F Give the medical names of the following bones.

1. shoulder blade _____
2. upper arm bone _____
3. breastbone _____
4. thigh bone _____
5. finger bones _____
6. hand bones _____
7. lower arm bone (little finger side) _____
8. lower arm bone (thumb side) _____
9. collar bone _____
10. wrist bones _____
11. backbone _____
12. kneecap _____
13. shin bone (larger of two lower leg bones) _____
14. smaller of two lower leg bones _____
15. three parts of the pelvis _____, _____, and _____
16. midfoot bones _____

NAME: _____

BLOCK: _____

G Give the meanings of the following terms associated with bones.

1. foramen magnum _____
2. calcaneus _____
3. acromion _____
4. xiphoid process _____
5. lamina _____
6. malleolus _____
7. acetabulum _____
8. pubic symphysis _____
9. olecranon _____
10. fontanelle _____
11. mastoid process _____
12. styloid process _____

H Give the meanings of the following terms.

1. osteogenesis _____
2. hypercalcemia _____
3. spondylosis _____
4. epiphyseal _____
5. decalcification _____
6. ossification _____
7. osteitis _____
8. costoclavicular _____

I Build medical terms for the following definitions.

1. pertaining to the shoulder blade _____
2. instrument to cut the skull _____
3. pertaining to the upper arm bone _____
4. pertaining to below the kneecap _____
5. softening of cartilage _____
6. pertaining to a toe bone _____

7. removal of hand bones _____
8. pertaining to the shin bone _____
9. pertaining to the heel bone _____
10. poor bone development _____
11. removal of the lamina of the vertebral arch _____
12. pertaining to the sacrum and ilium _____

J Give medical terms for the following.

1. formation of bone marrow _____
2. clubfoot _____
3. humpback _____
4. high levels of calcium in the blood _____
5. benign tumors arising from the bone surface _____
6. brittle bone disease _____
7. lateral curvature of the spine _____
8. anterior curvature of the spine _____
9. forward slipping (subluxation) of a vertebra over a lower vertebra _____
10. instrument to cut bone _____

K Match the term in Column I with its description in Column II. Write the letter of the description in the space provided.

COLUMN I		COLUMN II
1. greenstick fracture	_____	A. Fracture of the lower end of the radius at the wrist.
2. closed fracture	_____	B. Break in bone with wound in the skin.
3. comminuted fracture	_____	C. One side of the bone is fractured; the other side is bent.
4. compound (open) fracture	_____	D. Bone is put in proper place without incision of skin.
5. Colles fracture	_____	E. Mold of the bone applied to fractures to immobilize the injured bone.
6. cast	_____	F. Bone is broken by pressure from another bone; often in vertebrae, bone is partially flattened.
7. open reduction	_____	G. Bone is splintered or crushed.
8. closed reduction	_____	H. Bone is put in proper place after incision through the skin.
9. impacted fracture	_____	I. Bone is broken and one side of the fracture is wedged into the other.
10. compression fracture	_____	J. Break in the bone without an open skin wound.

L Give the meanings of the following terms.

1. osteoporosis _____
2. osteomyelitis _____
3. osteogenic sarcoma _____
4. crepitus _____
5. osteomalacia _____
6. abscess _____
7. osteopenia _____
8. Ewing sarcoma _____
9. metastatic bone lesion _____

M Complete the following sentences.

1. Joint in which apposed bones are closely united, as in the skull bones, is called a _____.
2. Connective tissue that binds muscles to bones is a/an _____.
3. Another term for a joint is a/an _____.
4. Connective tissue that binds bones to other bones is a/an _____.
5. Fluid found in a joint is called _____.
6. The membrane that lines the joint cavity is the _____.
7. Sac of fluid near a joint is a/an _____.
8. Smooth cartilage that covers the surface of bones at joints is _____.
9. Surgical repair of a joint is called _____.
10. Inflammation surrounding a joint is known as _____.

N Complete the following terms based on the definitions provided.

