

Orthopedic and Rheumatology Objectives Clinical Medicine II

A. Overview of Orthopedics

1. Differentiate between fracture, dislocation, and sprain.
2. Discuss the significance of the following parts of bones: epiphysis, diaphysis, metaphysis.
3. List imaging studies used in orthopedics to include their usefulness and limitations.
4. Define the following views: AP or PA, lateral, oblique, scaphoid, spot, and comparison.
5. Use the proper orthopedic terms to describe a fracture using the following points:
 - a. Bone(s) involved
 - b. Open or closed fracture
 - c. What type of fracture – transverse, greenstick, torus, oblique, spiral
 - d. Articular surface involvement
 - e. Placement of fracture parts: shortened, comminuted, displaced, angulated, compressed
 - f. Fracture location – use the “thirds” rule
6. Discuss splinting and casting principles – include types of splints and casts, precautions to consider when casting and splinting, importance of proper positioning of joint/limb, patient education for a patient with a splint or cast:
 - a. Short leg – weight bearing vs. non-weight bearing
 - b. Long leg
 - c. Short arm
 - d. Long arm
 - e. Thumb spica
 - f. Ulnar gutter
 - g. Volar
7. For all of the major joints, identify the:
 - a. Resting vs. anatomical position of the joint
 - b. Bones that make up the joint
 - c. Musculature, ligaments, and tendons of the joint
 - d. Vascular and nerve supply to the joint/bone
 - e. Anatomical landmarks which relate to the joint
 - f. Proper terms to describe the normal ROM of each joint
 - g. Degree of extension/flexion/abduction/adduction of each joint
 - h. Type of joint, and describe its normal motion
8. Describe the pathophysiology, clinical presentation, diagnosis, and general principles and goals of treatment for the following conditions:
 - a. Acute and chronic osteomyelitis
 - b. Neoplastic disease
 - Bone cysts
 - Tumors
 - Osteosarcoma

B. Hand and Wrist

1. Given a diagram or x-ray of a hand and wrist, be able to identify the:
 - a. Intrinsic and extrinsic muscles
 - b. Median, ulnar and radial nerves
 - c. Bones
 - d. Joints (MCP, PIP, DIP, radiocarpal, radioulnar, carpometacarpal)
2. Discuss the clinical presentation (including mechanism of injury), evaluation, and general principles and goals of treatment (to include patient education and major potential complications) for each of the following conditions:
 - a. Colles' fracture
 - b. Carpal tunnel syndrome
 - c. Navicular fracture
 - d. Game keeper's thumb
 - e. Tendonitis
 - f. Dislocations
 - g. Fractures of the metacarpals and phalanges
 - h. Sprains
 - i. Human bite to joint
 - j. Trigger finger
 - k. DeQuervain's tenosynovitis
 - l. Dupuytren's contracture
 - m. Extensor tendon ruptures (mallet finger and boutonniere)
 - n. Ulnar nerve entrapment
 - o. Ganglion cyst
 - p. Swan neck deformity

C. Elbow

1. Given a diagram or x-ray of the elbow/forearm, identify the:
 - a. Muscles (flexion, extension, supination, pronation)
 - b. Median, ulnar, and radial nerves
 - c. Bones
2. Discuss the clinical presentation (including mechanism of injury), evaluation, and general principles and goals of treatment (to include patient education and major potential complications) for each of the following conditions:
 - a. Epicondylitis (lateral and medial)
 - b. Elbow tendonitis and tenosynovitis
 - c. Dislocations and subluxations - adults vs. child
 - d. Ulnar nerve entrapment
 - e. Humerus fractures (distal and shaft)
 - f. Olecranon fractures
 - g. Radial head fractures
 - h. Olecranon bursitis
3. Describe the physical exam of the elbow and forearm - to include inspection, ROM, strength testing, palpation, and neurological evaluation

D. Shoulder

1. Given a diagram or x-ray of a shoulder, be able to identify the:
 - a. Muscles (flexion, extension, abduction, adduction)
 - b. Nerves (including nerve roots from the cervical spine)
 - c. Bones
 - d. Tendons
 - e. Joints (sternoclavicular, acromioclavicular, glenohumeral)
2. Discuss the clinical presentation (including mechanism of injury), evaluation, and general principles and goals of treatment (to include patient education and major potential complications) for each of the following conditions:
 - a. Rotator cuff tears
 - b. Impingement
 - c. AC injuries – Type I-VI
 - d. Clavicle fracture
 - e. Dislocation – anterior vs. posterior
 - f. Bursitis
 - g. Proximal humerus fracture
 - h. Fracture of the Scapula
 - i. Glenohumeral instability
 - j. Biceps tendon rupture
 - k. “Frozen shoulder”
 - l. Thoracic outlet syndrome

E. Hip and Thigh

1. Given a diagram or x-ray of a hip/pelvis, identify the:
 - a. Muscles (flexion, extension, abduction, adduction)
 - b. Nerves (including nerve roots from the lumbar spine)
 - c. Bones
2. Define an antalgic gait and Trendelenburg symptom
3. Discuss the clinical presentation (including mechanism of injury), evaluation, and general principles and goals of treatment (to include patient education and major potential complications) for each of the following conditions:
 - a. Hip fracture, fracture of femoral shaft, pelvic fracture
 - b. Trochanteric bursitis
 - c. Dislocation
4. Discuss the clinical presentation, evaluation, and general principles and goals of treatment (including referral) for each of the following conditions:
 - a. Osteonecrosis/aseptic necrosis
 - b. Osteomyelitis
 - c. Lateral femoral cutaneous nerve entrapment
 - d. Hip replacement
 - e. Leg length discrepancy
 - d. Iliotibial band snapping of the hip

