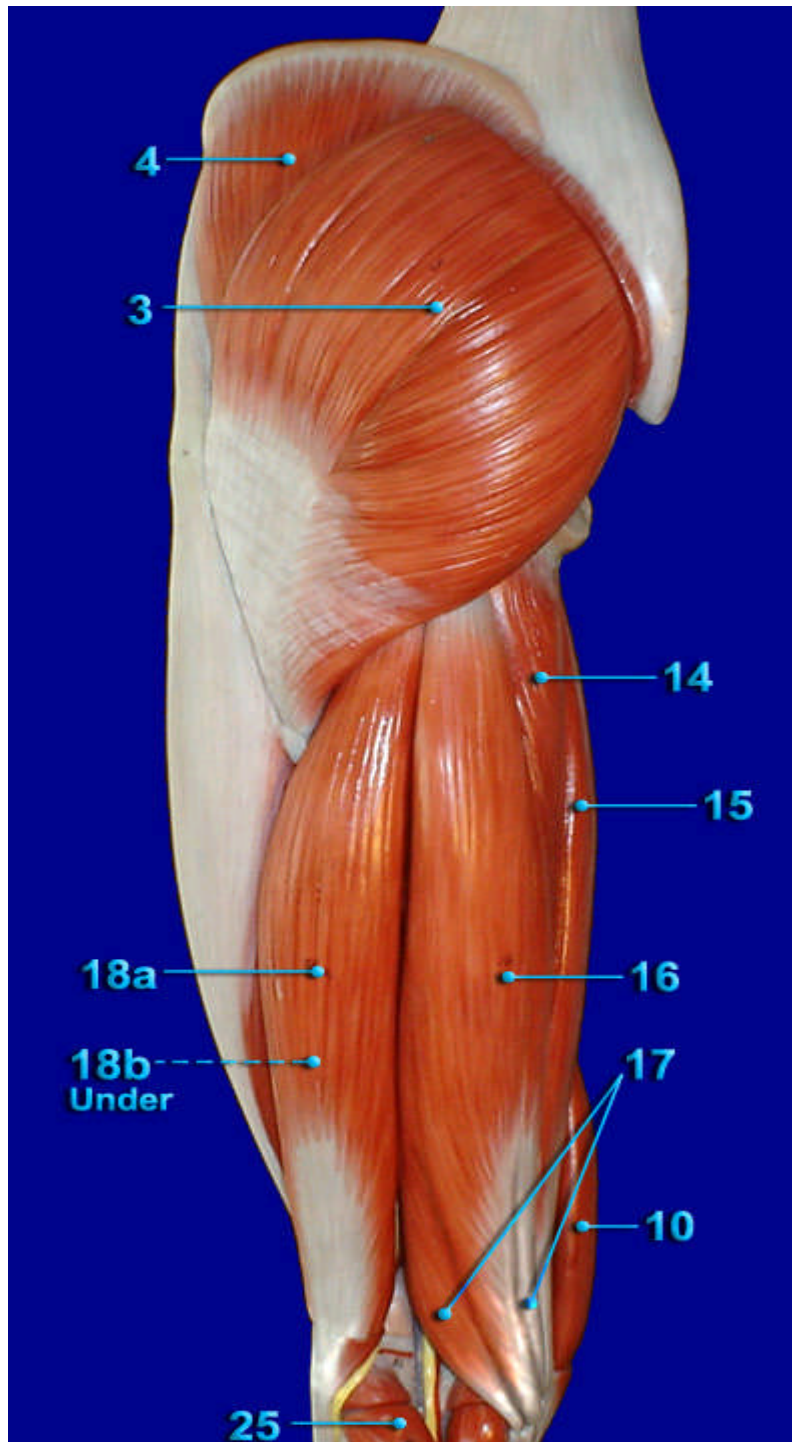




- 1. Psoas Major
- 2. Iliacus
- 9. Tensor Fasciae Latae
- 10. Sartorius
- 11a. Rectus Femoris

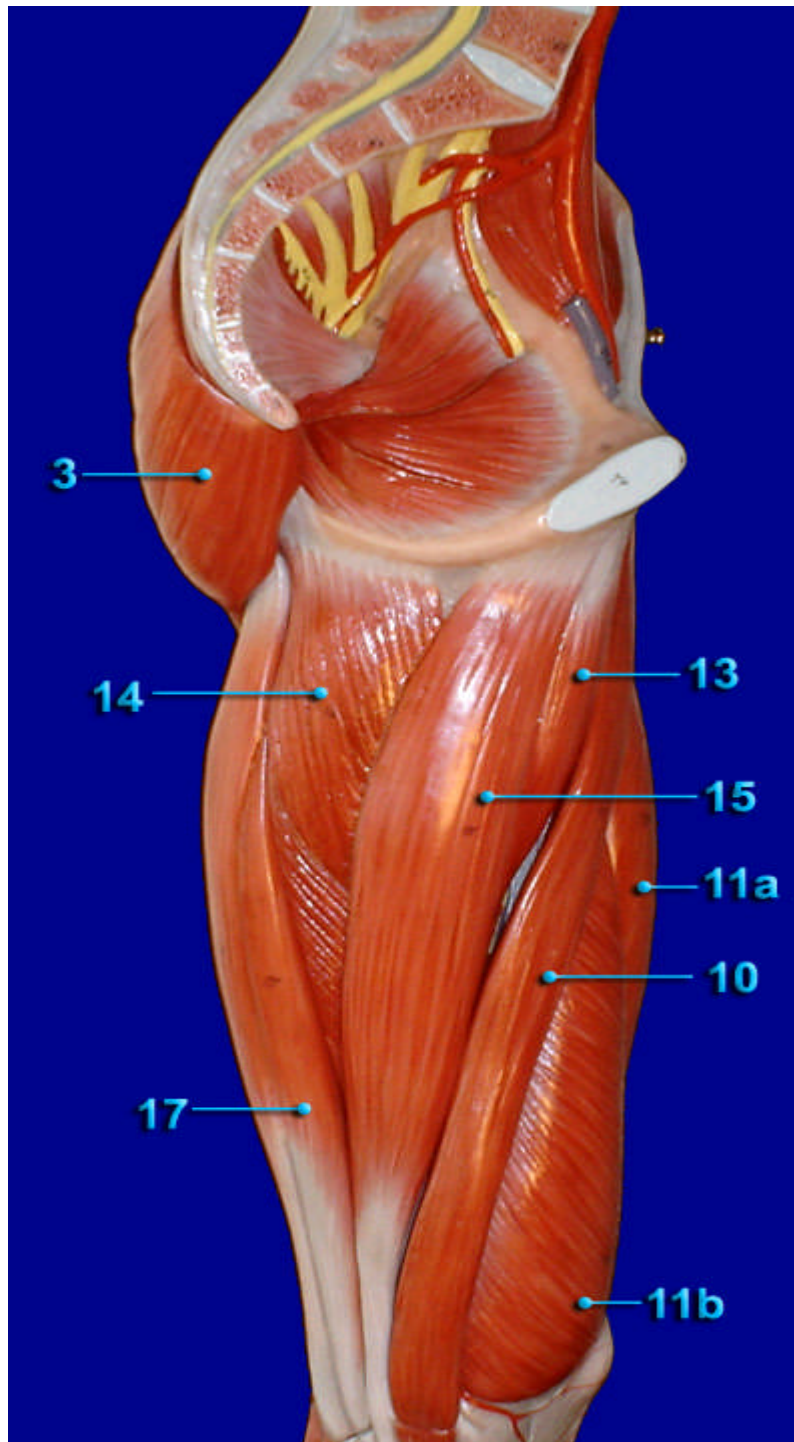
- 11b. Vastus Medialis
- 11c. Vastus Lateralis
- 12. Pectineus
- 13. Adductor Longus





3. Gluteus  
Maximus  
4. Gluteus  
Medius  
10. Satorius  
14. Adductor  
Magus  
15. Gracilis

16. Semitendinosus  
17. Semimembranous  
18a. Biceps Femoris (long  
head)  
18b. Biceps Femoris (short  
head)  
25. Plantaris



