



3. 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	Column B
<u>g; suture</u> 1. joint between skull bones	a. ball and socket
<u>e; pivot*</u> 2. joint between the axis and atlas	b. condyloid
<u>a; ball and socket*</u> 3. hip joint	c. gliding
<u>c; gliding*</u> 4. intervertebral joints (between articular processes)	d. hinge
<u>b; condyloid*</u> 5. joint between forearm bones and wrist	e. pivot
<u>d; hinge*</u> 6. elbow	f. saddle
<u>d; hinge*</u> 7. interphalangeal joints	g. suture
<u>c; gliding*</u> 8. intercarpal joints	h. symphysis
<u>d; hinge*</u> 9. joint between tarsus and tibia/fibula	i. synchondrosis
<u>b; condyloid*</u> 10. joint between skull and vertebral column	j. syndesmosis
<u>d; hinge*</u> 11. joint between jaw and skull	
<u>b; condyloid*</u> 12. joints between proximal phalanges and metacarpal bones	
<u>i; synchondrosis</u> 13. epiphyseal plate of a child's long bone	
<u>a; ball and socket*</u> 14. a multiaxial joint	
<u>b; condyloid*</u> , <u>f; saddle*</u> 15. biaxial joints	
<u>d; hinge*</u> , <u>e; pivot*</u> 16. uniaxial joints	

4. When considering movement,

What do all uniaxial joints have in common? They allow movement in only one plane.

What do all biaxial joints have in common? They allow movement in two planes.

What do all multiaxial joints have in common? They allow all angular movement and rotation.

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

## Selected Synovial Joints

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

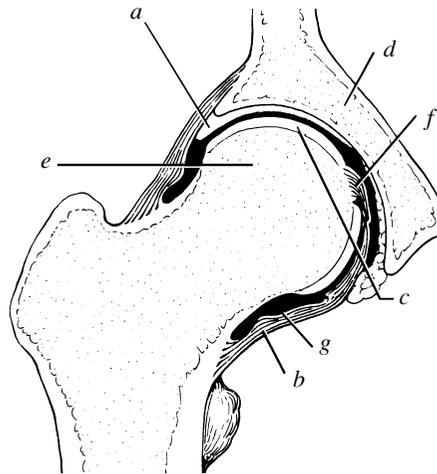
Name two important factors that contribute to the stability of the hip joint.

Deep socket for femur and strongly reinforced articular capsule

Name two important factors that contribute to the stability of the knee.

The menisci and intracapsular cruciate ligaments

7. The diagram shows a frontal section of the hip joint. Identify its major structural elements by using the key letters.

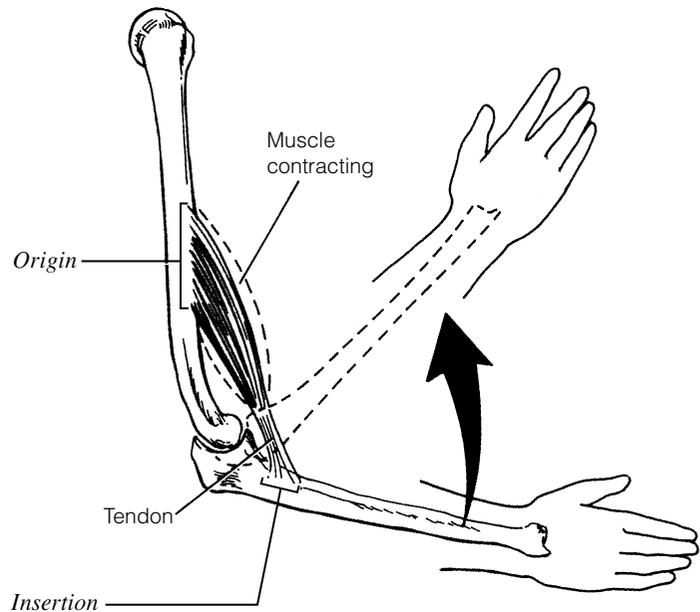


Key:

- a. acetabular labrum
- b. articular capsule
- c. articular cartilage
- d. coxal bone
- e. head of femur
- f. ligamentum teres
- g. synovial cavity

8. Describe how the structure of the temporomandibular joint (TMJ) allows us to chew hard candy and hazel nuts.

The superior compartment of the synovial cavity causes  
the mandible to glide forward, distributing forces to the  
stronger articular tubercle (to prevent breakage of the  
mandibular fossa).



