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"Functional Analysis of the Primate Shoulder". *International Journal of Primatology*. 31 (2): 301320. doi:10.1007/s10764-010-9399-1. PMC2286095. PMID20495602.Wikimedia Commons has media related to Shoulders.Look up shoulder or shoulder in Wiktionary, the free dictionary.Video of the shoulder carriage in motionNIH (article includes text from this source)University of Michigan Medical School module on movements of the shoulder, arm, forearm, and handRetrieved from " Human AnatomyRegion connecting upper limb to trunkThe shoulder is located at the junction of the upper limb and the torso. It lies laterally to the base of the neck, superior to the upper chest, and connects the arm (humerus) to the scapula (shoulder blade) and clavicle (collarbone). It spans the anterior, lateral, and posterior regions of the upper torso. The shoulder is a complex and highly mobile region that connects the upper limb to the trunk. It is composed of bones, joints, muscles, ligaments, tendons, and nerves that allow for a wide range of motion. The shoulder's structure enables flexibility and stability, making it the most mobile joint in the human body. Below is a detailed description of the anatomy of the shoulder: The shoulder consists of three main bones that form its skeletal framework: An S-shaped long bone that connects the sternum (chest) to the scapula (shoulder blade). Acts as a strut to keep the upper limb away from the thorax, allowing free movement. Articulates with: Manubrium of the Sternum (medially) forming the sternoclavicular joint. Acromion of the Scapula (laterally) forming the acromioclavicular joint. A flat, triangular bone located on the posterior thoracic wall between the 2nd and 7th ribs. Features key anatomical landmarks: Glenoid Cavity: A shallow depression that articulates with the humerus to form the glenohumeral joint. Acromion: A bony projection extending laterally from the spine of the scapula, articulating with the clavicle. Coracoid Process: A hook-like projection anteriorly, providing attachment for muscles and ligaments. Spine of the Scapula: A prominent ridge dividing the posterior surface into the supraspinous fossa (above) and infraspinous fossa (below). The long bone of the upper arm that forms part of the shoulder joint. Features the head of the humerus, a rounded structure that articulates with the glenoid cavity of the scapula to form the glenohumeral joint.Anatomical landmarks include: Greater and Lesser Tubercles: Bony prominences providing muscle attachment. Bicipital Groove: A groove between the tubercles for the long head of the biceps tendon. The shoulder is composed of four main joints that enable its mobility: Type: Ball-and-socket synovial joint. Articulation: Between the head of the humerus and the glenoid cavity of the scapula. Features: Allows the greatest range of motion of any joint. Stabilized by the glenoid labrum (a fibrocartilaginous ring) and surrounding ligaments. Type: Plane synovial joint. Articulation: Between the acromion process of the scapula and the lateral end of the clavicle. Provides stability to the shoulder girdle. Type: Saddle synovial joint. Articulation: Between the sternal end of the clavicle and the manubrium of the sternum. The only bony connection between the upper limb and the axial skeleton. Not a true anatomical joint but a functional articulation. Articulation: Between the anterior surface of the scapula and the posterior thoracic cage (ribs). Allows movements like elevation, depression, protraction, retraction, and rotation of the scapula. The ligaments provide stability by connecting bones and supporting the joints: Glenohumeral Ligaments (Superior, Middle, and Inferior): Reinforce the anterior aspect of the glenohumeral joint. Coracohumeral Ligament: Extends from the coracoid process to the greater tubercle of the humerus, stabilizing the joint superiorly. Transverse Humeral Ligament: Spans the bicipital groove, holding the long head of the biceps tendon in place. Acromioclavicular Ligament: Connects the acromion to the clavicle, stabilizing the AC joint. Coracoclavicular Ligament: Composed of two parts (conoid and trapezoid ligaments), connecting the coracoid process to the clavicle. Coracoacromial Ligament: Forms the coracoacromial arch, preventing superior displacement of the humerus. The shoulder region is surrounded by muscles that provide movement and stability: These