Musculoskeletal System

Chapter Fourteen
Medical Terminology
HIT # 141

Anatomy

- **Periosteum** = outermost layer of bone, fibrous tissue.
- **Compact bone** = dense, hard layers of bone tissue, under periostrem.
- **Cancellous (spongy) bone** = contains little spaces, encased in the layers of compact bone.
- **Endosteum** = membranous lining of the hollow cavity of the bone.
- **Diaphysis** = shaft of the long bones.
Anatomy

- **Bone marrow** = material found in the cavities of bones.
- **Red marrow** = thick, blood like found in flat bones & end of long bones, blood cell formation.
- **Yellow marrow** = soft fatty found in the medullary cavity of long bones.

Skeletal Bones

- **Maxilla** = upper jawbones.
- **Mandible** = lower jawbone.
- **Vertebral column** = made up of bones call vertebrae.
- **Cervical vertebrae** = C1-C7 forms the neck.
- **Thoracic** = T1-T12 articulate with ribs.
- **Lumbar** = L1-L5 five large vertebrae, inward curve of the spine.
- **Sacroiliac joint** = 5 vertebrae fused together.
- **Coccyx** = 4 vertebrae fused together, tailbone.
Skeletal Bones

- **Clavicle** = collarbone.
- **Scapula** = shoulder bone.
- **Acromion** = extension of the scapula, forms the high point of the shoulder.
- **Sternum** = breastbone.
- **Xiphoid process** = lower portion of sternum.
- **Humerus** = upper arm bone.
- **Ulna and radius** = lower arm bones.
- **Carpal bones** = wrist bones.
- **Metacarpal bones** = hand bones

---

Skeletal Bones

- **Phalanges** = finger and toe bones.
- **Pelvic** bone = hip bone, three bones fused.
- **Ischium** = lower rear portion, you sit on.
- **Ilium** = upper, wing shaped on each side.
- **Pubis** = anterior portion of the pelvic bone.
- **Acetabulum** = socket in pelvic bone for the head of the femur.
- **Tibia and fibula** = lower leg bones.
- **Tarsal** bones = ankle bones.
- **Calcaneus** = heel bone.
- **Metatarsal** bones = foot bones.
Joints

- **Articular cartilage** = smooth layer of gristle covering the contacting surface of joints.
- **Meniscus** = crescent shaped cartilage found in the knee.
- **Intervertebral disk** = cartilaginous disk found between each vertebra in the spine.
- **Symphysis pubis** = cartilaginous joint at which two pubic bones fuse together.
- **Synovia** = fluid secreted by the synovial membrane and found in joint cavities.

Joints

- **Bursa** = fluid filled sac that allows for easy movement of one part of a joint over another.
- **Ligament** = flexible tough, connective tissue, that attaches one bone to another.
- **Tendon** = connective tissue, connects muscle to bone.
Muscles

- **Skeletal** = striated attached to bones by tendons and make body movement. Voluntary work in pairs.
- **Smooth** = unstriated internal organs involuntary respond to nerve impulses.
- **Cardiac** = most of the heart wall involuntary contractions produce heartbeat.

Actions of Muscles

- **Adduction** = drawing toward the middle.
- **Abduction** = drawing away from the middle.
- **Eversion** = turning outward.
- **Inversion** = turning inward.
- **Extension** = a limb is placed in a straight position.
- **Flexion** = a limb is bent.
- **Pronation** = turns the palm down.
- **Supination** = turns the palm up.
- **Rotation** = turning around its own axis.
Word Parts

- Carp/o = carpals wrist bones.
- Clavic/o clavicul/o = clavicle collarbone.
- Cost/o = rib.
- Crani/o = cranium skull.
- femor/o = femur, upper leg bone.
- Fibul/o = fibula, lower leg bone.
- Humer/o = humerus, upper arm bone.
- Ili/o = ilium.
- Ischi/o = ischium.
- Lumb/o = loin, lumbar region.