3. Gluteus Maximus

10. Sartorius

11a. Rectus  
Femoris

11b. Vastus  
Medialis

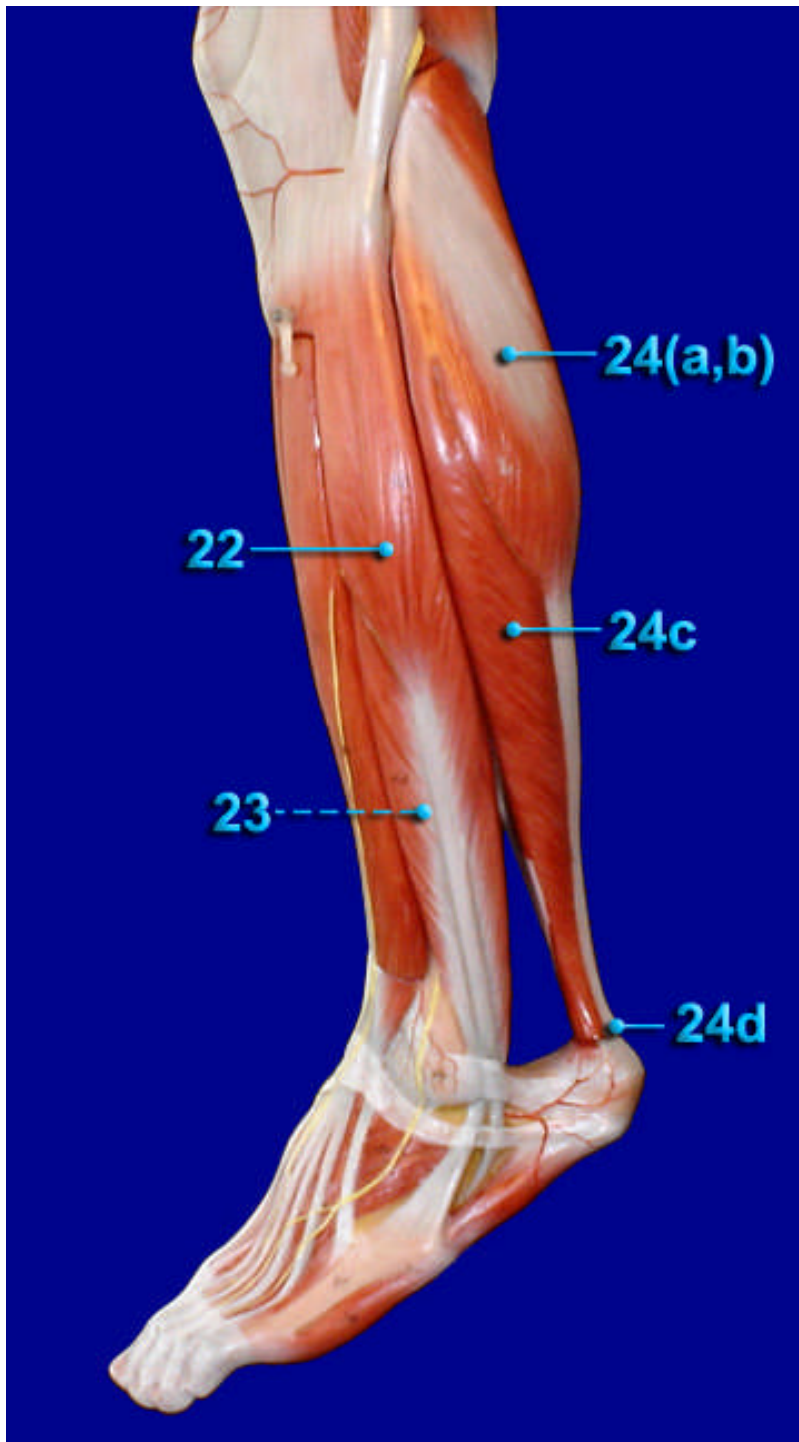
13. Adductor Longus

14. Adductor Magnus

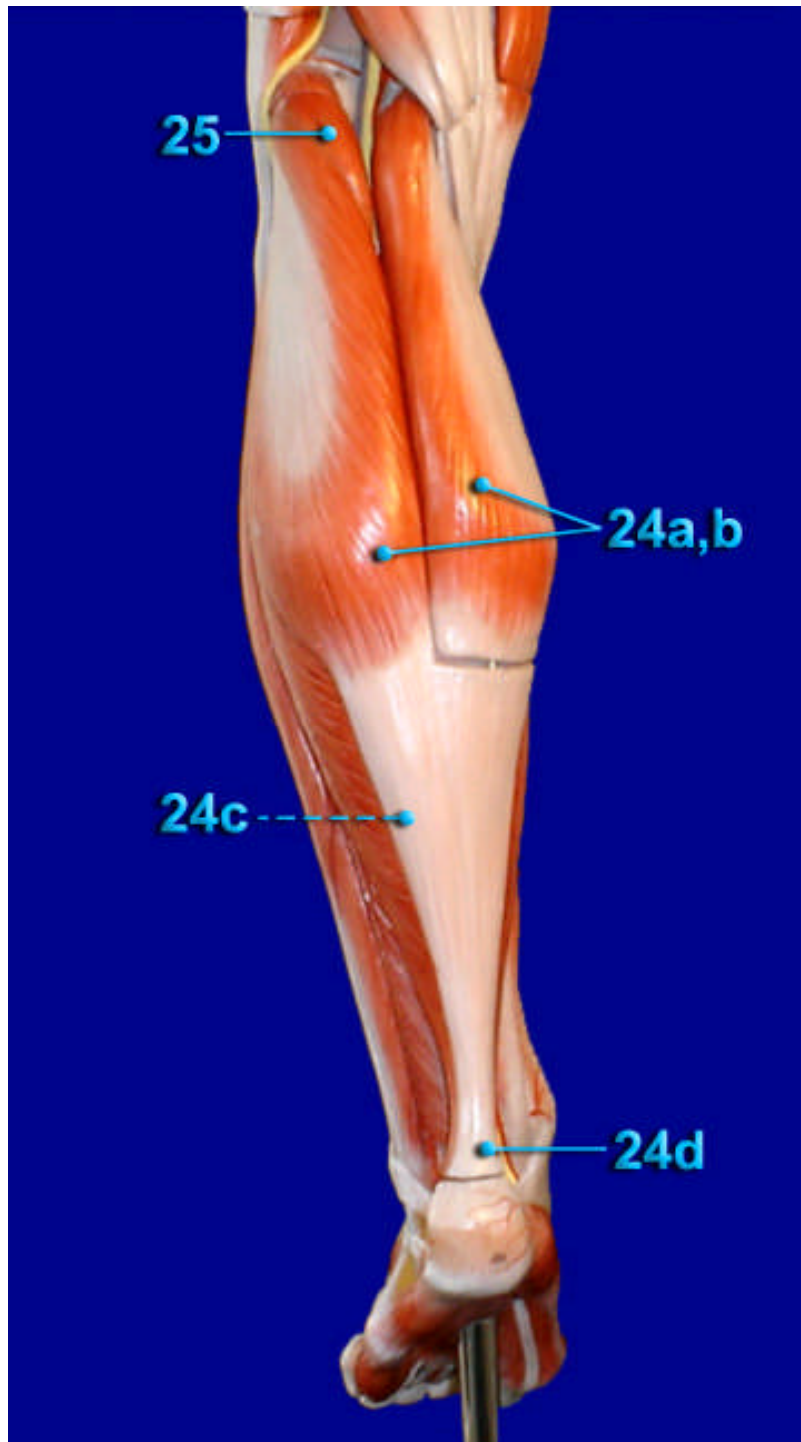
15. Gracilis

17.  
Semimembranosus



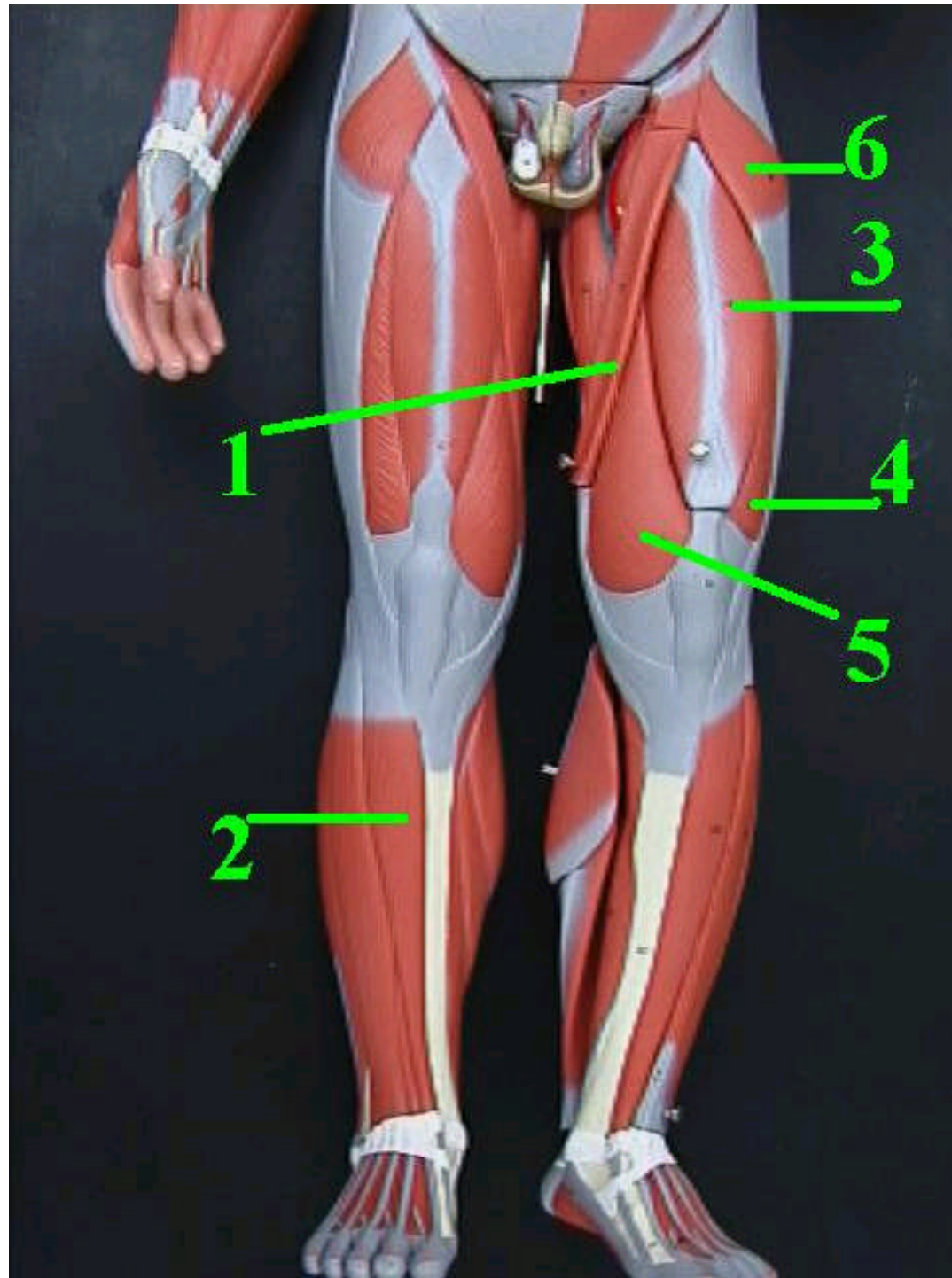


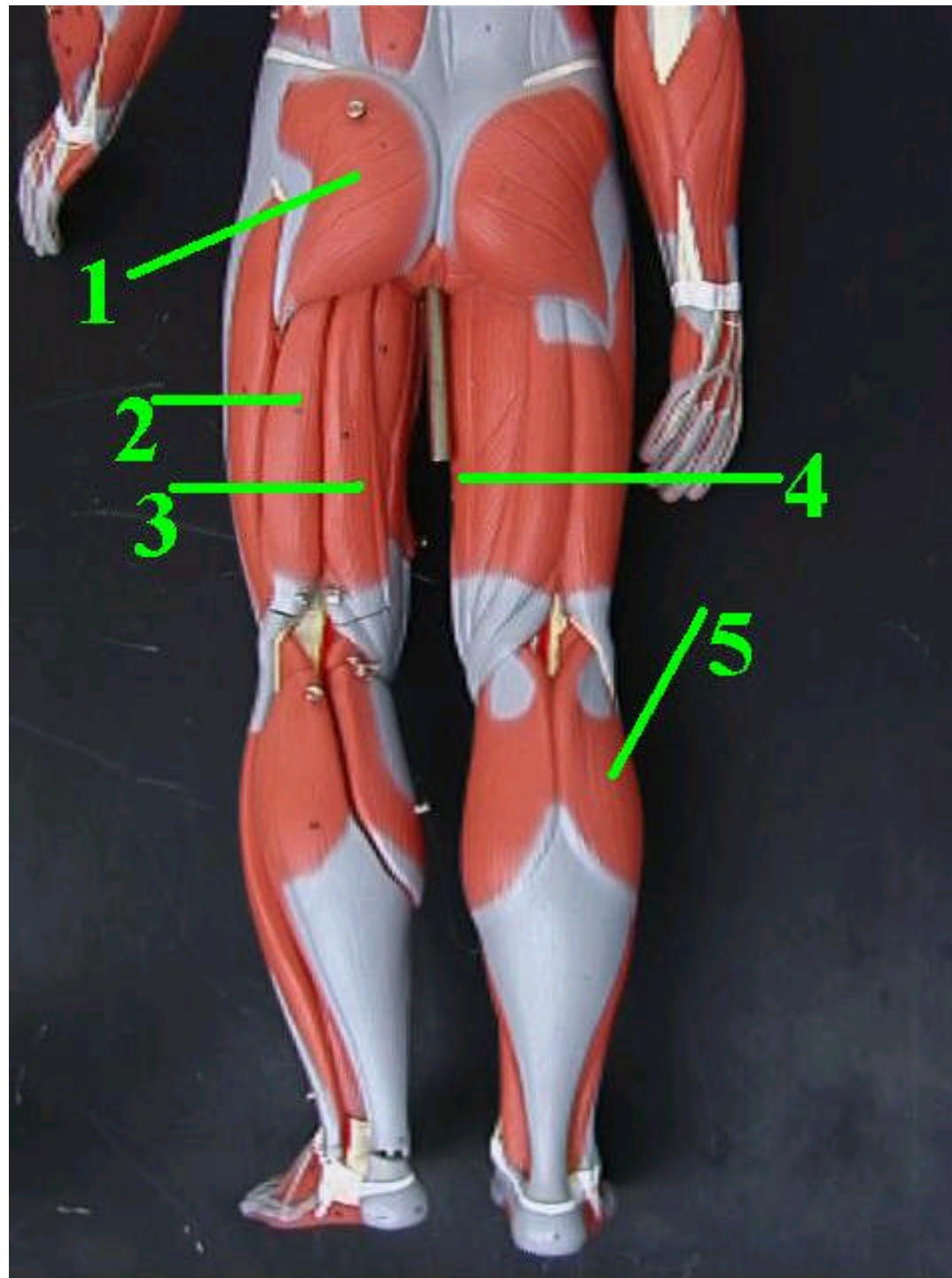
- 22. Peroneus (Fibularis) Longus
- 23. Peroneus (Fibularis) Brevis
- 24(a,b). Gastrocnemius
- 24(c). Soleus
- 24(d). Achilles Tendon



