

New user interface – preview

ANATOMY OF THE SHOULDER

3D Views

Shoulder

Biceps brachii: short head

Proximally, **biceps brachii** has two heads, **long** and **short**. The two heads unite in the lower part of the arm.

Proximal Attachment
The tip of the coracoid process.

Nerve Supply
Musculocutaneous nerve (C5,6).

Actions
Biceps is a **powerful supinator**, as well as being a **flexor of the elbow**, particularly if the forearm is supinated. In addition, it **acts to some extent as a flexor of the shoulder**.

Pathology

Biceps Tenosynovitis and Related Pathology
Biceps tenosynovitis, or inflammation of the biceps tendon, is most frequently a degenerative process, with inflammation occurring in the bicipital groove. When located in the intraarticular or extraarticular portions of the tendon, it may be a result of trauma. MR images frequently display increased fluid, nonspecific for inflammation, in the bicipital synovial sheath. Since communication between the joint capsule and the biceps tendon synovial sheath is normal, intrinsic hyperintensity or tendon thickening may be a more specific finding for biceps tendon inflammation. The Yergason test, in which forced supination produces pain in the biceps groove, is helpful in distinguishing biceps tendinitis from rotator cuff impingements. The biceps tendon lies within its groove, which makes it difficult to palpate; in fact, it is impossible to palpate the tendon in its intracapsular, intraarticular portion.

Biceps tenodesis in the bicipital groove is the treatment of choice in biceps tendinitis. Because the long head of the biceps tendon (through the biceps labral complex) is known to contribute to both superior and anterior stability of the glenohumeral, there is some concern that this fixation may

Structures in view

New user interface – quick start guide

The screenshot displays the Primal's 3D Atlas of Human Anatomy interface for the 'Shoulder' section. The main window shows a 3D anatomical model of the shoulder with various structures highlighted in different colors (red for muscles, blue for nerves, green for tendons). The interface includes a sidebar on the left with a '3D Views' section and a 'Shoulder' section. The 'Shoulder' section is currently selected, showing a list of views: Thorax and arm, Thorax and shoulder, Muscles connecting the upper limb to the trunk, Shoulder, Rotator cuff, Shoulder girdle, Shoulder joint: coronal section, Shoulder joint: sagittal section, and Axilla. The 'Shoulder' view is highlighted with a callout 'Select 3D views'. The main window has a search bar at the top right with the text 'Biceps brachii: short head'. Below the search bar, there is a text box with the following content:

Proximally, **biceps brachii** has two heads, **long** and **short**. The two heads unite in the lower part of the arm.

Proximal Attachment
The tip of the coracoid process.

Nerve Supply
Musculocutaneous nerve (C5,6).

Actions
Biceps is a **powerful supinator**, as well as being a **flexor of the elbow**, particularly if the forearm is supinated. In addition, it **acts to some extent as a flexor of the shoulder**.

Pathology

Biceps Tenosynovitis and Related Pathology
Biceps tenosynovitis, or inflammation of the biceps tendon, is most frequently a degenerative process, with inflammation occurring in the bicipital groove. When located in the intraarticular or extraarticular portions of the tendon, it may be a result of trauma. MR images frequently display increased fluid, nonspecific for inflammation. In the bicipital synovial sheath. Since communication between the joint capsule and the biceps tendon synovial sheath is normal, intrinsic hyperintensity or tendon thickening may be a more specific finding for biceps tendon inflammation. The Yergason test, in which forced supination produces pain in the biceps groove, is helpful in distinguishing biceps tendinitis from rotator cuff impingements. The biceps tendon lies within its groove, which makes it difficult to palpate; in fact, it is impossible to palpate the tendon in its intracapsular, intraarticular portion.

Biceps tenodesis in the bicipital groove is the treatment of choice in biceps tendinitis. Because the long head of the biceps tendon (through the biceps labral complex) is known to contribute to both superior and anterior stability of the glenohumeral, there is some concern that this function may

Structures in view

Callouts and interactive elements include:

- Search**: A search bar at the top right.
- Move back and forward**: A double-headed arrow icon at the top right.
- Swipe to rotate**: A callout pointing to a hand icon and a mouse icon at the top center.
- Select 3D views**: A callout pointing to the 'Shoulder' view in the sidebar.
- Select a structure to highlight and display text**: A callout pointing to a structure in the 3D model.
- Layer up or down through the anatomy**: A callout pointing to a stack of layers icon at the bottom left.
- Rotate the 3D model**: A callout pointing to a rotation icon at the bottom center.
- Zoom in and out**: A callout pointing to a zoom icon at the bottom center.
- Flip the image**: A callout pointing to a flip icon at the bottom center.
- List 3D view/image contents**: A callout pointing to a list icon at the bottom right.

