SUPPORT AND MOVEMENT

Ball and Socket joint

Learning outcomes

Students will be able to

1. differentiate between movable and immovable joints;
2. state the role of ligaments and tendons;
3. describe the location and movement of hinge joints;
4. identify ball and socket joints in the human body.
5. describe ball and socket joints.

Classification of Joints

Joints are classified in terms of their structure as fibrous, cartilaginous, or synovial.

In terms of their operation, they are classified as immovable or movable.

Fibrous and cartilaginous joints can be either immovable or movable, while all synovial joints are movable.

Fibrous joints

Fibrous joints are immovable or fixed joints in which no movement between the bones is possible. These joints do not allow movement because the bones are held firmly together by bundles of strong white collagen fibres.

Cartilagenous joints

Cartilaginous joints are connected entirely by cartilage(fibrocartilage or hyaline).[1] Cartilaginous joints allow more movement between bones than a fibrous joint but less than the highly mobile synovial joint.

Synovial joints

A **Synovial joint**,is the most common and most movable type of joint in the body of a mammal.As with most other joints, synovial joints achieve movement at the point of contact of the articulating bones.

The main structural differences between synovial and fibrous joints are the existence of capsules surrounding the articulating surfaces of a synovial joint and the presence of lubricating synovial fluid within those capsules (synovial cavities).

Ligaments

Most commonly, it refers to fibrous tissue that connects bones to other bones

Tendons

A **tendon** is a tough band of fibrous connective tissue that usually connects muscle to bone[1] and is capable of withstanding tension.

Hinge joints

A **hinge joint** is a bone joint in which the articular surfaces are molded to each other in such a manner as to permit motion only in one plane—backward and forward—the extent of motion at the same time being considerable.

The best examples of hinge joints are the interphalangeal joints and the joint between the humerus and ulna; the knee- and ankle-joints are less typical,as they allow a slight degree of rotation or of side-to-side movement in certain positions of the limb. The knee is the largest hinge joint in the human body.

Ball and socket joint

A **ball and socket joint** is a joint in which the distal bone is capable of motion around an indefinite number of axes,which have one common center. It enables the bone to move in a 360° angle.

In a ball and socket (spheroid) joint, the ball-shaped surface of one rounded bone fits into the cup-like depression of another bone.

Multiple Choice Questions

1. Example of the hinge joint is

A. elbow.
B. skull.
C. shoulder.
D. hip.

2. The joint that allows movement of 360 degrees is the

A. hinge joint.
B. ball and socket joint.
C. knee joint.
D. elbow joint.