Carolinas Medical Center
Family Medicine Residency

Curricular Goals and Objectives
for
SPORTS MEDICINE/AMBULATORY ORTHOPEDICS

GOALS:

1. The resident will understand the anatomy and physiology of the musculoskeletal system relevant to the practice of orthopedic and sports medicine.
2. The resident will learn the physiology of exercise and the adaptation of the body to exercise in men, women, and children.
3. The resident will understand the role of nutrition and supplements in sports and their role in enhancing performance.
4. The resident will understand the function of pre-participation exam and learn to appropriately screen individuals prior to exercise.
5. The resident will recognize the common sports injuries seen in athletes and the appropriate treatments.
6. The resident will recognize the common medical problems seen in athletes and understand the appropriate evaluation and treatment.
7. The resident will understand the use of laboratory and x-ray in the evaluation of sports medicine problems.
8. The resident will understand the role of physical therapy in sports injury rehabilitation.
9. The resident will understand the function of the sideline physician at team sports events.

OBJECTIVES:

Patient Care:

1. By the end of the PGY-2 year, the resident will demonstrate competency as assessed by one of the family medicine faculty or orthopedist in the following:
   a. proper exam of the knee and shoulder on a simulated patient.
   b. participation in athletic pre-participation physicals.

2. By the end of the PGY-3 year, the resident will demonstrate competency as assessed by one of the family medicine faculty or orthopedist in the following:
   a. application of a short leg walking cast and a short arm cast.
   b. joint injections of both the shoulder and knee.
   c. interpretation of an X-ray of a major joint of a patient.
   d. Coverage of at least 1 sporting event with a sports medicine physician.

3. The resident on the PGY-2 rotation will present three cases involving a patient with the following:

a. acute musculoskeletal injury
b. chronic musculoskeletal injury
c. medical problem related to athletics

Medical Knowledge

1. The resident will list the common symptoms, physical findings, diagnostic methods, and management of the following *acute injuries*:
   a Rotator cuff tear
   b Glenohumeral dislocation
   c Acromioclavicular separation
   d Clavicle fracture
   e Navicular fracture
   f Ankle sprain
   g ACL tear
   h MCL sprain
   i Meniscal tear
   j 5^{th} metatarsal fracture
2. The resident will list the common symptoms, physical findings, diagnostic methods, and management (including physical therapy) of the following *chronic conditions*:
   a. Dequervain's tenosynovitis
   b. Rotator cuff tendinitis
   c. Lateral epicondylitis
   d. Carpal tunnel syndrome
   e. Biceps tendinitis
   f. Iliotibial band syndrome
   g. Patellofemoral Stress Syndrome (PFSS)
   h. Patella tendinitis
   i. Plantar fasciitis
   j. Achilles tendinitis
3. The resident will list the most common abnormalities discovered during the pre-participation physical of a high school athlete.
4. The resident will discuss the evaluation and management including proper return to play after a concussion.
5. The resident will define the role of carbohydrates, fats, and protein as energy sources for exercising persons.
6. The resident will discuss exercise and its relation with the following medical problems/ conditions:
   a. Hypertension
   b. Cardiac arrhythmias
   c. Exercise-induced asthma
   d. Diabetes mellitus
   e. The female athlete triad
   f. Pregnancy
   g. Infectious disease
   h. Heat illness/ stroke

Interpersonal and Communication Skills

1. The resident will counsel a patient who has suffered a musculoskeletal injury in the following areas:
    a. Physical Management of the injury (non-surgical vs. surgical, rehab)
    b. Psychological effects of the injury
2. The resident will teach a home physical therapy program to at least one patient with a musculoskeletal injury.
3. The resident will coordinate care for a patient between their role as a primary care physician and an orthopedic or sports medicine specialist.

Professionalism

1. The resident will demonstrate support of the individual and family through consultation, evaluation, treatment and rehabilitation.
2. The resident will recognize the importance of lifestyle factors on the development and exacerbation of musculoskeletal disease.

System-Based Practice

1. The resident will demonstrate an awareness of the surgical vs. non-surgical approaches to musculoskeletal injuries.
2. The resident will demonstrate competency on knowing when to refer a musculoskeletal injury to a specialist.

