

National Capital Consortium's

**MILITARY
PRIMARY CARE SPORTS MEDICINE
FELLOWSHIP**

2011-12 Fellowship Manual
(Updated July 2011)

Sponsored by the
**Ft. Belvoir Community Hospital
Family Medicine Residency Program
Fort Belvoir, VA**
and the
**Uniformed Services University of the Health Sciences
Department of Family Medicine
Bethesda, MD**

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OVERVIEW

The National Capital Consortium (NCC) Military Primary Care Sports Medicine Fellowship is a one year training program sponsored by the Ft. Belvoir Community Hospital Family Medicine Residency at Ft. Belvoir, VA, and the Department of Family Medicine at the Uniformed Services University of the Health Sciences (USU) in Bethesda, MD. The fellowship began in 1994, was formally accredited by the Accreditation Council for Graduate Medical Education (ACGME) in September 1997, and re-accredited in May 2002, May 2005 and June 2010.

Purpose of the Primary Care Sports Medicine Fellowship:

The practice of primary care sports medicine is the application of the physician's knowledge, skills, and attitudes to those engaged in sport and exercise. The fellowship will train primary care specialists in the unique aspects of sports medicine. Trainees will maintain competence in their primary specialty but will have expertise in medicine as it applies to the exercising individual. They will be knowledgeable about the unique needs of the soldier-athlete and will approach their care both from an individual and a systems approach. They will graduate uniquely equipped to serve as consultant clinicians, residency sports medicine training program directors, or military operational physicians.

Fellowship Eligibility:

The fellowship is available to active-duty Army, Navy, Air Force, Coast Guard and Public Health Service physicians who have successfully completed an ACGME-accredited residency in Family Medicine, Pediatrics, Emergency Medicine, Internal Medicine, or Physical Medicine and Rehabilitation. Applicants from other specialties may be considered on a case-by-case basis. Training is currently limited to 4 fellows per year.

Appointment Process

Applicants must be active duty physicians in the United States Army, Navy, Air Force, Coast Guard or Public Health Service. They must be board certified/board eligible in their respective specialty, as above, upon entry into the program. Applicants must apply through their respective military service GME office. They should then contact both their respective Specialty Consultant AND the Fellowship Program Director (301-295-9466) to set up interviews either in person or telephonically. Fellows will then be considered on a competitive basis to fill the fellowship positions.

Fellows will be selected at the annual Joint Service Graduate Medical Education Selection Board in November of each year. The fellowship selection committee is comprised of three board members from the Army, Navy, and Air Force. There are no service-specific quotas or requirements. Selection depends not only on quality of each applicant, but also on consent from the respective military service GME Chief and Specialty Consultant, and approval by the President of the Selection Board. Results are released in mid-December after approval from higher authorities. Upon matriculation each fellow will be required to sign a National Capital Consortium Training Agreement (available at www.usuhs.mil/gme/index.shtml) and to abide by the regulations in the National Capital Consortium Administrative Handbook (available at same website).

Scope of Training:

This program will provide training in the development of the clinical competencies needed to diagnose and manage medical illnesses and injuries related to sport and exercise. Clinical experience will include injury prevention, pre-participation evaluation, return to play/duty criteria, management of acute and chronic illness or injury, and rehabilitation. The fellow will function as a team physician and serve in the promotion of physical fitness and wellness for active duty servicemen and women, military retirees and dependents, and civilian athletes.

Sports Medicine Training Sites:

Ft. Belvoir Community Hospital (FBCH) Primary Care Sports Medicine Clinic

FBCH Orthopedic and Physical Therapy Clinics

Uniformed Services University of the Health Sciences (USU)

The Orthopedic Center, Rockville, MD

Uniformed Services University Family Health Clinic (a branch clinic of Walter Reed National Military Medical Center (WRNMMC))

Nirschl Orthopedic and Sportsmedicine Center (Virginia Hospital Center)

United States Naval Academy (USNA) Orthopedics Clinic and Athletic Training Room

George Mason University (GMU) Training Room

Georgetown University (GU) Training Room

American University (AU) Training Room

Montgomery College (MC) Training Room

Hayfield High School Athletic Training Room

Saint Mary's High School (SMHS) Training Room

Good Counsel High School (GCHS) Training Room

Paul VI High School (P4HS) Training Room

Mass Participation Events - Marine Corps Marathon, Army 10 Miler, Wounded Warrior 5K, and Virginia Special Olympics

Funding:

The parent service of the fellow will pay the usual salaries and bonuses due a board certified physician. Funding sources for AMSSM dues, In-Training Exam (ITE) fees, Sports Medicine board certification exam fees, attendance at the Advanced Team Physician Course, and attendance at one other national sports medicine meeting (ACSM or AMSSM) include FBCH, National Capital Consortium, and the USU Department of Family Medicine. Elective rotations are funded by the above sources as funds are available.

OVERALL EDUCATIONAL GOALS OF THE PROGRAM

The NCC Primary Care Sports Medicine Fellowship consists of seven major areas of training and occur simultaneously: (1) ambulatory sports medicine clinic; (2) team physician responsibilities at the high school, collegiate, and operational levels; (3) sports medicine didactics; (4) operative and clinical orthopedics; (5) scholarly activities; (6) faculty development; and (7) continuity clinics in Family Medicine (or appropriate specialty). All sports medicine fellows share the same experience in the ambulatory sports medicine clinics and didactics, scholarly activities curriculum, and faculty development program. Each fellow, however, has unique but comparable exposures to orthopedics and team physician responsibilities.

The **ambulatory sports medicine clinic** assists the fellow in acquiring the skills and knowledge commensurate with a primary care sports medicine specialist. Specifically, the clinic provides fellows exposure to pre-participation examinations, exercise prescription, medical problems related to exercise participation, and ambulatory orthopedics. The fellow is also expected to acquire the following skills: joint aspiration and injection; musculoskeletal ultrasound for guided injections; athletic shoe and gait analysis; proper utilization of bracing, splinting and athletic taping; exercise stress testing; compartment pressure testing; and sub-maximal V02 testing.

Each fellow is given unique **team physician responsibilities** at multiple levels of athletic skill. One fellow has team physician responsibility at the Naval Academy in Annapolis, MD; one at American University/Montgomery College in N.W District of Columbia and Montgomery County, MD, respectively; one at George Mason University in Fairfax, VA; and one at Georgetown University in S.W. District of Columbia. Each fellow additionally is assigned a high school in their respective region where they function as the principal team physician. These exposures allow the fellow to participate in pre-participation examinations; acute injury management; event coverage with return to play decision-making; interactions with coaches, trainers, and parents; and preparation planning for event coverage.

The **didactic curriculum** is designed to increase the fellow's knowledge base in all aspects of Primary Care Sports Medicine. Each week there are approximately four hours of lectures and small group discussions at FBCH and USU. This is supplemented by an anatomy curriculum at USU utilizing anatomy texts, Netter 3D Interactive software, and cadavers. The fellows get several days of formal instruction on musculoskeletal (Msk) ultrasound, with hands-on practice using cadavers. They attend the Advanced Team Physician Course, where they get an intense exposure to advanced level topics in sports medicine. They also attend an annual meeting of the ACSM, AMSSM, or AOASSM, and the Marine Corps Marathon Medical Symposium. The didactic program can be optionally supplemented by a one-week rotation in one of several electives, depending on the individual needs of the fellow--skeletal radiology at FBCH and WRNMMC; the Army Environmental Medicine course at USARIEM, Natick, MA; updates in ACLS, BLS, and ATLS; a sports medicine acupuncture course; etc.

The **orthopedic experience** is designed to assist the fellow in acquiring superior orthopedic assessment skills, increase knowledge of pertinent clinical anatomy, improve skill in the use and interpretation of diagnostic imaging, and learn indications for surgical interventions. The full day each week in an orthopedic clinic is supplemented by a half-day of operating room time, giving the fellows experience at surgical first assistance and increased knowledge of anatomy. Fellows also spend regular time in the FBCH Physical Therapy Clinic. These experiences help the fellow to build a "team-oriented" relationship with the attending orthopedic surgeons and physical therapists.

Scholarly activities are integral to the program. The fellow has weekly research didactic sessions and meets regularly with his/her assigned research mentor. Each fellow will be involved in several scholarly projects--development of a grant proposal for a research project (which may be started during the fellowship or at the subsequent duty station) or substantial involvement in an ongoing research project; writing either a review article or medical textbook chapter for publishing; and encouragement to present a clinical case report or scientific study at an annual meeting as above.

The goal of faculty development curriculum is to increase the fellow's skills in teaching. The fellow will acquire those skills necessary to teach in small groups, prepare and deliver lectures, and precept various levels of health care learners. This is accomplished by didactic instruction and supervised participation in various teaching venues. Fellows provide instruction of second, third and fourth year USU medical students and FBCH Family Medicine residents at Sports Medicine workshops, give numerous lecture presentations at varying locations, and have frequent opportunities to assist the faculty in precepting learners at FBCH Sports Medicine Clinic.

The experience in **Family Medicine clinics (or appropriate specialty setting)** is for maintaining continuity with the fellow's principal specialty. Each sports medicine fellow will have one-half day per week of a continuity clinic, either at FBCH or USU Family Health Clinic.

Several short rotations and events are also included in the program to give the fellows exposure to additional training opportunities. Throughout the year military-unique and civilian events occur, e.g. Marine Corps Marathon, Virginia Special Olympics, the Wounded Warrior 5K, and the Army 10-Miler, in which all the fellows participate. This unique feature of our fellowship, combining military and civilian exposures, provides an enhanced learning experience to take advantage of the best clinical teaching in the National Capital Area. The Team Physician responsibility is highlighted by short elective rotations such as various Armed Forces Sports events in the USA or abroad, training camps with the US Paralympic Military Program, USA Boxing National Championships, USA Wrestling National Championships, Warrior Games, etc.

ROTATION-SPECIFIC GOALS AND OBJECTIVES

This program does not utilize traditional short-term rotations. Rather, fellows participate in a relatively constant weekly template of training at various locations throughout the year. Therefore, there are several concurrent “rotations” throughout the year. The educational topics covered in each rotation are listed below, and the specific goals and objectives (and their respective Core Competencies) for each topic are listed in Competency-Based Goals and Objectives.

ROTATIONS: Georgetown University, George Mason University, Naval Academy, American University, Montgomery College Training Rooms:

TOPICS:

Role of the Team Physician	Neurologic Injuries
Pre-participation Physical Evaluation	Nutrition
Field-side emergencies	Pharmacology
Head injuries	Pulmonary Problems
Taping and bracing	Women and Exercise
Acute Minor Illness	Ankle Injuries
Air Pollutants and Exercise	Back Injuries
Dermatologic Problems	Elbow Injuries
Drug Use in Sports	Foot Injuries
Ethical Concerns in Sports Medicine	Hand and Finger Injuries
Cold Injuries	Hip, Pelvis, and Thigh Injuries
Gastrointestinal Problems	Knee Injuries
Genitourinary Problems	Lower Leg Injuries
Heat Illness	Maxillofacial Injuries/EENT
Health Risk Appraisal	Neck Injuries
Hematologic Problems	Shoulder Injuries
Modalities in Rehabilitation	Wrist Injuries
Medico-legal in Sports Med	

ROTATIONS: FBCH Orthopedics, USNA Orthopedics, The Orthopaedic Center, Nirschl Orthopedic and Sportsmedicine Center:

TOPICS:

Ankle Injuries	Knee Injuries
Back Injuries	Knee injury rehabilitation
Elbow Injuries	Ankle injury rehabilitation
Ethical Concerns in Sports Medicine	Shoulder injury rehabilitation
Exercise Physiology and Biomechanics	Spine injury rehabilitation
Foot Injuries	Modalities in rehabilitation
Hand and Finger Injuries	Aquatic therapy in rehabilitation
Hip, Pelvis, and Thigh Injuries	

ROTATION: FBCH Primary Care Sports Medicine clinic

TOPICS:

Aging and Exercise	Neurologic Injuries
Children and Exercise	Pulmonary Problems
Dermatologic Problems	Women and Exercise
Drug Use in Sports	Ankle Injuries
Diabetes and Exercise	Back Injuries
Exercise Physiology and Biomechanics	Elbow Injuries
Gastrointestinal Problems	Foot Injuries
Genitourinary Problems	Hand and Finger Injuries
Heat Illness	Hip, Pelvis, and Thigh Injuries
Health Risk Appraisal	Knee Injuries
Hematologic Problems	Lower Leg Injuries
Musculoskeletal Ultrasound	Maxillofacial Injuries/EENT
Neurologic Injuries	Neck Injuries
Nutrition	Shoulder Injuries
Pharmacology	Wrist Injuries
Lower Leg Injuries	
Maxillofacial Injuries/EENT	
Modalities in Rehabilitation	
Neck and TMJ Injuries.	
Shoulder Injuries	
Taping and bracing	
Wrist Injuries	

WEEKLY ACTIVITY TEMPLATES

The approximate percent of weekly hours spent on various activities will be:

Direct patient care in clinic:	45%
Training room or event coverage:	30%
Lectures, seminars, research:	20%
Time spent in surgery:	5%

Core Sports Medicine Template--All Fellows Together

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning		USU Sports Clinic, HP Lab, Anatomy Study 0730-0930 Scholarly Activities didactics 0930-1100 SM Lecture or Journal Club 1100-1200		Ft. Belvoir FP Lecture/AM Rpt 0730-0830 Sports Medicine Clinic, Treadmill Stress Testing, Cast Clinic, PT clinic, or Podiatry Clinic 0830-1200	
Afternoon		USU Anatomy, Research, Teaching		Ft Belvoir Sports Medicine Didactics (GrdRds, lecture, US course) 1300-1600	

George Mason University Fellow

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	0800-1200 FBCH Sports Medicine Clinic	0730 USU (see Core template)	Nirschl Orthopedics Clinic	FBCH Sports Medicine (see Core template)	Nirschl Orthopedic Clinic/O.R.
Afternoon	FBCH Family Medicine Clinic	Anatomy, Research Teaching	Nirschl Orthopedics Clinic	FBCH Sports Medicine	Research/ Reading
Late Aftn	Training Room George Mason U	High School Training Rm	Training Room George Mason U		High school football

Evenings/Weekends: Event coverage as needed, 1-3 times a week.

Georgetown University Fellow

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	Nirschl Orthopedic Clinic	0730 USU (see Core template)	FBCH 0730 AM Rpt 0800 Sports Med Clinic	FBCH Sports Medicine (see Core template)	Nirschl Orthopedic Clinic/O.R.
Afternoon	Georgetown or Nirschl Orthopedics	Anatomy, Research Teaching	FBCH Family Medicine Clinic	FBCH Sports Medicine	Research/ Reading
Late Aftn	Training Room Georgetown U	Training Rm Georgetown U	/		High school training rm/FB

Evenings/Weekends: Event coverage as needed, 1-3 times a week.

American University Fellow

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	0800-1200 FBCH Sports Medicine Clinic	0730 USU (see Core template)	Orthopaedic Center, Rockville	FBCH Sports Medicine (see Core template)	Orthopaedic O.R.
Afternoon	Family Medicine Clinic	Anatomy, Research Teaching	Orthopaedic Center, Rockville	FBCH Sports Medicine	Research/ Reading
Late Aftn	Training Room American U	Training Room GoodCounsel HS	Training Room American U		High School FB

Evenings/Weekends: Event coverage as needed, 1-3 times a week.

Naval Academy Fellow

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	0630 Naval Academy Orthopedics	0730 USU (see Core template)	FBCH 0730 AM Rpt 0800 Sports Med Clinic	FBCH Sports Medicine (see Core template)	0630 Naval Academy Orthopedics
Afternoon	Naval Academy Orthopedics	Anatomy, Research Teaching	FBCH Family Medicine Clinic	FBCH Sports Med.	Research/ Reading
Late Aftn	Training Room 1430: St. Marys 1730: USNA		/		Training Room 1430: St. Marys 1730: USNA

Evenings/Weekends: Event coverage as needed, 1-3 times a week.

