Anatomy of the Upper Extremities: Muscles of the Shoulder and the Upper Arm

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The human shoulder is the most mobile joint of the body. Since it is a muscle-guided and muscle-stabilized joint, it is susceptible to instability and inflammation. It is essential for doctors to learn about the muscular stabilization of the shoulder joint and its functional anatomy. We can imagine how tiring (if not impossible) a life without a properly functioning shoulder joint would be. The muscle groups of the shoulder are distinguished by location and origin: the muscles of the shoulder and the muscles of the upper arm.

Rotator Cuff: The Anatomy
The rotator cuff is a group of muscles and tendons, surrounding the shoulder joint, that is essential for the mobility and stability of the shoulder joint by pulling the ball of the humerus into the shallow socket of the scapula.

This group of muscles includes four skeletal muscles, which can be memorized, using the mnemonic “SITS”.

- the Supraspinatus muscle
- the Infraspinatus muscle
- the Teres minor muscle
- the Subscapularis muscle

The flat tendons of these muscles are connected to the capsular ligament apparatus, stabilizing the shoulder joint.

**Supraspinatus muscle**

The supraspinatus muscle runs from the supraspinatus fossa and inserts into the greater tubercle of the humerus. It is supplied by the suprascapular nerve (C5-C6), that arises from the upper trunk of the brachial plexus and is supplied by the suprascapular artery.

**Functions of the supraspinatus muscle:**

The main functions of the supraspinatus muscle include the abduction at the shoulder joint and humeral head depression. It plays an essential role in the scapulohumeral balance of the rotator cuff against gravitational pull. It centers the humeral head in the glenoid cavity and, along with the deltoid muscle, prevents downward (inferior) subluxation of the humerus.

**Characteristics of the supraspinatus muscle:**

The anterior fibers of the supraspinatus tendon are connected to the subacromial bursa, while the deep fibers are connected with the fibrous membrane and the surface fibers or areas of the coracohumeral ligament. Therefore, the muscle has a significant influence on the structures of the capsular ligament and vice versa. Therefore, the muscle reacts to the lesions of the structures to which it is connected. As a result, patients are often diagnosed with a muscle disorder, even though the muscle itself may
not be what caused the primary problem.

**Clinical significance of the supraspinatus muscle:**

The muscle is often affected by **tendinopathy**. Tendinopathy is a non-inflammatory degenerative disease of tendons and tendon insertions, which may occur due to vascularisation disorders.

The tendons are supplied via a branch of the **humeral circumflex artery (distal)** and via the **suprascapular artery**.

Motions of the shoulder such as extreme adduction or abduction can lead to increased pressures to the head of the humerus, which may lead to vascular congestion resulting in decreased blood supply to the structures. This should be taken into consideration if a patient must spend a long period of time in a fixed position.

Another cause of tendinopathy is the damage of the tendon tissue by an abnormal abrasion at the narrowed subacromial space.

**Upper arm muscles pain**

Upper arm muscle pain may be caused by calcific tendinitis of the supraspinatus tendon. In rotator cuff tendinitis (inflammation of the tendon), the pain usually begins gradually,
over the side of the shoulder and upper arm. The pain can spread down the outside of the upper arm and even affect the elbow.

In some cases, calcium may infiltrate the subacromial bursa or the joint capsule, resulting in pain and restriction of movements.

**Infraspinatus muscle**

The *infraspinatus muscle* arises from the *infraspinous fossa* of the scapula and attaches to the middle facet of the greater tubercle of the humerus and the capsule of the shoulder joint. It is innervated by the *suprascapular nerve (C5-C6)* that arises from the upper trunk of brachial plexus and supplied blood by suprascapular artery and the circumflex scapular arteries.

**Characteristics of the infraspinatus muscle**

The insertion area of the *infraspinatus muscle* is fused together with the fibers of the *teres minor*, but is separate from the *teres major*.

**Function of the Infraspinatus Muscle**

The *infraspinatus muscle* is the main external (lateral) rotator at the shoulder joint. It can perform both *adduction and abduction*. It also reinforces the shoulder by connecting to the dorsal capsule while centering the head of the humerus in the glenoid.

