

Table 12.2 Manual Muscle Tests for Glenohumeral Motion

Motion	Athlete position	Stabilizing hand placement	Resistance hand placement	Instruction to athlete	Primary muscles tested
Flexion	Seated	Scapula and clavicle	Distal humerus	Leading with the thumb, raise arm forward (anteriorly).	Anterior deltoid
Extension	Prone	Trunk	Distal postero-medial aspect of humerus	Raise palm toward the ceiling.	Latissimus dorsi and teres major
Abduction	Seated	Superior scapula	Distal lateral aspect of humerus	Palm down, raise arm out to the side (laterally).	Middle deltoid and supraspinatus
Adduction	Supine	Scapula	Distal aspect of humerus	Palm down, move arm toward the side (medially).	Pectoralis major, latissimus dorsi, teres major
Medial rotation	Prone	Humerus	Ventral aspect of distal forearm	Move palm toward the ceiling.	Subscapularis
Lateral rotation	Prone	Humerus	Dorsal aspect of distal forearm	Move back of hand toward the ceiling.	Infraspinatus, teres minor
Horizontal adduction	Supine, shoulder abducted and elbow flexed to 90°	Opposite shoulder	Distal anterior aspect of humerus	Pull arm across the body toward the opposite shoulder.	Pectoralis major
Horizontal abduction	Prone, shoulder abducted and elbow flexed to 90°	Scapula	Distal posterior aspect of humerus	Raise elbow toward the ceiling.	Posterior deltoid
Elbow flexion	Seated	Distal humerus	Ventral surface of distal forearm	Move palm toward shoulder.	Biceps brachii
Elbow extension	Prone	Shoulder	Dorsal surface of distal forearm	Straighten elbow; move back of hand toward ceiling.	Triceps brachii

From S. Shultz, P. Houglum, and D. Perrin, 2016. *Examination of musculoskeletal injuries*, 4th ed. (Champaign, IL: Human Kinetics).