DESCRIPTIONS OF ACTIVITIES

All Fellows

Tuesday USU Sports Medicine Clinic, Human Performance Lab, and Anatomy Study

Every Tuesday all fellows will meet at USU. From 0730-0900 two fellows will have clinic in the USU Family Health Clinic seeing patients referred for sports medicine related issues. This will be supervised by the fellowship director or other appointed faculty. One fellow will be designated to participate in activities at the Human Performance Lab with Dr Francis O'Connor or the Injury Prevention Lab with Dr. Anthony Beutler. The fourth fellow will do Anatomy self-study using USU software and references, or research. From 0930-1045 all fellows will participate in the Scholarly Activities seminar with Dr Jeff Goodie. This curriculum includes instruction on medical writing, research project design, analysis of the literature, and research presentations. The fellows will also participate in Exercise Physiology and Sports Medicine lectures at 1100 or 1200. The remainder of the afternoon is for self-directed research, study, medical student teaching, or event coverage.

Four times a year one afternoon will be spent teaching musculoskeletal examination skills to MS2's. Every six weeks the fellows will assist the fellowship director in a whole-day Sports Medicine seminar for USU MS3 students beginning their Family Medicine rotation. In December two days are spent teaching Sports Medicine to MS4's.

Thursday FBCH Family Medicine Residency Lectures

Once a month from 0730-0830 the fellows will participate in Sports Medicine teaching of the FBCH Family Medicine residents. On other Thursday mornings, attendance at Morning Report at 0730 is encouraged but optional.

Thursday FBCH Sports Medicine Clinic, Cast Room, GXT, Physical Therapy Clinic

Every Thursday morning two fellows will see Sports Medicine clinic, supervised by Sports Medicine faculty. This clinic exposes fellows to a wide variety of Primary Care Sports Medicine conditions, both orthopedic and medical, in patients of all ages, both military and civilian. Fellows not in PCSM clinic will work in the Cast Room, exercise treadmill lab, orthopedics operating room, Physical Therapy clinic, or Podiatry clinic. Each fellow also does an additional half-day in the Sports Medicine clinic, either Monday or Wednesday. Patients that need admission will be managed by the Inpatient Team, but fellows should remain in daily communication with the patient and the Team until outpatient care is resumed.

Thursday FBCH Sports Medicine Didactics

Every Thursday afternoon the fellows will participate in Sports Medicine Didactics. These can include lectures, musculoskeletal ultrasound workshops, fracture rounds, or Grand Rounds, in which one or two patients are examined and presented to the Orthopedics, Physical Therapy, Radiology and Sports Medicine faculty for discussion, teaching, and management.

Saturday or Sunday

Most weekends have at least one day off. The fellows assist their respective team physicians during medical coverage of collegiate events, and will periodically participate in Radiology Grand Rounds and medical coverage of special events such as the Marine Corps Marathon, the Army 10-miler, Wounded Warrior 5K, and Special Olympics competitions.

George Mason U. and Georgetown U. Fellows

Nirschl Orthopedic Clinic

This clinic will expose the fellows to a wide variety of acute and chronic orthopedic problems. The fellow will be supervised by the staff orthopedic surgeons and will have the opportunity to monitor the progress of patient's recovery in the physical therapy department.

George Mason University and Paul VI High School Training Room and events

The GMU fellow will evaluate and manage athletes with sports-related problems in the training room and on the field of play under the auspices of Frank Pettrone, M.D., Team Physician for GMU. The schedule will be coordinated between the fellow, the Head Athletic Trainers, and the Team Physician.

Georgetown University and Hayfield High School Training Room and events

The fellow GU will evaluate and manage athletes with sports-related problems in the training room and on the field of play under the auspices of Drs. John Klimkiewicz and Tom Lardner, the Team Physicians for GU; and Dr. Hugo Davalos at Hayfield HS. The schedule will be coordinated between the fellow, the Head Athletic Trainers, and the Team Physician.

FBCH Family Medicine Clinic

Fellows will see patients in the Family Medicine Clinic one half-day per week. This will serve as the continuity clinic, exposing them to the entire spectrum of patients and problems encountered in family medicine. Patients that need admission will be managed by the Inpatient Team, but fellows should remain in daily communication with the patient and the Team until outpatient care is resumed.

Orthopedic Operating Room exposure

Fellows will attend Orthopedic Grand Rounds at Virginia Hospital Center, Arlington VA and then assist an orthopedic surgeon from the Nirschl/Arlington Orthopedic group with appropriate orthopedic cases.

Naval Academy Fellow

USNA Orthopedic Clinic

For the USNA fellow, this rotation will expose the fellow to a wide variety of acute and chronic orthopedic problems. The fellow will be supervised by the staff orthopedic surgeons and will have the opportunity to monitor the progress of patient's recovery in the physical therapy department.

USNA and St. Mary's High School Training Room and events

The fellow will evaluate and manage athletes with sports-related problems in the training room and on the field of play under the auspices of the Team Physicians for USNA and St. Mary's High School. The schedule will be coordinated between the fellow, the Head Athletic Trainers, and the Team Physicians.

Orthopedic Operating Room exposure

USNA fellow will assist orthopedic surgeons from USNA with appropriate orthopedic operative cases. The AU fellow will do the same with The Orthopedic Center surgeons.

FBCH Family Medicine Clinic

The USNA fellow will see patients in the Family Medicine Clinic. This will serve as the continuity clinic, exposing them to the entire spectrum of patients and problems encountered in family medicine. Patients that need admission will be managed by the Inpatient Team, but fellows should remain in daily communication with the patient and the Team until outpatient care is resumed.

American University fellow

American University, Montgomery College, and Good Counsel High School Training Room and events

The AU fellow will evaluate and manage athletes with sports-related problems in the training room and on the field of play under the auspices of Dr. David Higgins, Team Physician for AU; Dr. Barry Boden, Team Physician for Montgomery College; and Dr. David Higgins, Team Physician for GCHS. The schedule will be coordinated between the fellow, the Head Athletic Trainers, and the Team Physicians.

The Orthopedic Center, Rockville, MD

For the AU fellow this rotation will expose the fellow to a wide variety of acute and chronic orthopedic problems. The fellow will be supervised by the staff orthopedic surgeons and will have the opportunity to monitor the progress of patient's recovery in the physical therapy department.

Family Medicine Clinic

AU fellow will see patients in the FBCH or USU family health clinic. This will serve as the continuity clinic, exposing them to the entire spectrum of patients and problems encountered in family medicine. Patients that need admission will be transferred to the respective Admission Team, and the fellow will remain in daily communication with the patient and Team until outpatient care is resumed.

COMPETENCY BASED GOALS AND OBJECTIVES

Each activity has its goals and objectives that are based on the six ACGME Core Competencies. These are as follows and are referenced in the listed Objectives by the corresponding number:

1. Patient Care
2. Medical Knowledge
3. Practice-based Learning and Improvement
4. Interpersonal and Communication Skills
5. Professionalism
6. System-based Practice

ACTIVITY: Primary Care Sports Medicine Clinics

Goals: Continuous participation in this activity will enable the fellow to:

- G1. Provide patient care that is compassionate, appropriate, and effective for the treatment of problems related to sports and exercise, and the promotion of health through exercise and sport.
- G2. Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care.
- G3. 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.
- G4. 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:
- G5. Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Fellows are expected to demonstrate:
- G6. Demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates.

Objectives: The fellow will attain/achieve the above goal(s) by meeting the following objectives:

- O1.1 Demonstrate how to conduct a thorough history and physical examination with focus on the systems related to sports, exercise and injury^{1,2}
- O1.2 Integrate information from initial and follow-up assessments into decision making^{1,2,3}
- O1.3 Formulate patient management and treatment plans using effective communication that includes the patient and family, and that is cost-effective^{1,2,4}
- O1.4 Order, perform and/or interpret appropriate procedures and modalities to aid in diagnosis and management^{1,2,6}
- O1.5 Counsel and patients and family on injury prevention and treatment^{1,4}
- O2.1 Apply knowledge of anatomy, physiology, biomechanics, and pathology to the diagnosis of conditions related to sports and exercise, and to treatment with medications, rehabilitative exercise, bracing, modalities, medical procedures, and other therapies^{1,2,3}
- O2.2 Apply skills in application of ultrasound technology to diagnosis and treatment of musculoskeletal and peripheral nerve pathology in the context of bedside care.

- O3.1 Demonstrate effective communication with patients, families, health professionals, health-related agencies^{1,3}
- O3.2 Demonstrate how to act in a consultative role to other physicians and health professionals.^{3,4,6}
- O3.3 Maintain comprehensive, timely, and legible medical records that are useful both for the patient and to referring health professionals.^{3,4,6}
- O4.1 Demonstrate use of electronic and printed medical literature for application to patient care.⁴
- O4.2 Demonstrate skill in teaching students and residents through precepting, small-group instruction, and lectures.^{3,4}
- O4.3 Demonstrate application of practice analysis toward the goal of optimizing training, procedural experience and patient safety.⁴
- O5.1 Demonstrate respect for and a responsiveness to the needs of patients and society by accepting responsibility for continuous care.⁵
- O5.2 Demonstrate integrity, honesty, compassion, and empathy in the role of physician.⁵
- O5.3 Consistently demonstrate dependability and commitment and high standards or ethical behavior in clinical practice.⁵
- O5.4 Demonstrate sensitivity to and respect for the dignity of patients and colleagues as persons, including their age, culture, disabilities, ethnicity, gender, and sexual orientation.⁵
- O6.1 Demonstrate knowledge of and proper collaboration with the network of community systems involved in treatment of sports medicine patients, including primary care providers, orthopedic surgeons, physical therapists, nutritionists, physiologists, athletic trainers, coaches, psychologists, chiropractors, etc.^{4,5,6}
- O6.2 Demonstrate use of cost effective health care and resource allocation that maximizes quality of care.⁶

ACTIVITY: Team Physician training and experience

Field-side Emergencies

Goals: Completion of this section will enable the fellow to:

- G1. Develop a system of managing and transporting emergencies.
- G2. Thoroughly assess and stabilize the severely injured athlete.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. List the essential supplies, medicine, and equipment for handling potential emergencies.^{2,6}
- O1.2. Explain the qualifications and role of the "team leader" in the event of a field emergency.^{1,2,4}
- O1.3. Identify qualified ancillary individuals and explain their role in assisting the team leader.^{2,6}
- O1.4. Explain how to arrange ambulance transportation for an event.^{2,6}
- O1.5. Describe the necessary communication network that needs to be in place prior to an event.^{2,4,6}
- O2.1. Explain and demonstrate the ABCDE of initial assessment.^{1,2}
- O2.2. Explain and demonstrate the secondary survey of an injured athlete.^{1,2}
- O2.3. Demonstrate the method of stabilization and transport of a patient with suspected spinal

- cord injury or open fracture.^{1,2,3,6}
- O2.4. Describe the different levels of shock and explain the treatment.^{1,2}
- O2.5. List the signs and symptoms of anaphylaxis.²
- O2.6. Describe the treatment of anaphylaxis.^{1,2}

Head Injuries

Goals: Completion of this section will enable the fellow to:

- G1. Clinically evaluate the head injured patient.
- G2. Develop an appropriate plan of evaluation and management.
- G3. Determine when the head injured patient may return to play.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Describe the underlying pathophysiology in concussions, subdural hematomas, epidural hematomas, and second-impact syndrome.²
- O1.2 Conduct a thorough neurologic examination as it pertains to head injuries and explain what each test is evaluating.^{1,2}
- O1.3 List the signs and symptoms of increased intracranial pressure.²
- O2.1 Describe the indications for various radiographic tests in evaluating head injuries.²
- O2.2 Compare the field-side management of both the conscious and unconscious head injured patient.^{1,2}
- O2.3 Explain the indications, use, and complications of furosemide, mannitol, and steroids in the head injured patient.²
- O3.1 Recite the various classifications of head injuries.²
- O3.2 Recite and describe the return to play criteria protocol after concussion²
- O3.3 Describe the "second impact syndrome"²
- O3.4 Explain the potential problems associated with multiple head injuries and describe the appropriate evaluation in such patients.^{1,2}
- O3.5 List the features of post-concussive syndrome²

Preparticipation Physical Evaluation (PPE)

Goals: Completion of this section will enable the fellow to:

- G1. Conduct a complete pre-participation evaluation on an individual athlete.
- G2. Organize and administer a system for PPE for groups of athletes
- G3. Make sound recommendations for participation in competitive sports based on the findings in the PPE

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 List the essential components of the family history, past medical history and physical examination as it pertains to the PPE.²
- O1.1.2 Differentiate the sport specific components of the PPE.²
- O1.3. Demonstrate a time efficient PPE.^{1,3,4}
- O1.4. Conduct a body fat determination using skin fold calipers.^{1,2}
- O1.5. Explain the indications for laboratory studies in the PPE.^{1,2}
- O2.1. Compare the relative merits of the individual vs. station method of PPE's.^{1,2,6}
- O2.2. Explain the proper timing and frequency of PPE.^{1,2}
- O2.3. Construct a sample form for the preparticipation medical history evaluation on physical examination.^{1,2}
- O2.4. Identify the essential stations necessary for group PPE's and the type of health care

providers needed at each station.^{1,2,6}

O3.1. List the sports classified by the American Academy of Pediatrics as:²

contact collision	moderately strenuous non-contact
limited contact impact	non-strenuous non-contact
strenuous non-contact	

O3.2. Make recommendations regarding competing under the above classifications of sports for:^{1,2}

atlantoaxial instability	acute illness
carditis	HTN
congenital heart disease	the monocular athlete
detached retina	inguinal hernia
hepatosplenomegaly	absence of paired organ
history of head injury	asthma
sickle cell disease	contagious rashes

Taping and Bracing

Goals: Completion of this section will enable the fellow to:

- G1. Advise on the rational use of prophylactic bracing.
- G2. Prescribe appropriate orthoses and braces in the rehabilitation of injuries.
- G3. Explain the indications and demonstrate taping techniques of various joints.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Explain the indications and efficacy of knee braces used to prevent injury.^{1,2}
- O1.2. Compare canvas braces, stirrup braces, and taping when used to prevent ankle injuries.^{1,2}
- O1.3. Describe the indications for prophylactic ankle bracing/taping.²
- O2.1. Explain the efficacy and indications for the use of:^{1,2}

prophylactic knee braces	derotational knee braces
hinged knee braces	neoprene knee braces
patellar tracking knee braces	Kinney-Howard shoulder harnesses
elastic ankle braces	canvas ankle braces
stirrup ankle braces	counter force elbow braces
back braces	
- O2.2. Describe the indications for:^{1,2}

viscoelastic shoe inserts	longitudinal arch supports
spring-steel shoe inserts	metatarsal pads
heel cups	cork and leather arch supports
custom molded orthoses	
- O2.3. Differentiate flexible, semi-rigid, and rigid foot orthoses.²
- O2.4. Demonstrate casting techniques to include:^{1,2}

SLC	SAC
LAC	sugar tong splint
posterior leg splint	thumb spica cast
dorsal extension block cast	
- O2.5. Demonstrate the methods for determining forefoot and hindfoot deformities and relate them to a custom foot orthoses prescription.^{1,2}
- O3.1. Describe the indications for and demonstrate the following tape techniques:^{1,2}

finger buddy taping	thumb figure of eight
---------------------	-----------------------

thumb check rein	wrist taping
elbow hyperextension taping	medial elbow taping
medial knee taping	ankle taping
patellofemoral taping	plantar fascia taping
turf toe taping	

Team Physician Role

Goals: Participation in this activity throughout the Program will enable the fellow to:

G1. Effectively serve as a team physician.

