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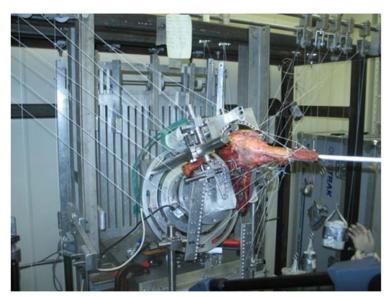


Fig. E1

Photograph showing the shoulder testing system. A total of 90° of shoulder abduction was achieved by adding upward scapular rotation and glenohumeral abduction. Muscle forces were applied by cables sutured to the tendons.

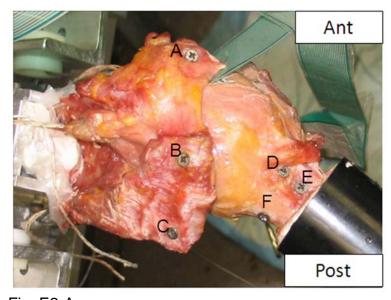


Fig. E2-A

Screw markers were placed on the scapula and humerus and were digitized during testing. A = coracoid, B = anterolateral acromion, C = posterior acromion, D = proximal bicipital groove, E = distal bicipital groove, F = posterior humeral metaphysis, Ant = anterior, and Post = posterior.

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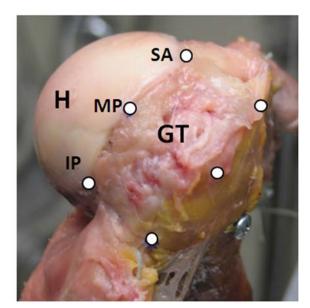


Fig. E2-B

Six markers on the greater tuberosity were digitized after testing. GT = greater tuberosity, H = humeral head, IP = posterior edge of the infraspinatus, SA = anterior edge of supraspinatus, and MP = midpoint between SA and IP.

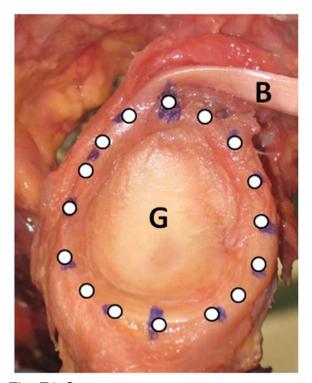


Fig. E2-C

Sixteen markers on the glenoid were digitized after testing. B = tendon of the long head of biceps, and G = glenoid.