Practice-Based Learning and Improvement

1. The resident will demonstrate an appreciation of the benefits of exercise on the following cardiovascular risk factors:
    a. Obesity
    b. Hypertension
    c. Hyperlipidemia
    d. Smoking
    e. Diabetes mellitus, Type 1 and Type 2

METHODS

1st YEAR

- Six monthly sports medicine lectures
- Opportunities as available
    - Game coverage
    - Research opportunities

2nd YEAR

- Ambulatory Skills Month
  - Sports pre-participation physicals
  - Splinting Workshop
  - Sports Medicine Practicum
- One Month Orthopedic/Sports Medicine rotation
  - Private orthopedic office
  - Primary Care Sports Medicine clinic (CMC-Mercy, EFM)
  - Primary Care Sports Medicine clinic (SMIC, Randolph Rd)
  - Rheumatology office
  - Physical therapy – Carolinas Rehabilitation
  - Musculoskeletal clinic at Carolina Rehabilitation
    - Pre/Post Test
  - Sports Medicine Clinic at UNCC
  - Orthopedic Clinic at CMC Myers Park
  - UNCC Training Room experience

- Game Coverage (in season)
  ⟶ Games
  - High School Football – JCSU, West Meck, Garinger, etc.
  - Other mass participation events
  - UNCC athletic event assignment
- Six monthly Sports Medicine lectures
- Lectures at McCrory YMCA
  - Exercise as disease prevention and modification
  - Common Injuries
  - Common health questions related to well being

3rd YEAR

- Two weeks Urology/Sports med. rotation
- Two weeks Adolescent Med./Sports Med. rotation
  - Primary Care Sports Medicine clinic (CMC-Mercy, EFM, SMIC Randolph Rd)
  - Private orthopedic office
  - Rheumatology clinic
  - Physical therapy – St. George

- Game Coverage
  - High School Football
    - West Mecklenburg High School and others
  - Six monthly sports medicine lectures
- Two weeks orthopedic/sports medicine experience (optional as elective)

EVALUATION/ASSESSMENT

1. The resident on the PGY-2 rotation will be evaluated by Dr. Jones/Price at two or 3 weeks and at the completion of the rotation to review his/ her performance. Initial deficiencies will be corrected by the resident prior to the final evaluation. Comments from the other orthopedic and sports medicine specialists will also be used in the evaluation.
2. Successful completion of the Family Medicine program requirements for sports medicine will require the resident to fulfill the above listed objectives, skills, and procedures on a longitudinal basis prior to graduation.

MILESTONES ASSESSED

MK1: Demonstrates medical knowledge of sufficient breadth and depth to practice family medicine
C3: Develops relationships and effectively communicates with physicians, other health professionals, and healthcare teams
PBLI2: Demonstrates self-directed learning
PROF3: Demonstrates humanism and cultural proficiency

RESOURCES/REFERENCES

1) The Team Physician's Handbook by Mellion (1997)
2) Procedures for Primary Care Physicians by Pfenninger and Fowler
3) Essentials of Musculoskeletal Care by Greene
4) Fracture management for Primary Care by Eiff
5) Physical Examination of the Spine and Extremities – Stanley Hoppenfeld
6) Various AFP articles on orthopedics/sports medicine
   a) Update on Acute Ankle Sprains, http://www.aafp.org/afp/2012/0615/p1170.html
   b) Principles of Casting and Splinting, http://www.aafp.org/afp/2009/0101/p16.html
   c) Diagnosis and Treatment of Acute Low Back Pain, http://www.aafp.org/afp/2012/0215/p343.html
   d) Cervical Radiculopathy: Non-operative treatment of Neck Pain and Radicular Symptoms, http://www.aafp.org/afp/2010/0101/p33.html
   e) Chronic Shoulder Pain: Part I. Evaluation and Diagnosis, http://www.aafp.org/afp/2008/0215/p453.html
   f) Chronic Shoulder Pain: Part II. Treatment, http://www.aafp.org/afp/2008/0215/p493.html
   g) Evaluation of Patients Presenting with Knee Pain: Part I. History, Physical Examination, Radiographs, and Laboratory Tests, http://www.aafp.org/afp/2003/0901/p907.html
   h) Evaluation of Patients Presenting with Knee Pain: Part II. Differential Diagnosis, http://www.aafp.org/afp/2003/0901/p917.html