Objectives: The fellow will attain/achieve the above goal(s) by meeting the following objectives:

O1.1 Relate the essential components of medicine, psychology and behavior, pharmacology, and exercise science to the role of team physician^{1,2,3,4,5,6}

O1.2. Compare the roles of those involved with the health of the athlete including:^{3,4,5,6}

the athlete	the coach
the athlete's primary care physician	the athletic trainer
medical consultants	the athletic director
the athlete's parents	

O1.3. Compare the team physician's responsibilities^{1,2,3,4,5,6}

to the athlete: to allow to participate	to protect confidentiality
to provide optimal care	access to care

to the team: to facilitate success of the team

to the coach: to educate
to protect from liability

O1.4. Define the roles of the team physician:^{2,5,6}

medical supervision	administrative function
logistics and supplies	coordination of medical care of the athlete
medicolegal issues	medical insurance
education	

ACTIVITY: Didactic Curriculum

Acute Minor Illness

Goals: Completion of this section will enable the fellow to:

G1. Evaluate and treat athletes with acute minor illness.

G2. Make appropriate recommendations regarding exercise while suffering from AMI.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

O1.1. List the common etiologies and treatment of rhinorrhea.^{1,2,4}

O1.2. List the common causes and treatment of otalgia.^{1,2,4}

O1.3. Describe the etiologies and treatment of pharyngitis.^{1,2,4}

O1.4. Describe the clinical and laboratory manifestations of mononucleosis^{1,2}

O1.5. Describe the evaluation of an athlete with a cough.^{1,2}

O1.6. List the categories of medications found in over-the-counter remedies which are banned by the World Anti Doping Agency (WADA) and /or NCAA.²

- O2.1. Relate exercise with febrile and non-febrile illnesses with development of myocarditis and cardiomyopathy.²
- O2.2. Describe the side effects of commonly used cold medications which may adversely affect athletic performance.^{2,4}
- O2.3. Explain the risks involved with sport and exercise in an individual with mononucleosis.^{1,2,4}
- O2.4. List the return to play criteria after infectious mononucleosis.^{1,2,4}

Air Pollutants and Exercise

Goals: Completion of this section will enable the fellow to:

- G1. Advise patients on the potential adverse effects of exercising in air pollutants.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Describe how ozone is produced and its role in pulmonary dysfunction.²
- O1.2. Relate ozone concentration to the time of day and to fog.²
- O1.3. Describe the etiology of "acid rain" and its effects on the pulmonary system.²
- O1.4. Explain the physiologic effects of inhaled sulfur dioxide.²
- O1.5. Describe the etiology and mechanism of action of carbon monoxide.²
- O1.6. Relate CO concentrations to clinical manifestations.^{1,2}
- O1.7. Relate exercise CO absorption to exercise.²

Altitude and Exercise

Goals: Completion of this section will enable the fellow to:

- G1. Evaluate and treat acute mountain sickness.
- G2. Advise athletes on the methods of acclimatization.
- G3. Advise athletes on the relationship between altitude and performance.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Describe the pathophysiology of AMS.¹
- O1.2. List the predisposing factors for developing AMS.^{1,2}
- O1.3. Explain the treatment for AMS.^{1,2,4}
- O2.1. Describe the physiologic changes associated with acute and chronic altitude exposure.
- O2.2. Relate the time of exposure to altitude to physiologic changes.^{1,2}
- O3.1. Describe performance changes of both anaerobic and aerobic activities at altitudes higher than training altitudes.²
- O3.2. Relate training at altitude to performance at sea level.²
- O3.3. Explain performance changes for athletes training at a lower altitude than which they live.²

Aging and Exercise

Goals: Completion of this section will enable the fellow to:

- G1. Counsel patients on the risks and benefits of exercise.
- G2. Write an exercise prescription for elderly individuals.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Describe the risks associated with sedentary lifestyle.²
- O1.2. Describe the normal cardiovascular and neuromuscular adaptations to both aerobic exercise and strength training.²
- O1.3. Compare the physiologic effects of aging with those of disuse.²

- O1.4. Explain how quality of life can improve with an exercise program.^{1,2,4}
- O1.5. Analyze the physiologic components of aging that can be attenuated through exercise including:²
- | | |
|------------------|------------------------|
| aerobic capacity | neuromuscular weakness |
| mental alertness | bone density |
- O1.6. Compare the amount of exercise with health and fitness benefits.^{2,4}
- O1.7. Explain the cardiovascular and orthopedic risks involved with starting an exercise program in the elderly.^{2,4}
- O2.1. List the indications for exercise stress testing prior to clearing an individual for aerobic exercise or strength training.^{1,2}
- O2.2. Explain the C-V and musculoskeletal risks associated with exercise in the elderly.^{1,2,4}
- O2.3. Construct an exercise prescription for enhancing aerobic capacity.^{1,2,4}
- O2.4. Construct an exercise program for an elderly individual desiring improved strength.^{1,2,4}

Children and Exercise

Goals: Completion of this section will enable the fellow to:

- G1. Counsel parents, coaches, school administrators, on the patterns of youth fitness, activity and obesity.
- G2. Analyze the motivational issues involved in youth sports participation.
- G3. Relate normal growth and development to exercise training.
- G4. Advise young athletes on the efficacy of aerobic training.
- G5. Advise young athletes on the risks and benefits of strength training.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Define and relate activity, fitness and obesity.^{2,4}
- O1.2. Describe the epidemiology and trends of children's activity, fitness, and obesity and the role of exercise program for school-age children in promoting fitness.^{2,6}
- O2.1. List the common reasons children give for participating in sports and for quitting sports.²
- O2.2. Relate children's activity and fitness patterns to those of their parents.^{1,2}
- O2.3. Explain how the activity patterns and fitness of children relate to carry-over patterns as adults.²
- O3.1. Correlate changes in aerobic capacity with age in both girls and boys.²
- O3.2. Explain the difference between aerobic capacity in boys and girls.²
- O3.3. Describe the cardiovascular and neuromuscular changes inherent in growth and development.²
- O3.4. Compare the physiologic changes in children who exercise with those who do not including:²

body composition	aerobic capacity
strength	flexibility

- O3.5. Compare the musculoskeletal risks in exercising children with those in adults.²
- O4.1. List the known physiologic changes in children undergoing exercise training.²
- O4.2. Compare the aerobic capacity and performance of children who train aerobically with those that do not.²
- O4.3. List the known risks of aerobic training in children including:^{2,4}

 - cardiovascular
 - musculoskeletal
 - psychological

- O5.1. Compare the efficacy of strength training in children with strength training in adults.²
- O5.2. List the types and etiologies of injuries incurred in children while strength training.^{2,4}
- O5.3. Explain the cardiovascular response incurred by children who strength train.²
- O5.4. Devise a safe and effective strength training program based on Tanner staging.^{1,2,4}

Cardiovascular Problems

Goals: Completion of this section will enable the fellow to:

- G1. Screen individuals for risk of sudden death
- G2. Differentiate athletic heart from pathologic conditions.
- G3. Advise patients with cardiovascular disease on exercise limitations.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. List the most common causes of sudden death for individuals less than 35 years old and those greater than 35 years old.²
- O1.2. Differentiate the characteristics of benign heart murmurs from pathologic heart murmurs.^{1,2}
- O1.3. List the indications for exercise stress testing for patients anticipating an exercise training program.^{1,2}
- O1.4. Describe the cost effective use of echocardiogram in screening for significant cardiac pathology.^{1,2,6}
- O1.5. List the salient features of Marfan syndrome.^{1,2}
- O1.6. Explain the etiologies and evaluation of syncope in the athlete.^{1,2}
- O2.1. Describe the physical exam, EKG, and echocardiographic features of athletic heart syndrome and explain the reasons.^{1,2}
- O2.2. Relate the above to pathologic conditions including:²

LVH	CHF
cardiomyopathy	myocarditis
pericarditis	arrhythmias
- O3.1. List the cardiovascular conditions which contraindicate vigorous exercise and those that require close monitoring.^{1,2}
- O3.2. List exercises and activities under the following intensity demands:²

high-medium dynamic, high static	low dynamic, high-medium static
high-medium dynamic, low static	low dynamic, low static
- O3.3. Explain the activity recommendations for the common dysrhythmias^{2,4}.
- O3.4. Explain the effects of calcium channel blockers, ACE inhibitors, beta-blockers, digoxin, and diuretics on exercise.^{1,2}
- O3.5. Describe the relationship between infectious disease and myocarditis and pericarditis.²

Cold Injuries

Goals: Completion of this section will enable the fellow to:

- G1. Evaluate and treat cold related injuries.
- G2. Advise athletes on the performance consequences of exercise in cold environments.
- G3. Advise athletes on prevention of cold injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Define hypothermia, frostnip, and grades I, II, and III frostbite.^{1,2}
- O1.2. Describe the pathophysiology, clinical manifestations, and treatment of hypothermia.^{1,2}
- O1.3. Differentiate resuscitation of the hypothermic patient from the euthermic patient.^{1,2}

- O1.4. Describe the signs and symptoms of frostnip and frostbite.^{1,2}
- O1.5. Explain the evaluation procedures, rewarming techniques and treatment of frostbite.^{1,2}
- O2.1. Explain the physiologic changes of cold exposure.²
- O2.2. Describe the mechanisms of heat loss.²
- O2.3. Relate low and high intensity exercise performance to being cooled prior to exercise and being cooled during exercise.²
- O2.4. Explain the benefits of warming prior to the start of exercise in cold environments.^{1,2}
- O3.1. Relate nutritional factors to increased heat production.²
- O3.2. Describe the "layer principle" of clothing.^{1,2,4}
- O3.3. Describe methods of decreasing heat loss from the head.²

Dermatologic Problems

Goals: Completion of this section will enable the fellow to:

- G1. Evaluate and treat common dermatologic problems in athletes.
- G2. Make recommendations regarding participation in contact sports with an infectious dermatologic condition.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Describe the clinical manifestations and treatment of:^{1,2}

corns and calluses	warts
ingrown nails	onychomycosis
abrasions	cellulitis
molluscum contagiosum	friction blisters
dyshydrotic eczema	scabies
herpes	paronychia
impetigo	acne vulgaris
folliculitis	contact dermatitis
sunburn	frost bite
- O2.1. Explain the return to play criteria for:^{1,2,4}

herpes gladiatorum	impetigo
folliculitis	molluscum contagiosum
scabies	
- O2.2. Differentiate between contact and non-contact sports for participation with the above conditions.²

Diabetes and Exercise

Goals: Completion of this section will enable the fellow to:

- G1. Advise the diabetic individuals on the risks and benefits of exercise.
- G2. Give specific guidelines on prevention of hypoglycemia in the exercising diabetic.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Explain the normal metabolic responses to exercise and compare them to the diabetic patient.¹
- O1.2. List the guidelines for the pre-participation evaluation of diabetic individuals.^{1,2}
- O1.3. Describe the risks of exercise in diabetic patients.^{1,2,4}
- O2.1. Write the blood glucose parameters within which it is safe to exercise.^{1,2,4}
- O2.2. Explain the dietary and insulin adjustments recommended for prevention of hypoglycemia during exercise.^{1,2,4}

Disabled Athletes

Goals: Completion of this section will enable the fellow to:

- G1. Make recommendations for participation in sports and exercise for athletes with special needs.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Describe the capabilities and exercise limitations of athletes with:²
 - mental retardation
 - paraplegia
 - Down syndrome
 - sensory impairment
- O1.2. Explain the physiologic changes in patient with spinal cord injuries that impact on exercise performance.²
- O1.3. List and describe the classifications for National Wheelchair Athletic Association competitions.²
- O1.4. Describe the anomalies associated with Down syndrome which place them at higher risk for certain activities.^{1,2}
- O1.5. Describe the types of sports in which mentally retarded children are more likely to succeed.^{1,2,4}

Drug Use in Sports

Goals: Completion of this section will enable the fellow to:

- G1. Differentiate the classes of banned drugs and methods of doping utilized by athletes.
- G2. Analyze the prevalence of drug use by athletes.
- G3. Explain the reasons for use, the mechanism of action, adverse effects, and the methods of detection for each class of drug.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. List both the IOC and NCAA banned drugs and the reasons why they are banned under the following classifications:²
 - stimulants
 - anabolic steroids
 - diuretics
 - recombinant EPO
 - narcotics
 - beta-blockers
 - growth hormone
 - B-2 agonists
- O1.2. Explain the methods and reasons for blood doping, and pharmacological, chemical, and physical manipulation of the urine.²
- O2.1. Compare the approximate prevalence of use among athletes for each category listed in O1.1.²
- O3.1. Explain the mechanism of action, purported benefits, side effects, dosage, and detection for:²
 - anabolic steroids
 - amphetamines
 - caffeine
 - alcohol
 - blood doping including reEPO
 - human growth hormone
 - cocaine
 - sympathomimetic amides
 - marijuana
 - bicarbonate or phosphate loading
- O3.2. Describe and compare the methods and indications for drug testing using:²
 - thin layer chromatography
 - radioimmunoassay and enzyme-multiplied immunoassay
 - gas chromatography/mass spectroscopy

- O3.3. Analyze the methods of drug detection circumvention by athletes:²
 masking agents
 determination of drug half life
 substitution of urine
- O3.4. Identify the legal limitations of drug testing.^{2,5}

Ethical Concerns in Sports Medicine

Goals: Completion of this section will enable the fellow to:

- G1. Understand and minimize the potential conflicts associated with treating athletes

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Analyze the following potential conflicts:^{1,2,5,6}
 role of team physician vs. fan.
 welfare of the athlete vs. team.
 welfare of the athlete vs. wishes of the athlete.
 welfare of the athlete vs. the wishes of the family
 welfare of the athlete vs. coach/team owner.
- O1.2. Explain methods of minimizing potential conflicts:^{1,2,4,5,6}
 clarification of roles professional autonomy
 communicate eliminate personal bias
 initial managing of injury

Exercise Physiology and Biomechanics

Goals: Completion of this section will enable the fellow to:

G1. Understand the physiological changes that happen in each organ system and at the cellular level with varying levels of aerobic, resistance and flexibility exercise and varying levels of fitness.

G2. Describe methods to assess cardiorespiratory fitness, muscle strength, and flexibility.

Objectives: O1.1. Explain the relative contributions of glycolysis, ATP, creatine phosphate, fatty acids and other substrates in energy production during exercise.

O1.2. Compare energy utilization with intensity and duration of exercise.

O1.3. Identify different muscle fiber types and their roles in aerobic and resistance exercise.

O2.1. Describe VO₂max, its physiological determinants, and the methods used to measure it.

O2.2. List the methods used to gauge levels of exertion.

O2.3. Describe different types of muscular contraction and clinical methods to assess them.

Gastrointestinal Problems

Goals: Completion of this section will enable the fellow to:

G1. Evaluate and treat patients with runners diarrhea

G2. Advise athletes on the prevention and treatment of travelers diarrhea.