**Clinical significance of the infraspinatus muscle**

Sudden movements, like reaching backward quickly breaking a fall can irritate the *infraspinatus muscle* and cause pain. Patients describe pain during extension and lateral rotation or are no longer able to lie on the affected side. A patient with such symptoms should be advised to protect the affected side and find a position of ease when sleeping.

**Teres minor muscle**

The *Teres Minor* arises from the middle section of the *scapula* and is inserted into the caudal impression on the greater tubercle of the humerus. It is innervated by the *axillary nerve (C5-C6)*, arises from the posterior cord of the brachial plexus and is supplied blood by the circumflex scapular artery and the posterior circumflex humeral artery.

<table>
<thead>
<tr>
<th>Muscle</th>
<th>Origin</th>
<th>Insertion</th>
<th>Nerve supply</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infraspinatus</td>
<td>Infraspinous fossa</td>
<td>Middle facet of greater tubercle of humerus</td>
<td>Suprascapular nerve (C5)</td>
<td>Laterally rotates shoulder joint. Holds head of humerus in glenoid cavity</td>
</tr>
<tr>
<td>Teres minor</td>
<td>Later border of scapula, middle portion</td>
<td>Inferior facet of greater tubercle of humerus</td>
<td>Axillary nerve (C6)</td>
<td></td>
</tr>
</tbody>
</table>

Characteristics of the teres minor muscle
Some of the deep fibers of the teres minor muscle fuse together with the joint capsule just near the point of muscle attachment and are directly connected to the infraspinatus muscle. Thus, they share the functions of extension and external rotation. It forms one of the boundaries of the quadrangular space that serves as an outer opening for the axillary nerve and the posterior circumflex humeral artery with accompanying veins and lymphatic vessels. It also participates in abduction and adduction of the shoulder.

Function of the teres minor muscle

Besides helping hold the humeral head in the glenoid cavity of the scapula and stabilizing the shoulder joint, it also performs the external rotation and the adduction of the arm at the shoulder joint.

Clinical significance of the teres minor muscle

Since teres minor forms one of the boundaries of the quadrangular space, any morphological change, trauma or edema can narrow the space and cause irritation of the structures passing through. The irritation of the axillary nerve results in the restriction of mobility of the teres muscle and the deltoid muscle affecting the abduction of the arm. Long-term complications include disorders of the skin and sensitivity of the lateral shoulder region.

Subscapularis muscle
The subscapularis muscle arises from the subscapular fossa of the scapula and inserts into the lesser tubercle of the humerus.

Innervation of the subscapularis is via the upper and lower subscapular nerves (C5-C6). Blood supply is done by the subscapular artery.

**Characteristics of the Subscapularis Muscle**

Some deep fibers are fused together with the ventral capsular ligament, which provides stability. It also forms an intermediate tendon in its center, from which the muscle fibers arise. This is where the muscle gains its wide and flat anatomy.

**Function of the Subscapularis Muscle**

The subscapularis is the only rotator cuff muscle that performs internal rotation of the humerus. Aside from preventing ventral dislocation of the humeral head and the ventral dislocation, it also fixates the biceps tendon in the intertubercular groove. It also assists with adduction of the arm at the shoulder joint.

**Clinical significance of the Subscapularis Muscle**

When the innervation of the subscapularis muscle is impaired, the upper extremity falls into an unnatural position of external rotation.

**Rotator Cuff: A Look at the Pathology**

A rotator cuff tear is the most common clinical disorder associated with this muscle group. It usually occurs around the age of 50 to 60 years and is commonly due to circulatory disorders, chronic inflammatory processes, or injury. About 95% of partial and full-thickness tears affect the supraspinatus muscle. There are several types of rotator cuff tear, according to the scale of severity and form, as classified by Ellman and Bateman.

