PEDIATRIC SPORTS MEDICINE FELLOWSHIP

COMPETENCY-BASED GOALS AND OBJECTIVES & OVERALL EDUCATIONAL GOALS

Competency Based Goals and Objectives:

Mission: Train fellows to become sports medicine physicians who are prepared to serve as faculty at an academic institution as well as a team physician at any level of competition.

This will be accomplished by mastery of clinical, educational and research skills. These skills will be learned with a focus on patient care, medical knowledge, professionalism, interpersonal and communication skills, practice based learning and system based practice.

Our program uses the rotation system by attending physician and the fellow spends 4 full days each week with either Sports Medicine or Pediatric Orthopedic faculty in clinic, ½ day per week with an attending in Continuity Clinic, ½ day per week in research and a college training room one-two nights per week.

Assignment 1: Sports Medicine Clinic, Orthopaedic Surgery: This clinic focuses on clinical management of primarily knee & shoulder pathology. The goal is to learn non-operative, preoperative, postoperative and long term management. Clinical skills taught will include taking focused patient histories, physical exam skills, interpretation of radiographic studies, making accurate diagnosis, and development of appropriate plan of treatment based on evidence based medicine.

Assignment 2: Sports Medicine, Non-operative: This clinic focuses on management of sports related injuries. The goal is to learn non-operative management of common sports medicine injuries and when to refer for operative treatment. Clinical skills taught will include taking focused patient histories, physical exam skills, interpretation of radiographic studies, making accurate diagnosis, and development of appropriate plan of treatment based on evidence based medicine.

Assignment 3: Pediatric Orthopaedics, Non-operative: This clinic focuses on management of sports related injuries in pediatrics. The goal is to learn management of fractures with and without closed reductions, limb malalignment abnormalities, joint and back pain and overuse injuries. This will take place in the Pediatric Orthopaedic Clinic at Vanderbilt Children’s Hospital. Clinical skills taught will include taking focused patient histories, physical exam skills, interpretation of radiographic studies, making accurate diagnosis, and development of appropriate plan of treatment based on evidence based medicine.
Assignment 4: Pediatric Orthopaedic Surgery: The scope of practice to which the fellow will be exposed includes simple and complex fractures, pediatric and adolescent sports injuries, scoliosis and other spinal deformities, congenital deformities of the hip, knee and foot, leg length discrepancies, congenital hand and upper extremity conditions, orthopedic aspects of pediatric neuromuscular disorders, and bone tumors and musculoskeletal infections.

Assignment 5: Continuity Clinic: This clinic will be in the clinic of the fellow’s primary specialty (i.e. Pediatricians – Adolescent Clinic; Internists – Internal Medicine Clinic, etc.). This clinic will include a broad spectrum of clinical complaints with the goal to maintain the clinical skill set outside just the musculoskeletal system. Clinical skills taught will include taking focused patient histories, physical exam skills, interpretation of laboratory studies, making accurate diagnosis, and development of an appropriate plan of treatment based on evidence-based medicine.

Assignment 6: Vanderbilt University Team Physician: Fellows will assist Drs. Spindler and Fitch as team physician for the football team. In addition, fellow will cover various university hosted tournaments as official physician in consultation with the assigned certified athletic trainer as well as the Head Athletic Trainer (Tom Bossung). Fellow will see football players in the training room clinic at Vanderbilt University on a weekly basis to diagnose injuries. These cases will be reviewed on a daily basis by the Football Team Physicians for Vanderbilt University.

Assignment 7: Belmont University Team Physician: Each fellow will conduct a training room clinic at Belmont University on a weekly basis to diagnose injuries in its collegiate athletes. These cases will be reviewed on a weekly basis by the Head Team Physician for Belmont University (Gene Hannah). Each fellow will also serve as a team physician for one of the soccer and basketball teams in consultation with the assigned certified athletic trainer as well as the Head Athletic Trainer (Paul Malloy) and Head Team Physician.

Assignment 8: High School Football Team Physician: Each fellow will be assigned to cover the home games for a Nashville metro high school football team. The fellow will act as the official team physician in consultation with the assigned certified athletic trainer, attending physician contact and the High School Physician Coverage Coordinator (Alex Diamond, DO). Any emergent cases will be transferred via on site ambulance to the Vanderbilt Children’s Hospital Emergency Room.