G3. Evaluate and treat athletes with GERD.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

O1.1. Describe the incidence of diarrhea in endurance athletes.²

O1.2. Explain the theories on the etiology of runner's diarrhea.²

O1.3. Describe the appropriate evaluation of runner's diarrhea.^{1,2}

- O1.4. Identify the methods of treatment and explain the rationale.^{1,2,4}
- O2.1. List the etiologic infectious organisms in traveler's diarrhea.²
- O2.2. Explain the common mode of transmission of these organisms and methods to minimize risk of contracting disease.²
- O2.3. Compare the medications used for both prevention and treatment of traveler's diarrhea.^{1,2}
- O3.1. Describe the pathophysiology of gastroesophageal reflux disease (GERD).²
- O3.2. List the historical features of patients with GERD.^{1,2}
- O3.3. Explain the non-pharmacologic and pharmacologic methods of treatment.^{1,2}
- O3.4. List the indications for EGD in patients with GERD.^{1,2,6}

Genitourinary Problems

Goals: Completion of this section will enable the fellow to:

- G1. Evaluate and treat athletes with proteinuria.
- G2. Evaluate and treat athletes with hematuria.
- G3. Evaluate and treat athletes with scrotal pain.
- G4. Evaluate and treat athletes with urethritis or discharge.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. List the benign and more serious causes of proteinuria.^{1,2}
- O1.2. Describe the pathophysiology of proteinuria.²
- O1.3. Explain the systematic evaluation of proteinuria.^{1,2}
- O1.4. List the indications for referral to a nephrologist in patients with proteinuria.^{2,6}
- O2.1. List the etiologies of both microscopic and gross hematuria.^{1,2}
- O2.2. Describe the systematic evaluation of hematuria.^{1,2}
- O2.3. List the indications for referral to a urologist.^{1,6}
- O3.1. List the intra and extra-scrotal etiologies of scrotal pain.²
- O3.2. Explain the systemic evaluation of the patient with scrotal pain.^{1,2}
- O3.3. Differentiate historical, physical exam, laboratory studies, and perfusion studies between testicular torsion and epididymitis.^{1,2}
- O3.4. Describe the treatment for the individual causes of scrotal pain.^{1,2,4}
- O4.1. List the infectious and non-infectious etiologies of urethritis.^{1,2}
- O4.2. Describe the laboratory tests and findings in the evaluation of urethritis.^{1,2,6}
- O4.3. Describe the appropriate treatment for:^{1,2}

GC	syphilis
chlamydia	epididymitis
chancroid	herpes simplex
genital warts	

Heat Illness

Goals: Completion of this section will enable the fellow to:

- G1. Advise individuals on the risk of heat injuries during exercise.
- G2. Give preventive advice to avoid heat injury during exercise.
- G3. Evaluate and treat individuals with heat injury.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Describe the use of the wet bulb globe temperature in evaluating heat load.²
- O1.2. Explain the physiologic mechanisms of heat dissipation.²
- O1.3. List the long term consequences of heat injury.²

- O1.4. List the drugs and their mechanism of action which predispose to heat injury.²
- O1.5. Differentiate the heat injury risks among children, elderly, healthy adults, cardiac patients, and patients with spinal cord injury.²
- O2.1. Explain the mechanism, time course, and methods of heat acclimation.²
- O2.2. Relate heat accumulation and dissipation to the color and fabric of clothing.²
- O2.3. Describe the relationship between hydration, performance and heat injury.²
- O2.4. Prescribe the appropriate fluid replacement during exercise in the heart--both type and amount.^{1,2,4}
- O3.1. Define heat cramps, dehydration, heat exhaustion, heat stroke, and heat syncope.^{1,2}
- O3.2. Describe the clinical manifestations of heat injury.^{1,2}
- O3.3. Explain the pathophysiology of heat injury.²
- O3.4. Explain which laboratory studies, and why, are ordered in potential heat stroke patients.^{1,2}
- O3.5. Describe the appropriate cooling methods and medical treatment for heat injuries.^{1,2}

Health Risk Appraisal

Goals: Completion of this section will enable the fellow to:

- G1. Advise commands or organizations on practical and useful methods of health risk appraisal.
- G2. Relate the results of health risk appraisal to strategies in changing adverse lifestyle behavior.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Relate each of the following categories to risk of premature death:²

age	tobacco use
blood pressure	diet/obesity
occupation	seat belt use
sedentary lifestyle	alcohol use
stress	cholesterol level
- O1.2. Explain a practical system of obtaining information related to the above categories from individuals and/or populations.²
- O1.3. Analyze manpower requirements and costs associated with a health risk appraisal system.^{2,6}
- O2.1. Describe methods of analyzing health risk data and relating it to relative risk.^{2,3,}
- O2.2. Explain methods of using health risk data to improve compliance with recommendations.^{1,2,3,}
- O2.3. Describe the appropriate use of follow-up visits on improving compliance.^{1,2}

Hematologic Problems

Goals: Completion of this section will enable the fellow to:

- G1. Evaluate and treat athletes with anemia.
- G2. Recommend safe exercise for patients with sickle cell disease.
- G3. Recognize, evaluate and treat patients with rhabdomyolysis.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Define anemia and explain the common etiologies for males and females.^{1,2}
- O1.2. Describe the physiology of athletic pseudoanemia.^{1,2}
- O1.3. Explain the work-up of anemia.^{1,2}

- O1.4. Relate abnormal laboratory studies to specific etiologies of anemia.²
- O1.5. Explain the rational treatment of anemia in athletes.^{1,2,4}
- O2.1. Explain the pathophysiology and manifestations of sickle cell disease and trait.^{1,2}
- O2.2. Describe the precipitating factors of sickle crisis.¹
- O2.3. Relate exercise, altitude, and heat to sickle cell disease.¹
- O2.4. List the relative and absolute contraindications for exercise in patients with sickle cell disease and trait.^{1,2}
- O3.1. Explain the etiology of rhabdomyolysis.²
- O3.2. Describe the clinical and laboratory manifestations of rhabdomyolysis.^{1,2}
- O3.3. Explain the treatment of rhabdomyolysis.^{1,2,4}

Modalities in Rehabilitation

Goals: Completion of this section will enable the fellow to:

- G1. Rationally prescribe physical therapy modalities in the treatment of musculoskeletal injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Describe the mechanism of action, methods, indications, contraindications and complications of:^{1,2,6}

cryotherapy	heat therapy
ultrasound	phonophoresis
electrical stimulation	iontophoresis

Medicolegal Aspects of Sports Medicine

Goals: Completion of this section will enable the fellow to:

- G1. Analyze the legal definition of negligence.
- G2. Minimize the risk of law suit while functioning as team physician.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Explain the following elements of negligence:^{2,5}
 - the physician duty to act to avoid unreasonable risk to others
 - the defendants obligation to observe the above duty
 - actual damage or injury occurring
 - the relationship between cause of damage and failure to observe duty
- O1.2. Define standard of care, assumption of risk, and contributing negligence.^{2,5}
- O2.1. Explain the role of the following in minimizing risk:^{1,2,3,4,5,6}

establishing guidelines	written contracts
ancillary staff/education	preparticipation exams
informed consent	release of information
record keeping	consultation
standard of care/return to play criteria	

Musculoskeletal Ultrasound

Goals: Completion of this instruction will enable the fellow to:

- G1. Utilize ultrasound at the clinical bedside for diagnostic purposes
- G2. Utilize ultrasound at the clinic bedside for interventional procedures

Objectives:

O1.1 Identify and discuss the function of basic controls on an ultrasound machine console, including:

Transducer selection	Depth
Focal zone	Gain
Time Gain Compensation/Depth Gain Compensation	Zoom

O1.2 Discuss the basic physics principles of ultrasound, including Doppler imaging

O1.3 Demonstrate how to optimize an ultrasound image

O1.4 Describe the normal ultrasonographic appearance of adipose, muscle, tendon, ligament, bone, fascia, vessels, nerve, and cartilage

O1.5 Discuss the benefits and limitations of musculoskeletal ultrasound

O1.6 Identify and discuss the source and/or implications of basic ultrasound artifacts, including:

Anisotropy	Reverberation
Refraction	Through Transmission
Acoustic Shadowing	

O1.7 Perform image acquisition of vascular structures using Doppler and Color Power Doppler. Identify low, medium, and high flow rates of vascular structures, including neovascularization.

O1.8 Describe and perform a musculoskeletal ultrasound static and dynamic examination (including proper patient positioning) of the following regions as recommended by the American Institute of Ultrasound in Medicine (AIUM) Practice Guideline for the Performance of the Musculoskeletal Ultrasound Examination:

Shoulder	Hip
Elbow	Knee
Wrist-Hand	Ankle-Foot

O1.9 Obtain an acceptable U/S image of the following structures (see appendix B):

Shoulder
Elbow
Wrist-Hand
Hip
Knee
Ankle-Foot

- O1.10 Demonstrate appropriate labeling and processing of ultrasound images, including:
- Use of text insertion and pictographs
 - Use of arrows and measurement calipers
 - Capture, Storage and Transfer of ultrasound images
 - Generate an appropriate ultrasound report
- O2.1 Demonstrate skill at interventional procedures using ultrasound, including:
- Injection
 - Aspiration
 - Percutaneous tenotomy
- O2.2 Identify and dynamically image a needle in the short axis (transverse plane or out of plane) and long axis (longitudinal plane or in plane) using ultrasound guidance in a phantom, turkey breast, cadaveric specimen, or other imaging medium.
- O2.3 Demonstrate the ability to guide a needle into a target region or structure using a long axis and a short axis approach in a phantom, turkey breast, cadaveric specimen, or other imaging medium.
- O2.4 Perform the following interventional procedures:
- Shoulder
 - (1) Subacromial-Subdeltoid injection
 - (2) Intra-articular glenohumeral joint injection
 - (3) Intra-articular acromioclavicular joint injection
 - (4) Bicipital tendon sheath/groove
 - Elbow
 - (1) Intra-articular elbow joint injection
 - (2) Peri-tendinous injection of the common extensor tendon origin
 - (3) Peri-tendinous injection of the common flexor tendon origin
 - Wrist-Hand
 - (1) Carpal tunnel injection
 - (2) First dorsal compartment tendon sheath injection (i.e. DeQuervain's)
 - Hip
 - (1) Intra-articular hip injection
 - (2) Greater trochanteric bursa injection
 - Knee
 - (1) Intra-articular knee injection
 - (2) Pes Anserine bursa injection
 - (3) Iliotibial band/bursa (distal)
 - Ankle-Foot
 - (1) Intra-articular ankle injection
 - (2) Peroneal tendon sheath injection

Neurologic Injuries

Goals: Completion of this section will enable the fellow to:

- G1. Evaluate and treat or appropriately refer athletes with brachial plexus injury.
- G2. Evaluate and manage athletes with closed head injury.
- G3. Evaluate and manage athletes with head injury.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Define neuropraxias, axonotmesis, and neurotmesis.²
- O1.2. Describe the pathophysiology, clinical manifestations, and treatment of:^{1,2}

- | | |
|---------------------------|---------------------------|
| burner syndrome (stinger) | nerve root avulsion |
| suprascapular nerve palsy | lung thoracic nerve palsy |
| axillary nerve palsy | acute brachial neuropathy |
- O1.3. Describe the return to play criteria for the above.^{1,2,4}
- O2.1. Describe the pathophysiology and clinical manifestations of epidural hemorrhage, subdural hemorrhage and concussion.^{1,2}
- O2.2. Demonstrate an "on-field" neurologic assessment.^{1,2}
- O2.3. List and define the classification of concussions²
- O2.4. Recite the return to play guidelines based on the consensus recommendations.²
- O3.1. Explain the pathophysiology of head injury.²
- O3.2. Describe the evaluation and treatment of:^{1,2,4}
- | | |
|----------------------------|-------------------------------------|
| migraine | benign exertional head injury |
| weight lifters head injury | boxer's or footballer's head injury |
- O3.3. List the common features of intracranial mass lesions.^{1,2}

Nutrition

Goals: Completion of this section will enable the fellow to:

- G1. Recommend a "heart healthy" diet to patients.
- G2. Compare the various energy systems utilized in exercise.
- G3. Explain the theory behind glycogen replacement drinks during endurance events and define what type and amount is appropriate.
- G4. Explain how to determine percent body fat and how to use this information in dietary advice.
- G5. Compare the nutrient needs of athletes vs. non-athletes.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Compare the fat, CHO, and protein intake of average Americans to that recommended by the AHA and the recommended diet for the endurance athlete.²
- O1.2. Calculate the estimated number of daily calories required to maintain weight for a 70kg individual who is:²
- | | |
|-------------------|--------------------|
| sedentary | mildly active |
| moderately active | strenuously active |
- O2.1. Relate muscle glycogen content to athletic performance.²
- O2.2. Identify dietary methods and amounts of increasing muscle glycogen stores.²
- O3.1. Compare muscle glycogen, blood glucose, and hepatic glucose under four states:²
- | | |
|------------------------|-----------------------------------|
| fasting | normal diet |
| high carbohydrate diet | exogenous glucose during exercise |
- O3.2. Analyze glycogen replacement drinks containing:²
- simple sugars
 - complex carbohydrates
 - glucose polymers
- O3.3. List the optimal type and amount of CHO to be ingested during carbohydrate loading, during an event, and after the event.^{1,2}
- O4.1. Compare the methods of determining percent body fat including:^{1,2}
- | | |
|----------------------|--------------------|
| hydrostatic weighing | skin fold calipers |
| electrical impedance | taping |
- O4.2. Calculate percentage body fat using one of the above methods and write a weight loss prescription towards a target percent body fat.^{1,2}

- O5.1. Compare the protein requirements of males, females, endurance athletes, and strength athletes.²
- O5.2. Explain the iron requirements for exercising women.²
- O5.3. List the calcium requirements of exercising euestrogenic and hypoestrogenic women.²

Pharmacology

Goals: Completion of this section will enable the fellow to:

- G1. Rationally prescribe NSAIDs in the treatment of musculoskeletal injuries
- G2. Appropriately use injectable steroid preparations in the treatment of musculoskeletal injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Explain the biochemical and cellular processes which mediate the inflammatory response.²
- O1.2. Describe the histologic and biochemical features of chronic inflammation.²
- O1.3. Describe the mechanisms of action of NSAIDs.²
- O1.4. List commonly used NSAIDs under class:²

salicylates	propionic acids
acetic acids	phenylacetic acids
fenamates	oxicams
pyrazoles	
- O1.5. Relate rational prescribing practices to the above classes.^{1,2}
- O1.6. List the common side effects of NSAID's.^{1,2,4}
- O1.7. Explain the appropriate laboratory surveillance of athletes in NSAID's.^{1,2}
- O2.1. Explain the mechanism of action of steroids.²
- O2.2. Compare the relative potency and duration of action among injectable steroids.^{1,2}
- O2.3. Describe the indications and complications of steroid injections.^{1,2,4}

Pulmonary Problems

Goals: Completion of this section will enable the fellow to:

- G1. Diagnose and treat Exercise Induced Bronchospasm (EIB).
- G2. Diagnose and treat pneumothorax.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Explain the pathophysiology and triggers of EIB.^{1,2,4}
- O1.2. Describe the historical features of EIB.^{1,2}
- O1.3. List the criteria for diagnosing EIB on exercise stress testing.^{1,2}
- O1.4. Explain the pharmacologic and non-pharmacologic treatment of EIB.^{1,2}
- O2.1. Explain the etiologies of pneumothorax.²
- O2.2. Describe the history, physical exam, and x-ray features of pneumothorax.^{1,2}
- O2.3. Explain the appropriate treatment of pneumothorax and the return to play criteria.^{1,2}

Sports Psychology

Goals: Completion of this section will enable the fellow to:

- G1. Relate behavior development to sports and exercise participation.
- G2. Integrate psychological reactions to injury into a comprehensive rehabilitation program.
- G3. Identify psychological factors that impact on performance.
- G4. Develop a psychological management plan to optimize performance.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

ACTIVITY: Operative and Ambulatory Orthopedics

Ankle Injuries

Goals: Completion of the fellowship will enable the fellow to:

