

The clavicle is a curved subcutaneous bone extending almost horizontally from the manubrium of the sternum to the acromion and acts as a strut to hold the scapula laterally. The flat lateral end articulates with the medial aspect of the acromion and the enlarged medial, **sternal end** with the manubrium and first costal cartilage. The medial two-thirds of the shaft is convex anteriorly and approximately circular in cross-section. The lateral third is concave anteriorly and flattened from above downwards. With the scapula it forms the pectoral (shoulder) girdle transmitting the weight of the upper limb to the axial skeleton and facilitating the wide range of movement of the upper limb. A direct blow or indirect force may fracture the clavicle at the junction of the two curvatures. In females, the clavicle is shorter, thinner, less curved and smoother.

The lateral third has superior and inferior surfaces and anterior and posterior borders. The palpable superior border is smooth except at its margins. Posteriorly on the inferior surface at the junction of the two curvatures is the rounded conoid tubercle for the conoid part of the coracoclavicular ligament. The rough trapezoid line runs antero-laterally. The anterior border is thin, rough and concave and has a small deltoid tubercle; the posterior border is convex. A small oval articular facet for articulation with the medial aspect of the acromion faces laterally. The lateral third provides attachment for the deltoid anteriorly and trapezius posteriorly.

The medial two-thirds has anterior, superior, posterior and inferior surfaces. The posterior surface is smooth but has a roughened depression (rhomboid fossa) medially for the costoclavicular ligament. The inferior surface is grooved laterally for the attachment of the subclavius muscle. The medial end faces medially and slightly antero-inferiorly. The inferior three-quarters is beveled, sometimes extending onto the inferior surface, for articulation with the manubrium above, which it projects.

Ossification

The clavicle undergoes intramembranous ossification and is the first bone in the body to begin ossification. Medial and lateral centers appear in the shaft in the fifth and sixth weeks in-utero, and fuse with each other one week later. The medial end contributes more to growth than the lateral end. An ossification center appears in the sternal end of the clavicle between the ages of 14 and 18 years, usually two years earlier in females, fusing with the shaft between the ages of 18 and 23 years. A small inconstant lateral center appears between 18 and 20 years, this soon fuses with the shaft.

Sternoclavicular joint

The sternoclavicular joint is a shallow, saddle-shaped joint between the manubrium and the first costal cartilage medially and the medial end of the clavicle laterally. The sternal articular surface of the clavicle is larger than that of the sternum, and is convex vertically and slightly concave in the sagittal plane. The clavicular notch of the sternum is reciprocally curved, although the surfaces are not completely congruent. The joint is lined with fibrocartilage and a fibrocartilaginous disc divides it into two synovial cavities, each lined with its own synovial membrane. The fibrous capsule surrounds the articular surfaces, thickened in front and behind but thin above and below.

The brachiocephalic vein is formed posterior to the sternoclavicular joint.

Acromioclavicular joint

The acromioclavicular (AC) joint is a planar synovial joint between the small oval facet on the lateral end of the clavicle and the facet at the medial aspect of the acromion. The articular surfaces are lined with fibrocartilage.

A wedge-shaped articular disc is often found in the AC joint, partially separating the joint surfaces. The capsule is attached to the articular margins and reinforced by superior and inferior acromioclavicular (AC) ligaments. The coracoclavicular ligament, with its conoid and trapezoid components provides major stability to the joint.

For more information, see 'The Interactive Shoulder' and 'The Interactive Head & Neck'.