

Clavicle

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General Features

- Long bone placed **horizontally** in the root of the neck.
- Connects **axial skeleton (sternum)** to **appendicular skeleton (scapula)**.
- Acts as a **strut** to keep the upper limb away from the trunk ? permits free mobility.
- Curved in an **S-shape**:
 - Medial two-thirds ? convex forward.
 - Lateral one-third ? concave forward.
- Subcutaneous throughout ? easily palpable.
- Classified as a **modified long bone**:
 - No medullary cavity.
 - Ossifies in membrane.

Attachments & Relations (Summary)

- **Medial end** (sternal end): articulates with manubrium sterni (sternoclavicular joint).
- **Lateral end** (acromial end): articulates with acromion process of scapula (acromioclavicular joint).
- **Superior surface**: subcutaneous, no major attachments.

- **Inferior surface:**
 - Medial part ? costoclavicular ligament (rhomboid fossa).
 - Lateral part ? conoid tubercle (conoid ligament), trapezoid line (trapezoid ligament).
 - **Anterior border (lateral third)** ? deltoid.
 - **Posterior border (lateral third)** ? trapezius.
 - **Medial two-thirds** ? origin of sternocleidomastoid (superior surface), pectoralis major (anterior surface), sternohyoid (posterior surface).
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Ossification of Clavicle

- **First bone to ossify** in the body.
 - **Begins: 5th–6th week intrauterine life.**
 - **Mode:** membranous ossification (shaft), with cartilaginous ossification at the ends.
 - **Primary centers:** two, appear in shaft, fuse by 45 days of IUL.
 - **Secondary center:** appears in sternal end at **15–17 years**, fuses by **21–22 years**.
 - Unique because:
 - Both **membranous and cartilaginous ossification** occur.
 - First to ossify, last to complete ossification.
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Clinical Anatomy

- **Most commonly fractured bone** in the body.
 - Fracture usually at the junction of medial two-thirds and lateral one-third.

- Medial fragment displaced upward by sternocleidomastoid.
- Lateral fragment displaced downward by weight of limb & pulled medially by pectoralis major.
- May be absent congenitally (cleidocranial dysostosis)? shoulders approximated in front of chest.
- Subcutaneous position ? prone to injury in falls, traffic accidents.
- Important landmark for central venous catheterization (subclavian vein lies posterior to clavicle).
- Ossification pattern important in **forensic age estimation**.