Word Parts

- Mandibul/o = mandible lower jaw.
- Maxill/o = maxilla upper jaw.
- Patell/o = patella kneecap.
- Phalang/o = phalanges finger or toe bones.
- Pub/o = pubis.
- Rachi/o = spine, vertebral column.
- Radi/o = radius lower arm bone.
- Sacr/o = sacrum.
- Scapul/o = scapula shoulder blade.
Word Parts

- **Stern/o** = sternum breast bone.
- **Tars/o** = tarsals ankle bone
- **Tibi/o** = tibia lower leg bone.
- **Uln/o** = ulna lower arm bone.
- **Vertebr/o spondyl/o** = vertebra.

Combining Forms for Joints

- **Arthr/o** = joint.
- **Burs/o** = bursa.
- **Chondr/o** = cartilage.
- **Disk/o** = intervertebral disk.
- **Menisc/o** = meniscus.
- **Synovi/o** = synovia, synovial membrane.
- **Ten/o tend/o tendin/o** = tendon.
Combining Forms

• Ankylo/o = crooked, stiff, bent.
• Kinesi/o = movement motion.
• Kyph/o = hump.
• Lamin/o = lamina, thin flat plate or layer.
• Lord/o = bent forward.
• Myel/o myelon/o = bone marrow.
• My/o myos/o = muscle.
• Oste/o = bone.
• Petr/o = stone.
• Scoli/o = crooked curved

Prefixes & Suffixes

• Inter- = between.
• Supra- above.
• Syn- sym- = together, joined.
• -asthenia = weakness.
• -clasis -clast, - clasia = break.
• -desis = surgical fixation fusion.
• -physis = growth.
• -schisis = split, fissure.
Disease & Disorder Terms

- **Ankylosis** = stiffness to a joint (arthritis).
- **Arthritis** = inflammation of a joint.
- **Arthrochondritis** = inflammation of joint cartilages.
- **Bursitis** = inflammation of a bursa.
- **Carpoptosis** = drooping wrist.
- **Chondromalacia** = softening of cartilage.
- **Diskitis** = inflammation of an intervertebral disk.
- **Kyphosis** = hump of the thoracic spine.
- **Lordosis** = bending forward curve of the lumbar spine.

Disease & Disorder Terms

- **Myasthenia** = muscle weakness.
- **Myeloma** = malignant tumor in the bone marrow.
- **Osteitis** = inflammation of the bone.
- **Osteoarthritis** = inflammation of the bone and joint.
- **Osteocarcinoma** = cancerous tumor of the bone.
- **Osteochondritis** = inflammation of the bone and cartilage.
- **Osteomalacia** = softening of bones.
- **Osteosarcoma** = malignant tumor of the bone.
Disease & Disorder Terms

• **Polymyositis** = inflammation of many muscles.
• **Scoliosis** = lateral curve of the spine.
• **Spondylarthritis** = inflammation of the vertebral joints.
• **Synoviosarcoma** = malignant tumor of the synovial membrane.
• **Tendinitis** = inflammation of a tendon.
• **Tenodynia** = pain in a tendon.
• **Tenosynovitis** = inflammation of the tendon and synovial membrane.

Disease & Disorder Terms

• **Ankylosing spondylitis** = arthritis that first affects the spine, causes a forward bend of the spine.
• **Bunion** = enlargement of the joint at the base of the great toe.
• **Carpal tunnel syndrome** = painful wrist, caused by compression of a nerve.
• **Colles’ fracture** = wrist Fx lower end of radius.
• **Exostosis** = benign growth of the surface of a bone.
**Disease & Disorder Terms**

- **Fracture** = Fx broken bone.
- **Gout** = excessive amount of uric acid in the blood causes sodium crystals to be deposited in the joints, especially around the big toe.
- **Herniated disk** = rupture of the intervertebral disk cartilage, putting pressure on nerves.
- **Muscular dystrophy** = hereditary, degeneration of muscle and weakness.
- **Myasthenia gravis** = chronic muscle weakness, defect in nerve impulses to muscles.
- **Osteoporosis** = loss of bone density in Postmenopausal women.