1. inflammation of a tendon: _____itis
2. tumor (benign) of cartilage: _____oma
3. tumor (malignant) of cartilage: _____oma
4. incision of a joint: arthr_____
5. softening of cartilage: chondro_____

6. abnormal condition of blood in the joint: _____osis
7. inflammation of a sac of fluid near the joint: _____itis
8. doctor who specializes in treatment of joint disorders: _____logist
9. abnormal condition of a stiffened, immobile joint: _____osis
10. suture of a tendon: ten_____

O Select from the following terms to name the abnormal conditions below.

achondroplasia	dislocation	osteoarthritis
ankylosing spondylitis	ganglion	rheumatoid arthritis
bunion	gouty arthritis	systemic lupus erythematosus
carpal tunnel syndrome	Lyme disease	tenosynovitis

1. an inherited condition in which the bones of the arms and the legs fail to grow normally because of a defect in cartilage and bone formation; type of dwarfism _____
2. degenerative joint disease; chronic inflammation of bones and joints _____
3. inflammation of joints caused by excessive uric acid in the body (hyperuricemia) _____
4. chronic joint disease; inflamed and painful joints owing to autoimmune reaction against normal joint tissue, and synovial membranes become swollen and thickened _____
5. tick-borne bacterium causes this condition marked by arthritis, myalgia, malaise, and neurologic and cardiac symptoms _____
6. abnormal swelling of a metatarsophalangeal joint _____
7. cystic mass arising from a tendon in the wrist _____
8. chronic, progressive arthritis with stiffening of joints, especially of the spine (vertebrae) _____
9. chronic inflammatory disease affecting not only the joints but also the skin (butterfly rash on the face), kidneys, heart, and lungs _____
10. inflammation of a tendon sheath _____
11. compression of the median nerve in the wrist as it passes through an area between a ligament tendons, bones, and connective tissue _____
12. displacement of a bone from its joint _____

P **Give the meanings of the following terms.**

1. subluxation _____
2. arthrodesis _____
3. pyrexia _____
4. podagra _____
5. sciatica _____
6. herniation of an intervertebral disk _____
7. laminectomy _____
8. sprain _____
9. strain _____
10. hyperuricemia _____

Q **Circle the term that best fits the given definition.**

1. fibrous membrane separating and enveloping muscles: **(fascia, flexion)**
2. movement away from the midline of the body: **(abduction, adduction)**
3. connection of the muscle to a stationary bone: **(insertion, origin)** of the muscle
4. connection of the muscle to a bone that moves: **(insertion, origin)** of the muscle
5. muscle that is connected to internal organs; involuntary muscle: **(skeletal, visceral)** muscle
6. muscle that is connected to bones; voluntary muscle: **(skeletal, visceral)** muscle
7. pain of many muscles: **(myositis, polymyalgia)**
8. pertaining to heart muscle: **(myocardial, myasthenia)**
9. process of recording electricity within muscles: **(muscle biopsy, electromyography)**
10. increase in development (size) of an organ or tissue: **(hypertrophy, atrophy)**

R **Match the term for muscle action in Column I with its meaning in Column II. Write the letter of your answer in the space provided.**

COLUMN I		COLUMN II
1. extension	_____	A. movement away from the midline
2. rotation	_____	B. turning the palm down
3. flexion	_____	C. turning the palm up
4. adduction	_____	D. straightening out a limb or joint
5. supination	_____	E. bending the sole of the foot downward
6. abduction	_____	F. circular movement around an axis
7. pronation	_____	G. bending a limb
8. dorsiflexion	_____	H. movement toward the midline
9. plantar flexion	_____	I. backward (upward) bending of the foot

S **Give the meanings of the following abnormal conditions affecting muscles.**

1. leiomyosarcoma _____
2. rhabdomyoma _____
3. polymyositis _____
4. fibromyalgia _____
5. muscular dystrophy _____
6. myasthenia gravis _____
7. amyotrophic lateral sclerosis _____
8. sarcopenia _____

T Match the term in Column I with its meaning in Column II. Write the letter of your answer in the space provided.

COLUMN I		COLUMN II
1. antinuclear antibody test	_____	A. Radioactive substance is injected and traced in dense, hard connective tissue.
2. serum creatine kinase	_____	B. Chemical found in myoneural space.
3. uric acid test	_____	C. Test for presence of an antibody found in the serum of patients with rheumatoid arthritis.
4. rheumatoid factor test	_____	D. Substance necessary for proper bone development.
5. bone scan	_____	E. Visual examination of a joint.
6. muscle biopsy	_____	F. Test tells if patient has gouty arthritis.
7. arthroscopy	_____	G. Test tells if patient has systemic lupus erythematosus.
8. acetylcholine	_____	H. Removal of soft connective tissue for microscopic examination.
9. calcium	_____	I. Process of taking x-ray pictures of a joint.
10. arthrography	_____	J. Elevated blood levels of this enzyme are found in muscular disorders.