Assignment 9: Education: Each fellow is required to attend the weekly sports medicine lecture and present approximately 5 topics during the year. The fellow will also present two topics to the orthopedic residents and at least one lecture to the residents of their primary specialty. In addition the fellows will assist in teaching the pediatric resident and medical student physical exam courses. The fellow is expected to teach clinical skills to medical students and primary care residents while in clinic.
Assignment 10: Research: Each fellow will be required to attend the AMSSM and MOON fellow’s research meetings, meet with the Vanderbilt Sport Medicine Research Team as well as monthly EBM journal clubs. The fellow will be required to complete a research project and publish a peer-reviewed systematic review. In addition the fellow is required to submit a case presentation to both a regional (SEACSM) and national sports meeting (AMSSM). Learned skills will include performing a literature search, reading a paper, how to perform a research project (proposal, IRB review, implementation, data collection, data analysis, to writing and submission), writing a systematic review, and conducting a journal club.

Competency 1: Patient Care: Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Fellows are expected to:

- Perform pre-participation evaluations and physical exams on orthopedic patients. Initially they should review the evaluation in detail with the preceptor until adequate experience is achieved.

- Provide guidance to patients who inquire about starting an exercise program

- Evaluate patients with sports-related injuries and provide treatment and a rehabilitation plan appropriate for that patient.

Competency 2: Medical Knowledge: Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. Fellows are expected to:

- Use anatomy texts and models of the knee and shoulder to learn the detailed anatomy of those joints, and attend workshops to identify aspiration and injection techniques.

- Become aware of the specific questions which should be asked of those who experience sports-related injuries.

- Understand principles of the musculoskeletal exam, with attention to specific tests for specific injuries and joints.

- Learn to order and interpret appropriate x-rays for specific sports injuries.

- Learn the indications for more extensive imaging such as MRI/CT and bone scan for sports injuries.

- Diagnose and treat regional pain syndromes with attention to causation by sports involvement.

- Consider nutritional aspects of sports related activities.

- Learn to evaluate and triage on-field sports injuries.
Understand the different issues involved for specific types of athletes, specifically the pre-adolescent, adolescent, female, elderly, physically-challenged, and recreational athletes.

Identify signs of steroid abuse and use of other performance drugs.

Learn the basics of casting and splinting of sports related injuries primarily in the orthopedic office, but on the sideline as well.

**Competency 3: Practice Based Learning and Improvement:** Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning. Residents are expected to:

- Develop skills and habits to be able to meet the following goals:
  - identify strengths, deficiencies, and limits in one’s knowledge and expertise;
  - set learning and improvement goals;
  - identify and perform appropriate learning activities;
  - systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;
  - incorporate formative evaluation feedback into daily practice;

Use standard evidence-based information such as head injury guidelines and Ottawa ankle rules to assess patient injuries and plan for return to play.

Keep current on changes in guidelines which may be published from time to time.
**Competency 4: Interpersonal and Communication Skills:** Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Residents are expected to:

- Communicate with patients clearly and accurately regarding treatment of sports-related injuries, rehabilitation plans, and return to function.
- Communicate with coaches, parents, and other involves authorities to optimize the rehabilitation plan for student sports injuries.

**Competency 5: Professionalism:** Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Fellows are expected to demonstrate:

- The ability to resist pressure from coaches, parents, and similarly involved patient advocates when deciding appropriate return to play guidelines following a sports-related injury.
- Ethical behavior by refusing to become involved with supplying of performance enhancing drugs.

**Competency 6: Systems-Based Practice:** Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Fellows are expected to:

- Refer patients with sports-related injuries to appropriate orthopedic surgery specialist, physical therapist, athletic trainer, occupational therapist, or medical subspecialist as needed.
- Assess which injuries may be readily cared for by a non-operative physician versus which injuries require specialty referral.
**Overall Educational Goals:**

Mastery of clinical skills is accomplished by daily assignments with attending physicians, including two surgeons and three primary care physicians; continuity clinic within fellow’s specialty, and college training room coverage.

Mastery of educational skills is accomplished by a 52-week lecture series every Tuesday morning attended by all faculty and fellows and a Thursday lecture series as follows: a bi-monthly lecture series covering topics specific to primary care sports medicine and a bi-monthly orthopedic resident meeting. In addition, we have a monthly case review with musculoskeletal radiology fellows and a monthly M&M conference. We also review at least one EBM text during the year.

Mastery of research skills is accomplished by the research meetings described above and monthly Journal Club where fellow will participate in systematic review of Level 1 and 2 papers. The fellow will be required to write a peer-reviewed systematic review, an invited paper or chapter with a faculty member and is encouraged to set additional individual research projects.

At the end of the fellowship, the fellow should be able to perform focused patient histories, physical exam skills, interpretation of radiographic studies, accurate diagnosis, and development of appropriate plan of treatment based on evidence based medicine of problems of the musculoskeletal system. In addition, the fellow will have the ability to critically evaluate a research paper, generate a research hypothesis, write a grant and research proposal, submit for IRB approval, perform data collection and statistics and write a paper. Finally, the fellow will be able to effectively teach the exam of the musculoskeletal system, lecture on various sports medicine-related topics, and work collaboratively with sports medicine orthopaedic colleagues.