

PHYT 622
CLINICAL GROSS ANATOMY
MYOLOGY
(Muscles, Anatomical Study of)

Guidelines for the study of muscle:

1. **name** the muscle
2. find a description of its **origin**, this usually will be a location on a bone, bones, or fascia
3. **locate** the origin on a skeleton (articulated or loose bones)
4. **palpate** the **origin**, when possible, on yourself and a partner
5. repeat steps 1-4 for the **insertion**
6. determine the **action** of the muscle by palpation and contraction of the muscle on yourself and a partner
7. **check** the action in a source book
8. note the **nerve supply**, both from the peripheral nerve and root level perspective

The Muscles

1. **Trapezius (superior fibers)**

O: (1) external occipital protuberance
(2) medial 1/3 of the superior nuchal line of occiput
(3) upper aspect of ligamentum nuchae

I: posterior border of lateral 1/3 of the clavicle

A: elevation and upper rotation of the scapula

N: accessory nerve (CN XI) and branches of C3, C4

Trapezius (middle fibers)

O: (1) inferior aspect of ligamentum nuchae
(2) spinous process of 7th cervical and upper thoracic

I: (1) medial margin of acromion process of scapula
(2) superior lip of posterior border of spine of scapula

A: adduction of scapula

N: CN XI and C3, C4

Trapezius (inferior fibers)

O: spinous process of inferior thoracic vertebrae

I: medial end of the spine of scapula

A: depress, upward rotation of the scapula

N: CN XI and C3, C4

2. **Rhomboideus: Major and Minor**

O:
Minor: nuchal ligament and spinous processes of C7-T1
Major: spinous processes of T2- T5

I: Medial border of scapula from level of spine to inferior angle

A: Retract scapula, rotates it to depress glenoid cavity, and fixes scapula to thoracic wall

N: dorsal scapular nerve (C4-C5)

3. Levator Scapulae

O: transverse processes of C1-C4

I: Superior part of medial border of scapula

A: Elevates scapula and tilts its glenoid cavity inferiorly by rotating the scapula

N: Branches directly from anterior rami of spinal nerves C3 and C4, and by branches (C5) from the dorsal scapular nerve

4. Latissimus Dorsi

O: Spinous processes of T7-T12, thoracolumbar fascia, iliac crest and last three or four ribs

I: Intertubercular groove of humerus

A: Extends, adducts and medially rotates humerus at shoulder

N: thoracodorsal nerve (C6,C7,C8)

5. Teres Major

O: Dorsal surface of inferior angle of scapula

I: Medial lip of intertubercular groove of the humerus

A: Adducts arm and medially rotates shoulder

N: lower subscapular nerve (C5-C7)

6. Deltoid (posterior fibers)

O: posterior border of the spine of the scapula

I: deltoid tubercle of the humerus

A: extension, horizontal abduction, external rotation - humerus

N: axillary (C5, C6)

Deltoid (middle fibers)

O: superior surface of the acromion

I: deltoid tubercle

A: abduction of humerus

N: axillary (C5, C6)

Deltoid (anterior fibers)

O: lateral 1/3 of clavicle

I: deltoid tubercle

A: flexion, horizontal adduction, internal rotation - humerus

N: axillary (C5, C6)

7. Pectoralis major

O: medial half of clavicle, sternum, superior six costal cartilage, aponeurosis of external abdominal oblique

I: lateral lip of the intertubercular groove of humerus

A: flexes, adducts and medially rotates arm at shoulder

N: medial and lateral pectoral nerves (C5, C6, C7; C8, T1)

8. Pectoralis minor

O: third to fifth ribs

I: coracoid process of scapula

A: depresses scapula and stabilize it

N: medial pectoral (C6, C7, C8)

9. Subclavius

O: junction of first rib and costal cartilage

I: inferior surface of clavicle

A: depresses clavicle

N: nerve to subclavius (C5,C6)

10. Serratus anterior

O: upper eight ribs