**Surgical Terms**

- **Arthroclasia** = surgical breaking of a still joint.
- **Arthrodesis** = surgical fixation of a joint.
- **Arthroplasty** = surgical repair of a joint.
- **Arthrotomy** = incision of a joint.
- **Bursectomy** = excision of a bursa.
- **Carpectomy** = excision of a carpal bone.
- **Chondroplasty** = surgical repair of a cartilage.
- **Costectomy** = excision of a rib.
- **Cranioplasty** = surgical repair of the skull.
- **Craniotomy** = incision of the skull.
Surgical Terms

- **Diskectomy** = excision of an intervertebral disk.
- **Laminectomy** = excision of the lamina to relieve symptoms on ruptured disk.
- **Myoplasty** = surgical repair of a muscle.
- **Myorrhaphy** = suture of a muscle.
- **Osteoplasty** = surgical repair of the bone.
- **Phalangetomy** = excision of a finger or toe bone.
- **Rachiotomy** = incision into the vertebral column.
- **Spondylosyndesis** = fusing together of the vertebrae (spinal fusion)

Surgical Terms

- **Synovectomy** = excision of the synovial membrane of a joint.
- **Tarsectomy** = excision of one or more tarsal bones.
- **Tenomyoplasty** = surgical repair of the tendon and muscle.
- **Tenorrhaphy** = suture of a tendon.
- **Tenotomy** = incision of the tendon.
Procedural Terms

- **Arthrogram** = x-ray film of a joint.
- **Arthroscopy** = visual examination inside a joint.
- **Arthrocentesis** = puncture of a joint to aspirate fluid.
- **Electromyogram** = record of the electric activity in a skeletal muscle.

Complementary Terms

- **Arthralgia** = pain in the joint.
- **Atrophy** = without development, wasting.
- **Bradykinesia** = slow movement.
- **Carpal** = pertaining to the wrist.
- **Cranial** = pertaining to the cranium.
- **Dyskinesia** = difficult movement.
- **Dystrophy** = abnormal development.
- **Femoral** = pertaining to the femur.
- **Humeral** = pertaining to the humerus.
- **Hyperkinesia** = excessive movement.
Complementary Terms

- **Hypertrophy** = excessive development.
- **Intercostal** = pertaining to between the ribs.
- **Intervertebral** = between the vertebrae.
- **Intracranial** = within the cranium.
- **Ischiopubic** = pertaining to the ischium and pubis.
- **Lumbocostal** = pertaining to the loins & ribs.
- **Lumbosacral** = lumbar region & the sacrum.
- **Osteoblast** = developing bone cell.
- **Osteocyte** = bone cell.

---

Complementary Terms

- **Osteonecrosis** = death of bone.
- **Sacral** = pertaining to the sacrum.
- **Sternoclavicular** = pertaining to the sternum and clavicle.
- **Subcostal** = pertaining to below the rib.
- **Subscapular** = below the scapula.
- **Symphysis** = growing together.
- **Substernal** = below the sternum.
- **Vertebrocostal** = vertebrae and ribs.
**Complementary Terms**

- **Podiatrist** = specialist in treating and diagnosing foot disease and disorders.
- **Chiropractic** = therapy that consists of manipulation of the vertebral column.
- **Chiropractor** = specialist in chiropractic.
- **Orthopedics** = branch of medicine dealing with the study & treatment of disease of the musculoskeletal system.
- **Orthopedist** = physician who specializes in orthopedics.

**Complementary Terms**

- **Orthotic** = making and fitting of orthopedic appliances, to correct deformities.
- **Orthotist** = physician who specializes in orthotics.
- **Osteopathy** = system of medicine, places greater emphasis of the relationship between body organs and the musculoskeletal system.
- **Prosthesis** = an artificial substitute for a body part.
ABBREVIATIONS

• ACL = anterior cruciate ligament.
• C1-C7 = cervical vertebrae.
• CTS = carpal tunnel syndrome.
• EMG = electromyogram.
• Fx = fracture.
• NHP = herniated nucleus pulposus.
• IM = intramuscular.
• L1-L5 = lumbar vertebrae.
• MD = muscular dystrophy.
• MG = myasthenia gravis.

ABBREVIATIONS

• MRI = magnetic resonance imaging.
• OA = osteoarthritis.
• Ortho = orthopedics.
• RA = rheumatoid arthritis.
• ROM = range of motion.
• THA = total hip arthroplasty.
• THR = total hip replacement.
• TKA = total knee arthroplasty.
• TKR = total knee replacement.
• T1-T12 = thoracic vertebrae.
End of Chapter # 14