

Joint and Body Movements

Types of Joints

1. Use the key terms to identify the joint types described below.

Key: cartilaginous fibrous synovial

- cartilaginous 1. typically allows a slight degree of movement
cartilaginous 2. includes joints between the vertebral bodies and the pubic symphysis
fibrous 3. essentially immovable joints
fibrous 4. sutures are the most remembered examples
cartilaginous 5. cartilage connects the bony portions
synovial 6. have a fibrous articular capsule lined with a synovial membrane surrounding a joint cavity
synovial 7. all are freely movable or diarthrotic
fibrous 8. bone regions are united by fibrous connective tissue
synovial 9. include the hip, knee, and elbow joints

2. Match the joint subcategories in column B with their descriptions in column A, and place an asterisk (*) beside all choices that are examples of synovial joints.

Column A

- suture 1. joint between most skull bones
pivot* 2. joint between the axis and atlas
ball & socket* 3. hip joint
condyloid* 4. joint between forearm bones and wrist
hinge* 5. elbow
hinge* 6. interphalangeal joints
gliding* 7. intercarpal joints
condyloid* 8. joint between the skull and vertebral column
condyloid* 9. joints between proximal phalanges and metacarpal bones

Column B

- ball and socket
 condyloid
 gliding
 hinge
 pivot
 saddle
 suture
 symphysis
 syndesmosis

Review Sheet

3. What characteristics do all joints have in common? All consist of bony regions separated by fibrous or cartilaginous connective tissue

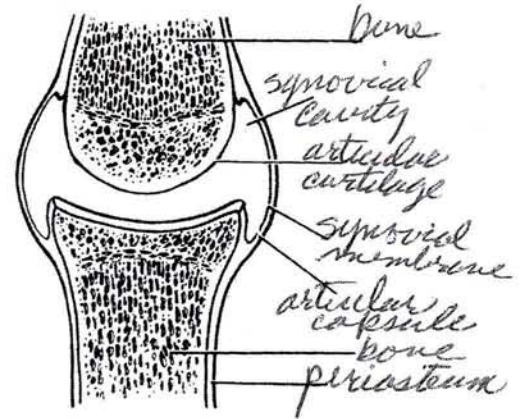
4. Describe the structure and function of the following structures or tissues in relation to a synovial joint and label the structures indicated by leader lines in the diagram.

ligament dense fibrous connective tissue; attaches bones together; reinforces joints

articular cartilage hyaline cartilage; reduces friction where bones articulate

synovial membrane loose connective tissue; produces synovial fluid → reduces friction in joint

bursa fluid filled synovial sac → cushions



5. Which joint, the hip or the knee, is more stable? hip

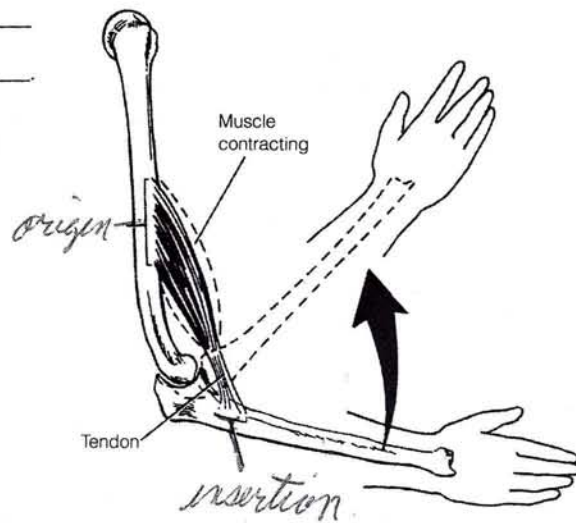
Name two important factors that contribute to the stability of the hip joint.

