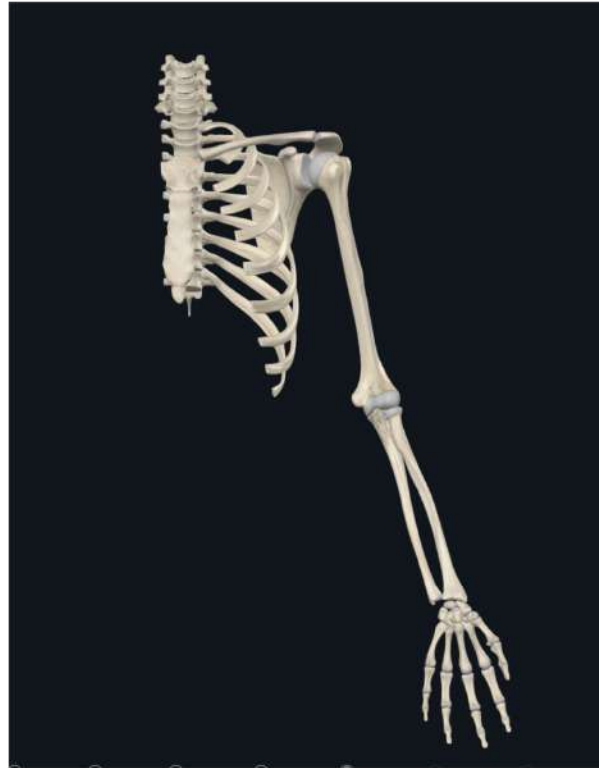


summary of Lecture 11 (muscle of upper limb)

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muscles of pectoral region :-

| | origin | insertion | Nerve supply | action |
|---|--|--|--|---|
| ① pectoralis major | <p>⊖ Clavicular head:- → from medial $\frac{1}{2}$ of the clavicle</p> <p>⊖ sternocostal head:- → from front of the sternum and upper 7 costal cartilages</p> | ⊖ into bicipital groove of the humerus | <p>⊖ Lateral pectoral.N</p> <p>⊖ Medial pectoral.N</p> | <p>⊖ Adduction</p> <p>⊖ medial rotation</p> <p>of the arm</p> |
| ② pectoralis minor (Lies deep to pectoralis major) | ⊖ from 3 rd , 4 th , 5 th ribs | ⊖ into coracoid process of the scapula | ⊖ Medial pectoral.N | <p>⊖ protraction</p> <p>⊖ depression</p> <p>of the shoulder</p> |

③ Subclavius

Lies

Deep to pectoral major

below the clavicle

X

X

X

X

④ Serratus Anterior

⊖ By 8 fleshy slips from the upper 8 ribs

⊖ Into the medial border of the scapula

⊖ serratus anterior (long thoracic nerve)

⊖ protraction
⊖ depression
of the shoulder

⊗ Notes :-

⊖ pectoralis minor ^① and serratus Anterior ^④ → the same action ⇒ protraction and depression of shoulder, but the main protractor is serratus anterior

muscles of Back

→ Connecting the upper limbs to the vertebral column.

| | origin | insertion | N.S | action |
|---|--|---|--|--|
| ① Trapezius | <ul style="list-style-type: none"> ⊖ skull ⊖ cervical } vertebrae ⊖ thoracic } | <ul style="list-style-type: none"> ⊖ clavicle ⊖ scapula | <ul style="list-style-type: none"> ⊖ spinal accessory. N ↓ Branch from ↓ 11th cervical nerve | <ul style="list-style-type: none"> ⊖ upper.f ⇒ elevation of .s ⊖ middle.f ⇒ retraction of .s ⊖ lower.f ⇒ depression of .s |
| <ul style="list-style-type: none"> ⊖ Latissimus Dorsi <p>↳ superficial layer</p> | <ul style="list-style-type: none"> ⊖ hip bone ⊖ thoracic vertebrae ⊖ Lower 4 ribs | <ul style="list-style-type: none"> ⊖ bicipital groove of humerus | <ul style="list-style-type: none"> ⊖ N. to latissimus dorsi | <ul style="list-style-type: none"> ⊖ adduction and extension of shoulder |
| <ul style="list-style-type: none"> ⊖ Levator scapula ⊖ Rh. minor ⊖ Rh. major <p>↳ Deep layer</p> | <ul style="list-style-type: none"> ⊖ cervical } vertebrae ⊖ thoracic } | <ul style="list-style-type: none"> ⊖ into medial border of scapula | <ul style="list-style-type: none"> ⊖ N. to Rh | <ul style="list-style-type: none"> ⊖ Retraction of scapula ⊖ Rotation down |