muscles originate from the torso and attach to the shoulder girdle: Trapezius: Elevates, retracts, and depresses the scapula. Latissimus Dorsi: Extends, adducts, and internally rotates the arm. Rhomboid Major and Minor: Retract and stabilize the scapula. Serratus Anterior: Protracts and rotates the scapula upward. Pectoralis Major and Minor: Adduct and rotate the arm (major); depress the scapula (minor). These muscles originate and attach within the shoulder region: Deltoid: The major abductor of the arm. Teres Major: Assists in adduction and medial rotation of the arm. Rotator Cuff Muscles: Provide dynamic stability to the glenohumeral joint: Supraspinatus: Abduction of the arm. Infraspinatus: External rotation of the arm. Teres Minor: External rotation and adduction. Subscapularis: Internal rotation of the arm. The nerves of the shoulder arise primarily from the brachial plexus: The shoulder region receives blood through multiple arteries: Venous drainage occurs via the axillary vein, which drains into the subclavian vein. The shoulder contains bursae to reduce friction between structures: Subacromial Bursa: Reduces friction between the rotator cuff and the acromion. Subdeltoid Bursa: Facilitates smooth movement of the deltoid muscle over the joint. Acromion: The bony prominence at the top of the shoulder.[4] Clavicle: Palpable horizontally at the front of the shoulder. Spine of the Scapula: Prominent ridge on the posterior scapula. Deltoid Muscle: Covers the glenohumeral joint laterally. The shoulder is one of the most versatile and mobile regions of the human body, playing a pivotal role in enabling upper limb movement, stability, and functional activities. Its anatomical design, including the glenohumeral joint, scapula, clavicle, ligaments, and muscles, allows for a remarkable range of motion while supporting strength and precision. Below is a detailed breakdown of the functions of the shoulder: The shoulder has the greatest range of motion of any joint in the body, enabling the upper limb to move in multiple planes: Flexion: Moving the arm forward (e.g., raising your arm to point forward). Extension: Moving the arm backward (e.g., swinging the arm behind the body). Abduction: Lifting the arm away from the body laterally (e.g., raising the arm to the side). Adduction: Bringing the arm back toward the body (e.g., lowering the arm to the side). Internal (Medial) Rotation: Rotating the arm toward the body's midline (e.g., reaching behind your back).[1] External (Lateral) Rotation: Rotating the arm away from the body's midline (e.g., cocking the arm to throw). Circumduction: Moving the arm in a circular motion (e.g., making a large circular motion with your hand). These movements are facilitated primarily by the glenohumeral joint, which acts as a ball-and-socket joint, and the supporting muscles and ligaments. The scapulothoracic joint also allows additional movements of the scapula to complement these motions. The shoulder allows the upper limb to perform precise and forceful tasks by positioning the hand and arm for various activities: Reaching: The shoulder enables the arm to extend forward, sideways, or upward to interact with the environment.[8] Lifting and Carrying: Strong shoulder muscles, such as the deltoid and trapezius, enable the arm to lift and bear heavy loads. Throwing and Swinging: Movements such as throwing a ball, swinging a bat, or lifting an object overhead are possible due to the shoulders flexibility and power. Fine Motor Tasks: The shoulder provides stability for precise hand activities such as writing, painting, and typing by positioning the arm appropriately. While the shoulder provides significant mobility, it must also maintain stability to prevent dislocations and injury during movement: The rotator cuff muscles (supraspinatus, infraspinatus, teres minor, and subscapularis) stabilize the glenohumeral joint during motion. Static Stabilizers: Ligaments (glenohumeral, coracohumeral) and the glenoid labrum hold the humeral head within the glenoid cavity. Dynamic Stabilizers: Muscles like the deltoid, trapezius, and serratus anterior provide active stabilization during functional activities. This combination of static and dynamic stabilizers ensures that the shoulder remains secure during tasks requiring strength, balance, or repetitive motion.