Motion Studies:

Note: Contraction results the basic motion mentioned below.

**Shoulder Joint (3 DoF, 8 muscles)**

**Adduction**

Teres Minor

Coracobrachialis

Subscpularis

Supraspinatus

Infraspinatus

**Flexion**

Anterior Deltoid (major role)

Biceps brachialis (Long head +Short head)

Coracobrachialis

**Lateral Rotation**

Subscapularis

Teres Minor

Anterior Deltoid

**Elbow Joint (2DoF, 3 muscles)**

**Flexion**

Brachialis

Brachioradialis

**Pronation**

Pronator Teres (major role)

Brachioradialis + Pronator Quadratus

**Hand (19 muscles)**

**Wrist Flexion**

Flexor Carpi Radialis

Palmaris Longus (major role)

Flexor Carpi Ulnaris

Flexor Digitorum Profundus

**Interphalangeal Flexion**

Flexor Digitorum Superficialis (4 muscles)

**Abduction**

Lateral Deltoid

Anterior Deltoid

Posterior Deltoid

**Extension**

Posterior Deltoid

Triceps (Long head)

**Medial Rotation**

Supraspinatus

Infraspinatus

Posterior Deltoid

**Extension**

No muscles for extension. Muscles for flexion are responsible for it.

**Supination**

Pronator Teres (major role)

Brachioradialis

Supinator

**Wrist Extension**

Extension Digitorum

Extensor Carpi Ulnaris

Extensor Carpi Radialis Longus

Extensor Carpi radialis brevis

Extensor Digiti Minimi

**Interphalangeal Extension**

No muscles for extension. Muscles for

**Wrist Adduction**

No muscles for adduction. Muscles for

Abduction are responsible for it.

**Thumb Flexion**

Flexor Pollicis Longus

Opponens Pollicis

Flexor Pollicis Brevis

**Thumb Adduction**

Flexor Pollicis Longus

**Fingers Flexion**

No muscles for fingers flexion.

Muscles for extension will work.

flexion are responsible for it.

**Wrist Abduction**

Flexor Pollicis Longus

Extensor Carpi Radialis Longus

Extensor Carpi Radialis Brevis

Abductor Pollicis Longus

Extensor Pollicis Longus

**Thumb Extension**

Extensor Pollicis Longus

**Thumb Abduction**

Abductor Pollicis Longus

Abductor Pollicis Brevis

**Fingers Extension**

Extension Digitorum

Extensor Digiti Minimi