THE CLAVICLE

The clavicle serves as the main bone of the shoulder girdle.

It counts as an unusual long bone for two reasons:

1. It lacks a medullary cavity.
2. It forms through membranous ossification.

Its structure consists of spongy bone wrapped in a thin layer of compact bone.

In the body's standard position, it runs flat at the neck's base. You can feel nearly all of it just under the skin.

To identify the right or left side:

1. The lateral (acromial) end looks flat.
2. The medial (sternal) end appears thick and round.
3. The top surface stays mostly smooth.
4. The bottom surface feels rough. It has a shallow groove in the middle third.
5. The medial two-thirds of the shaft curve forward.
6. The lateral one-third of the shaft curve backward.

Functions of the clavicle:

1. It carries weight and forces from the arm to the main skeleton.
2. It pulls the shoulder back. This lets the arm hang free from the body.

Joints formed by the clavicle:

1. The medial (sternal) end joins the clavicular notch on the manubrium sterni. This forms the sternoclavicular joint.
2. The lateral (acromial) end joins the acromion of the scapula. This forms the acromioclavicular joint.

Key features of the clavicle: It has a shaft plus two ends (medial and lateral).

I. The medial (sternal) end:

1. It looks large, round, or square.
2. It has a smooth facet that joins the clavicular facet on the manubrium sterni.
3. The facet's lower edge wraps a bit onto the bottom surface. This joins the first rib's cartilage (a fibrous joint).
4. Rough spots above the facet attach the interclavicular ligament.

II. The lateral (acromial) end: It stays flat. It holds an oval facet that joins the acromion of the scapula at the acromioclavicular joint.

III. The shaft of the clavicle:

1. It shows a double curve like the letter S.
2. The medial two-thirds curve forward. The lateral one-third

Particular Features of the Clavicle

I. Muscles Attached

1. Two muscles start from the front side of the clavicle.
   a. Pectoralis major muscle: from the medial one-and-a-half thirds of the front side.
   b. Deltoid muscle: from the lateral one-third of the front side.
2. Two muscles attach to the back side of the clavicle.
   a. Sternomastoid muscle: starts from the medial one-third of the back and upper surfaces.
   b. Trapezius muscle: inserts into the lateral one-third of the back side.
3. One muscle, the subclavius, inserts into the middle one-third of the lower surface.

II. Ligaments Attached

1. Coracoclavicular ligament.
   This strong ligament links the lower surface of the lateral one-third of the clavicle to the upper surface of the coracoid process of the scapula. It has two parts.
   a. Conoid part: attaches to the conoid tubercle.
   b. Trapezoid part: attaches to the trapezoid line.
   Key role: It carries most of the upper limb's weight to the clavicle.
2. Costoclavicular ligament.
   It joins the lower surface of the medial end of the clavicle to the first costochondral junction. This ligament fixes the medial end of the clavicle and stops it from rising too much.
3. Interclavicular ligament.
   It links the medial ends of both clavicles. It passes over the

sternum. This is the only link between the right and left upper limb bones.

Clinical Importance of the Clavicle

1. It is one of the most often broken bones in the body.
2. The usual break site is where the medial two-thirds meets the lateral one-third of the shaft. This is a weak spot.
3. Indirect force often causes the break. A common example is falling on an outstretched hand.
4. The break's effect depends on its location.
   a. If medial to the coracoclavicular ligament attachment, the shoulder drops.
   b. If lateral to the ligament, no drop happens.