[7] The scapula plays a critical role in shoulder function, acting as the base for upper limb movement: The scapulothoracic joint allows the scapula to move in six directions: Elevation (lifting the shoulder upward, as in shrugging). Depression (lowering the shoulder downward). Protraction (moving the scapula forward, as in reaching). Retraction (pulling the scapula backward, as in squeezing shoulder blades together). Upward Rotation (rotating the scapula to elevate the arm). Downward Rotation (rotating the scapula downward as the arm lowers).Scapular movements allow the shoulder joint to remain aligned and functional during arm motions, ensuring smooth and coordinated movements. The shoulder girdle, including the clavicle and scapula, plays a key role in transmitting forces from the upper limb to the axial skeleton: The clavicle acts as a strut to keep the upper limb away from the thorax, enabling free motion and distributing mechanical forces. Forces generated during activities like pushing, pulling, or lifting are transferred through the clavicle to the sternoclavicular joint and onward to the axial skeleton. This function protects the shoulder joint from excessive stress and enhances its ability to bear loads. The shoulder enables overhead activities critical for daily life and specialized functions: Activities such as reaching for objects on shelves, swimming, climbing, or throwing rely on the coordinated movement of the glenohumeral joint, scapula, and surrounding muscles.[5] The rotator cuff muscles and deltoid play a significant role in elevating and rotating the arm overhead. The shoulder serves as the anchor point for several major muscles that control upper limb and shoulder movement: Extrinsic Muscles: Connect the shoulder girdle to the axial skeleton (e.g., trapezius, latissimus dorsi, pectoralis major). Intrinsic Muscles: Originate and insert within the shoulder region (e.g., deltoid, rotator cuff muscles).The coordinated action of these muscles allows for smooth, controlled, and powerful movements of the arm. The shoulder girdle protects critical nerves and blood vessels as they pass between the neck and upper limb: The brachial plexus (nerve network) and the axillary artery and vein pass through the axilla and beneath the clavicle. The shoulder bones and muscles shield these structures from compression and injury while allowing them to supply the upper limb.[3] The shoulder contributes to the alignment and stabilization of the upper body posture: Muscles like the trapezius, rhomboids, and levator scapulae maintain scapular position. Proper shoulder alignment ensures balance between the neck, shoulders, and spine, preventing postural deformities and muscle imbalances. The shoulders range of motion and strength allow for daily functional activities, such as: Grooming (combing hair, brushing teeth). Eating and Drinking (lifting utensils, bringing food to the mouth). Lifting and Carrying objects. Sports and Specialized Tasks (throwing, pushing, pulling).These activities rely on the integrated action of the shoulder joints, muscles, and ligaments. The shoulder is one of the most mobile yet vulnerable joints in the human body. Its wide range of motion makes it susceptible to injuries, instability, and degenerative conditions that can impair function and cause pain. The glenohumeral joint is prone to dislocation, especially anteriorly, due to its shallow socket and high mobility. Tears or inflammation of the rotator cuff muscles (supraspinatus, infraspinatus, teres minor, subscapularis) are common, causing pain and limited movement.[2] Characterized by stiffness and reduced range of motion due to inflammation of the joint capsule. Inflammation of the subacromial bursa or tendons (e.g., biceps tendon) can result from overuse or repetitive motions. Direct trauma can cause AC joint separation, leading to pain and deformity. Osteoarthritis or rheumatoid arthritis can affect the shoulder joints, causing pain, stiffness, and reduced mobility. Fractures of the clavicle, humerus, or scapula occur commonly due to trauma or falls.Published on December 18, 2024Last updated on April 24, 2025HomeExploreDiscussFlashcardsQuizDisclaimer: The content on this site is for educational purposes only and is not a substitute for professional medical advice, diagnosis, or treatment.

How long does shoulder bursitis surgery take. Is shoulder bursitis surgery painful. Does shoulder bursitis require surgery. How long is recovery from shoulder bursitis surgery. Shoulder bursitis surgery success rate. Can surgery fix shoulder bursitis.