U Circle the term that best completes the meaning of the sentence.

1. Selma, a 40-year-old secretary, had been complaining of wrist pain with tingling sensations in her fingers for months. Dr. Ayres diagnosed her condition as **(osteomyelitis, rheumatoid arthritis, carpal tunnel syndrome)**.

2. Daisy tripped while playing tennis and landed on her hand. She had excruciating pain, which was due to a **(Ewing, Colles, pathologic)** fracture that required casting.

3. In her fifties, Estelle started hunching over more and more. Her doctor realized that she was developing **(gouty arthritis, osteoarthritis, osteoporosis)** and prescribed calcium pills and exercise.

4. Paul had a skiing accident and tore ligaments in his knee. Dr. Miller recommended **(electromyography, hypertrophy, arthroscopic surgery)** to repair the ligaments.

5. For several months after her first pregnancy Elsie noticed a red rash on her face and cheeks. Her joints were giving her pain and she had a slight fever. Her ANA was elevated and her doctor suspected that she had **(SLE, polymyositis, muscular dystrophy)**.

6. David injured his left knee while playing basketball. He was scheduled for arthroscopic repair of his **(ACL, SLE, TMJ)**. However, because of his height and the length of the ligament, his **(rheumatologist, orthopedist, chiropractor)** decided to do "open" surgery.

7. James has significant lower back pain radiating down his left leg. MRI shows an intervertebral **(disk, bunion, exostosis)** impinging on spinal nerves at the **(L5–S1, C2–C3, T3–T5)** level. Bed rest produced no improvement. His orthopedist decided to perform a **(tenorrhaphy, laminectomy, bunionectomy)** to relieve pressure on his nerves.

8. Bruce spent 2 weeks hiking and vacationing on Nantucket Island. A week later he developed a bull's-eye rash on his chest (from a tick bite), fever, muscle pain, and a swollen, tender right ankle. His physician ordered a blood test that revealed **(antigens, antibodies)** to a spirochete bacterium. The physician told Bruce he had contracted **(ankylosing spondylitis, polymyositis, Lyme disease)**.

9. Scott likes to eat rich food. Lately he has noticed pain and tenderness in his right toe, called **(talipes, podagra, rickets)**, and also hard, lumpy deposits over his elbows. His doctor orders a serum uric acid test; the result is abnormally high, revealing **(hemarthrosis, hyperuricemia, hypercalcemia)**, consistent with a diagnosis of **(rheumatoid arthritis, gouty arthritis, osteoarthritis)**.

10. Sara, a 70-year-old widow, has persistent midback pain, and her **(CXR, ESR, EMG)** shows compression fractures of her **(scapula, femur, vertebrae)** and thinning of her bones. A bone density scan confirms the diagnosis of **(osteomyelitis, osteomalacia, osteoporosis)**, and her doctor prescribes calcium, vitamin D, and Fosamax.

V Give meanings for the abbreviations in Column I. Then select the letter in Column II of the best association for each.

COLUMN I		COLUMN II
1. ROM	_____	A. Connection between the lower jawbone and a bone of the skull
2. NSAID	_____	B. Band of fibrous tissue connecting bones in the knee
3. TMJ	_____	C. Bones of the spinal column in the chest region
4. EMG	_____	D. Test of strength of electrical transmission within muscle
5. ACL	_____	E. This autoimmune disease affects joints, skin, and other body tissues
6. SLE	_____	F. Measurement in degrees of a circle assesses the extent a joint can be flexed or extended
7. C1 to C5	_____	G. Bones of the spinal column in the neck region
8. T1 to T12	_____	H. Drug used to treat joint diseases
9. THR	_____	I. Procedure to repair compound fracture
10. ORIF	_____	J. Arthroplasty

W Match the images in Figure 15-35A to E with the descriptions below, and give a medical term for the abnormal condition.