**Classification of the partial tears by Ellman:**

<table>
<thead>
<tr>
<th>Ellman Grade I</th>
<th>Thickness ≤ 1/4 or &lt; 3 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellman Grade II</td>
<td>Thickness ≤ 1/2 or &lt; 3—6 mm</td>
</tr>
</tbody>
</table>
Classification of the full-thickness tears by Bateman:

<table>
<thead>
<tr>
<th>Bateman Grade I</th>
<th>&lt; 1 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bateman Grade II</td>
<td>1—3 cm</td>
</tr>
<tr>
<td>Bateman Grade III</td>
<td>3—5 cm</td>
</tr>
<tr>
<td>Bateman Grade IV</td>
<td>&gt; 5 cm</td>
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</tbody>
</table>

Classification of full-thickness tears by Ellman:

<table>
<thead>
<tr>
<th>Transverse</th>
<th>Tear at the insertion location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crescent</td>
<td>Transverse tear with the deformation through SSC/ISP</td>
</tr>
<tr>
<td>L-shaped</td>
<td>Transverse tear with an expansion into the interval between SSP and ISP</td>
</tr>
<tr>
<td>Reverse L</td>
<td>Transverse tear with an expansion into rotator interval</td>
</tr>
<tr>
<td>Trapezoidal</td>
<td>L-shaped + Reverse L</td>
</tr>
<tr>
<td>Massive Tear Full-Thickness Rotator Cuff Tears</td>
<td>Expansion into the teres minor or into the anterior SSC</td>
</tr>
</tbody>
</table>

**Additional Muscles of the Shoulder**

The shoulder muscles include skeletal muscles that are attached to the head of the humerus which performs various direct and indirect functions of the shoulder joints. However, their origin is found in the osseous structures and they are not to be included with the rotator cuff muscles.

**Deltoid muscle**

The deltoid originates in three distinct sets of fibers: *acromial*, *clavicular*, and *spinal*.

All three sets of fibers converge toward their insertion on the deltoid tuberosity and are innervated by the *axillary nerve* (*C5-C6*) and receive their blood supply via or from the posterior circumflex humeral artery. They are all involved in arm abduction and prevent the dislocation of the humeral head. However, the origin and the secondary functions,
such as synergistic movements, of the three sets of fibers should be distinguished.

**Acromial fibers** arise from the lateral acromion, **clavicular fibers** arise from the lateral and caudal clavicle, and **spinal fibers** arise from the caudal part of the spine of the scapula.

<table>
<thead>
<tr>
<th>Muscle</th>
<th>Origin</th>
<th>Insertion</th>
<th>Nerve supply</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deltoid</strong></td>
<td><strong>Clavicular head: lateral third of clavicle</strong>&lt;br&gt;<strong>Acromial head: acromion</strong>&lt;br&gt;<strong>Spinal head: spine of the scapula</strong></td>
<td>Deltoid tuberosity of humerus</td>
<td>Axillary nerve (C5)</td>
<td>Clavicular head: flexes and medially rotates the arm at shoulder joint&lt;br&gt;Acromial head: abducts shoulder&lt;br&gt;Spinal head: extends and laterally rotates the shoulder joint</td>
</tr>
<tr>
<td><strong>Supraspinatus</strong></td>
<td><strong>Supraspinous fossa</strong></td>
<td>A superior facet of the greater tubercle of the humerus</td>
<td>Suprascapular nerve (C5,6)</td>
<td>Initiates and assists deltoid in the abduction</td>
</tr>
</tbody>
</table>

**Characteristics of the deltoid muscle**

The deltoid muscle is the reference muscle for the **C5 dermatome**.

**Function of the deltoid muscle**

Due to their extensive paths and three sets of fibers of the deltoid muscle can perform various secondary functions and synergistic movements. Acromial fibers do not have any secondary functions.

<table>
<thead>
<tr>
<th>Characteristic</th>
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<tbody>
<tr>
<td><strong>Clavicular fibers</strong></td>
</tr>
<tr>
<td>• Internal rotation of the shoulder joint occurs with or accompanied by adduction&lt;br&gt;  • Flexion in front of the body&lt;br&gt;  • Adduction in front of the body</td>
</tr>
<tr>
<td><strong>Spinal fibers</strong></td>
</tr>
<tr>
<td>• External rotation of the shoulder joint occurs with or accompanied by extension&lt;br&gt;  • Extension and adduction behind the back</td>
</tr>
<tr>
<td><strong>Clavicular fibers + spinal fibers</strong></td>
</tr>
<tr>
<td>• Adduction through the final third of active range of motion&lt;br&gt;  • Abduction of the shoulder joint</td>
</tr>
<tr>
<td><strong>Spinal fibers + Acromial fibers</strong></td>
</tr>
<tr>
<td>• Flexion of the shoulder joint&lt;br&gt;  • Extension of the shoulder girdle</td>
</tr>
</tbody>
</table>

**Clinical significance of the deltoid muscle**

Atrophy or weakness of the deltoid muscle, is almost always neurological, likely due to a lesion of the **C5 root** or its branches.