## Movements Allowed by Synovial Joints

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

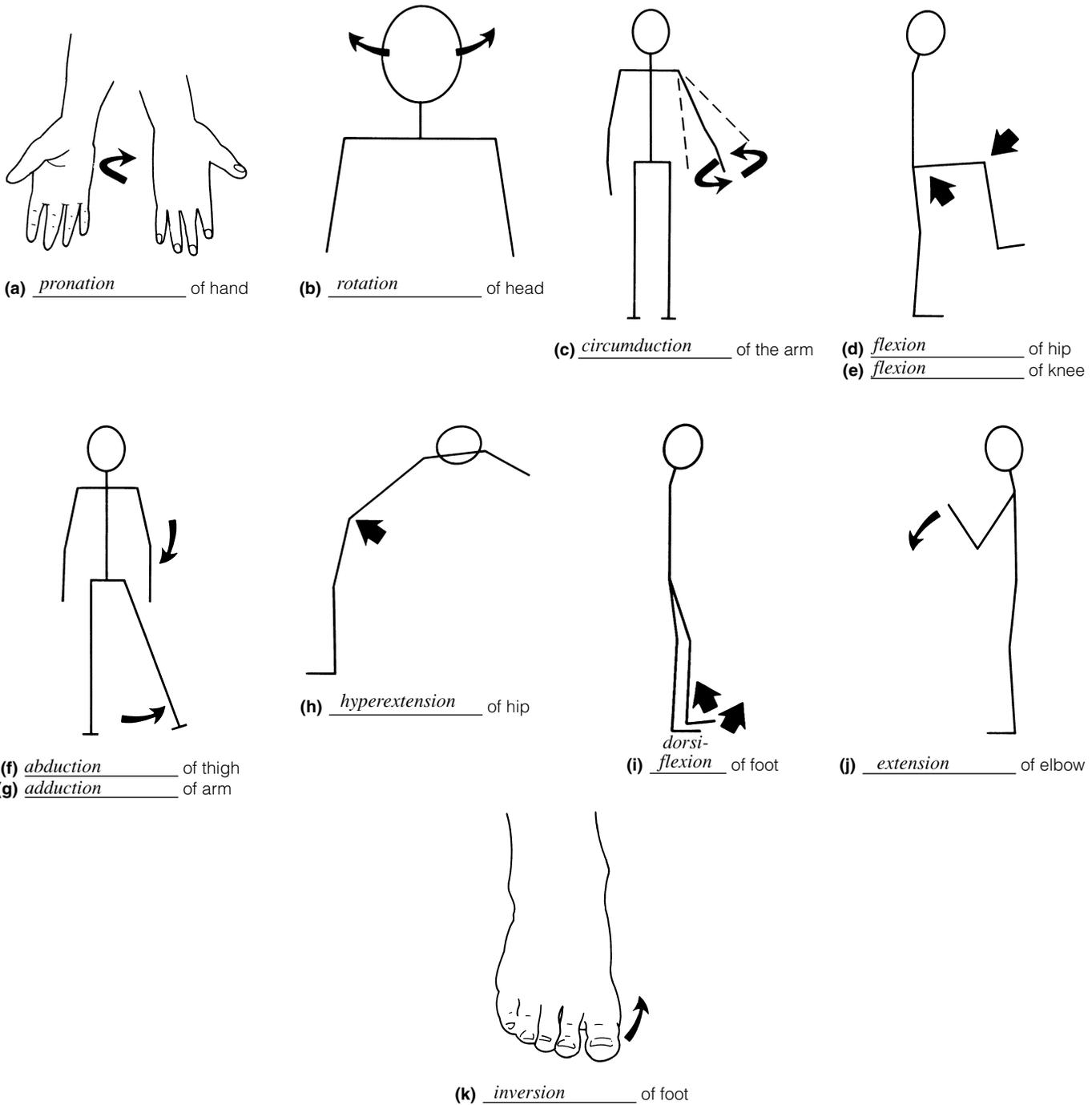
During muscle contraction, the insertion  
 moves toward the origin.

10. Complete the statements below the stick diagrams by inserting the missing words in the answer blanks.

1. pronation
2. rotation
3. circumduction
4. flexion
5. flexion
6. abduction

7. adduction
8. hyperextension
9. dorsiflexion
10. extension
11. inversion

(continues on next page)



## Joint Disorders

11. What structural joint changes are common to the elderly? Degenerative changes (adhesions and bone spurs) begin to "sprout up" in diarthrotic joints; intervertebral discs begin to degenerate. These changes lead to increased joint stiffness and pain.
12. Define:
- sprain Ligaments reinforcing a joint are damaged by excessive stretching, or torn away from the bony attachment.
- dislocation Bones are forced out of their normal positions in a joint cavity.