New user interface – comparison

The image compares two versions of the 'PRIMAL'S 3D ATLAS OF HUMAN ANATOMY' software interface for the 'Shoulder' section.

Top Interface (New User Interface):

- Header:** 'ANATOMY OF THE SHOULDER' and 'Shoulder'.
- 3D Views:** A vertical sidebar menu with icons and labels: Thorax and arm, Thorax and shoulder, Muscles connecting the upper limb to the trunk, Shoulder (highlighted), Rotator cuff, Shoulder girdle, Shoulder joint: coronal section, Shoulder joint: sagittal section, Axilla, Arm and elbow, Surface features, Bone regions, Nervous system.
- Central 3D View:** A detailed 3D anatomical model of the shoulder and upper arm, showing muscles, bones, and nerves.
- Right Panel (Biceps brachii: short head):**
 - Text:** 'Proximally, **biceps brachii** has two heads, **long** and **short**. The two heads unite in the lower part of the arm.'
 - Proximal Attachment:** 'The tip of the coracoid process.'
 - Nerve Supply:** 'Musculocutaneous nerve (C5,6).'
 - Actions:** 'Biceps is a **powerful supinator**, as well as being a **flexor of the elbow**, particularly if the forearm is supinated. In addition, it **acts to some extent as a flexor of the shoulder**.'
 - Pathology:**
 - Biceps Tenosynovitis and Related Pathology:** 'Biceps tenosynovitis, or inflammation of the biceps tendon, is most frequently a degenerative process, with inflammation occurring in the bicipital groove. When located in the intraarticular or extraarticular portions of the tendon, it may be a result of trauma. MR images frequently display increased fluid, nonspecific for inflammation, in the bicipital synovial sheath. Since communication between the joint capsule and the biceps tendon synovial sheath is normal, intrinsic hyperintensity or tendon thickening may be a more specific finding for biceps tendon inflammation. The Yergason test, in which forced supination produces pain in the biceps groove, is helpful in distinguishing biceps tendinitis from rotator cuff impingements. The biceps tendon lies within its groove, which makes it difficult to palpate; in fact, it is impossible to palpate the tendon in its intracapsular, intraarticular portion.'
 - Biceps tenodesis:** 'Biceps tenodesis in the bicipital groove is the treatment of choice in biceps tendinitis. Because the long head of the biceps tendon (through the biceps labral complex) is known to contribute to both superior and anterior stability of the glenohumeral joint, there is some concern that this fixation may...' (text is partially cut off).

Bottom Interface (Older User Interface):

- Header:** 'Shoulder'.
- 3D Views:** A vertical sidebar menu with icons and labels: Thorax and arm, Thorax and shoulder, Muscles connecting the upper limb to the trunk, Shoulder (highlighted), Rotator cuff, Shoulder girdle, Shoulder joint: coronal section, Shoulder joint: sagittal section, Axilla, Arm and elbow, Surface features, Bone regions, Nervous system.
- Central 3D View:** A detailed 3D anatomical model of the shoulder and upper arm, showing muscles, bones, and nerves.
- Right Panel (Biceps brachii: short head):**
 - Text:** 'Proximally, **biceps brachii** has two heads, **long** and **short**. The two heads unite in the lower part of the arm.'
 - Proximal Attachment:** 'The tip of the coracoid process.'
 - Nerve Supply:** 'Musculocutaneous nerve (C5,6).'
 - Actions:** 'Biceps is a **powerful supinator**, as well as being a **flexor of the elbow**, particularly if the forearm is supinated. In addition, it **acts to some extent as a flexor of the shoulder**.'
 - Pathology:**
 - Biceps Tenosynovitis and Related Pathology:** 'Biceps tenosynovitis, or inflammation of the biceps tendon, is most frequently a degenerative process, with inflammation occurring in the bicipital groove. When located in the intraarticular or extraarticular portions of the tendon, it may be a result of trauma. MR images frequently display increased fluid, nonspecific for inflammation, in the bicipital synovial sheath. Since communication between the joint capsule and the biceps tendon synovial sheath is normal, intrinsic hyperintensity or tendon thickening may be a more specific finding for biceps tendon inflammation. The Yergason test, in which forced supination produces pain in the biceps groove, is helpful in distinguishing biceps tendinitis from rotator cuff impingements. The biceps tendon lies within its groove, which makes it difficult to palpate; in fact, it is impossible to palpate the tendon in its intracapsular, intraarticular portion.'
 - Biceps tenodesis:** 'Biceps tenodesis in the bicipital groove is the treatment of choice in biceps tendinitis. Because the long head of the biceps tendon (through the biceps labral complex) is known to contribute to both superior and anterior stability of the glenohumeral joint, there is some concern that this fixation may...' (text is partially cut off).

New user interface – flexible work space