**Coracobrachialis muscle**

The Coracobrachialis arises from the apex of the coracoid process under the short head of the biceps brachii. It inserts into an impression in the middle of the medial surface and border of the body of the humerus between the origins of triceps brachii and brachialis. It is innervated by the musculocutaneous nerve (C6-C7).
Characteristics of the coracobrachialis muscle

The muscle creates an outlet opening for the musculocutaneous nerve.

Function of the coracobrachialis muscle

The coracobrachialis muscle is a weak flexor and adductor of the arm. It also assists in preventing the dislocation of the humerus.

Clinical significance of the coracobrachialis muscle

The musculocutaneous nerve can get trapped in the outlet opening if the muscle is morphologically impaired or altered. The continuous irritation of the nerve can lead to the motor dysfunction of biceps brachii and brachial (i.e. weakness). Patients will experience disturbances in sensation to the skin on the radial part of the forearm.

Pectoralis major muscle

Similar to the deltoid muscle, the pectoralis major muscle originates in three distinct sets of fibers: clavicular fibers, sternal fibers, and abdominal fibers. The clavicular fibers arise from the medial end of the clavicle. The sternal fibers arise from the anterior surface of the sternum to as low as the cartilage of the sixth rib; the abdominal fibers arise from the ventral leaf of the rectus sheath.

From this extensive origin, the fibers converge toward their insertion into the lateral lip of the bicipital groove of the humerus.

The Pectoralis Major muscle is innervated by the medial pectoral nerve and the lateral pectoral nerve (C5-T1). Its functions include flexion, adduction, and internal rotation.

<table>
<thead>
<tr>
<th>Muscle</th>
<th>Origin</th>
<th>Insertion</th>
<th>Nerve supply</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pectoralis major</td>
<td>Clavicular head: Anterior surface of the medial clavicle Sternocostal head: sternum and superior six costal cartilages</td>
<td>Lateral lip of intertubercular sulcus</td>
<td>Lateral and medial pectoral nerves (C5, C6–clavicular head; C7, C8–sternocostal head)</td>
<td>Adducts and medially rotates shoulder joint; pulls scapula anteriorly and inferiorly</td>
</tr>
<tr>
<td><strong>Pectoralis minor</strong></td>
<td>Ribs 3-5</td>
<td>Coracoid process of the scapula</td>
<td>Medial pectoral nerves (C8, T1)</td>
<td>Stabilises scapula and pulls it anteriorly and inferiorly</td>
</tr>
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<td>---------------------</td>
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</tr>
<tr>
<td><strong>Subclavius</strong></td>
<td>Rib 1 and sternum junction</td>
<td>Middle third of clavicle</td>
<td>Subclavian nerve (C5)</td>
<td>Stabilises and depresses clavicle</td>
</tr>
<tr>
<td><strong>Serratus anterior</strong></td>
<td>The external surface of ribs 1-8</td>
<td>Medial border of the scapula</td>
<td>Long thoracic nerve (C6, C7)</td>
<td>Protracts scapula; holds scapula against posterior thoracic wall</td>
</tr>
</tbody>
</table>

**Characteristics of the pectoralis major muscle**

The pectoralis major muscle forms the axilla, and its fibers rotate 180 degrees. When the arm is lifted, the fascial layer loosens and shifts back to neutral when the arm is dropped, to avoid restraining. The **bicipital groove** is located between the clavicular fibers and the sternal fibers and can be identified by palpation.

**Function of the Pectoralis Major Muscle**

The main functions of pectoralis major are flexion, adduction, and internal rotation of the arm. The pectoralis major muscle is the most important muscle for the adduction and anteversion of the shoulder joint which is why it is also known as the ‘breaststroke muscle’. It rotates the upper arm inwards (medial rotation) and makes a powerful stroke movement (retroversion) when the arms are elevated. If the arms are fixed, the muscle lifts the trunk which can be helpful in climbing or during inspiration.