deep socket for femur and strongly reinforcing articular capsule

Movements Allowed by Synovial Joints

1. Label the *origin* and *insertion* points on the diagram below and complete the following statement:

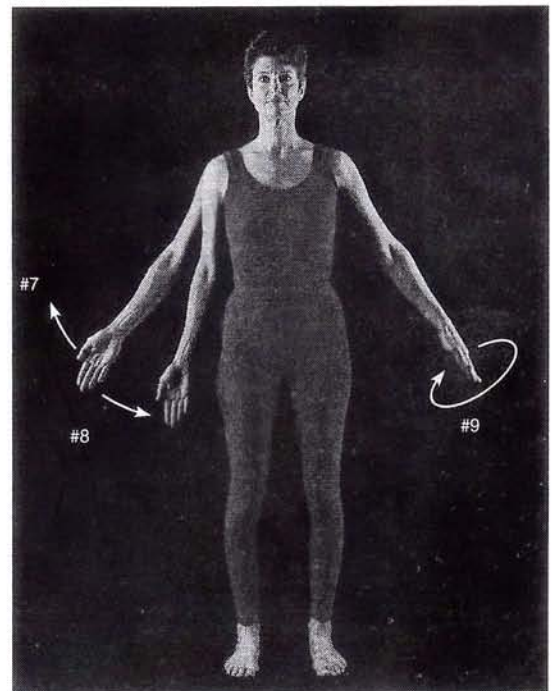
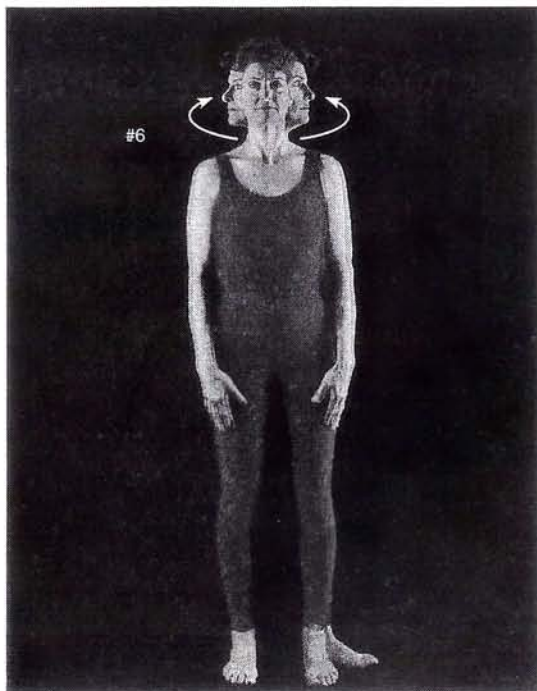
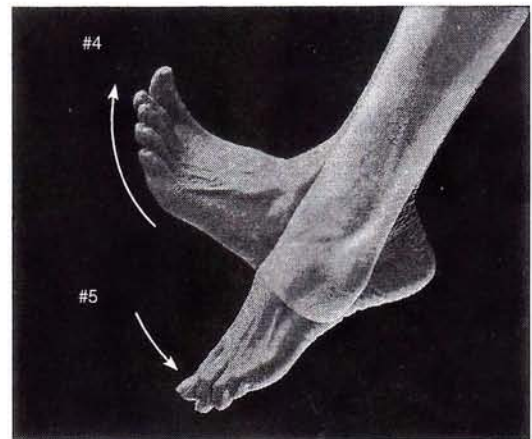
During muscle contraction, the insertion moves toward the origin



Review Sheet

2. Identify the movements demonstrated in the photos by inserting the missing words in the corresponding numbered answered blanks.

1. flexion
2. extension
3. hyperextension
4. dorsiflexion
5. plantar flexion
6. rotation
7. abduction
8. adduction
9. circumduction



Joint Disorders

1. What structural joint changes are common in older people? *degeneration changes, (adhesions and bone spurs) begin to "sprout up" in diarthrotic joints;*
2. Define dislocation: *Bones are forced out of their normal position in the joint cavity.*

Intervertebral discs begin to degenerate. These changes lead to increased joint stiffness and pain

Credits

PHOTOGRAPHS

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