

Sports Medicine Examination Content

- I. ROLE OF THE TEAM PHYSICIAN** 1%
 - A. Ethics
 - B. Medical-Legal
 - 1. Physician responsibility
 - 2. Physician liability
 - 3. Preparticipation clearance
 - 4. Return to play
 - 5. Waiver of liability
 - C. Administrative Responsibilities

- II. BASIC SCIENCE OF SPORTS** 16%
 - A. Exercise Physiology
 - 1. Training Response/Physical Conditioning
 - a. Aerobic
 - b. Anaerobic
 - c. Resistance
 - d. Flexibility
 - 2. Environmental
 - a. Heat
 - b. Cold
 - c. Altitude
 - d. Recreational diving (scuba)
 - 3. Muscle
 - a. Contraction
 - b. Lactate kinetics
 - c. Delayed onset muscle soreness
 - d. Fiber types
 - 4. Neuroendocrine
 - 5. Respiratory
 - 6. Circulatory
 - 7. Special populations
 - a. Children
 - b. Elderly
 - c. Athletes with chronic disease
 - d. Disabled athletes
 - B. Anatomy
 - 1. Head/Neck
 - a. Bone
 - b. Soft tissue
 - c. Innervation
 - d. Vascular
 - 2. Chest/Abdomen
 - a. Bone
 - b. Soft tissue
 - c. Innervation
 - d. Vascular
 - 3. Back
 - a. Bone
 - b. Soft tissue
 - c. Innervation

- d. Vascular
 - 4. Shoulder/Upper arm
 - a. Bone
 - b. Soft tissue
 - c. Innervation
 - d. Vascular
 - 5. Elbow/Forearm
 - a. Bone
 - b. Soft tissue
 - c. Innervation
 - d. Vascular
 - 6. Hand/Wrist
 - a. Bone
 - b. Soft tissue
 - c. Innervation
 - d. Vascular
 - 7. Hip/Pelvis/Thigh
 - a. Bone
 - b. Soft tissue
 - c. Innervation
 - d. Vascular
 - 8. Knee
 - a. Bone
 - b. Soft tissue
 - c. Innervation
 - d. Vascular
 - 9. Lower Leg/Foot/Ankle
 - a. Bone
 - b. Soft tissue
 - c. Innervation
 - d. Vascular
 - 10. Immature Skeleton
 - a. Physes
 - b. Apophyses
- C. Biomechanics
 - 1. Throwing/Overhead activities
 - 2. Swimming
 - 3. Gait/Running
 - 4. Cycling
 - 5. Jumping activities
 - 6. Joint kinematics
- D. Pharmacology
 - 1. Therapeutic Drugs
 - a. Analgesics
 - b. Antibiotics
 - c. Antidiabetic agents
 - d. Antihypertensives
 - e. Asthma medications
 - f. Corticosteroids
 - g. NSAIDs/COX-2 inhibitors
 - h. Viscosupplementation
 - 2. Performance-enhancing Drugs
 - a. Anabolic steroids

- b. Creatine
- c. Erythropoietin
- d. Prohormones/hormones
- e. Stimulants
- f. Supplements
- 3. Drugs of Abuse
 - a. Alcohol
 - b. Cocaine
 - c. Marijuana
 - d. Nicotine
 - e. Stimulants
- 4. Drug Testing
 - a. Procedural issues
 - b. Performance enhancing drugs
 - c. Therapeutic drugs
 - d. Drugs of abuse
- E. Growth/Development/Aging
 - 1. Pediatric
 - 2. Adult

III. HEALTH PROMOTION/PREVENTIVE ASPECTS OF SPORTS MEDICINE 20%

- A. Preparticipation Examination
 - 1. Administration
 - a. Timing/frequency
 - b. Mass vs. individual
 - c. Screening tests
 - 2. Cardiovascular
 - a. Valvular disease
 - b. Arrhythmogenic right ventricular dysplasia
 - c. Arteriosclerotic coronary artery disease
 - d. Athletic heart syndrome
 - e. EKG
 - f. Hypertension
 - g. Hypertrophic cardiomyopathy
 - h. Marfan's syndrome
 - i. Murmurs
 - j. Syncope
 - 3. CNS
 - a. Seizure
 - b. Stingers/burners
 - c. Traumatic brain injury
 - d. Transient quadriplegia
 - 4. Musculoskeletal
 - a. Cervical stenosis
 - b. Joint disorders
 - c. Scoliosis
 - 5. Paired organs
 - a. Eyes
 - b. Kidneys
 - c. Testicles
 - 6. Abdominal
 - 7. Education/Prevention