- G1. Evaluate and diagnose acute injuries of the ankle.
- G2. Evaluate and determine the etiology of chronic ankle pain.
- G3. Construct a management plan for patients with either acute ankle injuries or chronic ankle pain.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Describe the mechanism of injury and pathophysiology underlying:^{1,2}
 - Syndesmosis sprains
 - Grades I, II, and III ankle sprains
 - Tibial tendon ruptures
 - Anterior capsule tears
 - Osteochondral (talar dome) fractures
 - Subtalar joint sprains
 - Peroneal tendon subluxation
 - Bifurcate ligament sprain
 - Achilles tendon rupture
 - Os trigonum fracture
 - Posterior process of the talus fracture
 - Deltoid ligament sprain
 - Posterior tibial tendon rupture
 - Fibular fractures
 - Tibial fractures
 - Epiphyseal fractures
- O1.2 Demonstrate the physical examination as it relates to acute ankle injuries and describe the anticipated findings.
- O1.3 Explain the indications, views, and interpretation of imaging studies, including stress views.^{1,2,4,6}
- O2.1 Describe the pathophysiology underlying chronic ankle pain from:^{1,2}
 - Anterolateral impingement
 - Anterior tibial tendinitis
 - Extensor digitorum longus tendinitis
 - Peroneal nerve entrapment
 - Sinus Tarsi Syndrome
 - Subtalar joint instability
 - Peroneal tendinitis
 - Subluxing peroneus tendon
 - Sural nerve entrapment
 - Talar knock syndrome
 - Sustenaculum tali stress fracture
 - FHL,FDL tenosynovitis
 - Posterior tibialis tendinitis
 - Tarsal coalition
 - Os-trigonum syndrome
 - Osteochondritis dessicans
 - Synovitis
 - Degenerative joint disease
- O2.2 Demonstrate the physical examination of the ankle as it pertains to chronic ankle pain.^{1,2}
- O2.3 Describe the indications, views, and interpretation of imaging studies in the evaluation of chronic ankle pain including:^{1,2,4,6}
 - Plain radiographs and stress views
 - Technetium bone scans
 - CT scans
 - MRI
- O3.1 Explain the indications, risks, and benefits of immobilization of the injured ankle.^{1,2,4,6}
- O3.2 Describe the role of stretching, strengthening, proprioceptive training, and modalities in treating ankle injuries.^{1,2,4,6}
- O3.3 Relate the use of various foot and ankle orthoses to specific injuries.^{1,2,4,6}
- O3.4 State the approximate recovery time for each ankle injury.^{1,2,4}
- O3.5 List the indications for surgical treatment of ankle injuries.^{1,2,4,6}
- O3.6 Identify return to play criteria for patients recovering from ankle injuries.^{1,2,4}

Back Injuries

Goals: Upon completion of this fellowship the fellow will be able to:

- G1. Evaluate and properly diagnose adults with acute or chronic back pain.
- G2. Evaluate and properly diagnose children with acute or chronic back pain.
- G3. Construct an appropriate treatment and management plan for patients with back injuries.
- G4. Advise patients with back injuries on restrictions and return to play criteria.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Describe the epidemiology and pathophysiology underlying:²
 - spinal column fractures
 - lumbosacral strain injuries
 - herniated nucleus pulposus
 - lateral recess stenosis
 - spinal stenosis
 - facet syndrome
 - mechanical low back pain
 - spondyloarthropathies
- O1.2 Identify medical etiologies of back pain and sciatica.²
- O1.3 Demonstrate a systematic physical examination of the back, including a detailed neurologic evaluation, and explain what each test is evaluating.^{1,2}
- O1.4 State the indications for imaging and electrical studies in the evaluation of back pain including:^{1,2,4,6}
 - plain radiographs
 - technetium bone scans
 - SPECT scans
 - CT scans
 - MRI
 - EMG/NCS
- O1.5 Describe the appropriate use of laboratory studies in evaluating back pain.^{1,2,6}
- O2.1 Describe the epidemiology and pathophysiology of:²
 - painful scoliosis
 - Scheuermann's disease
 - atypical Scheuermann's disease
 - spondylolysis and spondylolisthesis
 - herniated nucleus pulposus
 - slipped vertebral apophysis
 - discitis
 - vertebral osteomyelitis
 - vertebral tuberculosis
 - juvenile rheumatoid arthritis
 - ankylosing spondylitis
 - spinal tumors
- O2.2 State the appropriate use of imaging studies in evaluating pediatric back pain.^{1,2,4,6}
- O2.3 Explain the rational use of laboratory studies in evaluating pediatric back pain.^{1,2,4,6}
- O3.1 State the natural history of each of the above entities.^{2,4}
- O3.2 Describe the appropriate use of physical therapy modalities and exercises in the treatment of low back pain.^{1,2,4,6}
- O3.3 Explain the indications, type, and duration of bracing in the treatment of back pain.^{1,2,4,6}
- O4.1 Define the criteria for returning an individual with a back injury to sports activity.^{1,2,4,6}

Elbow Injuries

Goals: Completion of this section will enable the fellow to:

- G1. Systematically evaluate a patient with an acute elbow injury.
- G2. Systematically evaluate a patient with chronic elbow pain.
- G3. Construct an appropriate management plan for patients with elbow injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Relate the mechanism of injury to fractures of the proximal humerus, radius, and ulna, posterior dislocations, and compartment syndromes.^{1,2}
- O1.2 Describe the clinical and radiographic features of:^{1,2,4}
 - Fractures
 - supracondylar
 - medial and lateral epicondylar
 - medial and lateral condylar

- growth plate
- Dislocations
 - posterior
- Traumatic and exertional compartment syndromes
- O1.3 Clinically differentiate a supracondylar fracture from a dislocation.^{1,2}
- O2.1 Describe the pathophysiology of the following²

medial and lateral epicondylitis	olecranon impingement
ulnar collateral ligament laxity	olecranon bursitis
cubital tunnel syndrome	olecranon apophysitis
subluxing ulnar nerve	pronator teres syndrome
"little-league" elbow	posterior interosseous syndrome
osteochondritis dessicans	anterior interosseous syndrome
distal bicipital tendinitis	radial tunnel syndrome
triceps tendinitis	
- O2.2 Demonstrate the clinical exam as it relates to each of the above entities and describe the pertinent findings.^{1,2}
- O2.3 List the indications for radiography and the appropriate views in the evaluation of the above entities.^{1,2,6}
- O3.1 Explain the indications for surgery for both acute and chronic injuries of the elbow.^{1,2,6}
- O3.2 Describe the appropriate method and time of immobilization for traumatic elbow injuries not requiring surgery.^{1,2}
- O3.3 Construct a rehabilitation program for traumatic elbow injuries after either surgery or immobilization.^{1,2,4}
- O3.4 Explain the proper use of physical modalities, stretching, and strengthening in the rehabilitation of chronic elbow injuries.^{1,2,4,6}

Foot Injuries

Goals: Completion of the fellowship will enable the fellow to:

- G1. Evaluate and diagnose acute injuries of the foot.
- G2. Evaluate and diagnose patients with chronic foot pain.
- G3. Construct a management plan for patients with acute or chronic foot injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Describe the anatomy and pathophysiology underlying:^{1,2}

Fractures	Dislocations/subluxations
metatarsal	phalangeal
phalangeal	cuboid
Lis-franc joint	
calcaneus	
tarsal bones	
Bifurcate ligament sprain	Subungual hematoma
Plantar fascia tear	Turf toe
Heel contusion	
- O1.2 Demonstrate the physical examination as it pertains to acute foot injuries.^{1,2}
- O1.3 Explain the indications, views, and interpretation of imaging studies in evaluating acute foot injuries.^{1,2,4,6}
- O2.1 Describe the anatomy and pathophysiology underlying:¹

Turf toe	Tarsal navicular stress fracture
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Hallux limitus/rigidus	Symptomatic os naviculare
Metatarsalgia	Tarsal coalition
Metatarsal stress fracture	Plantar fasciitis
Proximal 5th MT diaphyseal stress fractures	Achilles tendinitis
Sesamoiditis	Retrocalcaneal bursitis
MTP synovitis	Tarsal tunnel syndrome
Morton's neuroma	Calcaneal stress fracture
Lis-franc capsulitis	Iselin's disease
Cuboid syndrome	Sever's disease
Haglund's Deformity	Accessory navicular
Os Trigonum	Freiberg's infarction

- O2.2 Demonstrate the physical examination as it pertains to chronic foot pain.^{1,2}
- O2.3 Explain the indications, view, and interpretation of imaging studies in the evaluation of chronic foot pain.^{1,2,4,6}
- O3.1 Relate the use of foot orthoses to the treatment of individual injuries.^{1,2,4}
- O3.2 Describe normal and abnormal foot biomechanics and relate them to the genesis of foot pain.^{1,2}
- O3.3 List the indications for surgical treatment for each entity.^{1,2,4,6}
- O3.4 Explain the rationale for physical therapy modalities, stretching, and strengthening in the management of foot injuries.^{1,2,4,6}
- O3.5 Describe the indications for steroid injections in the management of foot pain.^{1,2,4}
- O3.6 Recite the return to play criteria after a foot injury.^{1,2,4}

Hand and Finger Injuries

Goals: Completion of this section will enable the fellow to:

- G1. Systematically evaluate the acutely injured hand.
- G2. Systematically evaluate patients with subacute or chronic hand pain
- G3. Develop an appropriate management plan for patients with both acute and chronic hand injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Describe the components and function of the finger flexor and extensor mechanisms.
- O1.2 Describe the pathophysiology and potential complications of:²

Soft Tissue

FDP avulsion	MCP simple dislocation
mallet finger	MCP complex dislocation
central extensor tendon slip avulsion	ulnar collateral ligament tear of the thumb
dorsal PIP dislocation	subungual hematomas
volar plate disruption	nail lacerations
volar PIP dislocation	tendon lacerations
collateral ligament tear	

Fractures

phalangeal fractures
metacarpal fractures
Bennet's fracture-dislocation

Neurovascular

Neurovascular
nerve lacerations
vascular disruption

- O1.3 Relate the above entities to clinical exam findings.^{1,2}

O1.4 Explain the indications for imaging studies and expected findings for the above entities.^{1,2,4,6}

O2.1 Describe the pathophysiology and potential complications of:^{1,2,4}

Infection	trigger finger
paronychia	arthritis
cellulitis	
septic flexor tenosynovitis	
clenched fist septic joint	

O3.1 Construct an appropriate management plan for each of the entities listed above.^{1,2,4,6}

Hip, Pelvis, and Thigh Injuries

Goals: Completion of the fellowship will enable the fellow to:

- G1. Evaluate and diagnose acute injuries of the hip, pelvis, and thigh.
- G2. Evaluate and diagnose chronic pain in the hip, pelvis, or thigh.
- G3. Construct a management plan for each of these injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

O1.1 Describe the anatomy and pathophysiology underlying:²

Acute fractures of the:	Soft tissue trauma
pelvic girdle	quadriceps contusion/hematoma
femoral neck	adductor strain
coccyx	hamstring strain
ASIS (avulsion)	rectus femoris strain
AIS (avulsion)	iliac crest apophysitis
ischial tuberosity (avulsion)	hip pointers
Acute slipped femoral capital epiphysis	inguinal hernia

O1.2 Demonstrate the physical exam as it pertains to the above entities and describe the expected findings.^{1,2}

O1.3 Select the appropriate imaging studies in evaluating acute injuries.^{1,2,6}

O2.1 Describe the pertinent anatomy and pathophysiology underlying:²

Stress fractures	Sacroiliac dysfunction
pubic ramus	Ankylosing spondylitis
femoral neck	Piriformis syndrome
femur	Osteitis Pubis
Bursitis	Myositis ossificans
ischial tuberosity	Hip flexor tendonitis
greater trochanter	Snapping Hip Syndrome
iliopsoas	Leg length discrepancies
Pediatric population	Degenerative joint disease
slipped femoral capital epiphysis	
Legg-Calve'-Perthes disease	
toxic synovitis	
septic hip	

O2.2 Demonstrate the physical exam in evaluating the above listed entities.^{1,2}

O2.3 Explain the appropriate use of imaging studies in evaluating chronic hip, pelvis, and thigh pain.^{1,2,4,6}

O2.4 Describe the appropriate use of laboratory studies in evaluating hip pain.^{1,2,4,6}

O3.1 Relate the specific pelvis, hip, and thigh injuries to expected healing time.^{1,2,4}

- O3.2 List the injuries requiring surgical intervention.^{1,2,6}
- O3.3 Explain the rationale behind the use of physical therapy modalities, stretching and strengthening exercises in the treatment of these injuries.^{1,2,4,6}
- O3.4 Describe the appropriate use of orthoses in the management of these injuries.^{1,2,4,6}
- O3.5 Explain the indications and use of various medications, including steroid injections, in the management of these injuries.^{1,2,4}
- O3.6 List the return to play criteria for athletes recovering from hip, pelvis and thigh injuries.^{1,2,4}

Knee Injuries

Goals: Completion of the fellowship will enable the fellow to:

- G1. Systematically evaluate and diagnose acute injuries of the knee.
- G2. Evaluate and diagnose patients with chronic knee pain.
- G3. Construct a treatment and management plan for acute and chronic knee injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Describe the mechanism of injury, pathology and clinical manifestations of:²

Anterior cruciate ligament tears	Patellar fractures
Posterior cruciate ligament tears	Patellar tendon rupture
Medial collateral ligament tears	Quadriceps tendon rupture
Lateral collateral ligament tears	Knee dislocation
Meniscal tears	Epiphyseal fracture
Patellar dislocation	
- O1.2 Demonstrate the physical examination as it pertains to acute knee injuries and describe what each test is evaluating.^{1,2}
- O1.3 Explain the appropriate radiographic tests, views, and expected findings in the evaluation of the acutely injured knee.^{1,2,4,6}
- O2.1 Describe the anatomy and pathophysiology underlying:²

Retropatellar pain syndrome	Iliotibial band friction syndrome
Bi-partite patella	Popliteus tendinitis
Patellar stress fracture	Subluxing meniscus
Pre-patellar bursitis	Pes Anserine bursitis
Sinding-Larsen-Johanssen syndrome	Synovial Plica
Osgood-Schlatter syndrome	Popliteal cyst
Patellar tendinidtis	Semimembranosis tendinitis
Quadriceps tendinitis	Degenerative joint disease
- O2.2 Demonstrate the physical examination as it pertains to the above entities and describe the expected findings.^{1,2}
- O2.3 Explain the indications, views, and expected findings of various imaging studies in evaluating chronic knee pain.^{1,2}
- O3.1 Relate each knee injury to its healing potential and the approximate time course.²
- O3.2 List the indications for surgical intervention for each injury and specify the appropriate timeframe for referral.^{1,2,4,6}
- O3.3 Match the various knee braces with specific knee injuries.^{1,2,6}
- O3.4 Explain the rationale behind the use of physical therapy modalities, stretching, and strengthening in the rehabilitation of patients with knee injuries.^{1,2,4}
- O3.5 State the return to play criteria for athletes recovering from a knee injury or surgery.^{1,2,4}

Lower Leg Injuries

Goals: Completion of this section will enable the fellow to:

- G1. Evaluate and treat acute injuries to the lower leg.
- G2. Evaluate and treat chronic lower leg pain.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1. Describe the etiology, signs, symptoms and treatment of:^{1,2}
 - muscle cramps
 - heat cramps
 - muscle strain/tear
 - contusion
 - fracture
 - acute compartment syndrome
- O2.1. Describe the etiology, symptoms and sign of overuse injuries to the lower leg including:^{1,2}
 - shin splints
 - medial tibial stress syndrome
 - stress fractures
- O2.3. Explain the etiology, evaluation and treatment of pain from neurovascular etiologies including:^{1,2}
 - chronic compartment syndrome
 - adduct or hiatus syndrome
 - radiculopathy
 - saphenous nerve entrapment
 - popliteal artery entrapment
 - effort thrombosis
 - peroneal nerve entrapment

Maxillofacial Injuries/EENT

Goals: Completion of this section will enable the fellow to:

- G1. Identify and appropriately manage injuries to the face.
- G2. Prescribe preventative appliances appropriately.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Describe how cauliflower ear develops and how it is managed.^{1,2}
- O1.2 Identify the clinical and radiographic features of the various LaForte fractures.^{1,2}
- O1.3 List the clinical features of orbital (blow-out) fractures.^{1,2}
- O1.4 Describe the systematic evaluation of eye trauma and what is identified with each test.^{1,2}
- O1.5 List the ocular injuries requiring immediate referral to an ophthalmologist.^{1,2,5,6}
- O1.6 Describe the indications, technique, and timing for setting nasal fractures.^{1,2}
- O1.7 Compare the various methods of airway management in the patient with maxillofacial trauma.^{1,2}
- O1.8 Describe the treatment for dental injuries including: chipped tooth, pulp exposure, and tooth avulsion.^{1,2}
- O1.9 Name the limitations of the monocular athlete.^{1,2}
- O2.1 Explain the requirements for preventative appliances including: mouth guards, protective eyewear, and ear protectors.^{1,2,6}

Neck Injuries.

