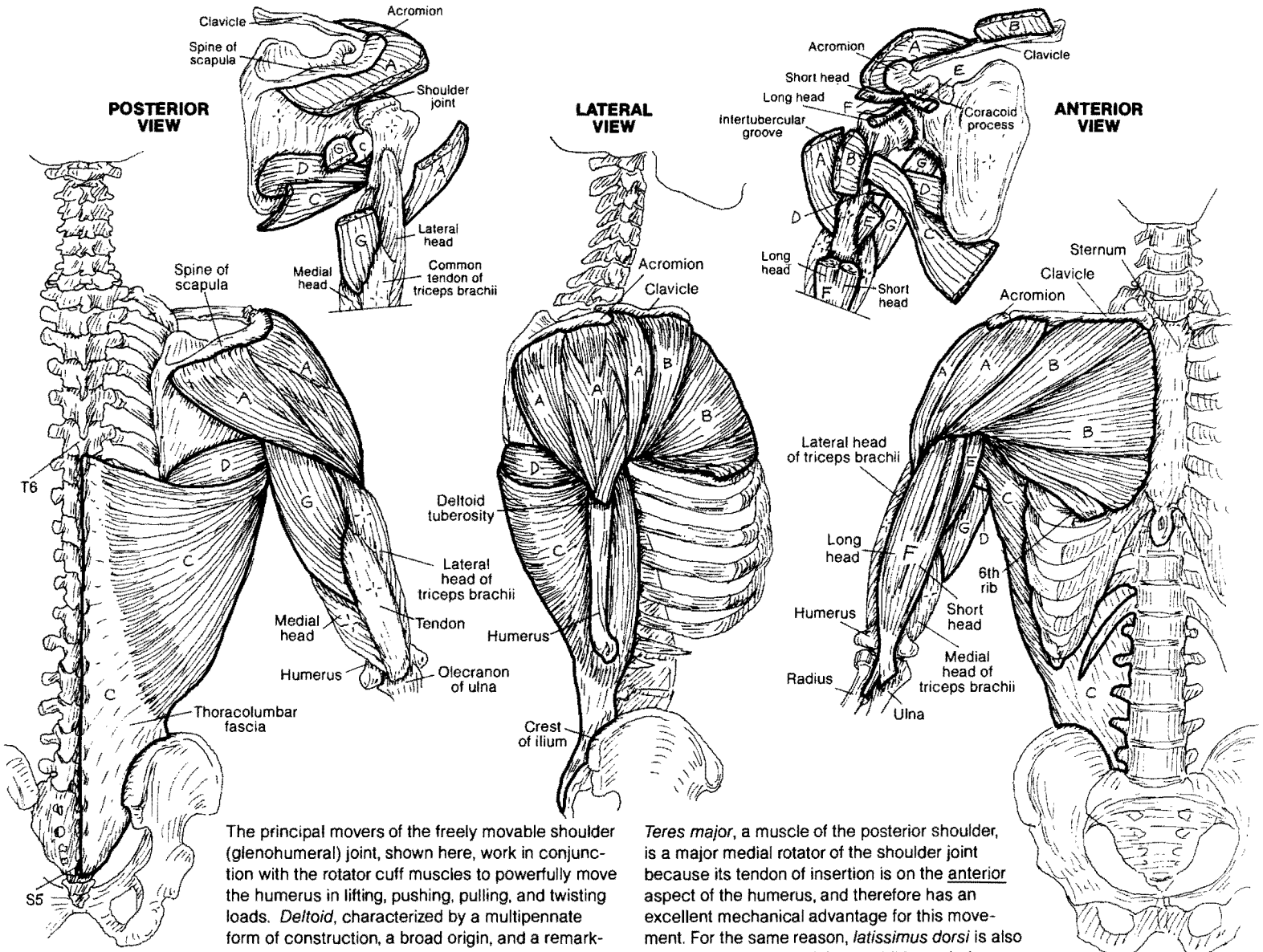
See 47, 49

MOVERS OF SHOULDER JOINT

DELTOID$_A$ PECTORALIS MAJOR$_B$ LATISSIMUS DORSI$_C$ TERES MAJOR$_D$ CORACOBRACHIALIS$_E$ BICEPS BRACHII$_F$ TRICEPS BRACHII (LONG HEAD)$_G$

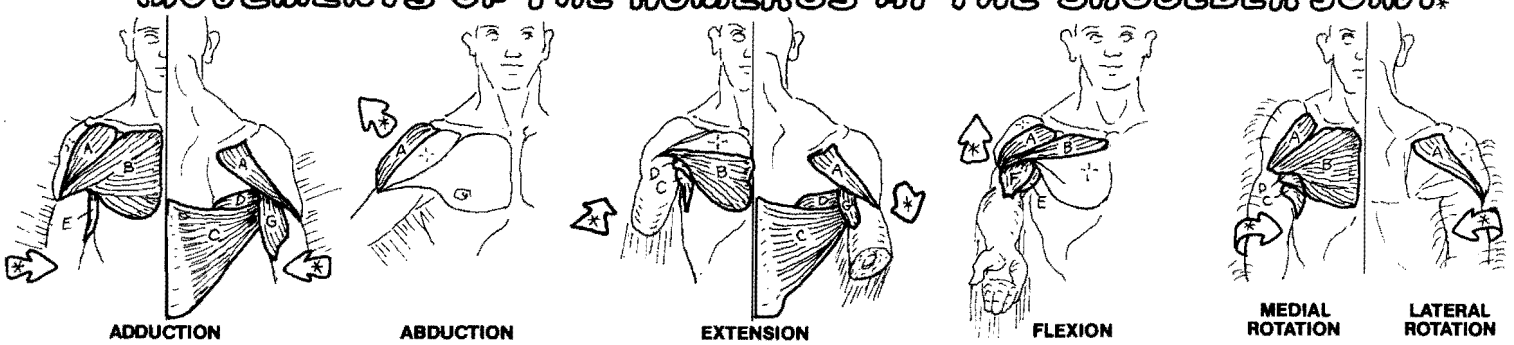
CN: (1) Begin with both posterior views; note that the biceps and triceps are not shown on the lateral view. (2) When coloring the muscles below, note the actions of different parts of the deltoid (A) and pectoralis major (B).



The principal movers of the freely movable shoulder (glenohumeral) joint, shown here, work in conjunction with the rotator cuff muscles to powerfully move the humerus in lifting, pushing, pulling, and twisting loads. *Deltoid*, characterized by a multipennate form of construction, a broad origin, and a remarkably short lever arm, is a powerful mover of the humerus in flexion, extension and abduction. The clavicular (upper) fibers of *Pectoralis major* are effective in flexing the shoulder joint; the sternal/abdominal (lower) fibers *extend* the flexed joint. Both are effective medial rotators as well.

Teres major, a muscle of the posterior shoulder, is a major medial rotator of the shoulder joint because its tendon of insertion is on the anterior aspect of the humerus, and therefore has an excellent mechanical advantage for this movement. For the same reason, *latissimus dorsi* is also a medial rotator of the joint in addition to being a major extensor. Both heads of *biceps brachii* are active in resisted flexion. *Coracobrachialis* is not a significant mover in either flexion or adduction, and the *long head of triceps brachii* is not a major mover in extension of the shoulder joint.

MOVEMENTS OF THE HUMERUS AT THE SHOULDER JOINT*



ADDUCTION | ABDUCTION | EXTENSION | FLEXION | MEDIAL ROTATION | LATERAL ROTATION