F. Knee

1. Given a diagram or X-ray of the knee, identify the:
 - a. Muscles (flexion, extension)
 - b. Nerves
 - c. Bones
 - d. Bursa
 - e. Ligaments (ACL, PCL, MCL, LCL)
2. Discuss the clinical presentation (including mechanism of injury), evaluation, and general principles and goals of treatment (to include patient education and major potential complications) for each of the following conditions:
 - a. Ligament injury (MCL, LCL, ACL, PCL)
 - b. Meniscal tear
 - c. Baker's cyst
 - d. Bursitis
 - e. Fracture of the patella, tibia and fibula
3. Discuss the clinical presentation, evaluation, and general principles and goals of treatment for each of the following conditions:
 - a. Patellar/ quadriceps tendonitis
 - b. Knee joint infections
 - c. Chondromalacia
 - d. Patellofemoral instability and malalignment

G. Ankle and Foot

1. Given a diagram or X-ray of the foot and ankle, identify the:
 - a. Medial and lateral malleoli
 - b. Tendons - including Achilles, extensor/flexor tendons
 - c. Anterior, lateral, medial, calcaneo-fibular, and talo-fibular ligaments
 - d. Bones
 - e. MTP joints
2. Discuss the clinical presentation (including mechanism of injury), diagnostic evaluation, and general principles and goals of treatment (including patient education and major potential complications) for each of the following conditions:
 - a. Pes planus deformity
 - b. Plantar fasciitis
 - c. Achilles tendonitis
 - d. Achilles rupture
 - e. Ankle sprains – inversion and eversion injuries
 - f. Bunions or corns
 - g. Fractures (metatarsal, phalange, calcaneal, tarsal, mortise, fibular, tibial)
 - h. Ganglion cysts
3. Describe the significance of the following specialty tests: anterior drawer and varus stress tests.

4. Discuss the clinical presentation, diagnostic evaluation, and general principles and goals of treatment for each of the following conditions:
 - a. Hindfoot fractures
 - b. Midfoot fractures
 - c. Hammer toe
 - d. Mallet toe
 - e. Stress fractures of the lower leg
 - f. Tarsal tunnel syndrome
 - g. Morton's neuroma
 - h. Plantar fibromas
 - i. Sesamoiditis
 - j. Chronic lateral ankle instability
 - k. Metatarsalgia

H. Back and Spine

1. Given a diagram or X-ray of the back, identify the:
 - a. Areas of the spine (cervical, thoracic, lumbar)
 - b. Normal curvature of the spine
 - c. Discs
 - d. Bony processes of the spine
 - e. Nerves
2. Discuss the clinical presentation (including mechanism of injury), diagnostic evaluation, and general principles and goals of treatment (including patient education and major potential complications) for each of the following conditions:
 - a. Acute back sprain (cervical and lumbar)
 - b. Spondylolisthesis
 - c. Cervical fracture
 - d. Radiculopathy (cervical and lumbar)
 - e. Spondylosis
 - f. DDD – degenerative disk disease
 - g. Vertebral compression fracture
 - h. Disc herniation
3. Discuss the clinical presentation, diagnostic evaluation, and general principles and goals of treatment for each of the following conditions:
 - a. Midback sprain
 - b. Cauda equina
 - c. Spinal stenosis
 - d. Adult Scoliosis/Kyphosis

I. Sports Medicine

1. Describe the unique aspects of an athletic preparticipation physical and clearance.
2. Identify contraindications for participation in competitive sports.
3. Identify common sports injuries.
4. Discuss the incidence and ramifications of anabolic steroid use/abuse.
5. Identify common ergogenic aids, their efficacy, and associated risks.
6. Describe appropriate nutrition recommendations for aerobic (endurance) and anaerobic (strength) training and competition.
7. Identify common nutritional problems in athletes.
8. Describe strategies to recognize, treat, and prevent dehydration and heat illness in competitive and recreational athletes.

J. Overview of Rheumatology

1. Discuss the pathophysiology, clinical presentation, and expected radiographic findings and pertinent clinical chemistry for each of the following conditions:
 - a. Rheumatoid arthritis
 - b. Polymyalgia rheumatica
 - c. Gout and Pseudogout
 - d. Osteoarthritis
 - e. Systemic Lupus Erythematosus (SLE)
2. Discuss age appropriate differential diagnosis for rheumatological complaints including systemic conditions (e.g. colitis and psoriasis) affecting bones and joints.
3. Correlate systemic manifestations with the underlying rheumatological condition and identify potential complications of each disease.
4. Discuss the general principles and goals of treatment.
5. Describe the pathophysiology, clinical presentation, diagnosis, and the general principles and goals of treatment for each of the following conditions:
 - a. Septic arthritis
 - b. Other Arthropathies
 - Polyarteritis Nodosa
 - Polymyositis
 - Spondyloarthritis
 - Psoriatic Arthritis
 - Reiter's Syndrome
 - c. Systemic Disorders
 - Scleroderma
 - Sjogren's Syndrome
6. Identify appropriate site of care and patients requiring referral.