

# Measurements for Impingement and Separation of the Clavicle

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The clavicle is the major bone that supports the shoulder away from the axial skeleton. When the clavicle is unstable, the shoulder girdle is unstable. This frequently results in irregular stresses on the cervical spine that cause recurring cervical subluxations. Finding the cause of this instability can be difficult and confusing to the doctor without using some easy, standard x-ray measurements.

**Sternoclavical Joint:** 5mm or greater = separation. Take a parallel from top of an A-P thoracic film and come down to the highest clavicle and draw a horizontal line over the proximal end of both clavicles. Now move the parallel down to the lower clavicle and draw a line. If the difference in height is 5mm or more, this person has separated the clavicle at the sternum. The next step is to determine which clavicle is separated, the high one or the low one. The involved side most likely is the one. Should the patient have an anterior clavicle, the best view is with magnetic resonance imaging (M.R.I.).

**Acromioclavicular Joint:** Coracoid to clavicle distance = 1.1 to 1.3 cm. = normal. Measuring on an A-P shoulder x-ray, a greater space of more than 1.3 cm. between coracoid and the inferior aspect of the clavicle is indicative of a coracoclavicular ligamentous disruption.

**Impingement:** Top of humeral head to inferior acromion = 6mm or less. On an A-P shoulder x-ray you should measure from the top of the humeral head to the inferior aspect of the acromion process. If this distance is 6mm or less, impingement is a likelihood.

**Scapula:** A height difference of 15mm or more = unstable shoulder. Viewing the A-P thoracic x-ray, bring your parallel up from the bottom of the film to the inferior tip of the scapula and draw a horizontal line under each scapula. Then move up to the higher scapula and draw another line at its inferior tip. Measure the height difference of the scapulas. If they are 15mm or greater it is indicative of an unstable shoulder girdle.

A good case history and supporting orthopedic and neurological tests will support the diagnosis of any or all of the above measurements. Combinations of measurements outside of the normal range in the same person are common and give a strong base on which to measure the effectiveness of your treatment program.

## References

1. Rockwood & Matsen. The Shoulder. W.B. Saunders 1990; p. 419.
2. Bosworth, B.M. New England Journal of Medicine. #241, 1949; p.221-225.
3. Nicholas, J.A., Hershman, E.B. The Upper Extremity in Sports Medicine. C.V. Mosby 1990;

p.107, 85, 112.

4. Hearon, Kevin G. What You Should Know About Extremity Adjusting, 7th ed. Vanity Press 1990; p.22-31.

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