

JOINTS

(Fibrous & Cartilaginous Joints)

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Contents of the Lecture:

- Introduction
- Types of Joints
- Fibrous joints
- Cartilaginous Joints

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Introduction

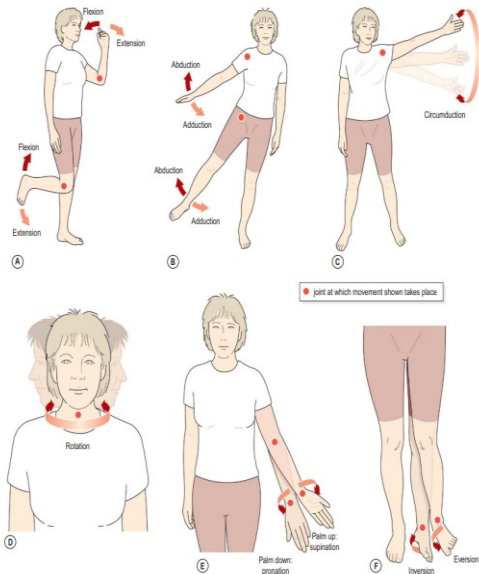


Figure 16.46 The main movements possible at synovial joints.

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• A **joint** is the connection site (**articulate**) at which two or more bones/Bones with cartilage are connected with each other.

• **Arthrology:** It is the scientific study of joints

• **Kinesiology:** It is the study of the motion of the human body.

• **Main Function:** Joints allow flexibility and movement of the skeleton and allow attachment between bones.

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Joints

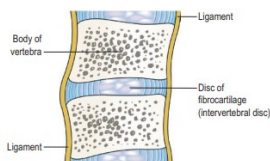


Figure 16.44 The cartilaginous joint between adjacent vertebral bodies.

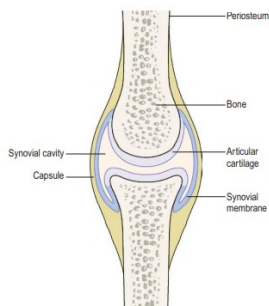


Figure 16.45 The basic structure of a synovial joint.

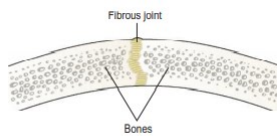


Figure 16.43 Suture (fibrous joint) of the skull.

Types of Joints

1. Fibrous joints
2. Cartilaginous Joints
3. Synovial Joints

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Joint

Joints

**Fibrous (Fixed),
Synarthrosis**

Sutures

Gomphosis

Syndesmosis

**Cartilaginous (Slightly
movable),
Amphiarthrosis**

Primary (Synchondrosis)

Secondary (Symphysis)

**Synovial (Freely
movable), Diarthrosis**

Plane

Hinge

Pivot

Bicondylar

Ellipsoid

Saddle

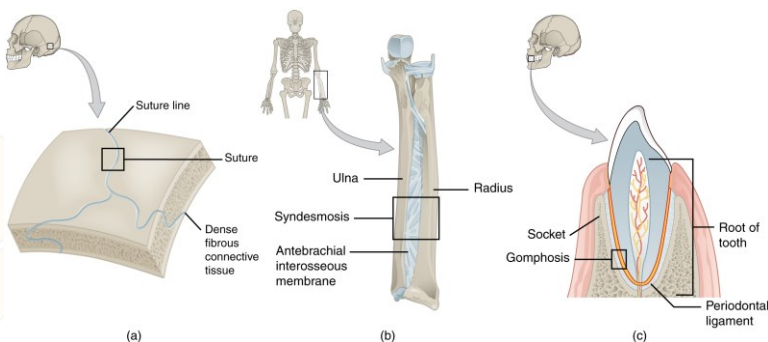
Ball & Socket

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Joint

1. Fibrous joints

- These joints are linked with tough, fibrous material.
- Lacks intervening cartilage between 2 bones.
- Lacks joint cavity
- These are non-movable joint.
- This fibrous joint allows a limited amount of movement and stabilises the alignment of the bones.
- Type: a) Sutures b) Syndesmosis c) Gomphosis

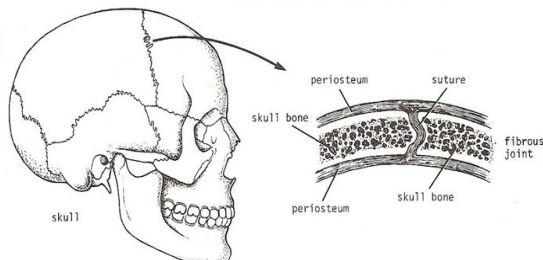
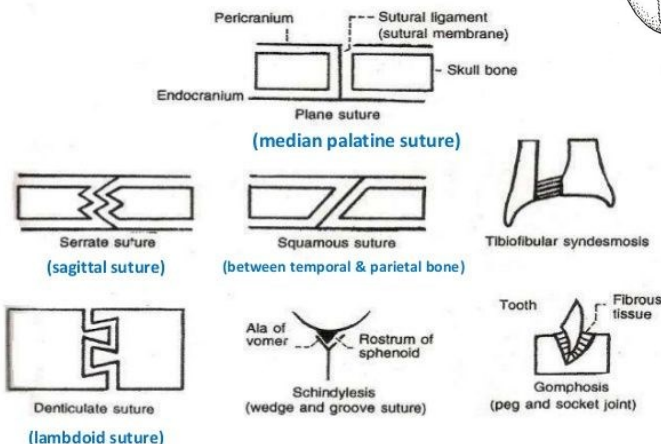


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Joins

1. Fibrous joints

• **Sutures:** joints between the skull bones, the sutures, are completely immovable.