At the fixed end of the humerus, the pectoralis major muscle pulls the shoulder girdle in the ventral direction. Due to its location, it belongs to the **chest (pectoral) muscle group**.

**Clinical significance of the pectoralis major muscle**

In post-traumatic damage of the brachial plexus, the pectoralis major muscle can be transposed surgically in a partial manner to restore arm function.

**Teres major muscle**
The **teres major muscle** arises from the oval area on the dorsal surface of the **inferior angle of the scapula** and inserts into the **medial lip of the intertubercular sulcus of the humerus** near the insertion area of the **latissimus dorsi muscle**. It is innervated by the **thoracodorsal nerve (C6-C7)**. Blood supply is provided by the circumflex scapular artery. It is responsible for the extension, adduction and internal rotation of the arm.

<table>
<thead>
<tr>
<th>Muscle</th>
<th>Origin</th>
<th>Insertion</th>
<th>Nerve supply</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teres major</td>
<td>Later border of the scapula, the inferior portion</td>
<td>The medial lip of the intertubercular groove</td>
<td>Lower subscapular nerve (C6)</td>
<td>Adducts and medially rotates the shoulder joint</td>
</tr>
<tr>
<td>Subscapularis</td>
<td>Subscapular fossa</td>
<td>Lesser tubercle of the humerus</td>
<td>Upper and lower subscapular nerves (C6)</td>
<td>Medially rotates and adducts shoulder joint. Holds the head of the humerus in the glenoid cavity</td>
</tr>
</tbody>
</table>

**Characteristics of the teres major muscle**

The Teres Major muscle is often called ‘the younger brother of latissimus. Its function is synergistic with that of the latissimus dorsi muscle.

**Function of the teres major muscle**

The main functions of Teres Major are the extension, adduction and internal rotation of the arm. *At the fixed end* of the arm, the teres major pulls the scapula outwards.

**Clinical significance of the teres major muscle**

The teres major muscle forms the boundaries of both the **quadrangular** and **triangular axillary spaces**. The **circumflex scapular artery** and the **axillary nerve** pass through the quadrangular space, while the **profunda brachii artery** and **radial nerve** pass through the triangular axillary space.

**Latissimus dorsi muscle**
The latissimus dorsi muscle originates in four distinct sets of fibers: **scapular fibers, costal fibers, vertebral fibers, and iliac fibers**. All four fibers converge toward their insertion in the middle of the medial surface and border of the body of the humerus. They are innervated by the **thoracodorsal nerve (C6-C8)**. Blood supply is provided by the thoracodorsal artery via the axillary artery. The muscle performs extension, adduction, and internal rotation.

The scapular fibers arise from the inferior angle of the scapula; the costal fibers originate between the tenth and the twelfth ribs, while the vertebral fibers arise from the **thoracolumbar fascia** and **vertebrae T7- T12 and L1-L5**.

<table>
<thead>
<tr>
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<th>Origin</th>
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</tr>
</thead>
</table>
| Trapezius      | **Descending part:** superior nuchal line and the external occipital protuberance  
**Transverse part:** nuchal ligament  
**Ascending part:** C7–T12 spinous processes | Lateral third of clavicle and spine of the scapula | The spinal accessory nerve (CN XI) and C3, C4 spinal nerves for proprioception | Descending part: elevates the scapula  
Transverse part: retracts  
Ascending part: depresses  
Descending and ascending: rotate scapula superiorly |
| Latissimus dorsi | T6-12 spinous processes, thoracolumbar fascia, and iliac crest          | The floor of the intertubercular groove        | Thoracodorsal nerve (C6, C7)                      | Extends, adducts and medially rotates the shoulder joint |

**Characteristics of the latissimus dorsi muscle**

Together with teres major, Latissimus dorsi rotates 180 degrees from its insertion point.

**Function of the latissimus dorsi muscle**

The Latissimus dorsi muscle performs extension, adduction and internal rotation of the arm.

At the fixed end of the arm, the scapular fibers pull the scapula outwards. The costal fibers assist as an accessory muscle of inspiration and prevent the rib cage from
expanding during coughing. Due to its location, it also belongs to a group of pelvic wall muscles.

**Clinical significance of the Latissimus Dorsi Muscle**

The Latissimus dorsi muscle is used for breast reconstruction surgery in the so-called **latissimus dorsi flap procedure**.