Goals: Completion of this section will enable the fellow to:

- G1. Make recommendations regarding prevention of cervical spine injuries.^{1,2,4}
- G2. Discuss the differential diagnosis and pathophysiology of neck injuries.^{1,2}
- G3. Appropriately evaluate and manage the patient with a neck injury.^{1,2,6}

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Describe the trends of the national incidence of significant spinal cord injuries and the reasons for this trend.²
- O1.2 List the common mechanisms of significant spinal cord injuries.²
- O1.3 Analyze the methods most commonly employed to decrease spinal cord injuries.²
- O2.1 Describe the pathophysiology underlying myofascial sprain/strain, spinal cord injuries, herniated nucleus pulposus, cervical spine instabilities and fractures, and stingers.²
- O2.2 Relate spinal stenosis to spinal cord injury.²
- O2.3 Identify individuals who are at a higher risk for spinal cord injury.^{1,2}
- O3.1 Demonstrate the initial management of an athlete with a suspected C-spine injury.^{1,2,6}
- O3.2 Describe the clinical manifestations of various spinal cord injuries.^{1,2}
- O3.3 Conduct and explain the essential components of the physical examination in patients with suspected cervical spine injuries-both for acute and chronic pain.^{1,2}
- O3.4 Systematically analyze plain C-spine radiographs and compare abnormalities with underlying pathology. Include fractures, dislocations/subluxations, instabilities, and spinal stenosis.^{1,2,6}
- O3.5 List the indications for further radiographic studies including: technetium scans, flexion and extension views, MRI and CT scans.^{1,2,6}
- O3.6 Explain the proper use of medications in the patient with suspected spinal cord injury.^{1,2,3}
- O3.7 Construct an appropriate physical rehabilitation program for patients with cervical spine injuries.²
- O3.8 Explain the indications and contraindications for returning to play after a neck injury.^{12,4}

Shoulder Injuries

Goals: Completion of this section will enable the fellow to:

- G1. Systematically evaluate a patient with an acute shoulder injury.
- G2. Systematically evaluate a patient with chronic shoulder pain.
- G3. Construct an appropriate management plan for patients with shoulder injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Relate mechanism of injury to sternoclavicular injury, acromioclavicular injury, glenohumeral dislocations, glenoid labral tears, rotator cuff tears, biceps tendon ruptures, fractures and neurovascular injuries.¹
- O1.2 Demonstrate the physical exam pertinent to the acutely injured shoulder and describe what each test is assessing.^{1,2}
- O1.3 Explain the appropriate radiographic evaluation of the acutely injured shoulder.²
- O2.1 Explain the underlying pathology responsible for: ²

osteolysis of the distal clavicle	glenoid labral tears
acromioclavicular pain	instabilities
impingement	scapulothoracic pain
rotator cuff tendinitis	growth plate injuries
bicipital tendinitis	thoracic outlet syndrome
subclavian vein thrombosis	
nerve injuries (suprascapular, long thoracic, axillary)	
- O2.2 Demonstrate an appropriate physical examination of the patient with chronic shoulder pain and explain what each test is evaluating.^{1,2}
- O2.3 Choose the appropriate radiographic tests and views in evaluating chronic shoulder pain.^{1,2}
- O3.1 Explain the natural history of both acute and chronic shoulder injuries.^{1,4}

- O3.2 Compare surgical and non-surgical treatment of the various shoulder injuries listed above.^{1,2,6}
- O3.3 Write a physical rehabilitation program for each of the above entities.^{1,2,4,6}

Wrist Injuries

Goals: Upon completion of this section will enable the fellow to:

- G1. Systematically evaluate the acutely injured wrist.
- G2. Systematically evaluate patients with chronic wrist pain
- G3. Develop an appropriate management plan for patients with both acute and chronic wrist injuries.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Draw the carpal bones and the pertinent intrinsic and extrinsic stabilizing ligaments.²
- O1.2 Describe the functional biomechanics of wrist motion and how it relates to wrist injuries.^{2,4}
- O1.3 Relate ligamentous injuries to:²

scapholunate dissociation	triquetrolunate instability
perilunate dislocation	triquetrohamate instability
lunate dislocation	subluxation of the extensor carpi ulnaris tendon
- O1.4 Identify the components of the triangular fibrocartilage complex and relate them to TFCC injuries.^{1,2}
- O1.5 Demonstrate the physical examination of the acutely injured wrist and describe what is being evaluated with each test.^{1,2}
- O1.6 List the appropriate radiographic views and describe the findings in evaluating:^{1,2,6}

scaphoid fractures	capitate fractures
trapezium fractures	scapholunate dissociation
trapezoid fractures	lunate dislocation
lunate fractures	perilunate dislocation
triquetral fractures	perilunate dislocation
pisiform fractures	triquetrohamate instability
hamate fractures	radial growth plate injury
- O2.1 Describe the pathophysiology underlying:²

DeQuervain's tenosynovitis	scaphoid impingement syndrome
extensor carpi radialis tenosynovitis	radial styloid impingement syndrome
common extensor tenosynovitis	triquetrohamate impingement
intersection syndrome	
extensor pollicis longus tendinitis	Recurrent subluxation of ext.carpi ulnaris
extensor carpi ulnaris tendinitis	Carpal tunnel syndrome
flexor carpi radialis tendinitis	Ganglionic cysts
flexor digitorum tendinitis	Hypothenar hammer syndrome
pisiform tendinitis	
- O2.2 Relate the pathophysiology of the above entities to clinical exam findings.^{1,2}
- O2.3 Relate the innervation of the hand to the physical examination findings.^{1,2}
- O2.4 State the indications and technique for radiographic evaluation of the above entities.^{1,2}
- O3.1 Relate the healing potential of scaphoid fractures to the type and location of the fracture.^{1,2}

- O3.2 List the indications for surgery for each of the acute and chronic injuries listed above.^{1,2,4,6}
- O3.3 Construct a treatment plan for fractures and instabilities not requiring surgery.^{1,2,4}
- O3.4 Explain the appropriate use of steroid injections in the treatment of wrist pain.^{1,2,4}
- O3.5 Construct a treatment plan for overuse injuries of the wrist.^{1,2,4}
- O3.6 Explain appropriate use of wrist orthoses for both prevention and treatment of wrist injuries.^{1,2,4}

ACTIVITY: Scholarly Activities Curriculum

Goals: Completion of the fellowship will enable the fellow to:

- G1. Describe the various forms of scholarly activities (discovery, dissemination, and application)
- G2. Design a clinical study, submit a research protocol, collect data, perform statistical analysis, and prepare a manuscript of the results
- G3. Critically evaluate the clinical literature, understanding potential errors and fallacies, and apply confidentially the results of medical studies to patient care.

Objectives: The fellow will attain/achieve the above goals by meeting the following objectives:

- O1.1 Describe the scholarship of Discovery as including peer-reviewed funding or publication of original research in a peer-reviewed journal^{2,3,4}
- O1.2 Describe the scholarship of Dissemination as writing review articles or book chapters.^{2,3,4}
- O1.3 Describe the scholarship of Application as publication or presentation of case reports or clinical series at scientific meetings.^{2,3,4}
- O2.1 Conduct a comprehensive literature review of a proposed area of study.³
- O2.2 Design a protocol appropriate to their research question including a power analysis, or participate actively in the data collection and/or manuscript preparation phases of an ongoing study.³
- O2.3 Prepare a project for presentation and/or publication.
- O3.1 Evaluate study protocols and articles submitted for publication and evaluate them for scientific validity and further application.

ACTIVITY: Faculty Development Curriculum

Goals: Completion of the fellowship will enable the fellow to:

- G1. Competently teach Sports Medicine to learners at various levels of training

Objectives:

- O1.1 Understand the differences in knowledge and skills for the various levels of medical professionals from student to specialty-trained practitioner in the area of sports medicine, and tailor an educational activity to meet the needs of the learner.^{3,4,5}
- O1.2 Under supervision, participate in teaching medical students, fellows, and staff physicians by lecture, small groups, and workshops.^{3,4,5}

CONFERENCES AND ELECTIVES

Required Conferences

Advanced Team Physician Course

This five day course sponsored by the ACSM gives fellows an in-depth exposure to a wide variety of topics. It takes place in December and serves to reinforce concepts they may already have been exposed to and introduce them to new and controversial topics in Sports Medicine.

National Sports Medicine Meetings

Fellows are required to attend one of the following three national Annual Meetings, based on the preference of the fellowship director and the academic schedule. Each fellow will be encouraged to present a case report or other presentation at the meeting.

American Medical Society for Sports Medicine (AMSSM) Annual Meeting

The AMSSM is the parent organization for primary care sports medicine physicians. The lectures at this meeting are meant to present current research and reviews of pertinent non-musculoskeletal and musculoskeletal issues related to athletes. Membership in AMSSM is mandatory for all fellows. Benefits include reduced fees for the In-Training Examination and subscription to four journals.

American College of Sports Medicine (ACSM) Annual Meeting

The ACSM is the most established sports medicine organization in the U.S. and attracts members and attendees from numerous countries. It is comprised of exercise physiologists, athletic trainers, physical therapists, physicians, and exercise specialists. The annual meeting offers hundreds of lectures, posters, and seminars on exercise related issues and sports injuries. Membership in ACSM is strongly recommended even if fellows do not attend the annual meeting. Benefits include subscription to three journals

American Osteopathic Academy of Sports Medicine (AOASM) Annual Meeting

The AOASM is the parent organization for primary care sports medicine osteopathic physicians. The lectures at this meeting are meant to present current research and reviews of pertinent non-musculoskeletal and musculoskeletal issues related to athletes.

Elective Courses and Activities

As time and resources permit, fellows may be allowed to participate in an elective course or event of their choosing. Examples include:

Armed Forces Sports camps or competitions locally or abroad

The US Armed Forces Sports organization (<http://armedforcessports.defense.gov/>) provides a forum for national- and world-class athletes on active military duty to compete between services, and internationally through the Conseil International du Sport Militaire (CISM, <http://www.cism-milспорт.org/>).

Involvement of fellows and faculty at Armed Forces Sports and CISM events in recent years has included:

*4th Military World Games in Hyderabad, India, 2007 (Dr. deWeber)

- *CISM World Military Boxing Championships, Baku, Azerbaijan, 2008 (Dave Haight)
- *CISM World Women's Soccer Championships, France, 2010 (Mark Harris)
- *Armed Forces Rugby Championships, Ft. Benning, GA 2010 (Sean Martin)
- *CISM World Military Taekwondo Championships, Quebec Prov, Canada, 2010 (Dr. deWeber)
- *All-Army and Armed Forces Basketball camp and championships, Cp. Pendleton, CA, 2010 (Ben Ingram)
- *5th Military World Games, Rio de Janeiro, Brazil, 2011 (Sean Martin, Dr. deWeber)

U.S. Paralympic Military Program's Warrior Games

This week-long athletic event allows wounded Warriors to compete in Paralympic-type sports. Fellows provide on-site medical care to participants. (Jim Lynch 2010, all fellows 2011)

Acupuncture in Sports Medicine course.

USA Boxing National Championships

The fellow will attend the Ringside Physician Course in conjunction with event coverage at the USA Boxing National Championships. (Dave Haight 2009)

USA Wrestling National Championships

This elective activity is coordinated by Dr. Mike Gunter at the University of Toledo Sports Medicine Clinic through a MOU with USA Wrestling. Fellows participate in on-site care of one hundreds of wrestlers for several days. (Dave Haight, 2009)

US Paralympic Military Program camps

Fellows may attend shorts camps to gain experience caring for disabled veterans who are being exposed to sporting events in order to increase skill and confidence.

U.S. Army Environmental Medicine Course

This course is sponsored each year by the U.S. Army Environmental Research Laboratory at Natick, MA. The course is one week in duration and covers current management of environmental conditions on operational activities. This is presently an elective activity.

FELLOWSHIP PROGRAM FACULTY AND INSTRUCTORS

PROGRAM DIRECTOR:

Kevin deWeber, MD, FAAFP, FACSM. COL, MC, USA
Assistant Professor of Family Medicine, USU. Bethesda, MD. Board Certified in Family Medicine with a Certificate of Added Qualification in Primary Care Sports Medicine.

ASSOCIATE PROGRAM DIRECTOR:

Francis G. O'Connor, MD, MPH, FACSM. COL, MC, USA
Associate Professor of Family Medicine, USU. Medical Director, USU Consortium for Health and Military Performance (CHAMP) and Residency Faculty, FBCH, Fort Belvoir, VA. Board certified in Family Medicine with a Certificate of Added Qualification in Primary Care Sports Medicine.

ASSOCIATE PROGRAM DIRECTOR:

Marc Childress, MD. Maj, MC, USAF
Assistant Professor of Family Medicine
Sports Medicine Clinic OIC and Residency Faculty, FBCH, Fort Belvoir, VA.
Board certified in Family Medicine with a Certificate of Added Qualification in Sports Medicine.

AFFILIATE PROGRAM DIRECTOR:

Robert P. Nirschl, M.D., M.S.
Medical Director, Nirschl Orthopedic and Sportsmedicine Center, Arlington, VA. Board certified in Orthopedic Surgery and fellowship trained in Orthopedic Sports Medicine.

ORTHOPEDIC SURGERY CONSULTANT:

Richard Schaefer, MD. COL, MC, USA. FBCH Orthopedic Clinic. Board Certified in Orthopedic Surgery.

OTHER FACULTY:

Primary Care Sports Medicine

Thomas Howard, MD, COL(Ret) USA. Fairfax Family Health Center, Fairfax, VA. Director, Virginia Commonwealth University Primary Care Sports Medicine Fellowship. Board certified in Family Medicine with a Certificate of Added Qualification in Sports Medicine.

Keith, Scorza, MD. MAJ, MC, USA. FBCH Sports Medicine. Board certified in Family Medicine with a Certificate of Added Qualification in Primary Care Sports Medicine.

Jeffrey Leggit, MD. LTC, MC, USA. Ft. Detrick, MD. Board certified in Family Medicine with a Certificate of Added Qualification in Primary Care Sports Medicine.

Sean Mulvaney, MD. LTC, MC, USA. Ft. Meade, MD. Board certified in Family Medicine with a Certificate of Added Qualification in Primary Care Sports Medicine.

Darlene Smallman, MD. Maj, MC, USAF. Pentagon clinic, Arlington, VA. Board certified in Family Medicine with a Certificate of Added Qualification in Primary Care Sports Medicine.

Orthopedic Surgery

David Keblish, MD. CDR, MC, USN. Orthopedic Sports Medicine at U.S. Naval Academy.

J. P. Rue, MD. CDR, MC, USN. Orthopedic Sports Medicine at U.S. Naval Academy.

Barry Boden, MD. Orthopedic Sports Medicine, in private practice in Silver Spring, MD. Local High School Team Physician and Head Team Physician, Montgomery College.

David L. Higgins, MD. Orthopedic Sports Medicine, in private practice in Washington, D.C. and Maryland. Head Team Physician, American University.

Frank Pettrone, MD, Orthopedic Sports Medicine, based at Arlington Hospital. Head Team Physician at George Mason University. Supervises fellows at team sporting events and athletic training clinics.