25. Plantaris  
24 (a,b).  
Gastrocnemius  
(medial and lateral  
heads)

24c. Soleus  
Muscle  
(underneath  
tendon)  
24d. Achilles  
Tendon



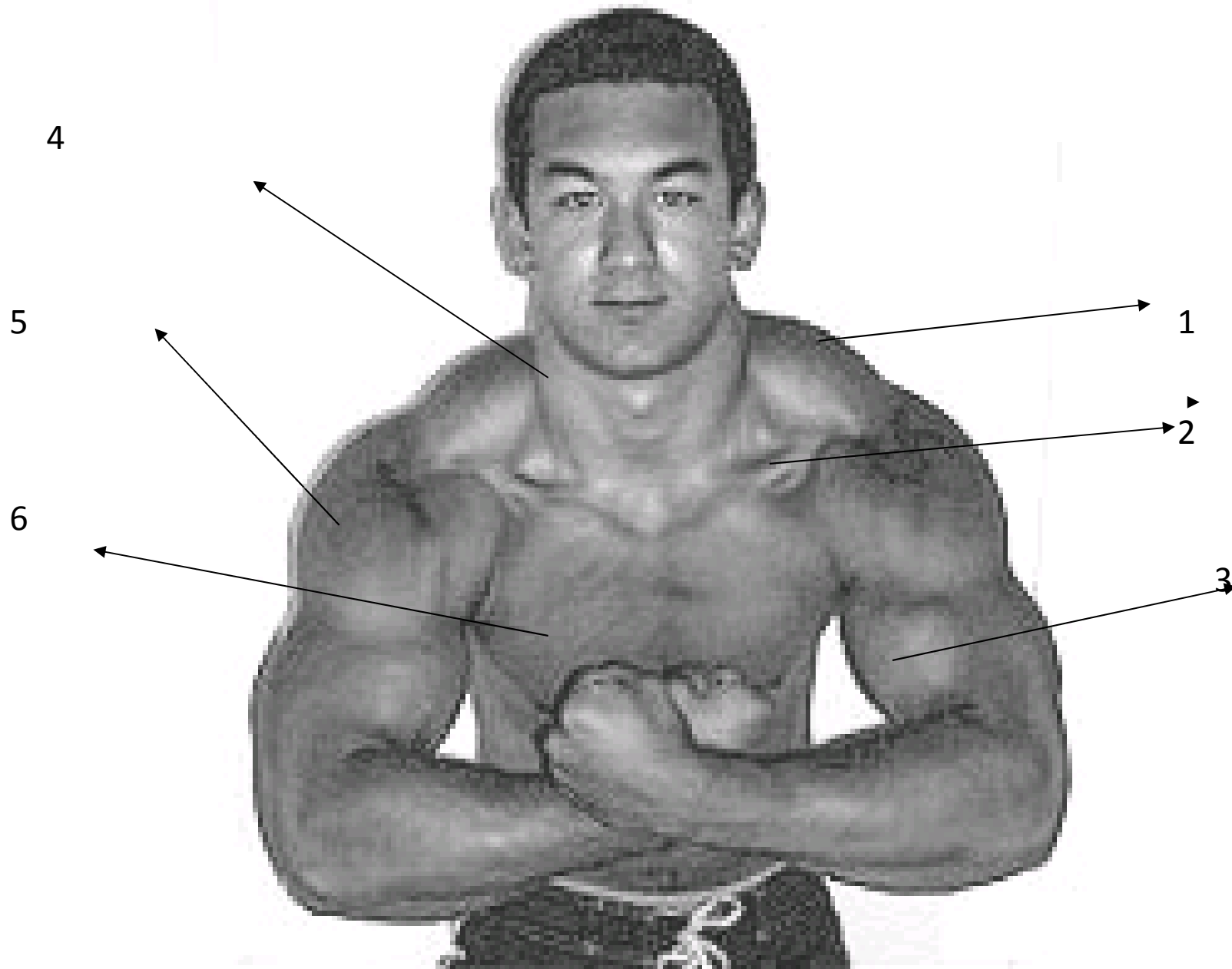






Erector spinae













Biceps

Latissimus dorsi

Trapezius

Gluteus

Quadriceps



1

2

• 3

• 4

• 5

• 6

• 7



1scm

2 pectoral major

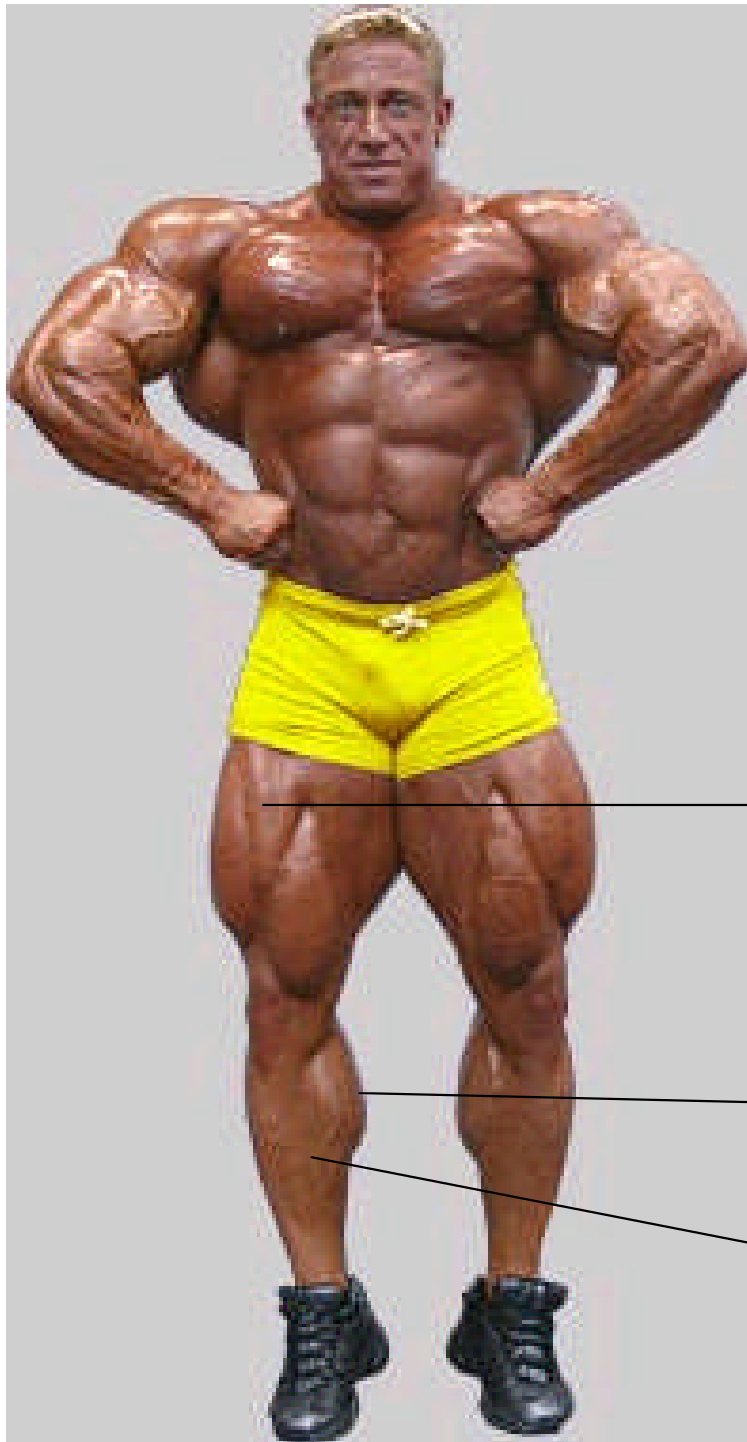
• 3 deltoid

• 4 biceps brachii

• 5brachioradialis

• 6 gluteus maximus

• 7bicep femoris



Sartorius

Gastrocnemius

Tibial anterior



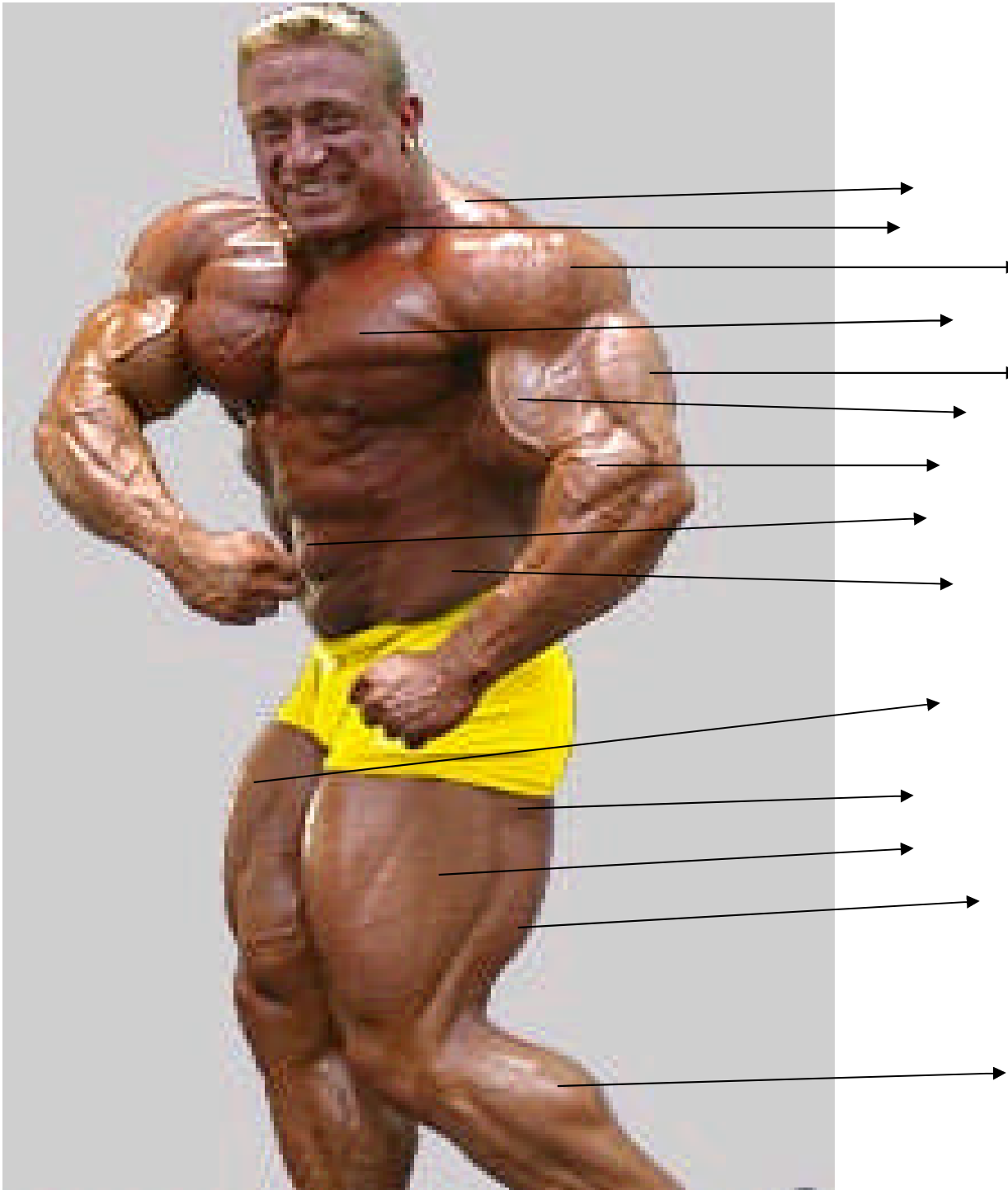


Brachioradialis

Semitendinous

Gastrocnemius

Targeting all 3 muscle fiber structures  
leads to massive growth.