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Joins

1. Fibrous joints

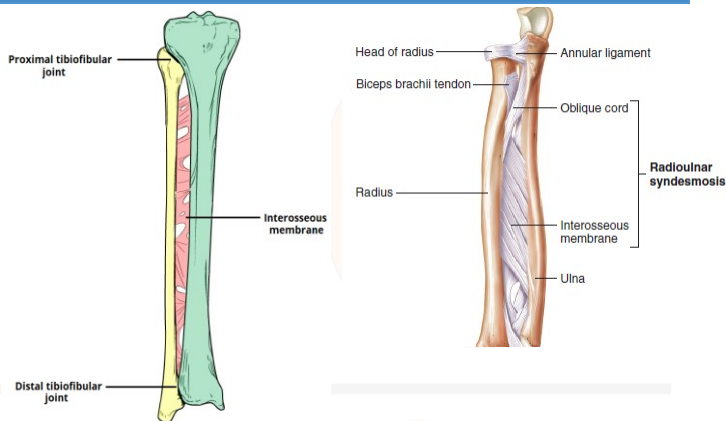
• **Syndesmosis:**

• Fibrous connection between bones

• Interosseous ligament, Slender fibrous cord, Dense Aponeurotic membrane

• Example:

• The tibia/fibula in the leg and Radius/ulna in the hand are held together along their shafts by a sheet of fibrous tissue called the interosseous membrane



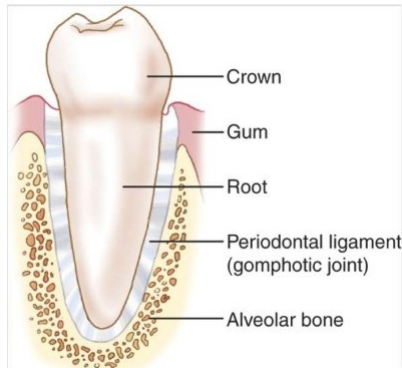
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Joints

1. Fibrous joints

• Gomphosis:

- the healthy tooth is cemented into the mandible by the periodontal ligament.



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Joints

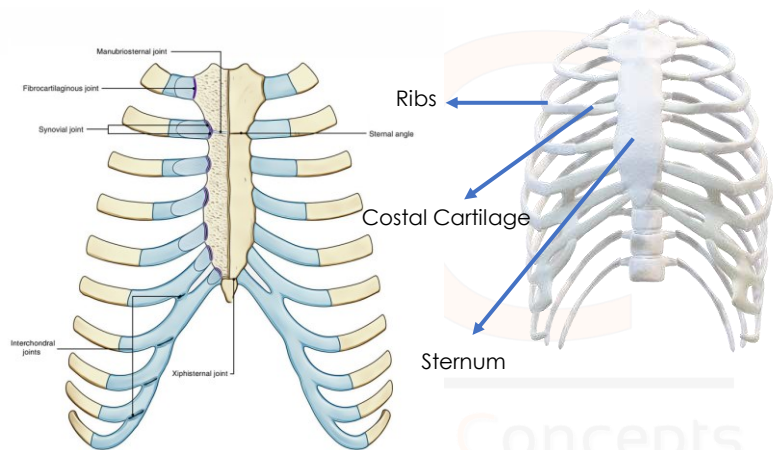
2. Cartilaginous Joint

- These joints are formed by a pad of tough fibrocartilage that acts as a shock absorber

• Partially movements

• Primary Cartilaginous Joint (Synchondrosis)

- Bands of hyaline cartilage that unite of bones
- Example- Connection between ribs and sternum

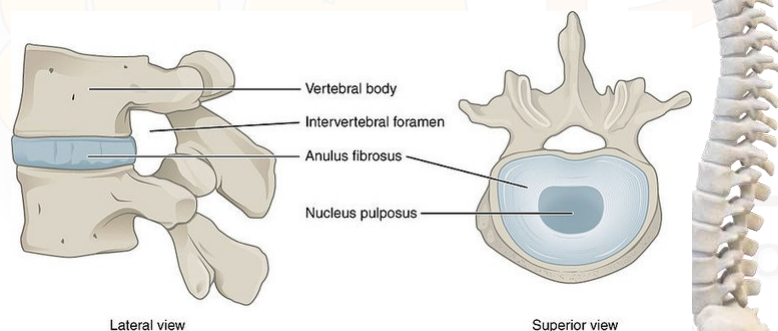


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Joint

2. Cartilaginous Joint

- **Secondary Cartilaginous Joint (Symphysis)**
- Pads of fibro-cartilage between the bones
- Example- between vertebrae



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