Kevin Coates, MD. MAJ, MC, USA. Staff Orthopedic Surgeon at FBCH. Consultation and precepting on weekly basis in the Sports Medicine Clinic.

Hugo Davalos, MD. COL(Ret), USAF. Team Physician for Hayfield HS.

Athletic Training

Linda Pullen, ATC. Head Athletic Trainer at George Mason University. Direct assistant to sports medicine fellow.

Jim Berry, ATC. Athletic Trainer at USNA. Direct assistant to sports medicine fellow.

Sean Dash, ATC. Head Athletic Trainer at American University. Direct assistant to sports medicine fellow.

Shawn Hendi, ATC. Head trainer at Georgetown University. Direct assistant to sports medicine fellow.

Carrie Steele, ATC. Head trainer at Montgomery College. Direct assistant to sports medicine fellow.

Clinical Imaging

Tim Sanders, MD. Col (Ret), USAF . Private practice musculoskeletal radiologist, Charlottesville, VA. Coordinates fellowship MRI teaching.

Che Pontius, MD. COL(Ret), USA. Musculoskeletal radiologist, FBCH.

Scott Greenwald, MD. LTC, MC, USA. Musculoskeletal radiologist, FBCH.

Coaching

Michael Flanagan, Head Coach, USNA Men's Rugby Team.

Exercise Physiology

Patricia Deuster, Ph.D., MPH
Department of Military and Emergency Medicine, USU.
Coordinates core exercise physiology curriculum.

Scholarly Activities and Faculty Development

Jeffrey Goodie, PhD. LCdr, USPHS. Clinical Psychologist and Assistant Director of Research in the Department of Family Medicine at USU, Bethesda, MD. Coordinates the Scholarly Activities curriculum

Cindy Wilson, Ph.D., C.H.E.S. Director of Faculty Development in the Department of Family Medicine at USU. Coordinates faculty development for the department of Family Medicine.

Nutrition

Patricia Deuster, Ph.D., MPH, FACSM.
Exercise physiology and sports nutrition. Department of Military and Emergency Medicine, USU, Bethesda, MD

Clinical Pharmacology

Lela King, PharmD, LTC, SP, USA. Clinical Pharmacologist. FBCH, Ft. Belvoir, VA.

Physical Medicine and Rehabilitation

Minho Chang, MD. CPT, MC, USA. Board certified in Physical Medicine and Rehab, FBCH, Ft. Belvoir, VA.
Jason Deluigi, MD, MAJ, MC, USA.
Program Director, Physical Medicine and Rehab Residency. Board certified in Physical Medicine and Rehab, Walter Reed National Military Medical Center, Washington, DC

Physical Therapy

Michael Winters, PT, DPT. MAJ, SP, USA. Staff physical therapist, FBCH.
Consultant to the Sports Medicine Clinic.

David Boland, PT, DPT. CPT, SP, USA. Staff physical therapist, FBCH. Consultant
to the Sports Medicine Clinic.

Peter Doyle, PT, DPT. 1LT, SP, USA. Staff physical therapist, FBCH. Consultant
to the Sports Medicine Clinic.

Podiatry

Lem Zarzuela, DPM. Available as consultant to the Sports Medicine Clinic.
Ft. Belvoir Community Hospital, Fort Belvoir, VA.

CV's available on request.

All fellowship staff has or is invited to have faculty appointments at USU.

EVALUATION POLICY AND METHODS

1. Evaluation of PCSM fellows is to be done triennially (end of November, April, and July) by the following from their respective tracks:
 - a. Training site attending physicians (one from each site), using Clinical Faculty Evaluation Form
 - b. Scholarly Activities curriculum faculty, using Research Faculty Evaluation Form
 - c. University Head Athletic Trainers, using Head Athletic Trainer Eval Form
2. Fellow evaluation requests should be sent to the above faculty in the last week of the quarter of evaluation (earlier for the 4th quarter). Requests will be sent via e-mail by the Program Administrator in the following time frames, and completed within 14 days.
 - a. Trimester 1: first week of November
 - b. Trimester 2: first week of April
 - c. Trimester 3: first week of July
3. Evaluations should be completed using the form located on eValue.com.
 - a. Faculty who need assistance with a password and/or access to eValue should call the Program Administrator, CeeCee Cummings, at 301-295-9463, or ccummings@usuhs.mil.
 - b. Faculty who cannot complete on-line evaluations should request that Ms. Cummings send the evaluation form on paper via USPS. Completion should follow the same timeline.
4. Evaluations of fellows by patients on the Army Provider Level Patient Satisfaction Surveys (through FBCH) will be obtained by the Program Administrator or Program Director each trimester.
5. Clinical chart peer reviews will be done by fellows on each other's charts triennially, 1-2 weeks before the end of the trimester.
6. The Program Administrator will track the above evaluations until they are complete and assemble them for review by the Program Director. The PD will meet triennially with each fellow to review the evaluations and accomplishments and complete the Triennial Evaluation Form. Each fellow will review and sign this form and receive a copy.
7. Evaluation of the Program and of the Faculty by the fellows will be done annually and anonymously in late July, after fellows' faculty evaluations have been turned in and final counseling is complete. This will be sent by eValue.com.
8. A comprehensive assessment of the Program will be completed annually at the midway point of the academic year (February).
 - a. First, all faculty will be sent an anonymous Faculty Evaluation of the Program form in eValue in approximately January.
 - b. In February or March, a Mid-Year Program Review Meeting will be conducted, attended by the Program Directors, core faculty, and senior fellow. It will follow a comprehensive approach. Minutes will be recorded, and a written action plan will document plans for specific improvements, if needed.
 - c. This time frame will allow any suggested program changes to be planned and implemented before the start of the next academic year.
9. Six months after graduation, evaluation forms will be sent electronically to the supervisors of the recently graduated fellows, using the Six Month Post-Graduation Evaluation.

ACGME CORE COMPETENCIES EVALUATED

I. PATIENT CARE

1. Patient Evaluation
 - a) History and Physical
 - b) Appropriate utilization of diagnostic studies
 - c) Interviewing skills
2. Integration of initial and follow-up assessments
 - a) Demonstration of effective and appropriate clinical problem solving skills
 - b) Inclusion of allied health assessments
 - c) Generation of differential diagnosis
 - d) Appropriate interpretation of diagnostic studies
 - e) Use of consultants and referral sources
3. Formulation of a patient management/treatment plan
 - a) Effective communication with interdisciplinary team
 - b) Inclusion of patient/family in treatment plan
 - c) Cost effective approach to management
4. Prescription, performance or interpretation of appropriate procedures and Modalities
 - a) Specific therapy and modality prescription
 - b) Electrocardiographic studies
 - c) Therapeutic/diagnostic injections and aspirations
5. Assessment and provision of continuum of care needs
 - a) Effective communication with interdisciplinary team
 - b) Inclusion of patient/family in long term plan
 - c) Appropriate utilization of resources available
 - d) Provision of, or referral for primary medical care
6. Patient and family counseling/education
 - a) Assisting patient development of self-advocacy skills
 - b) Provision of education in injury/disease primary prevention
 - c) Provision of education in prevention of secondary complications
7. Knowledge and use of information technology-internet and computer application
8. Provision of care that is sensitive to the needs of those with cultural, ethnic, social, or economic diversity.

II. MEDICAL KNOWLEDGE

1. Basic Knowledge
 - a) Gross musculoskeletal anatomy and neuroanatomy
 - b) Body mechanics and gait analysis
 - c) Muscle and cardiovascular physiology
 - d) Prescription writing
 - e) Common physical therapy modalities
 - f) Sports medicine interventional techniques including joint aspiration, joint injections, and peripheral injections
 - g) Roles of allied health professionals

2. More specific knowledge of exercise prescription, preparticipation assessment, and musculoskeletal medicine, is addressed in the Specific Goals and Objectives.

III. INTERPERSONAL AND COMMUNICATION SKILLS

1. Communicate effectively with patients and families to create and sustain a professional and therapeutic relationship
2. Communicate effectively with physicians, other health professionals, and health related agencies
3. Work effectively with others as a member or leader of a health care team or other professional group
4. Be able to act in a consultative role to other physicians and health professionals
5. Maintain comprehensive, timely, and legible medical records

IV. PRACTICE-BASED LEARNING AND IMPROVEMENT

1. Analyze practice experience in a systematic manner
 - a) Progress towards goals by completion of year of training
 - b) Progress towards goals by specific activity
 - c) Extent of visits to therapies and participation in the application of therapy modalities
 - d) Number of injections, aspirations.
 - e) Review of critical incidents
2. Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
 - a) Use of medical libraries for text based information
 - b) Use of information technology such as drug databases or literature searches
 - c) Establishing goals for and monitoring progress toward independent reading
 - d) Establish goals for independent learning
3. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
 - a) Critical appraisal of current literature in journal clubs, didactic sessions, or patient care conference
 - b) Review of literature for research projects
4. Use of information technology to manage information, access on-line medical information: and support their own education
 - a) Use of hospital/clinic computer based information systems for daily patient care, including charting, review of laboratory data, review of prior health care
 - b) Use of e-mail or web based discussion groups for didactic or clinical work
5. Facilitate the learning of students and other health care professionals.
 - a) Presentations/participation in team conferences
 - b) Participation in "in-service" teaching for allied health personnel
 - c) Teaching medical students in basic science courses or on clinical rotations

V. PROFESSIONALISM

1. Demonstrate respect for and a responsiveness to the needs of patients and society
 - a) Accept responsibility for patient care including continuity of care
 - b) Demonstrate integrity, honesty, compassion, and empathy in the role of physician
 - c) Demonstrate dependability and commitment
2. Consistently demonstrate high standards of ethical behavior in clinical practice
3. Demonstrate sensitivity to and respect for the dignity of patient and colleagues as persons including their age, culture, disabilities, ethnicity, gender, and sexual orientation

VI. SYSTEM-BASED PRACTICE

1. Demonstrate knowledge of community systems of care and assist patients to access appropriate levels of care
 - a) Demonstrate a knowledge of treatment settings including inpatient, outpatient, skilled units, independent living, and others
 - b) Demonstrates knowledge of the organization of care in each relevant delivery setting
 - c) Demonstrate the ability to integrate care of patients across settings
2. Demonstrate the ability to work in various health care settings
 - a) Demonstrate the ability to partner with health care managers and providers to assess, coordinate, and improve health care
 - b) Assess how activity in health care settings can affect system performance
3. Understand how patient care and professional practices affect other health care professionals, health care organizations, and society as a whole
4. Practice cost effective health care and resource allocation that maximizes quality of care
5. Advocate for patients
 - a) Advocate for quality patient care
 - b) Assist patients and their families in dealing with system complexities
6. Promote health and function and the prevention of disease and injury

Attending Physician Evaluation of Fellow Form

Demonstrates effective interpersonal and communication skills with patients. (Question 1 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Works effectively with others as a member or leader of a health care team or other professional staffs. (Question 2 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Makes himself/herself approachable and teachable. (Question 3 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Demonstrates an investigative and analytical approach to clinical situations (Question 4 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Demonstrates knowledge of biomedical, clinical, epidemiological and social-behavioral sciences and their application to patient care. (Question 5 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Gathers essential and accurate information about patients (Question 6 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Performs thorough and appropriate physical examinations. (Question 7 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Develops and implement thoughtful patient management plans (Question 8 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Counsels and educates patients and families appropriately (Question 9 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Orders and interprets radiologic images appropriately. (Question 10 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Competently performs essential medical procedures (Question 11 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Overall Clinical Competence considering level of training (judgment, synthesis, caring, analysis, effectiveness, efficiency).
(Question 12 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Locates, appraises, and assimilates evidence from scientific studies related to patients' health problems (Question 13 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Integrates learning from formative evaluation feedback and previous experiences into daily practice. (Question 14 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Self monitors and improves his/her effectiveness of patient care skills throughout the training program. (Question 15 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Quality of the fellow's teaching abilities. (Question 16 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Demonstrate respect, compassion, and integrity to those around. (Question 17 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Committed to sound ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices (Question 18 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Demonstrates active attendance and availability (Question 19 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Demonstrates sensitivity and responsiveness to patients' culture, age, gender, and disabilities (Question 20 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Demonstrates awareness of and responsiveness to the system of health care (Question 21 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Able to partner with health care managers and providers to assess, coordinate, and improve health care and understand how these activities can effect outcomes (Question 22 of 25 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Comments (Please discuss Strengths, Weaknesses and Areas for Improvement) (Question 23 of 25)

Confidential Comments (The following comments will only be seen by the Program Director) (Question 24 of 25, Confidential)

Did you provide direct feedback on this evaluation? (Question 25 of 25 - Mandatory)

Yes No

Evaluation of Fellow by Athletic Trainer

Demonstrates effective interpersonal and communication skills with patients. (Question 1 of 13 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Works well within the team of professionals who train, support, and care for athletes. (Question 2 of 13 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Demonstrates knowledge of biomedical, clinical, epidemiological and social-behavioral sciences and their application to athlete medical care. (Question 3 of 13 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Develops and implements thoughtful patient management plans. (Question 4 of 13 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Participates in the education of athletes, families and other professionals. (Question 5 of 13 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Committed to sound ethical principles regarding provision or withholding of medical care, patient confidentiality, and informed consent. (Question 6 of 13 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Understands interactions of clinical practice with the larger system of sports medical care. (Question 7 of 13 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Advocates for his/her patients within the health care system (Question 8 of 13 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Overall Evaluation (Question 9 of 13 - Mandatory)

N/A	Unsatisfactory	Below Average	Average	Above Average	Excellent
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Summary Comments (Question 10 of 13)

Confidential comments (fellow will not see these; only use as needed): (Question 11 of 13, Confidential)

The following feedback was shared with your fellow (Question 12 of 13 - Mandatory)

Yes No

If the following feedback was shared with your fellow on (date): (Question 13 of 13)

Scholarly Activities Evaluation Form

Regularly is prepared for and participates in discussions and didactic activities. (Question 1 of 9 - Mandatory)

N/A	Below expectation; competency not met	Below average, but competency met	Average, meets expectation	Above expectation	Exceptional
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Shows evidence of an analytical approach to solving clinical problems. (Question 2 of 9 - Mandatory)

N/A	Below expectation; competency not met	Below average, but competency met	Average, meets expectation	Above expectation	Exceptional
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Demonstrates ability to apply scientific approach to clinical problems. (Question 3 of 9 - Mandatory)

N/A	Below expectation; competency not met	Below average, but competency met	Average, meets expectation	Above expectation	Exceptional
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Demonstrates knowledge of and proficient use of electronic resources in obtaining scientific information. (Question 4 of 9 - Mandatory)

N/A	Below expectation; competency not met	Below average, but competency met	Average, meets expectation	Above expectation	Exceptional
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Able to critically evaluate strengths and weaknesses of published research. (Question 5 of 9 - Mandatory)

N/A	Below expectation; competency not met	Below average, but competency met	Average, meets expectation	Above expectation	Exceptional
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Models and encourages behaviors in accordance with sound ethical principles. (Question 6 of 9 - Mandatory)







N/A	Below expectation; competency not met	Below average, but competency met	Average, meets expectation	Above expectation	Exceptional
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Demonstrates appropriate progress on research requirements. (Question 7 of 9 - Mandatory)

N/A	Below expectation; competency not met	Below average, but competency met	Average, meets expectation	Above expectation	Exceptional
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Interacts appropriately with all members of the research curriculum team. (Question 8 of 9 - Mandatory)

N/A	Below expectation; competency not met	Below average, but competency met	Average, meets expectation	Above expectation	Exceptional
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

 0	 1	 2	 3	 4	 5
Summary Comments (Question 9 of 9)					
<div style="border: 1px solid gray; height: 150px; width: 100%;"></div>					

Fellow Self Evaluation

Patient Care

(Question 1 of 10 - Mandatory, Confidential)

I involve the patient in treatment decisions.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

(Question 2 of 10 - Mandatory, Confidential)

My medical records are thorough, readable and timely.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Medical Knowledge

(Question 3 of 10 - Mandatory, Confidential)

I use current IT, literature, and/or evidence-based medicine to diagnose and treat patients' problems.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Practice-Based Learning and Improvement

(Question 4 of 10 - Mandatory, Confidential)

I look up and read about current patient diagnoses and problems.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Interpersonal and Communication Skills

(Question 5 of 10 - Mandatory, Confidential)

I greet patients appropriately and establish rapport.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

(Question 6 of 10 - Mandatory, Confidential)

I have respect, empathy and compassion when dealing with patients.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Professionalism

(Question 7 of 10 - Mandatory, Confidential)

I am punctual and reliable for clinics and events.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

(Question 8 of 10 - Mandatory, Confidential)

I am aware and sensitive to patients' culture, gender, religion, age and disability.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

(Question 9 of 10 - Mandatory, Confidential)

I show respect for other medical professionals, co-workers, medical students and staff.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

System-Based Practices

(Question 10 of 10 - Mandatory, Confidential)

I ask for supervision, advice and/or help when I need it.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Sports Medicine Fellow Triennial Evaluation

RATING SCALE

0 = no interaction
1 = unsatisfactory
2 = below average
3 = average
4 = above average
5 = excellent

Fellow:

Evaluation Period:

Today's date:

Summary of faculty evaluations:

I received evaluation from Drs. . Performance in the 6 ACGME Core Competencies is summarized as follows:

Interpersonal/Communication Skills:

Patient Care:

Medical Knowledge:

Professionalism:

Practice-based Learning and Improvement:

System Based Practice:

Summary of patient evaluations from APLSS:

Overall satisfaction with provider over past 12 weeks:

Chart reviews:

Lectures and student teaching performance:

Research and scholarly activity accomplishments:

Miscellaneous:

Strengths:

Self-Evaluation/Areas to improve:

Overall evaluation:

This evaluation was discussed and all questions and/or concerns addressed to my satisfaction.