**Muscles of the Upper Arm**

The upper arm muscles consist of ventral and dorsal muscle groups, each represented by only one muscle – **the biceps brachii muscle as a flexor** and **the triceps brachii muscle as an extensor**.

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**Biceps brachii muscle**

![Biceps brachii muscle](image)

The **biceps brachii** is a bifurcated skeletal muscle with fibers of two different origins. Although the majority of the muscle mass is located anteriorly to the humerus, it has no attachment to the bone itself. The longer head arises from the **supraglenoid tubercle of the scapula**, while the shorter head arises from the **coracoid process of the scapula**.

Both heads join to form one large muscle the tendon of which inserts into the **radial tuberosity**. The muscle also inserts into the **antebrachial fascia** via the **bicipital aponeurosis**.

It is innervated by the **musculocutaneous nerve (C5,6)**. Blood is supplied via the brachial artery. Both heads perform flexion and supination of the forearm at the elbow and flexion at the shoulder.

**Characteristics of the Biceps Brachii Muscle**

Both bifurcated heads of the Biceps converge near the insertion of the **deltoid muscle** at the **deltoid tuberosity**.

**Function of the Biceps Brachii Muscle**

<table>
<thead>
<tr>
<th>Muscle</th>
<th>Origin</th>
<th>Insertion</th>
<th>Nerve supply</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biceps brachii</td>
<td>Supraglenoid tubercle</td>
<td>Radial tuberosity</td>
<td>Musculocutaneous nerve (C5,6)</td>
<td>Flexion and supination</td>
</tr>
<tr>
<td></td>
<td>Coracoid process of the</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>scapula</td>
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</tbody>
</table>
Clinical significance of the biceps brachii muscle

The most common injuries of the biceps brachii are the tears in the muscles. Two types of ruptures are distinguished: the proximal rupture and less commonly, distal rupture. Proximal rupture can be surgically repaired: the torn tendon is fixated to the brachialis muscle.

Triceps brachii muscle

The triceps brachii is a three-headed skeletal muscle with fibers of three different origins.

The long head arises from the infraglenoid tubercle of the scapula.

The lateral head arises from the dorsal surface of the surgical neck of the humerus up to the deltidoid tuberosity, from the lateral radial sulcus and from the lateral intermuscular septum.

The medial head arises from the dorsal surface of the humerus, from the medial and distal radial sulcus to the olecranon fossa and from the medial and lateral intermuscular septum.

All three heads converge toward their insertion onto the olecranon process of the
and are innervated by the radial nerve (C6-C8). Blood supply is done by branches of the deep brachial artery. Their primary function is the extension of the elbow.

<table>
<thead>
<tr>
<th>Muscle</th>
<th>Origin</th>
<th>Insertion</th>
<th>Nerve supply</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triceps brachii</td>
<td><strong>Long head:</strong> infraglenoid tubercle</td>
<td>Olecranon</td>
<td>Radial nerve (C7, C8)</td>
<td>Extensor of elbow joint Long head also extends the shoulder joint</td>
</tr>
<tr>
<td></td>
<td><strong>Lateral head:</strong> posterior humerus, superior to the radial groove</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Medial head:</strong> posterior humerus, inferior to the radial groove</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anconeus</td>
<td>Lateral epicondyle of humerus</td>
<td>Olecranon (lateral)</td>
<td>Radial nerve</td>
<td></td>
</tr>
</tbody>
</table>

**Characteristics of the triceps brachii muscle**

The long head of the triceps brachii is a part of various axillary spaces. The largest part creates the quadrangular space, which carries the axillary nerve, and the triangular space, through which the radial nerve and the deep artery of the arm (profunda brachii artery) pass.

**Function of the triceps brachii muscle**

The primary function of the triceps brachii muscle is the extension of the elbow.

Along with its primary function, the long head of the triceps brachii is synergistic with the latissimus dorsi and teres major, which act as adductors and extensors of the arm at the shoulder joint. It is, however, also capable of the external rotation of the shoulder joint.

**Clinical significance of the Triceps brachii muscle**

Similar to the biceps brachii, the triceps is also prone to tears. These tears can be repaired surgically.

**References**


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