

## MOVEMENT

(Green background indicates movements affected by spasticity)

## KEY MUSCLES RESPONSIBLE FOR THE MOVEMENT

(Two-jointed muscles are indicated in orange)

### Hip flexion

Movement of the thigh up toward the pelvis

ROM 0 to 125 degrees



### Hip flexors

- Iliopsoas
- Rectus femoris

### Hip adduction

Movement of the thigh toward the midline

ROM 0 to 20 degrees



### Hip adductors

- Adductor longus
- Adductor magnus
- Adductor brevis
- Gracilis

### Hip internal rotation

Rotary movement of the thigh toward the midline; also known as inward or medial rotation

ROM 0 to 45 degrees

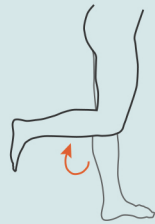


Individual muscles not listed

### Knee flexion

Increasing the angle between the thigh and lower leg

ROM 0 to 140 degrees



### Knee flexors

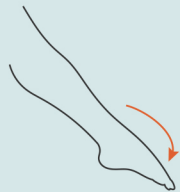
- Hamstrings
- Gastrocnemius

Note: Reference point is the straight leg. The angle increases the nearer the lower leg moves to the thigh.

### Ankle plantar flexion

Movement of the foot away from the lower leg

ROM 0 to 45 degrees



### Ankle plantar flexors

- Gastrocnemius
- Soleus

Note: Reference point is the 90-degree angle between the lower leg and the foot.

## OPPOSITE MOVEMENT

## KEY MUSCLES RESPONSIBLE FOR THE OPPOSITE MOVEMENT

### Hip extension

Movement of the thigh away from the pelvis

ROM 0 to 10 degrees



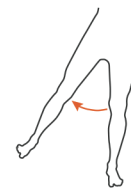
### Hip extensors

- Gluteus maximus
- Hamstrings

### Hip abduction

Movement of the thigh away from the midline

ROM 0 to 45 degrees



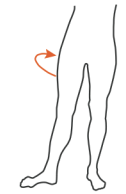
### Hip abductors

- Gluteus medius

### Hip external rotation

Rotary movement of the thigh away from the midline; also known as outward or lateral rotation

ROM 0 to 45 degrees

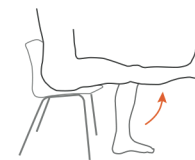


Individual muscles not listed

### Knee extension

Decreasing the angle between the thigh and lower leg

ROM 140 to 0 degrees



### Knee extensors

The quadriceps (quads) consist of four muscles:

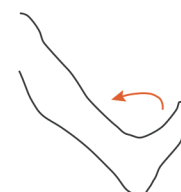
- Rectus femoris
- Vastus intermedius
- Vastus lateralis
- Vastus medialis

Note: Reference point is the flexed leg. The angle decreases the further the lower leg moves away from the thigh.

### Ankle dorsiflexion

Movement of the foot toward the lower leg

ROM 0 to 20 degrees



### Ankle dorsiflexors

- Tibialis anterior
- Toe extensors

Note: Reference point is the 90-degree angle between the lower leg and the foot.

## MOVEMENT

(Green background indicates movements affected by spasticity on the involved side in hemiplegia)

## KEY MUSCLES RESPONSIBLE FOR THE MOVEMENT

(Two-jointed muscles are indicated in orange)

### Shoulder adduction

Movement of the arm toward the middle of the body (midline)

ROM 0 to 140 degrees



### Shoulder adductors

- Latissimus dorsi
- Teres major
- Pectoralis major

### Shoulder flexion

Movement of the arm upward toward the face

ROM 0 to 180 degrees



### Shoulder flexors

- Pectoralis major
- Deltoid

### Shoulder internal rotation

Movement of the upper arm internally toward the middle of the body (midline)

ROM 0 to 70 degrees



### Shoulder internal rotators

- Latissimus dorsi
- Teres major
- Pectoralis major

### Elbow flexion

Movement of the forearm toward the upper arm

ROM 0 to 150 degrees



### Elbow flexors

- Biceps
- Brachialis
- Brachioradialis

### Forearm pronation

Internal rotation of the forearm that results in the hand moving from the palm-up to the palm-down position

ROM 0 to 80 degrees



### Pronators

- Pronator teres
- Pronator quadratus

### Wrist flexion

Movement of the palm of the hand toward the inside of the forearm

ROM 0 to 80 degrees



### Wrist flexors

- Flexor carpi radialis
- Flexor carpi ulnaris
- Palmaris longus

### Thumb adduction

Movement of the thumb toward the fingers

ROM 0 to 80 degrees



### Thumb adductors

- Adductor pollicis

### Thumb flexion

Movement of the thumb into palm

ROM 0 to 50 degrees

### Finger flexion

Movement of the fingers toward the palm

ROM 0 to 90 degrees

### Finger flexors

- Flexor digitorum superficialis
- Flexor digitorum profundus

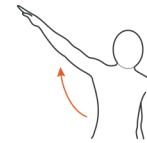
## OPPOSITE MOVEMENT

## KEY MUSCLES RESPONSIBLE FOR THE OPPOSITE MOVEMENT

### Shoulder abduction

Movement of the arm away from the middle of the body (midline)

ROM 0 to 45 degrees



### Shoulder abductors

- Supraspinatus
- Deltoid

### Shoulder extension

Movement of the arm to the back of the body

ROM 0 to 60 degrees



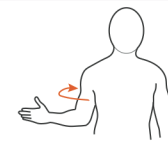
### Shoulder extensors

- Deltoid
- Latissimus dorsi
- Teres major

### Shoulder external rotation

Movement of the upper arm externally away from the middle of the body (midline)

ROM 0 to 90 degrees



### Shoulder external rotators

- Infraspinatus
- Teres minor

### Elbow extension

Movement of the forearm away from the upper arm

ROM 0 to 150 degrees



### Elbow extensors

- Triceps

### Forearm supination

External rotation of the forearm that results in the hand moving from the palm-down to the palm-up position

ROM 0 to 80 degrees



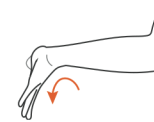
### Supinators

- Supinator

### Wrist extension

Movement of the palm of the hand away from the inside of the forearm

ROM 0 to 70 degrees



### Wrist extensors

- Extensor carpi radialis
- Extensor carpi ulnaris
- Extensor carpi radialis brevis

### Thumb (radial) abduction

Movement of the thumb away from the fingers

ROM 0 to 80 degrees

### Thumb extension

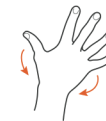
Movement of the thumb away from the palm

ROM 0 to 50 degrees

### Finger extension

Movement of the fingers away from the palm

ROM 0 to 90 degrees



### Thumb abductors

- Abductor pollicis longus
- Abductor pollicis brevis

### Thumb extensors

- Extensor pollicis longus
- Extensor pollicis brevis

### Finger extensors

Individual muscles not listed