Muscles of shoulder :-]

→ connecting the scapula to the upper part of the humerus

| | origin | insertion | N.S | action |
|---|--------------------|------------------|----------------------|-------------------------|
| ① supraspinatus (s.s) → supraspinous fossa | ⊖ from the scapula | ⊖ in the humerus | ⊖ nerves from C5, C6 | ⊖ on the shoulder joint |
| ② Infraspinatus → infraspinous fossa | | | | |
| ③ Teres minor (TM) | | | | |
| ④ Teres major (TMJ) | | | | |
| ⑤ subscapularis (ssc) → subscapular fossa | | | | |
| ⑥ Deltoid | | | | |

Muscles of front of arm

| | origin | insertion | N.S | action |
|--|--------|--|-------------------|---|
| ① Coracobrachialis (in upper half of arm) | X | X | musculo-cutaneous | ⊕ flexion ⊖ adduction } of shoulder |
| ② Biceps brachii | X | radial tuberosity | musculo-cutaneous | ⊖ flexion of elbow ⊖ supination of forearm |
| ③ Brachialis (in lower half of arm) | X | ⊖ ulnar tuberosity ⊖ coronoid process | musculo-cutaneous | ⊖ Main flexor of elbow ↓ Biceps brachii not the main flexor |

Muscles of Back of Arm

| | origin | insertion | N.S | action |
|-------------------|--------|-----------|--------------|---|
| ① triceps brachii | X | X | ⊖ Radial . N | ⊖ Main extensor of elbow ↓ کلی عکس :- ⊖ Biceps brachii ⊖ Brachialis |

Muscles of front of forearm:-

| | origin | insertion | N. S | Action |
|----------------------------------|--------|-----------|------------|--|
| I. Superficial layer | | | | |
| ① pronator teres | X | X | Median . N | pronation of forearm |
| ② flexor carpi radialis | X | X | Median . N | Flexion of wrist |
| ③ palmaris longus | X | X | Median . N | Flexion of wrist |
| ④ flexor carpi ulnaris | X | X | ulnar . N | Flexion of wrist |
| II. Middle layer | | | | |
| ① flexor digitorum superficialis | X | X | Median . N | ⊖ Flexion of wrist ⊖ Flexion of fingers |

III. Deep layer

① flexor pollicis longus

X

X

Anterior interosseous
↓
branch of median.N

⊖ Flexion of wrist
⊖ Flexion of fingers

② flexor digitorum profundus

X

X

Anterior interosseous
↓
branch of median.N

⊖ Flexion of wrist
⊖ Flexion of fingers

③ pronator quadratus

X

X

Anterior interosseous
↓
branch of median.N

⊖ pronation of forearm.

Muscles of Back of forearm


I. Three Muscles acting on Thumb

1. Abductor pollicis longus.
2. Extensor pollicis brevis.
3. Extensor pollicis longus.

II. Three RADIALIS Muscles

1. Brachioradialis.
2. Extensor carpi radialis longus.
3. Extensor carpi radialis brevis.

III. Three Muscles acting on Medial 4 fingers

1. Extensor indicis.
 2. Extensor digitorum.
 3. Extensor digiti minimi.
- 

IV. Three Miscellaneous Muscles

1. Anconeus.
2. Extensor carpi ulnaris.
3. Supinator.

Muscles of palm of hand

I. Muscles of Thumb:

1. Abductor pollicis brevis.
2. Flexor pollicis brevis.
3. Opponens pollicis.
4. Adductor pollicis.

II. Muscles of Little finger:

1. Abductor digiti minimi.
2. Flexor digiti minimi.
3. Opponens digiti minimi.

III. Four Lumbrical muscles:

*** Action: putting the hand in the writing position.**

IV. Interossei muscles:

*** Three palmar Interossei & 4 dorsal Interossei.**

*** Action: abduction & adduction of fingers.**