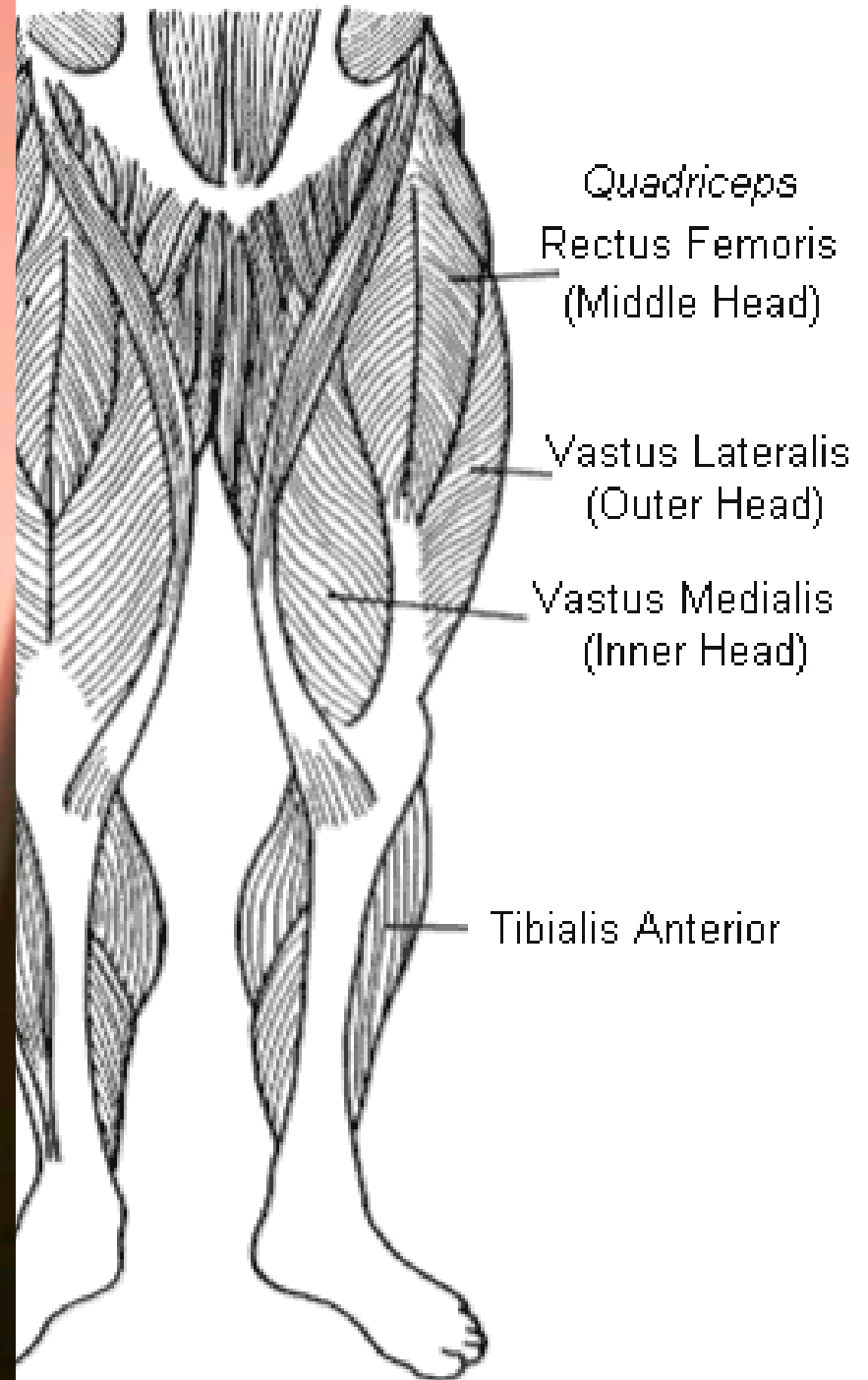
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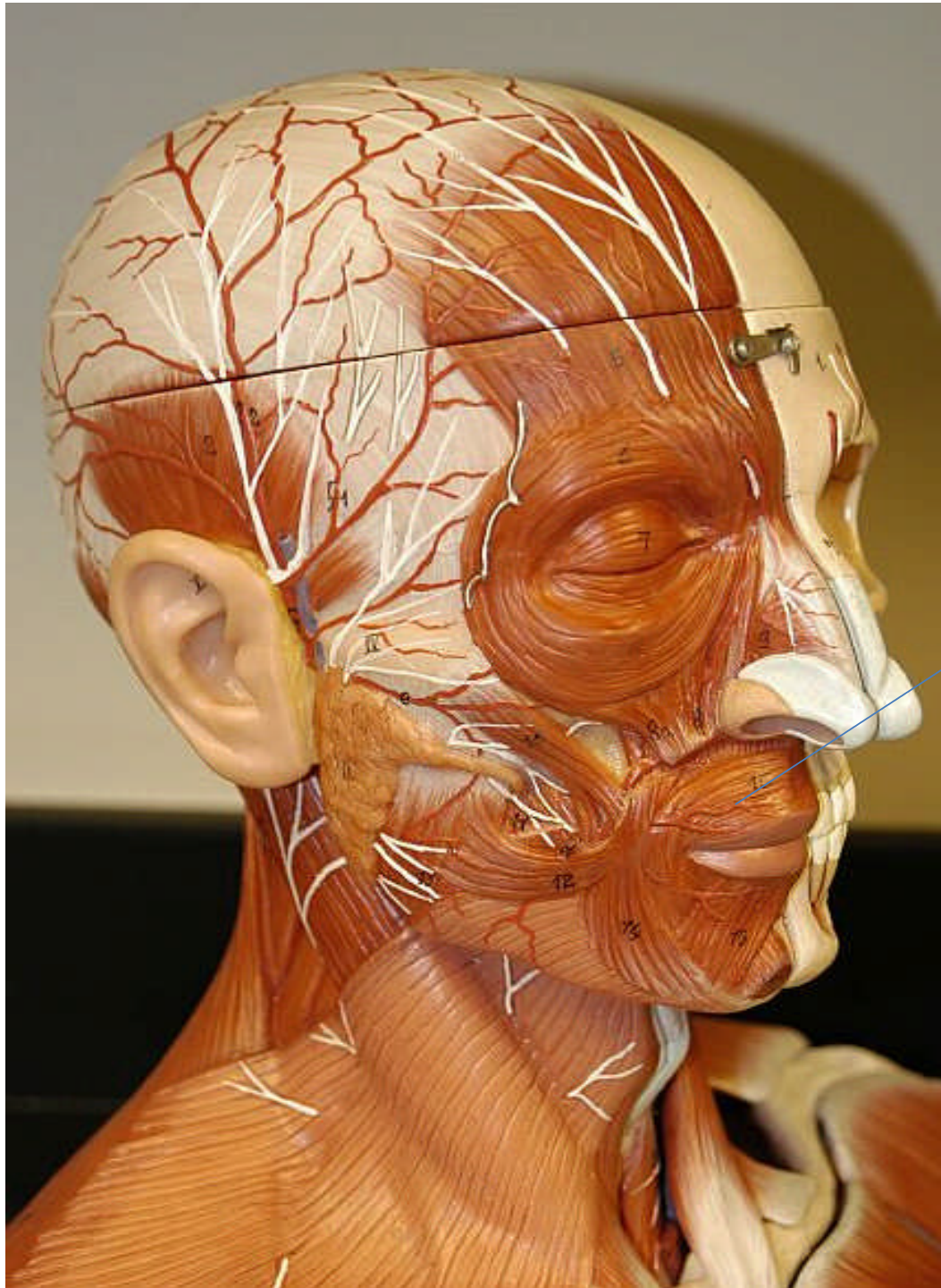




- Deltoid

- trapezius





24/WHAT MUSCLE THIS KID IS USING.  
PROUD OF HIS TINY MUSCLE

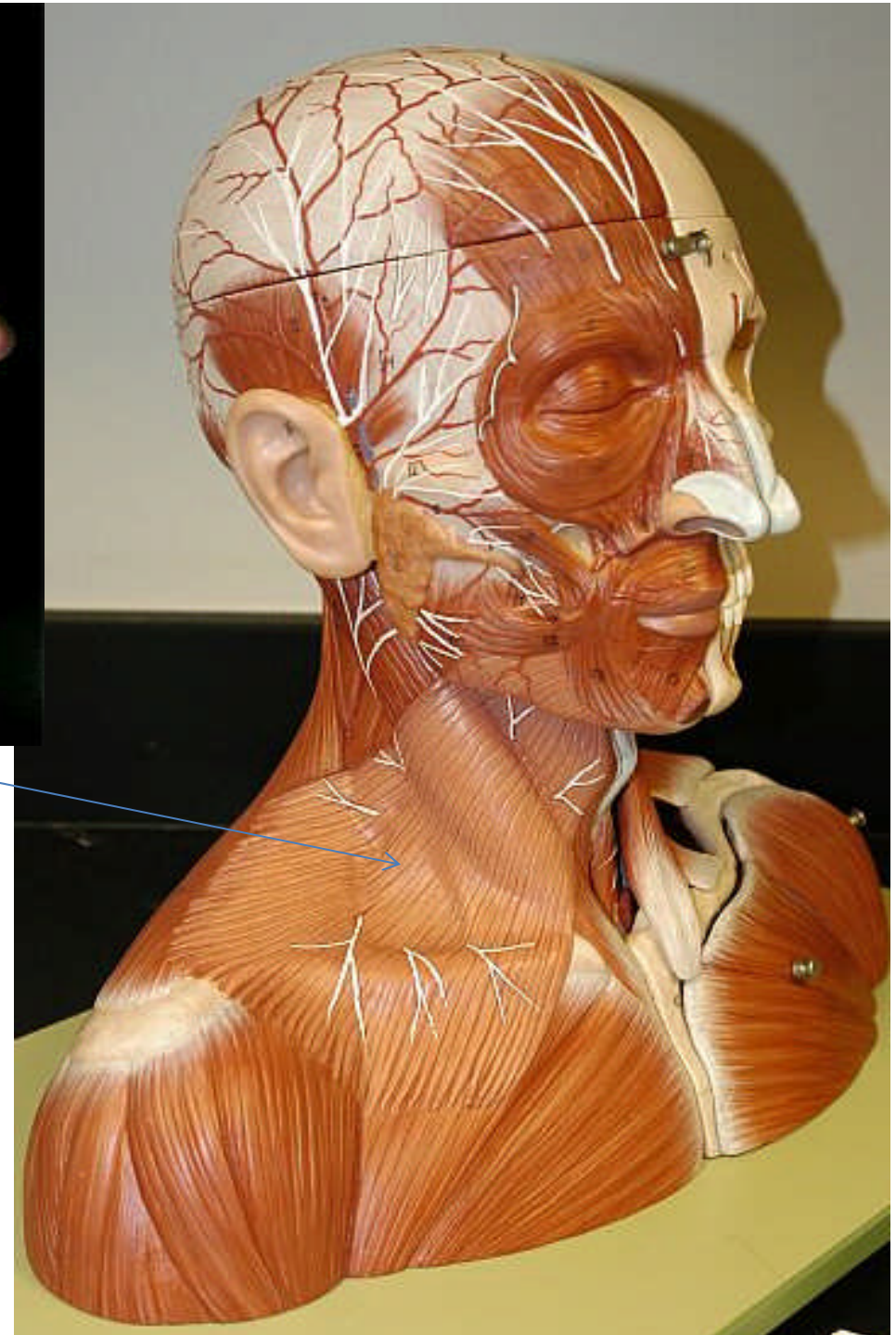
- A/ ORBICULARIS ORIS
- B/ ORBICULARIS OCULI
- C/ ORBICULARIS ORBITA
- D/ ORBICULARIS TERGA

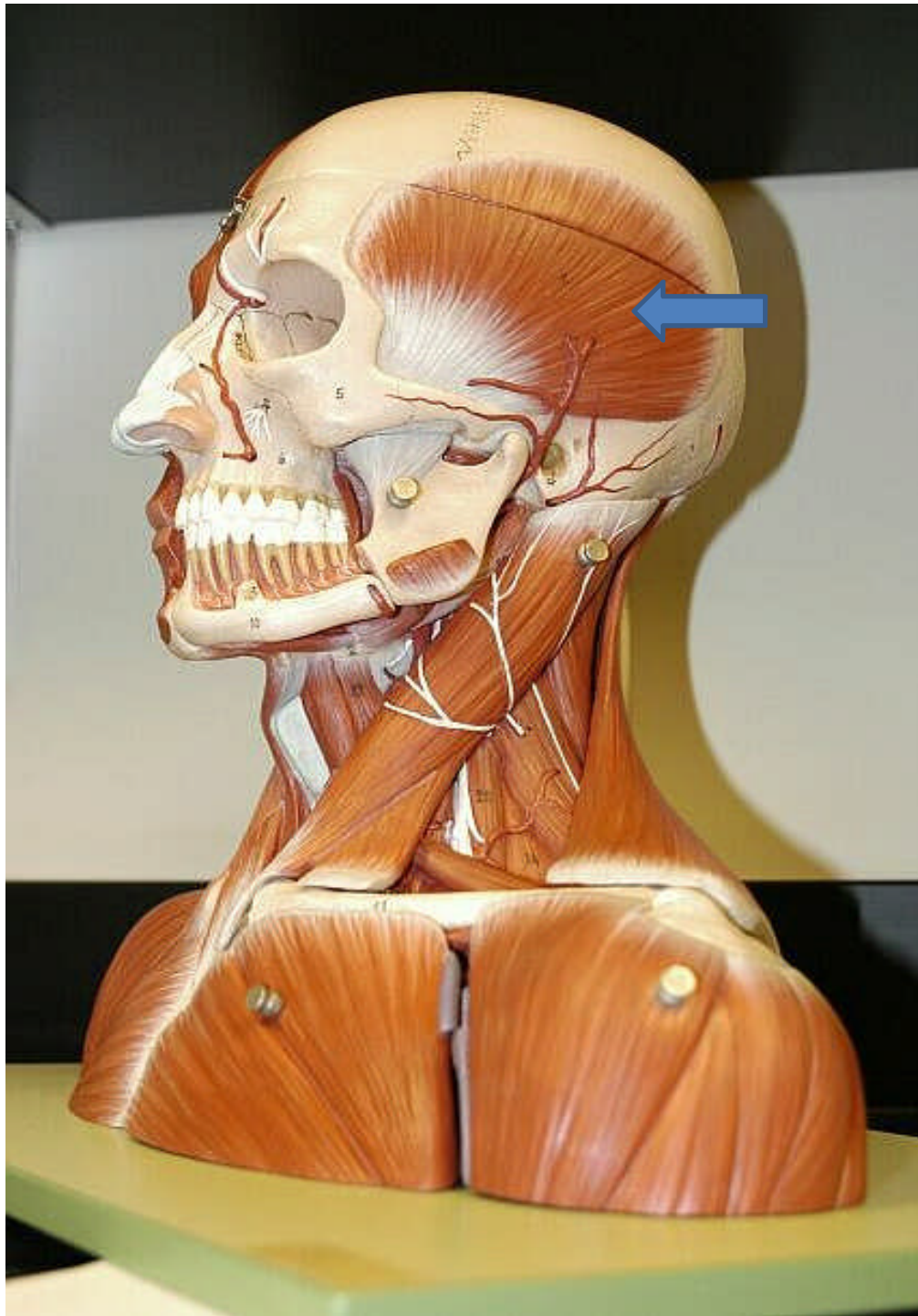




25/What this muscle does?

