Spinal cord segments, Myotomes and Dermatomes and Myotomes of the upper Limb

Myotomes of the Upper Limb, and the muscles they influence

A myotome is the group of muscles supplied by one spinal nerve segment.

<table>
<thead>
<tr>
<th>Myotome</th>
<th>Muscles</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5</td>
<td>Brachioradialis, Biceps Brachii, Brachialis, Coracobrachialis, Deltoid, Teres Major, Infraspinatus, Supraspinatus, Subscapularis, Teres minor</td>
</tr>
<tr>
<td>C6</td>
<td>Triceps Brachii, Extensor Carpi Radialis Brevis, Extensor Carpi Radialis Longus, Extensor Carpi Ulnaris, Extensor Digitorum, Extensor Indicus, Extensor Pollicis Longus, Extensor Pollicis Brevis, Palmaris Longus, Flexor Carpi Radialis, Pronator teres, Supinator, Abductor Pollicis Longus</td>
</tr>
<tr>
<td>C7</td>
<td>Anconeus, Extensor Digiti Minimi, Flexor Digitorum Profundus, Flexor Digitorum Superficialis</td>
</tr>
<tr>
<td>C8</td>
<td>Abductor Pollicis Brevis, Adductor Pollicis, Flexor Pollicis Brevis, Flexor Pollicis Longus, Interossei, Lumbricals, Palmaris brevis, Pronator Teres, Flexor Carpi Ulnaris</td>
</tr>
<tr>
<td>T1</td>
<td>Flexor Digiti Minimi, Abductor Digiti Minimi, Opponens Digiti Minimi</td>
</tr>
</tbody>
</table>

Flexion of the arm: “five six, pick up sticks” Also abduction and internal rotation of the shoulder.

Extension of the arm: Extension of the fingers and the thumb. Except the pinky. The pinky is extended by the C7-C8 segment; but its still attached to the other extensor tendons by a ligamentous band, so weak extension can still occur.

Flexion of the wrist: Flexion of the fingers...again, except the pinky finger. The pinky is flexed by flexor digiti minimi – C8 and T1.

Thumb movements: Everything except extension.

Flexion, abduction, opposition of the pinky finger. So, all the hypothenar muscles.

Abduction and Adduction of the fingers.
### Segmental supply to arm movements and reflexes

#### Shoulder
- **Flexion, abduction, external rotation**: C5
- **Extension, adduction, internal rotation**: C6, C7, C8

#### Elbow
- **Flexion; BICEPS REFLEX**: C5, C6, C7, C8
- **Flexion; TRICEPS REFLEX**: C6, C7, C8

#### Forearm
- **Supination**: C6
- **Pronation**: C7, C8

#### Wrist
- **Flexion**: C6, C7, C8
- **Extension**: C6, C7, C8

#### Fingers and Thumb - long tendons
- **Flexion**: C7, C8
- **Extension**: C7, C8

#### Small Muscles of the Hand
- **Including some thenar and all hypothenar**
- **All movements**: T1

**In summary:**
- Small muscles are ONLY T1
- Supination is ONLY C6
- Shoulder abduction, extension and external rotation is ONLY C5
- C7 and C8 participate in just about everything.
Dermatomes of the Upper Limb

DERMATOMAL DISTRIBUTION

AREAS OF SHARP DEMARCATION:
- Anteriorly, C5 abuts T1 up until the wrist.
- T1 is the lonely thoracic dermatome which runs all the way down the anterior arm
- C5 is the shoulder
- C6 is the thumb
- C7 is the index and middle finger
- C8 is the ring and little finger

References: Moore’s Clinically Oriented Anatomy 5th edition