Fellow signature: _____ Date: _____

Program Director signature: _____ Kevin deWeber, MD

Graduate's Program Evaluation

The written curriculum and learning objectives in the fellowship handbook were very clear and readily available to me. (Question 1 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

My fellowship provided an adequate QUANTITY of educational conferences and experiences. (Question 2 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

My fellowship provided and adequate QUALITY of educational conferences and experiences. (Question 3 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

The curriculum met realistic goals for my future. (Question 4 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

I have had the opportunity to care for a wide variety of patients with a variety of disease states (Question 5 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

I received appropriate supervision for my patient care activities. (Question 6 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

The clinics I worked in provided adequate nursing services for my patients. (Question 7 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

The clinics I worked in provided adequate laboratory and radiologic services for my patients. (Question 8 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

The fellowship provided adequate electronic library services for my colleagues and myself. (Question 9 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

I had the opportunity to participate in research. (Question 10 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

My fellowship provided a fair balance between education and service (Question 11 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

My performance was discussed with me on a regular basis. (Question 12 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

My program treated me professionally. (Question 13 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

My fellowship deals effectively with my colleagues who may not be performing effectively. (Question 14 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

The Program Director was always available to me by phone or in person. (Question 15 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Ft. Belvoir Community Hospital and USU provide adequate conference rooms (Question 16 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

I had the opportunity to engage in teaching medical students, residents, or other fellows, with feedback on my performance. (Question 17 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

The fellowship adhered to the ACGME requirements regarding on-call duties and work hours. (Question 18 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

My fellowship had enough faculty to support my education. (Question 19 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

My fellowship prepared me adequately for board certification (Question 20 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Overall, I am very satisfied with my fellowship program (Question 21 of 21 - Mandatory)

N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Review your answers in this evaluation. If you are satisfied with the evaluation, click the SUBMIT button below. Once submitted, evaluations are no longer available for you to make further changes.

FELLOW SUPERVISION POLICY

Definitions of Levels of Supervision are as follows, per ACGME:

Direct Supervision: the supervising physician is physically present with the fellow and patient.

Indirect Supervision:

- a. With direct supervision *immediately* available: the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.
- b. With direct supervision available: the supervising physician is NOT physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.

During all Sports Medicine and Orthopedic clinics Fellows are provided Direct Supervision by program faculty during the entirety of the fellowship. Initially all patient encounters are discussed in person with the on-site faculty, and the patients seen by the faculty as well if deemed prudent. Faculty should use their judgment about the residents' skill levels in determining the level of supervision required. As the fellows gain medical knowledge and clinical experience in the various cases they encounter, faculty are encouraged to gradually increase the level of evaluation and decision-making responsibilities. Only on rare occasion of faculty shortage or other extenuating circumstances will faculty be available for Indirect Supervision with direct supervision immediately available.

During Training Room clinics at NCAA sites, Direct Supervision is provided by program physicians at least once a week, and Indirect Supervision is provided on occasion as deemed appropriate by the Team Physician.

During Training Room clinics at high school sites, Indirect Supervision is provided "with direct supervision available".

During Family Medicine (or respective specialty) continuity clinics, no supervision is required or provided, though peers are immediately available for consultation if needed.

The lines of resident supervision are as follows:

1. First line: faculty from the site at which residents are currently rotating (see Section I for assigned faculty).
2. Second line: Program Director.
3. Third line: Associate Program Director.

Phone numbers and email addresses of these individuals will be published annually.

Supervision should be documented, which can be accomplished in several ways, depending on the administrative systems in place at each training site. These can include:

1. Notation by the fellow in the Progress Notes of which faculty the case was discussed with.
2. Patients can be booked under the name of the supervising faculty; this will be apparent in the electronic databases.
3. Case logs. Training sites where the same faculty member is always available implies that he/she was the supervisor for those cases.
4. Didactic and Event Schedule—on Tuesdays and Thursdays, the assumed supervisor for PCSM clinics is the Program Director, unless otherwise specified

MOONLIGHTING POLICY

1. REFERENCES:
 - a. ACGME Fellow Moonlighting Policy Statement
 - b. NCC Training Agreement
 - c. NCC Administrative Handbook

2. SCOPE: This policy applies to all Sports Medicine fellows and all trainees in programs overseen by the National Capital Consortium.

3. RULES:
 - a. Fellows are not allowed to engage in activities that interfere with education, performance, or clinical responsibility.
 - b. Fellows are not allowed to moonlight.
 - c. Attendance at outside activities not required by the Fellowship must be approved by the Ft. Belvoir Community Hospital Deputy Commander for Clinical Services and by the Program Director.
 - d. Written records of approval for attendance at outside activities must be maintained by the Program Director.

LEAVE AND ABSENCE POLICY

1. Fellows are allowed up to 15 days absence from the program.
 - a. Leave must be approved by the Program Director first, then by the fellow's respective military chain of command.
 - b. Fellows are required to submit leave requests no later than 6 weeks in advance.
 - c. Fellows are responsible for assuring that any scheduled patients affected by leave requests are taken care of either by transferring care to another provider on the same day, or rescheduling them to the patients' satisfaction.
2. **MEDICAL AND EMERGENCY ABSENCES:** Fellows must follow certain procedures when too ill to work, or when emergency leave is taken, in order to facilitate cancellation and rebooking of patients who are scheduled to see them during their absence, and to maintain proper accountability.
3. When you determine that you are too ill to work or need emergency leave during a period of scheduled patient care or training activity, please do all of the following:
 - a. Call the clinic(s) or training site(s) where you are scheduled to be as soon as possible to inform them of your absence.
 - b. Call COL deWeber and inform him:
 - i. Home (240) 342-2563, Cell (719) 648-2564, Work (301) 295-9466.
 - ii. If he is unavailable, call the Associate Program Director, Maj Marc Childress, 443-848-8307.
 - iii. If he is unavailable, call the Associate Program Director, COL Fran O'Connor (301) 295-2270 work, (703) 503-3097 home, (703) 932-7863 cell.
 - c. See Military Personnel at your sponsoring institution to initiate Emergency Leave paperwork, if needed.
 - d. Arrange for cross-coverage of any events in which your absence will create a need for another provider to fill in.
4. If you expect to be unable to work more than one day due to illness, you must present for acute care at your sponsoring medical facility on the *second* morning of absence in order to be evaluated, treated, and given clearance for further time off or sent back to duty, as deemed appropriate.

DUTY HOURS POLICY

1. REFERENCES:
 - a. ACGME Common Program Requirements, 1 July 2011
 - b. NCC Administrative Handbook
2. SCOPE: This policy applies to all Sports Medicine fellows.
3. GUIDELINES:
 - a. Fellows must be provided with a sound academic and clinical education that is carefully planned and balanced with concerns for patient safety and fellow well-being. Didactic and clinical education must have priority in the allotment of fellow time and energy. Duty hour assignments must recognize that faculty and fellows collectively have responsibility for the safety and welfare of patients.
 - b. Adequate fellow supervision must be provided at all times as per Fellow Supervision Policy. Faculty and fellows will be educated on an ongoing basis to recognize the signs of fatigue and to follow policies that counteract the potential negative effects.
 - c. This policy is designed to reduce fellow fatigue following extended duty. Fellows who are sleep-deprived are more likely to make patient-care and safety mistakes.
 - d. Duty hours are defined as all clinical and academic activities related to the training program to include patient care, patient care-related administrative duties, and scheduled academic activities such as lectures. Duty hours do not include physical training, reading, transportation time, and preparation time spent away from duty site.
 - e. Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities.
 - f. Fellows must be provided with one day in seven free from all educational and clinical responsibilities, averaged over a four-week period. One day is defined as one continuous 24-hour period free from all clinical, educational, and administrative activities.
 - g. A 10-hour time period for rest and personal activities must be provided between all daily duty periods.
 - h. In-house call is not required during this Program.
 - i. If fellows care for their own inpatients in addition to usual training requirements, continuous on-site duty must not exceed 24 consecutive hours. Fellows may remain on duty for up six additional hours to participate in didactic activities,

maintain continuity of medical and surgical care, transfer care of patients, or conduct outpatient Family Medicine continuity clinics.

j . No new patients may be accepted after 24 hours of continuous duty.

4. REPORTING

- a. Work hours and will be reported weekly by fellows on the eValue on-line reporting software.
- b. All days will be logged into eValue, even days off, in order to maintain full accounting of fellows' time.
- c. Complete duty hours logs in eValue is mandatory for fellowship graduation.
- d. Fellows must, by the day following the incident, self-report any work-hours violations—regardless of the cause--to the Program Director. Failure to do so could result in adverse actions against the fellow, Program Director, and/or the Program.

5. MONITORING

- a. The Program Director will review eValue work hour data monthly. If a fellow is found to have the guidelines as described above, the Program Director will immediately determine, through consultation with the appropriate fellows and faculty, whether this is due to a clerical error in reporting, inappropriate staff supervision, a scheduling problem, or a time management problem.
- b. The Program Director will then make a determination of any corrective action needed to prevent future violations of the guidelines, put those actions into place, and closely monitor for future compliance.
- c. The Program Director is the only person with authority to override work hour limitations.

FELLOWSHIP HISTORY AND GRADUATES

Fellowship History:

The NCC Primary Care Sports Medicine Fellowship was founded in 1994. COL Jay Fogarty, then Chair of the USU Department Family Medicine, recruited MAJ Wade Lillegard to come to the University to develop a Primary Care Sports Medicine Fellowship. Dr. Lillegard integrated the University with the Primary Care Sports Medicine Fellowship Program at Arlington Hospital, VA, under the direction of Dr. Robert Nirschl. This program represented the first military Primary Care Sports Medicine Fellowship.

Dr. Eron Manusov was Program Director of the fellowship from 1995 to 1997, after the departure of Dr. Lillegard to the Duluth Clinic. Dr. Francis O'Connor was subsequently selected as the fellowship director, and saw the fellowship through its initial accreditation in 1997, and reaccreditation in May 2002. Dr. Fred H. Brennan, Jr. directed the Program from 2004 to 2007, and Dr. Kevin deWeber became the fellowship's fifth Program Director in 2007. Under his leadership the Program received a 5-year accreditation cycle from the ACGME in June 2010.

The fellowship has seen considerable growth over the last several years, incorporating an increasing number of sites and tracts, as well an aggressive research/faculty development program. The NCC Primary Care Sports Medicine Fellowship aspires to be one of the premiere sports medicine fellowships in the United States.

Fellowship Directors:

1993-1995	LTC Wade Lillegard, MD, USA
1995-1997	LtCol Eron Manusov, MD, USAF
1997-2004	LTC Francis O'Connor, MD, USA
2004-2007	LTC Fred H. Brennan, Jr., DO, USA
2007-present	COL Kevin deWeber, MD, USA

Fellowship Graduates

1994 - 1995	1998 – 1999
Janus D. Butcher, MAJ, USA	Bruce Adams, CDR, USN
Christopher W. Zukowski, CDR, USN	Andrew Torrance, LTC, USA
	John E. Glorioso, MAJ, USA
1995 - 1996	
Thomas M. Howard, LTC, USA	1999 – 2000
	Beverly Land, MAJ, USA
1996 - 1997	Mark Williams, MAJ, USA
Ralph Hinton, LTC, USA	Daniel Henley, LtCol, USAF
Koji Nishimura, LTC, USA	John Metz, Maj, USAF
1997 - 1998	2000 – 2001
Eric Chumbley, Cpt, USAF	Scott Riise, Maj, USAF
Michael Johnson, MAJ, USA	Kevin DeWeber, MAJ, USA
	Jeff Leggit, MAJ, USA

2001 – 2002

Anthony Beutler, Capt, USAF
Dave Brown, MAJ, USA
Charles Webb, MAJ, USA
Karlwin Matthews, LCDR, USN

2002 – 2003

Pete Seidenberg, Maj, USAF
Nick Piantinada, MAJ, USA
Rochelle Nolte, LCDR, USPHS
Greg Dahmann, CPT, USA

2003 - 2004

Shawn Kane, MAJ, USA
Chris Prior, MAJ, USA

2004 - 2005

Jeff Levy, MAJ, USA
Joel Shaw, MAJ, USA
Sean Mullendore, Maj, USAF
Leslie Rassner, LCDR, USN

2005 - 2006

Rodney Gonzalez, MAJ, USA
William Scott Deitche, MAJ, USA
Allyson Howe, Maj, USAF
Scott Playford, LCDR, USN

2006 - 2007

Thad Barkdull, MAJ, USA
Christopher Jarvis, MAJ, USA
Christopher Meyering, MAJ, USA
Christopher Nasin, LCDR, USN

2007 - 2008

Duane Hennion, MAJ, MC, USA
Howie McGowan, Maj, MC, USAF
Sean Mulvaney, MAJ(P), MC, USA
Chris Pappas, LTC, MC, USA

2008 - 2009

Marc Childress, Maj, USAF
David Haight, MAJ, USA
Peter Muench, MAJ, USA
Keith Scorza, MAJ, USA

2009 - 2010

Richard Derby, LtCol, USAF
Patrick Depenbrock, MAJ, USA
Mark Harris, COL, USA
James Lynch, MAJ(P), USA

2010 - 2011

Eugene “Trey“ Wilson, LCDR, USN
Benjamin Ingram, CPT, USA
Nathan Falk, Capt, USAF
Sean Martin, Capt, USAF

CURRENT FELLOWS:

Antoin Marcus Alexander, Maj, USAF
Christopher Jonas, Maj, USAF
Aaron Williams, CPT, USA
Jesse DeLuca, CPT, USA

Affiliated Program Attendees:

Beth Ann Lloyd, MD
Family Medicine (Howard) 1995-1996

MAJ Paul Pasquina, MD, USA
Physical Medicine (WRAMC) 1998-1999

Terry Adirim, MD
Pediatrics (Wash Children’s) 2000-01