1. Characteristic of children who are born with a condition of muscle deterioration and wasting

   _____

2. Children are born with this deformity of the talus _____
3. This deformity is often the result of a chronic, inflammatory, autoimmune disorder that affects joints, leading to bony ankylosis and inflamed, thickened synovial membranes _____
4. Bleeding disorders can lead to this accumulation of blood in and around a joint

   _____

5. Inflammation of a bursa causes this abnormality _____

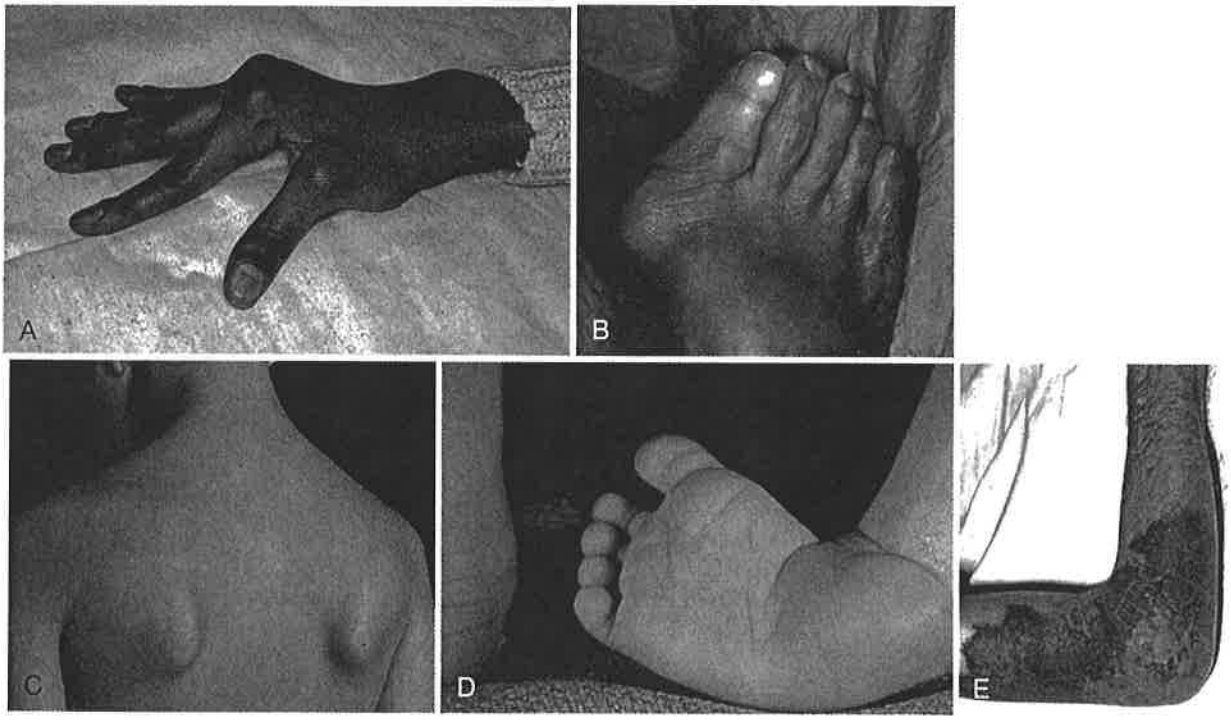

FIGURE 15–35 **A,** From Swartz MH: Textbook of Physical Diagnosis, History and Examination, 5th ed., Philadelphia, Saunders, 2006; **B** and **D,** from Canale ST, Beaty JH: Campbell's Operative Orthopaedics, 11th ed., St. Louis, Mosby, 2008; **C,** from Zitelli BJ, Davis HW: Atlas of Pediatric Physical Diagnosis, 5th ed., St. Louis, Mosby, 2007; **E,** from Moll JMH: Rheumatology, 2nd ed., London, Churchill Livingstone, 1997.

FIGURE 15–34 **(A)** X-ray of knees showing **osteoarthritis** in right knee. **(B)** Patient undergoing **total knee replacement (TKR).** **(C) Prosthetic device** in place. **(D)** X-ray of knees after TKR. (Courtesy Dr. Sidra Ezrahi and Dr. Dennis Burke, Massachusetts General Hospital, Boston.)