- a/ main part of the body that helps us make facial expressions
- b/draw the lips and jaw downward and also to the sides.
- c/ it is called the platysma muscle,
- d/along with aging, also plays a big part in whether we have a double chin.
- e/all the above are correct





26/What is the name of this muscle [red arrow]

a/ temporalis

b/occipitalis

c/zygomatic muscle

27/What is the agonist or synergic muscle to this muscle [red arrow]

a/ sternocleidomastoid

b/ masseter

c/zygomatus

d/frontalis



**28/ What muscle is responsible for putting this girl's left eye in its current position?**

- a/ Left Lateral rectus**
- b/ left medial rectus**
- c/ right lateral rectus**
- d/ left lateral and left medial rectus**

**29/ What muscle is responsible for putting the head turning this way for this young girl.**

- a/ left sternocleidomastoid, right splenius capitis**
- b/ right sternocleidomastoid and right splenius capitis**
- c/ right sternocleidomastoid and left splenius capitis**
- d/ left sternocleidomastoid and left splenius capitis**



30/Identify the muscle that raised President Nixon's eyebrows.

A/FRONTALIS

B/GALEA APONEVROTICA

C/OCCIPITALIS

D/EPICARNIUS





**31/IDENTIFY THIS MUSCLE #1**

**a/ pectoralis minor**

**b/ pectoralis major**

**c/ pectoralis dentee**

**c/ sartorius**

**32/IDENTIFY THIS MUSCLE:**

**a/ deltoid**

**b/ scaporalis**

**c/ splenius capitis**

**d/ TRAPEZIUS**



33/ what muscle is she using to whistle?

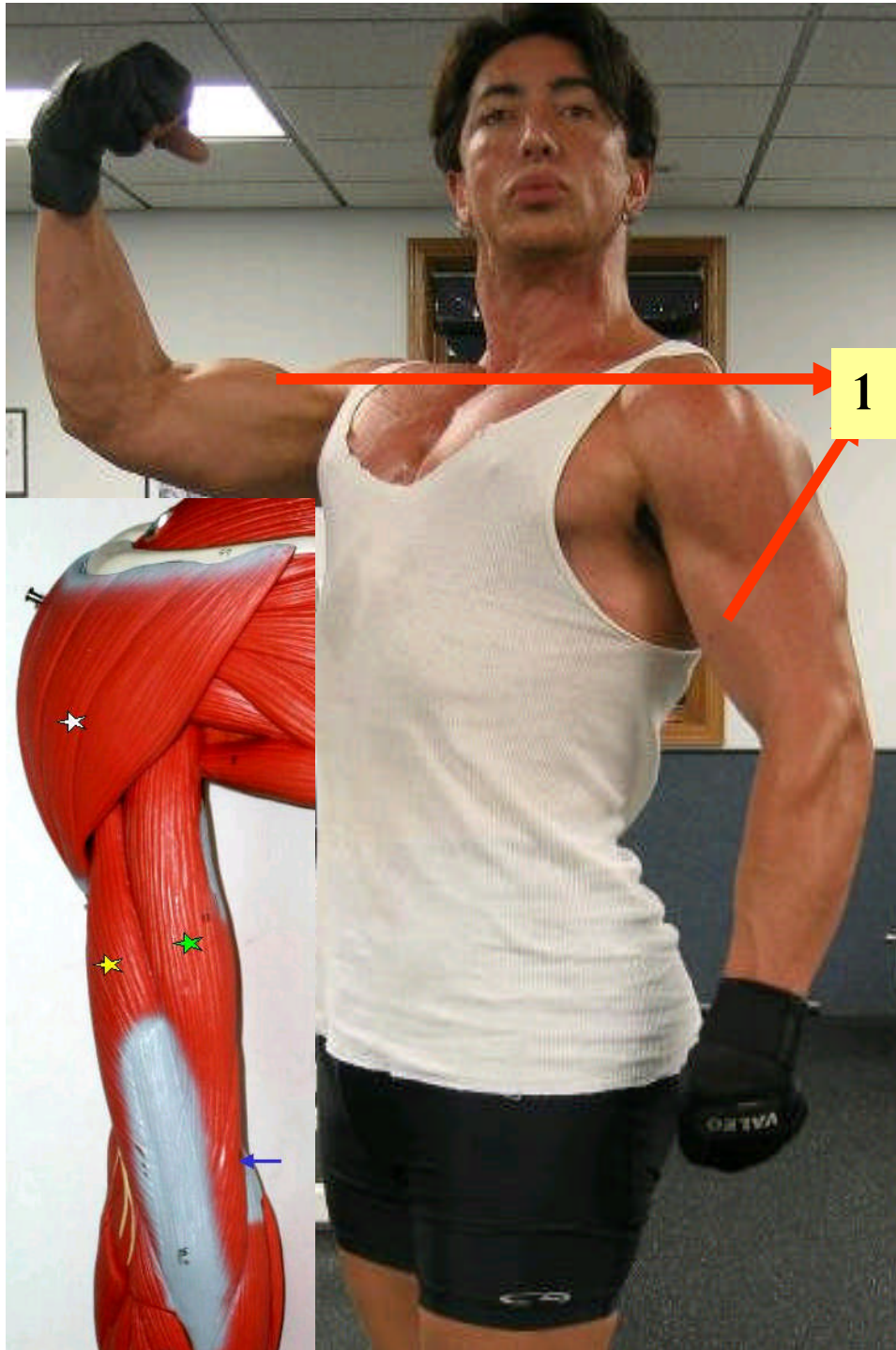
a/buccinator, orbicularis oris

b/buccinator and the zygomaticus

c/zygomaticus, orbicularis oris

d/all of the above

e/orbicularis oculi, platysma



### 34/DETERMINE THE INSERTION AND ORIGIN OF MUSCLE #1

A/ Attachments Origin Scapula  
Supraglenoid Tuberosity, Coracoid Process  
, Insertion Radius Tubercle , Fascia of  
forearm Bicipital Aponeurosis.

b/ coracoid process as origin only

c/ Attachments Origin Scapula  
Supraglenoid Tuberosity, Coracoid Process  
, Insertion ulna Tubercle

### 35/DETERMINE ITS FUNCTION:

a/ Movement Elbow: Flexion Shoulder:  
Flexion (Weak)

b/ Movement shoulder: extension  
Shoulder: (Weak)

c/ Movement forearm: Flexion





36/What is the primary action of this muscle [white arrow]?

a/extension of the forearm

b/flexion of the arm

c/abduction

d/flexion extension





37/Name the muscle indicated by the yellow arrow AND primary action .