- a. Asthma
- b. Diabetes mellitus
- c. Drugs
- d. Female triad
- e. Injury prevention
- f. Infectious disease
- 8. Special populations and conditions
 - a. Scuba divers
 - b. Special Olympics athletes
 - c. Sickle cell disease
 - d. Hematologic disorders
 - e. Cystic fibrosis
- B. Conditioning and Training Techniques
 - 1. Strength Training
 - 2. Endurance Training
 - 3. Speed Training
 - 4. Flexibility
 - 5. Sports-specific
 - 6. Overtraining
 - 7. Periodization
 - 8. Altitude
 - 9. Elderly
 - 10. Pediatric
- C. Nutrition
 - 1. Fluid Replacement
 - 2. Carbohydrates
 - 3. Protein
 - 4. Fat
 - 5. Vitamins/minerals
 - 6. Supplements
 - 7. Weight Management
 - a. Weight gain
 - b. Weight loss
- D. Exercise Prescription
 - 1. Medical Clearance/Screening
 - a. Apparently healthy athletes
 - b. Athletes with chronic disease
 - 2. Benefits
 - a. Cardiovascular
 - b. Cerebrovascular
 - c. Diabetes mellitus
 - d. Disabled athlete
 - e. Fibromyalgia
 - f. General fitness
 - g. HIV infection
 - h. Cancer
 - i. Osteoarthritis
 - j. Osteoporosis
 - k. Pulmonary
 - l. Weight control
 - 3. Protocols/Guidelines
- E. Epidemiology
 - 1. Risk Factors

- a. Musculoskeletal injuries
- b. Head/Neck injuries
- c. Cardiac problems
- d. Environmental problems
- e. Pediatric conditions
- f. Infectious disease
- 2. Sports-specific
- 3. Injury-specific
- 4. Injury Prevention
 - a. Equipment
 - b. Sports-specific techniques
 - c. Rules
- F. Event Administration
 - 1. Personnel
 - 2. Venue Setup
 - 3. Environmental
 - 4. Emergency Planning
 - 5. Communication
 - 6. Participants

IV. EMERGENCY ASSESSMENT AND CARE

8%

- A. Abdominal/Pelvic/Groin Trauma
 - 1. Splenic rupture
 - 2. Testicular torsion
- B. Airway Compromise
- C. Anaphylaxis
- D. Cardiac Arrest
- E. Cervical Spine Injury
- F. Chest Trauma/Disorders
 - 1. Commotio Cordis
 - 2. Penetrating Trauma
 - 3. Pneumothorax
 - 4. Pulmonary Embolus
- G. Environmental Illness
 - 1. Hypothermia
 - 2. Hyperthermia
 - 3. Altitude
 - 4. Barotrauma
- H. Exercise-Associated Collapse
- I. Eye Trauma
- J. Head Injury
- K. Metabolic Disease
 - 1. Diabetes Mellitus
 - 2. Electrolyte Disorders
- L. Musculoskeletal Trauma/Disorders
 - 1. Knee Dislocation
 - 2. Acute Compartment Syndrome
 - 3. Fat Embolism
- M. Vascular Trauma/Disorders

V. DX, Mx, Rx OF SPORTS-RELATED INJURIES AND CONDITIONS

50%

- A. HEENT

1. Eye
 - a. Corneal abrasion
 - b. Foreign body
 - c. Hyphema
 - d. Retinal detachment
 - e. Vitreous hemorrhage
2. Facial
 - a. Auricular hematoma
 - b. Dental injuries
 - c. Epistaxis
 - d. Fractures
 - e. Lacerations
 - f. Septal hematoma
 - g. Tympanic membrane rupture
3. Skull Fractures
4. Traumatic Brain Injury
- B. Neck
 1. Cervical Spine
 - a. Cervical neuropraxia
 - b. Disc injuries
 - c. Fractures, nonemergent
 - d. Instability
 - e. Spinal stenosis
 - f. Strains
 2. Vascular Injury
 3. Thoracic Outlet Syndrome
 - a. Paget-Schroetter syndrome
 - b. Subclavian artery injury
 4. Brachial Plexus Injury
- C. Chest
 1. Breast Contusion
 2. Cardiac Contusion
 3. Costochondritis
 4. Pulmonary Contusion
 5. Rib Fractures/Stress Fracture
 6. Spontaneous Pneumothorax/Pneumomediastinum
 7. Sternoclavicular Fractures/Dislocations
- D. Abdomen
 1. Liver Laceration
 2. Rectus Hematoma
 3. Renal Trauma
 4. Splenic Trauma
 5. Sports Hernia
 6. Strains
 7. Testicular Trauma
- E. Back
 1. Degenerative Disease
 2. Disc Disease
 3. Facet Syndrome
 4. Fractures
 - a. Burst fractures
 - b. Compression fractures
 - c. Spinous process

- d. Spondylolysis
 - e. Transverse process
- 5. Lumbosacral Strain
- 6. Sacroiliac Dysfunction
- 7. Scoliosis
- 8. Spinal Stenosis
- 9. Spondylolisthesis
- F. Shoulder
 - 1. Fractures
 - a. Clavicle
 - b. Glenoid
 - c. Humerus
 - d. Scapula
 - e. Stress fractures
 - 2. Dislocation/Subluxation
 - a. Acromioclavicular joint
 - b. Glenohumeral joint
 - 3. Instability, Chronic
 - a. Anterior
 - b. Posterior
 - c. Multi-directional
 - 4. Muscle/Tendon Injuries
 - a. Biceps tendon, proximal
 - b. Pectoralis major
 - c. Rotator cuff
 - 5. Labral Tears
 - 6. Adhesive Capsulitis
 - 7. Neurovascular
 - a. Axillary nerve injury
 - b. Long thoracic nerve injury
 - c. Radial nerve injury
 - d. Suprascapular nerve injury
 - e. Turner-Parsonnage syndrome
 - 8. Impingement
 - a. Primary
 - b. Secondary
 - c. Internal
- G. Elbow/Forearm
 - 1. Fractures
 - a. Radial head
 - b. Supracondylar
 - c. Olecranon
 - d. Radius/ulna midshaft
 - 2. Dislocation
 - 3. Instability/ligament injury
 - a. Ulnar collateral ligament injury
 - b. Posterolateral
 - c. Valgus extension overload
 - 4. Muscle Tendon Injury
 - a. Distal biceps rupture
 - b. Lateral epicondylitis
 - c. Medial epicondylitis
 - d. Triceps tendinitis

5. Olecranon Bursitis
 6. Neurovascular
 - a. Radial tunnel
 - b. Cubital tunnel
 - c. Pronator
 - d. Posterior interosseus nerve
 - e. Traumatic
 - f. Compartment syndrome
- H. Hand/Wrist
1. Fractures
 - a. Carpal
 - b. Metacarpal
 - c. Distal ulna, radius
 - d. Phalangeal
 - e. Volar plate
 2. Dislocations
 - a. Lunate
 - b. Perilunate
 - c. Distal radioulnar joint
 - d. Metacarpal
 - e. Proximal interphalangeal
 - f. Distal interphalangeal
 3. Instability/Ligament Injury
 - a. Scapholunate/Dorsal intercalated segmental instability
 - b. Lunotriquetral/Volar intercalated segmental instability
 - c. Ulnar collateral
 4. Muscle/Tendon Injury
 - a. Intersection syndrome
 - b. Jersey finger
 - c. Mallet finger
 - d. DeQuervain's tenosynovitis
 - e. Trigger finger
 - f. Boutonnière deformity
 5. TFCC Injury
 6. Neurovascular
 - a. Carpal tunnel
 - b. Guyon's canal
 - c. Ulnar hammer syndrome
 7. Nail/Bed Injuries
 8. Ganglion Cysts
- I. Pelvis/Hip/Thigh
1. Fractures
 - a. Femoral neck stress fracture
 - b. Femoral shaft stress fracture
 - c. Pubic ramus stress fracture
 - d. Sacral stress fracture
 - e. Femoral shaft fracture
 2. Dislocation
 3. Muscle/Tendon Injuries
 - a. Hip flexor
 - b. Piriformis
 - c. Quadriceps contusion/strain/myositis
 - d. Hamstring