a/ brachioradialis , flexion

b/ pronator tere, pronation

c/ abductor radialis,pronation

d/biceps brachii, flexion forearm

**38/consequences in a women  
to have these type of  
musculature?**

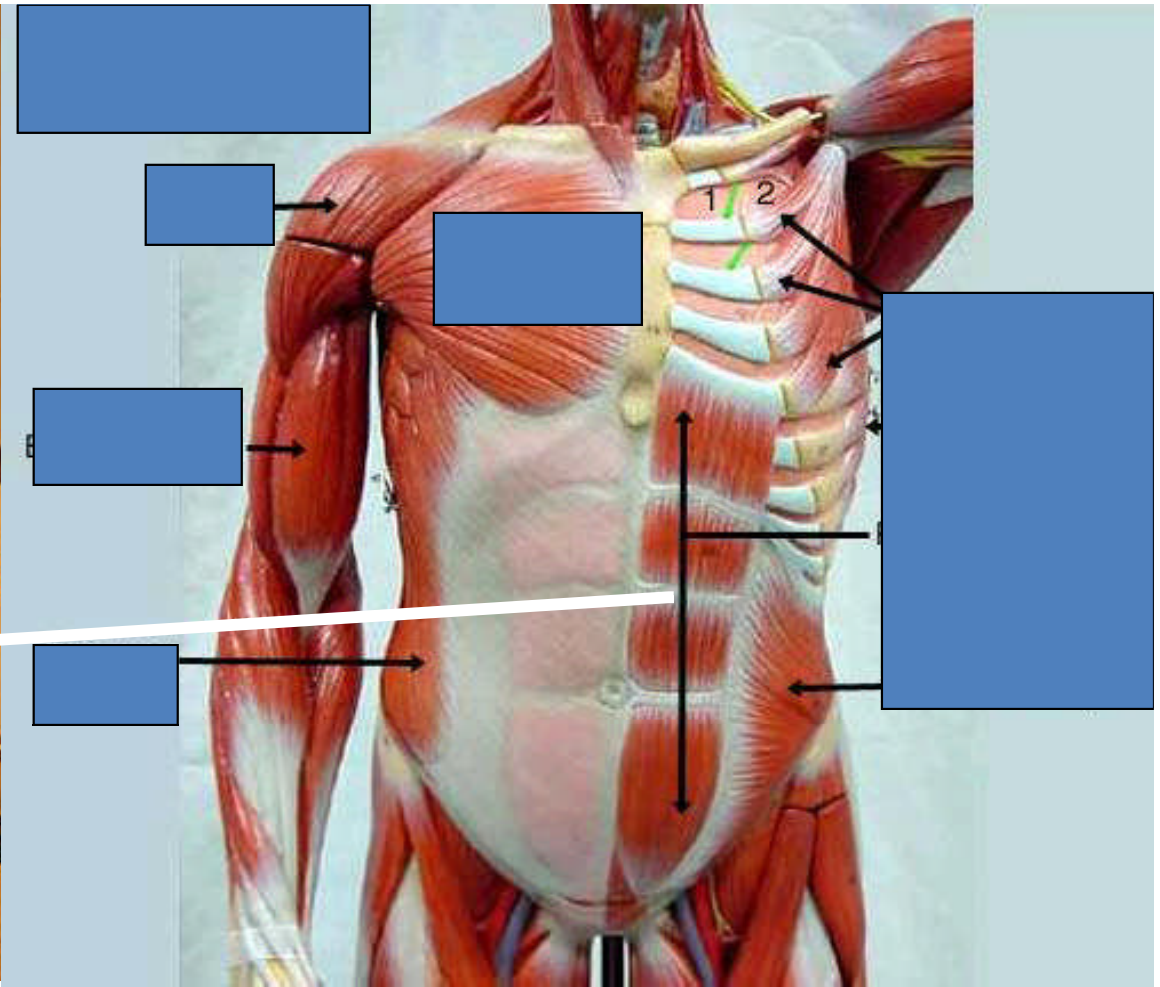
**a/ secondary amenorrhea**

**b/atrophy**

**c/hyperplasia**

**d/ she become a men with  
time**





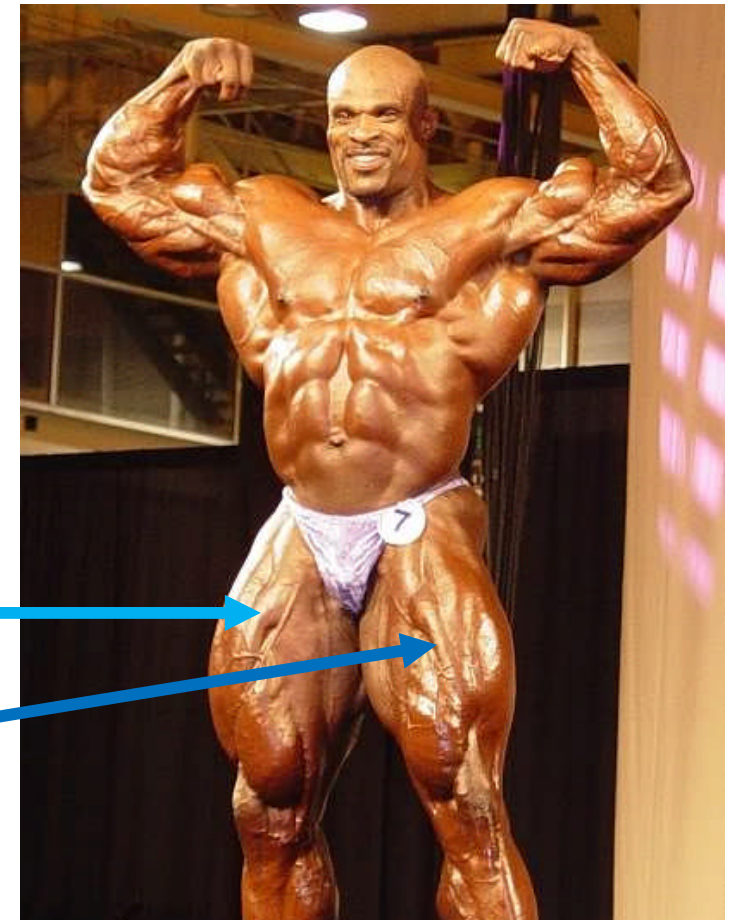
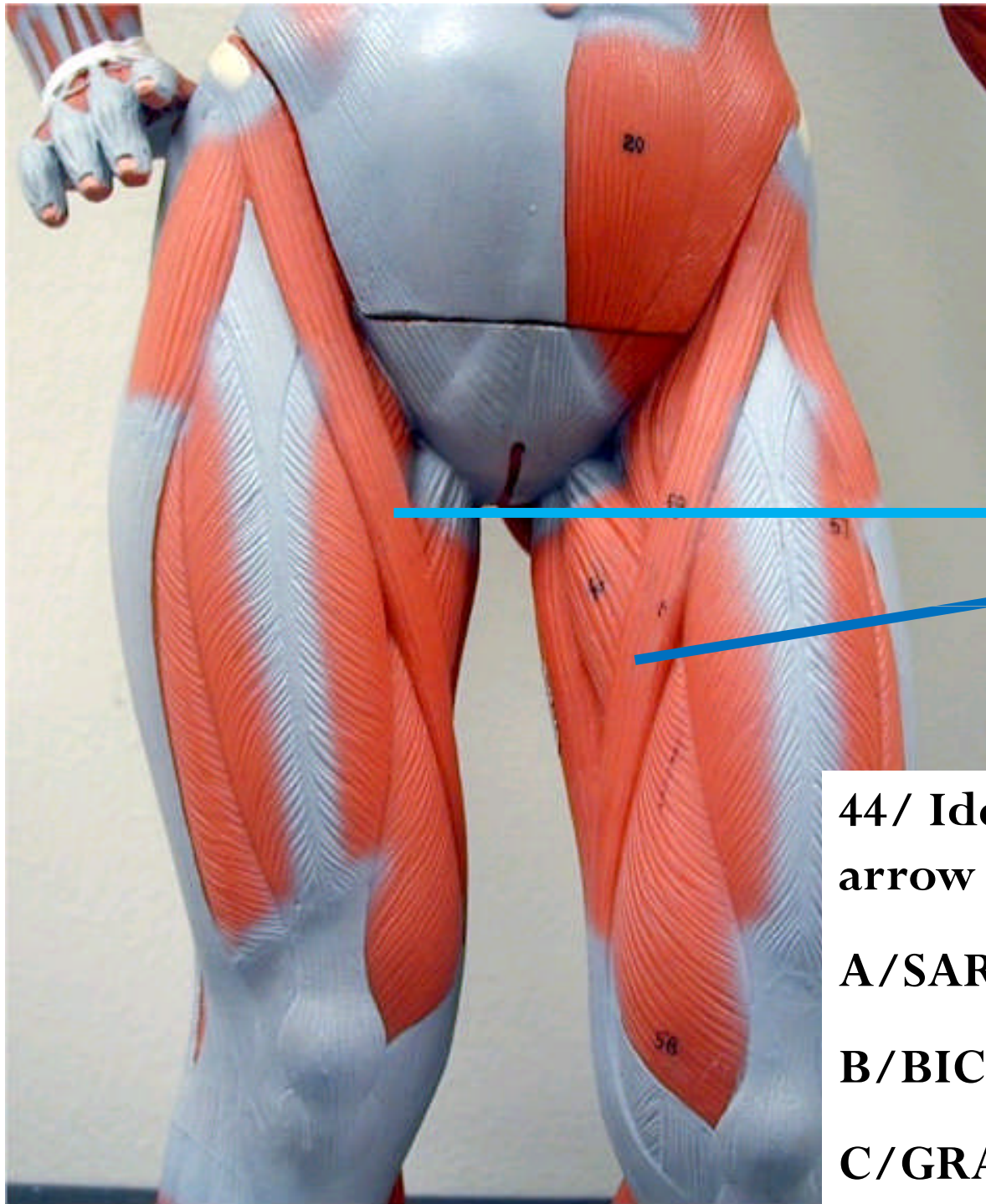
### 43/FUNCTION OF THE WHITE ARROW MUSCLES