- e. Iliotibial band
- f. Adductor
- 4. Bursitis
 - a. Greater trochanteric
 - b. Iliopectineal
 - c. Ischial
- 5. Labral Injuries
- 6. Osteitis Pubis
- 7. Avascular Necrosis
- 8. Degenerative Joint Disease
- 9. Neurovascular
 - a. Obturator nerve
 - b. Meralgia paresthetica
 - c. Compartment syndrome
- J. Knee
 - 1. Fractures
 - a. Patella
 - b. Tibial plateau
 - c. Segond
 - d. Stress fracture
 - 2. Dislocation
 - a. Patella
 - b. Knee
 - 3. Muscle/Tendon Injuries
 - a. Iliotibial band
 - b. Patellar tendinitis
 - c. Popliteus tendinitis
 - d. Extensor mechanism rupture
 - 4. Instability/Ligament Injuries
 - a. Anterior cruciate ligament
 - b. Posterior cruciate ligament
 - c. Medial collateral ligament
 - d. Lateral collateral ligament
 - e. Posterolateral
 - f. Patellar subluxation
 - 5. Patellofemoral dysfunction
 - a. Plica syndrome
 - b. Fat pad
 - c. Anterior knee pain
 - 6. Meniscal tears/Cysts
 - 7. Degenerative joint disease
 - 8. Bursitis
 - a. Prepatellar
 - b. Pes anserine
 - c. Voschel's
 - 9. Neurovascular
- K. Lower Leg/Ankle/Foot
 - 1. Fractures
 - a. Fibula
 - b. Tibia
 - c. Talus
 - d. Malleolar
 - e. Tarsals

- f. Metatarsal
- g. Phalangeal
- h. Os trigonum
- 2. Stress Fractures
 - a. Fibula
 - b. Tibia
 - c. Navicular
 - d. Calcaneal
 - e. Metatarsal
 - f. Sesamoid
- 3. Dislocation
 - a. Ankle
 - b. Fibular head
 - c. Interphalangeal
- 4. Muscle/Tendon Injury
 - a. Gastrocnemius tear
 - b. Achilles tendinitis/tear
 - c. Posterior tibialis
 - d. Peroneal tendinitis/subluxation
 - e. Plantar fasciitis
 - f. Anterior tibialis
 - g. Flexor hallucis longus
 - h. Extensor hallucis longus
 - i. Shin splints
- 5. Ligament Injury/Instability
 - a. Lateral ankle sprain
 - b. Medial ankle sprain
 - c. Syndesmosis sprain
 - d. Chronic instability of the ankle
 - e. Lisfranc
 - f. Turf toe
 - g. Midfoot
- 6. Bursitis
- 7. Neurovascular
 - a. Tarsal tunnel
 - b. Morton's neuroma
 - c. Chronic compartment syndrome
 - d. Popliteal artery entrapment
- 8. Tarsal coalition
- L. Pediatric Musculoskeletal Injury
 - 1. Salter Harris Fractures
 - 2. Apophyseal/Epiphyseal Fracture
 - a. Medial epicondyle, elbow
 - b. Anterior superior iliac spine/Anterior inferior iliac spine
 - c. Ischium
 - d. Ilium
 - e. Tibial tuberosity
 - f. Lesser trochanter
 - g. Inferior pole patella
 - h. Distal radius
 - 3. Apophysitis/Epiphysitis
 - a. Little league elbow
 - b. Little league shoulder

- c. Osgood-Schlatter disease
- d. Sever's disease
- e. Sinding-Larsen-Johannson disease
- f. Iselin's disease
- g. Ischium
- h. Ilium
- i. Navicular
- j. Subcapital
- 4. Osteochondritis Dessimans
 - a. Femoral head
 - b. Capitellum
 - c. Femoral condyle
 - d. Talus
 - e. Patella
- 5. Osteonecrosis
 - a. Calve's disease
 - b. Freiberg's disease
 - c. Kienböck's disease
 - d. Kohler's disease
 - e. Legg-Calvé-Perthes disease
 - f. Panner's disease
 - g. Scheuermann's disease
- 6. Slipped Capital Femoral Epiphysis
- M. Neurologic
 - 1. Complex Regional Pain Syndrome
 - 2. Headache
 - a. Exertional
 - b. Traumatic migraine
 - 3. Seizure Disorder
- N. Cardiovascular
 - 1. Acquired
 - a. Arteriosclerotic coronary artery disease
 - b. Myocarditis
 - c. Pericarditis
 - d. Valvular
 - 2. Arrhythmias
 - 3. Athletic Heart Syndrome
 - 4. Congenital
 - a. Anomalous coronary artery
 - b. Arrhythmogenic right ventricular dysplasia
 - c. Hypertrophic cardiomyopathy
 - d. Marfan's syndrome
 - e. Pre-excitation syndromes
 - f. Prolonged QT
 - g. Valvular
 - 5. EKG Interpretation
 - 6. Hypertension
- O. Pulmonary
 - 1. Asthma/Exercise-Induced Bronchospasm
 - 2. COPD
 - 3. Cystic Fibrosis
 - 4. Vocal Cord Dysfunction
- P. Gastrointestinal

1. GI Bleeding
2. Gastroesophageal Reflux Disease
3. Motility Disorders
- Q. Genitourinary/Renal
 1. Exertional Rhabdomyolysis
 2. Hematuria
 3. Hemoglobinuria
 4. Myoglobinuria
 5. Proteinuria
 6. Pudendal Nerve Injury
- R. Dermatologic
 1. Blisters/Corns/Warts
 2. Contact Dermatitis
 3. Fungal Infection
 4. Herpes Simplex/Viral Infection
 5. Impetigo/Bacterial Infection
 6. Nail Disorders
 7. Lacerations
- S. Hematologic
 1. Anemia
 - a. Iron deficiency
 - b. Physiologic
 - c. Foot strike hemolysis
 - d. Sickle cell
 2. Coagulopathy
 3. Bleeding Disorders
- T. Endocrine
 1. Diabetes Mellitus
 - a. Type 1
 - b. Type 2
 2. Menstrual Disorders
 3. Osteoporosis/Osteopenia
- U. Infectious Disease
 1. Bloodborne Pathogens
 - a. HIV
 - b. Hepatitis
 2. Febrile Illness
 3. Lyme Disease
 4. Mononucleosis
 5. Prophylaxis
 6. Septic Joint
 7. Sexually Transmitted Disease
 8. URI
- V. GYN/OB
 1. Pelvic Floor Dysfunction
 2. Pregnancy
- W. Allergy/Immunology
 1. Immunizations
 2. Urticaria
 - a. Cholinergic
 - b. Exercise-induced
- X. Environmental
 1. Heat Illness

- 2. Cold Injury
- 3. Altitude Illness
- 4. Diving/Barotrauma
- Y. Psychiatric
 - 1. Depression
 - 2. Eating Disorders/Disordered Eating
 - 3. Sports Psychology
 - a. Performance enhancement
 - b. Performance anxiety
 - c. Coping with injury
 - d. Burnout
- Z. Rheumatologic
- AA. Special Demographic Groups
 - 1. Elderly
 - a. Chronic disease
 - b. Arthroplasty/Osteoarthritis
 - 2. Children
 - a. Thermoregulation
 - b. Development issues
 - 3. Women
 - a. Anterior cruciate ligament injury
 - b. Female athlete triad
 - 4. Disabled Athlete
 - a. Autonomic hyperreflexia
 - b. Thermoregulation
 - c. Injury-specific issues

VI. MUSCULOSKELETAL REHABILITATION 3%

- A. Shoulder
- B. Back
- C. Knee
- D. Ankle
- E. Techniques
- F. Sports-specific Rehabilitation Leading to Return to Play

VII. PROCEDURES 2%

- A. Casting, Splinting, Bracing
- B. Joint and Soft Tissue Injection/Aspiration
- C. Reduction of Joint Dislocation/Fractures
- D. Exercise Testing
 - 1. Screening
 - 2. Fitness Assessment
 - 3. Special Populations