**A**/flexing the lumbar spine,

**B**/assists with breathing and plays an important role in respiration in the event the patient is short of breath.

**C**/ALL OF THE ABOVE





**44/ Identify this muscle blue arrow**

**A/SARTORIUS**

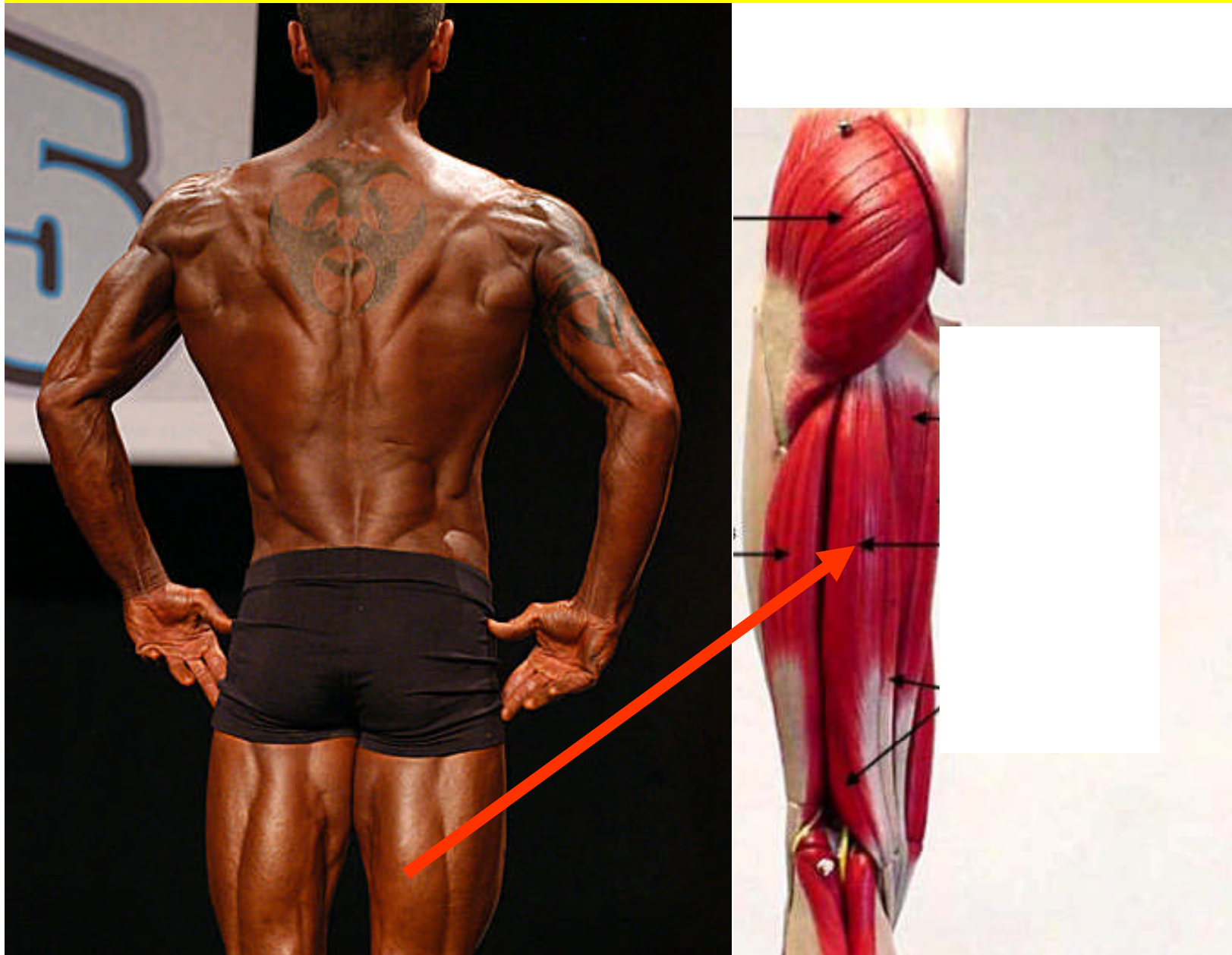
**B/BICEPS FEMORALIS**

**C/GRACILLIS**



45/IDENTIFY THE MUSCLE RED ARROW

a/SEMITENDINOUS   b/ABDUCTOR MAGNUS   c/SEMIMEMBRANOUS



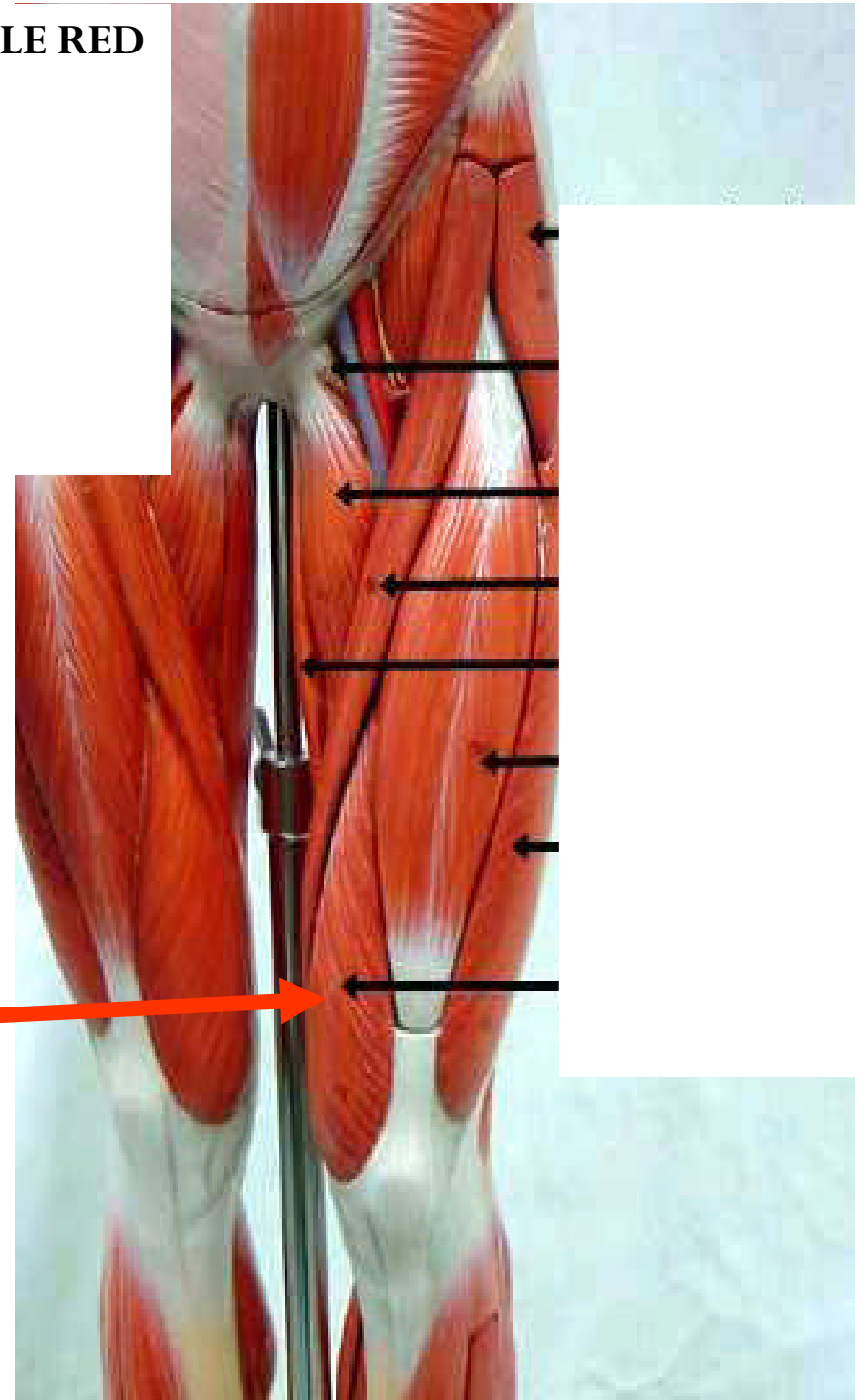
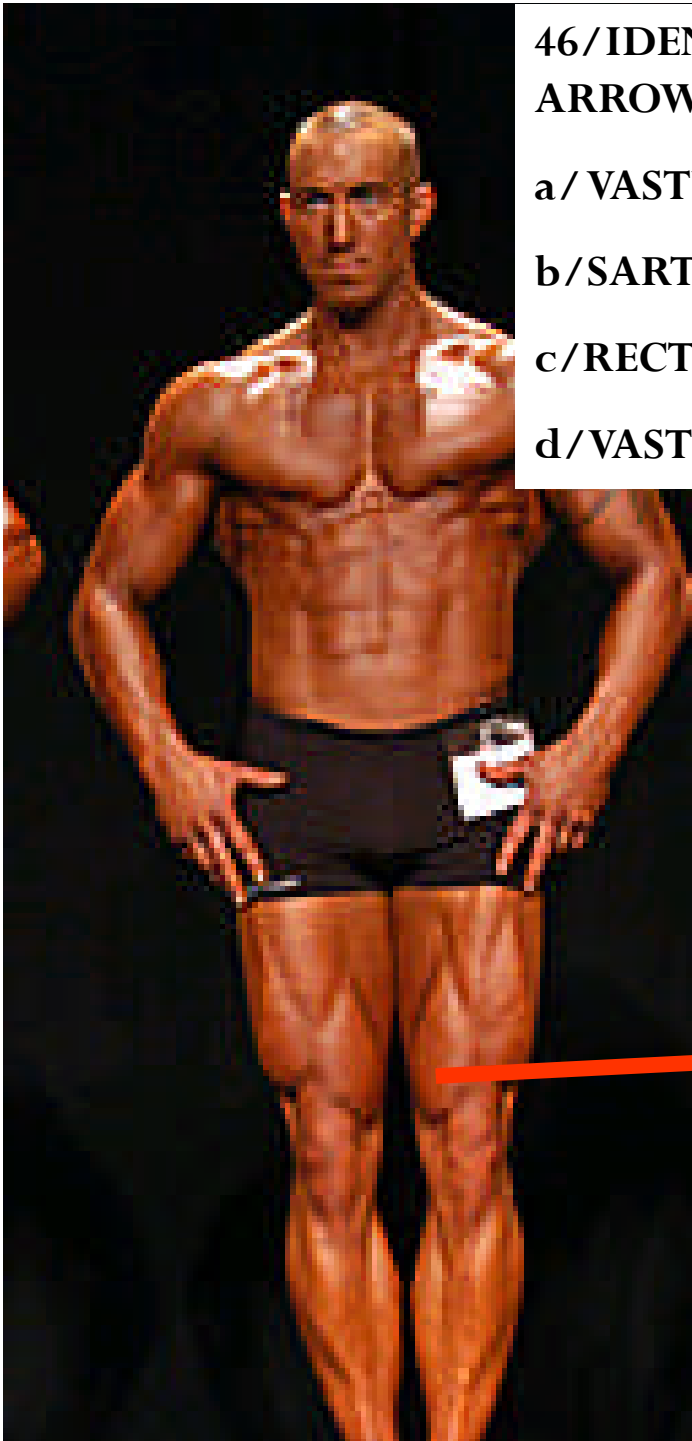
**46/IDENTIFY THE MUSCLE RED  
ARROW**

**a/ VASTUS MEDIALIS**

**b/SARTORIUS**

**c/RECTUS FEMORIS**

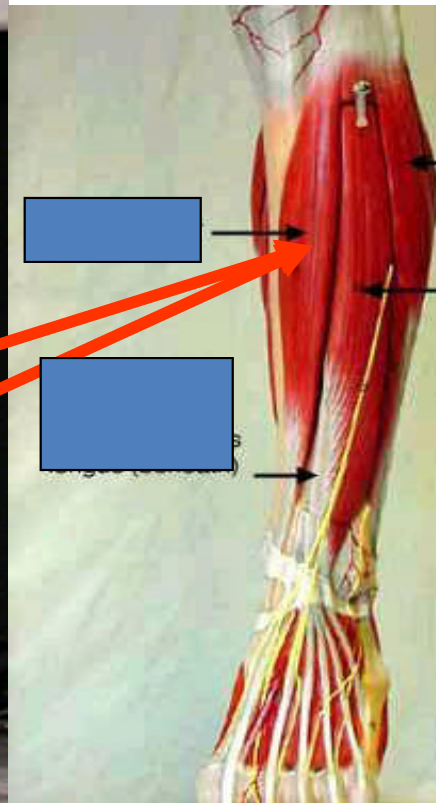
**d/VASTUS LATERALIS**

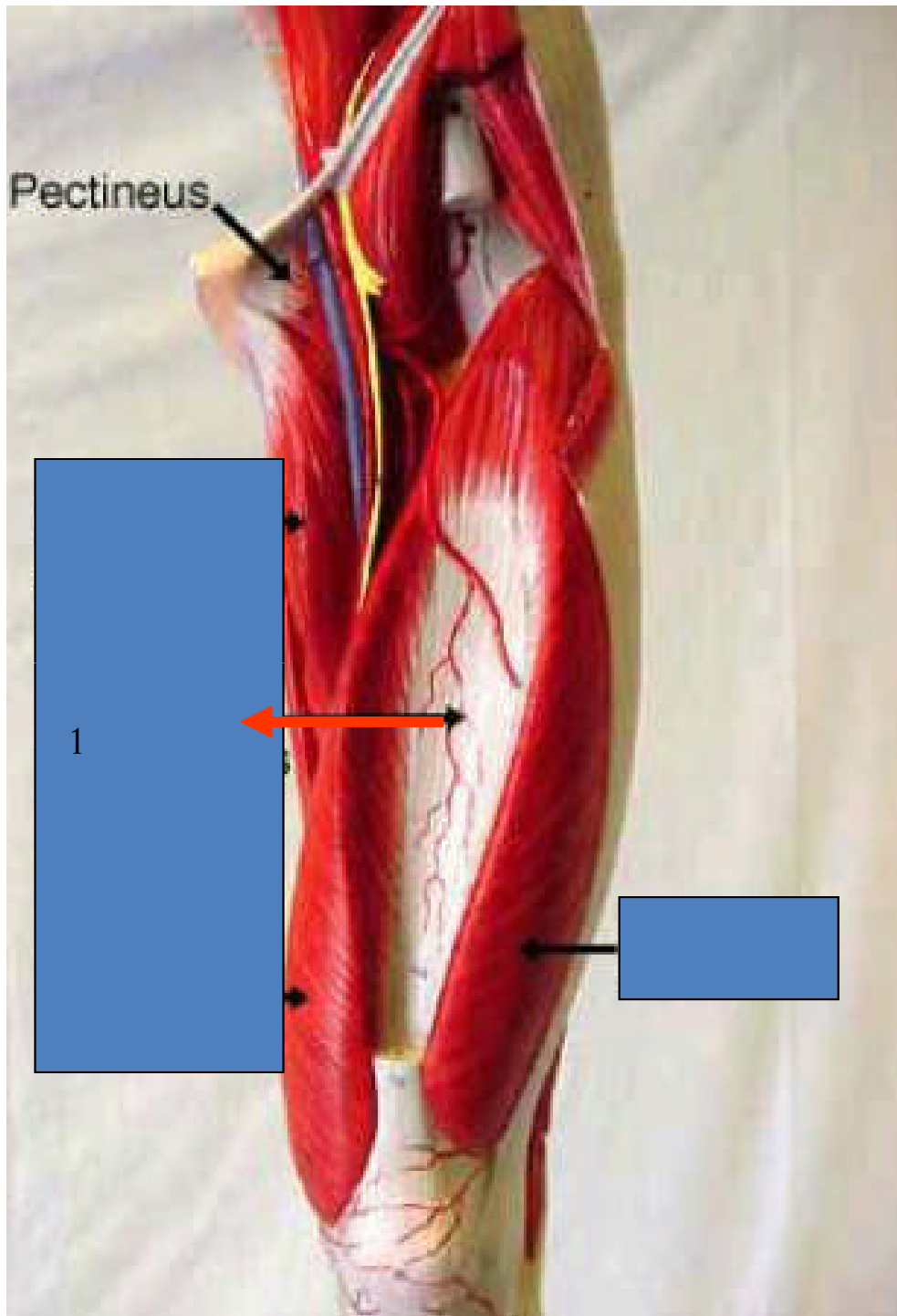




**47/IDENTIFY THE MUSCLE RED  
ARROW**

- A/TIBIALIS ANTERIOR**
- B/TIBIALIS POSTERIOR**
- C/TIBILAIIS LATERALIS**
- D/TIBIALIS ATROPHIUS**





**48/THIS DEEP MUSCLE OF  
THE TIGH NEED TO BE  
IDENTIFIED**

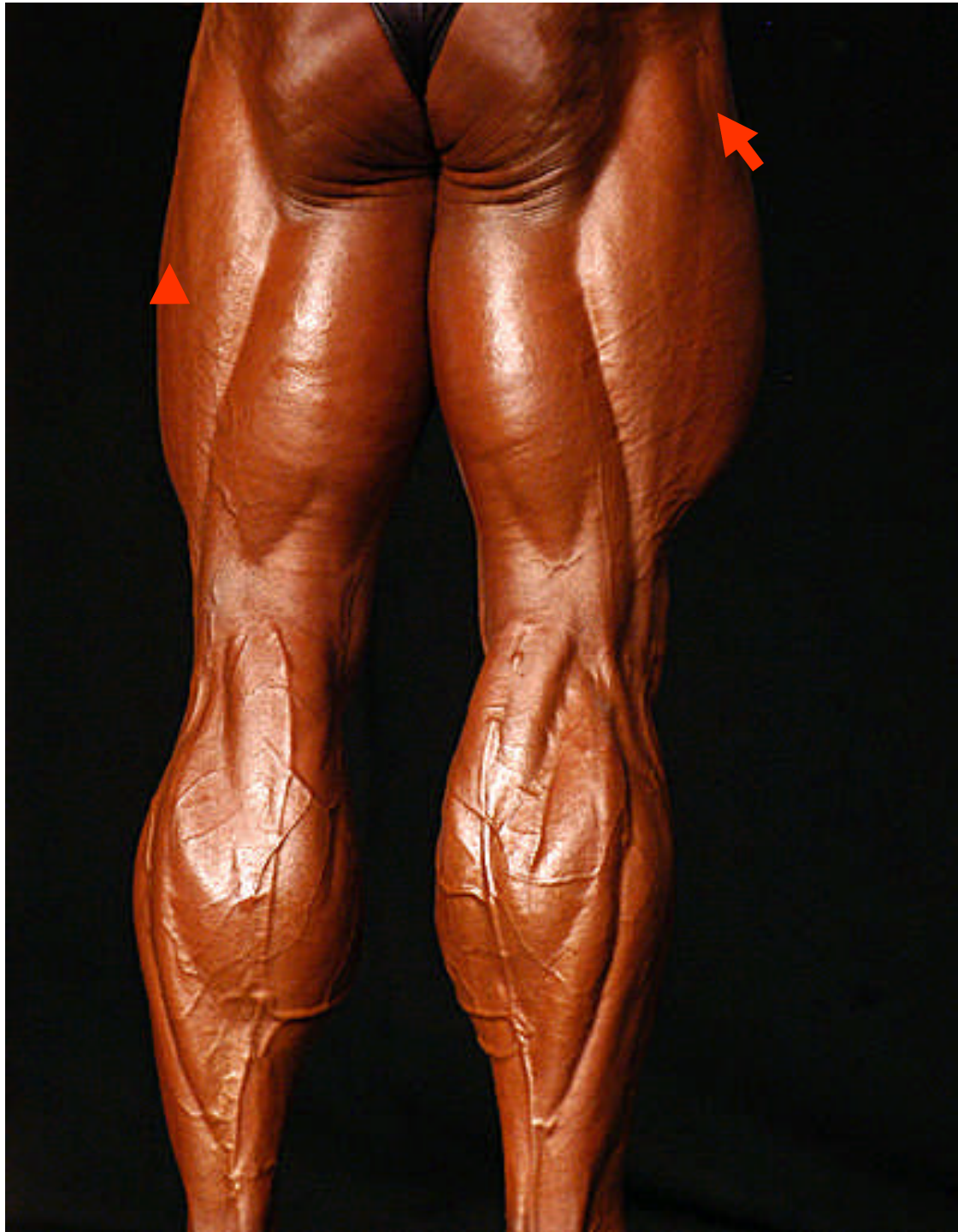
**A/VASTUS INTERMEDIUS**

**B/VASTUS GRADIUS**

**C/VASTUS LATERALIS**

**D/VASTUS MEDIALIS**





**49//IDENTIFY THESE  
LATERAL MUSCLES**

**A/TENSOR FASCIA LATA**

**B/GRACILIS**

**C/VASTUS MEDIALIS**

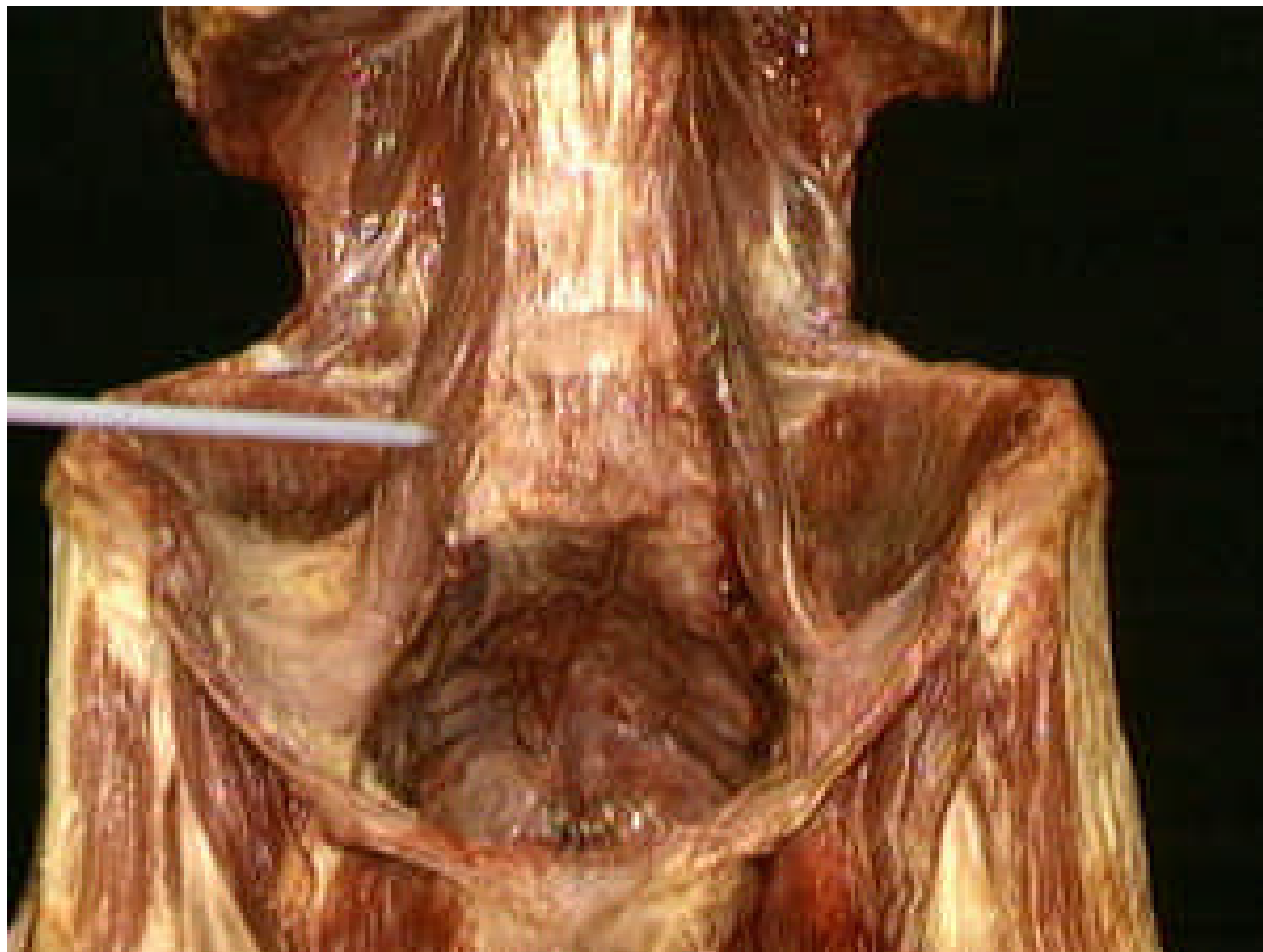
**D/VASTUS LATERALIS**

**50/ IDENTIFY THIS LONG MUSCLE THAT ALLOW THE FLEXION OF THE TIGH AND GREEN ARROW**

**A/ PSOAS MAJOR MUSCLE    B/ PSOAS MINOR**

**C/ ILIACUS    D/ ILIACUS ALTERNANS**







**57/ What is true about this muscle?**

**a/ inserts at the calcaneous bone of the heel of the foot by way of the Achilles tendon.**

**b/ plantar flexes (straightens) the ankle in movements such as pointing the toes or rising onto "tip toe." By forcing the ankle into plantar flexion, high heel shoes contract the gastrocnemius to make it more pronounced. Flex (bend) the knee in activities such as running or going up stairs.**

**c/ has two heads**

**d/none of the above**

**e/all the above**

**58/ what nerves innervate this muscle**

**a/ tibial, S1 , L5**

**b/gastrocnemius nerve**

**c/axillary anterior nerve**

**d/sciatic nerve s1 and s2**

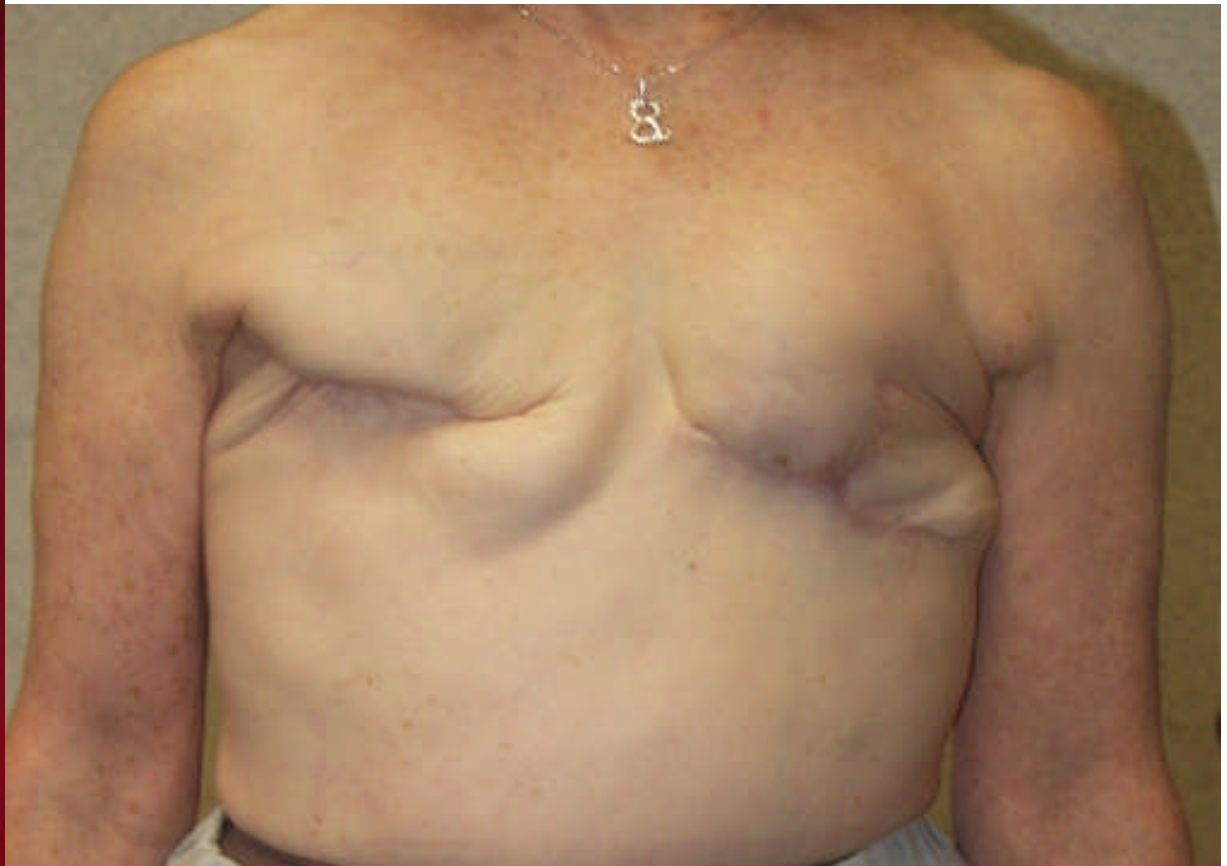




**26/WHAT'S THE  
NAME OF THESE  
MUSCLES SUPERFICIAL  
AND INTERNAL?**

**27/WHAT DO  
YOU CALL THE  
TENDON? arrow**

**59/ what is the muscle removed during a total mastectomy?**  
**a/ pectoralis minor**  
**b/pectoralis major**  
**c/searratus anterior**  
**d/rectus abominis**  
**e/ intercostal muscles**

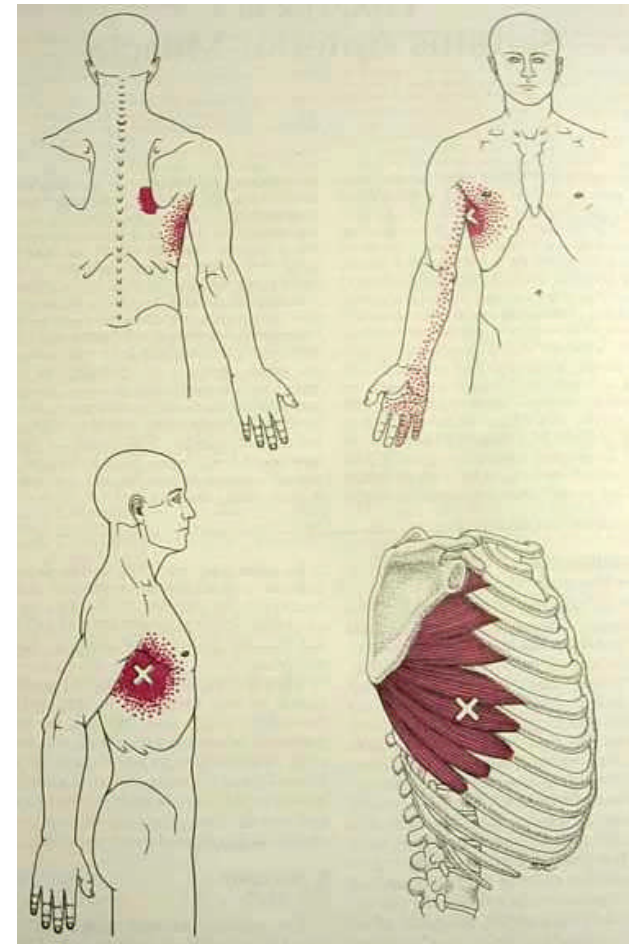


# Muscle Identification



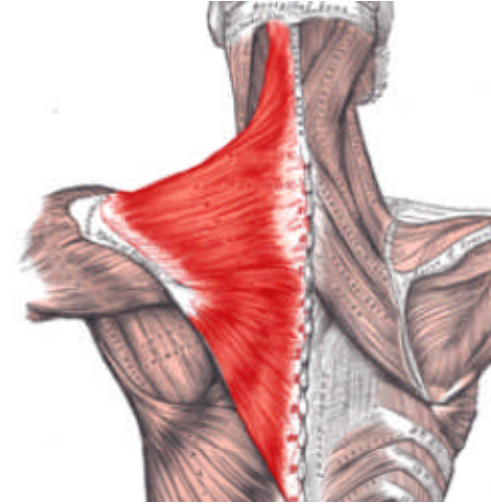
8. What muscle is this woman strengthening?

9. What is the name and action of the "boxers muscle"?



# Muscle Identification

10. What is the insertion of the trapezius?



11. What muscle is this baby using to make a "kissy face"?