

The American Orthopaedic Society for Sports Medicine's

**Orthopaedic Sports Medicine
Fellowship Curriculum and Structure**

*Developed by the Fellowship Committee and Approved by the Collective Leadership
Of the American Orthopaedic Society for Sports Medicine*

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**Committee appointed by the Committee on Sports Medicine Fellowships, American
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I. Orthopaedic Sports Medicine Fellowship Curriculum and Structure Overview

The purpose of this report is to present the *what, how, when* and *why* of a sports medicine fellowship. The *what* relates to the curriculum and depth of knowledge required of the sports medicine fellow at the completion of one year of specialty training. The *how* relates to the structure of the fellowship program. This report includes recommendations on hours of didactic instruction per week, on-field sports medicine, and faculty in medical and basic science areas to broaden the educational experience. The *when* applies to the varied education experiences, which are available in a fellowship program. The *why* applied to the relevance of the curriculum content to sports medicine. The committee members realized that a period of one year is quite short in terms of the present knowledge base in sports medicine and that many subject areas could not be learned in depth. The committee believes it is important for each fellowship director to review the curriculum recommendations very seriously in structuring a fellowship program. It was not the committee's task to provide absolute curriculum requirements, but rather to provide a general framework. However, it would be inconsistent with the recommendations in this report if major curriculum areas are left out of a fellowship program.

In 1989, the AOSSM Board of Directors and Sports Medicine Fellowship Committee established a process to define the core curriculum and structure of a sports medicine fellowship. The Committee charged with the responsibility, brought out in 1991 a document in which numerous recommendations were made as to the structure of a sports medicine fellowship. AOSSM members may take pride in the fact that this process results in the first defined curriculum of a fellowship in orthopaedics. Among the important recommendations by AOSSM was to have the RRC accredit sports medicine fellowships and not establish a second accrediting system within AOSSM. Other recommendations include the one-year period of fellowship and importantly to establish the basic science, epidemiology, and medical aspects of sports requirements in addition to clinical and surgical requirements.

In this report, appropriately published in the 2000, a majority of the previous recommendations remain intact and have stood the test of time. Currently, there are 39 AOSSM sports medicine fellowship approved programs, all accredited by the RRC. Approximately 62% are directly affiliated or a part of a RRC accredited orthopaedic residency program. There are a total of 54 sports medicine fellowships accredited by the RRC.

The process followed in updating this report was as follows: 1) A review of 1991 recommendations and changes warranted given the current state of knowledge and advances in sports medicine basic science, clinical management and surgical techniques. 2) Peer review of the initial working document by selected AOSSM educational leaders. 3) Peer review by all current sports medicine fellowship directors representing educational programs. 4) AOSSM Board of Directors approval of the Fellowship Committee document.

In 1991, the Education Committee of AOSSM developed an orthopaedic sports medicine curriculum for AOSSM members. This important effort provides recommendations on the depth of knowledge for AOSSM members in similar fields of inquiry as contained in this curriculum. Further, the Education Committee made recommendations as to the educational formats or offerings of AOSSM to be utilized in addressing the needs of its members. The 1999 Educational Committee report follows the general structure of the original 1989 sports medicine curriculum report. As well, the 2000-year update follows a similar outline. This allows comparisons to be made as to curriculum and depth of the knowledge recommendations for sports medicine fellows and AOSSM fellows.

OBJECTIVES

The first objective is to provide a core curriculum for a one-year sports medicine fellowship. To accomplish this task, it is necessary to define the knowledge and skills a sports medicine fellow should possess after completion of a one-year program. It is unrealistic to expect that at the end of one year, a fellow will possess expert knowledge and advanced surgical skills. In truth, gaining such expertise is an ongoing process. However, the fellowship training should initiate the learning process by providing the basic knowledge and initial special operative skills. By necessity, the curriculum content required that priorities be set as to what represent “need to know” knowledge, realizing that only a small portion of what constitutes current sports medicine knowledge and advanced surgical skills may be taught.

The second objective is to recommend that structure of a sports medicine fellowship, which requires addressing issues such as conference schedules, research experience, on-field experience, and amount of time allocated to the different components of a fellowship. The purpose is to provide the fellowship director with specific recommendations and a template to follow in structuring the fellowship educational experience.

ACCREDITATION

The Accreditation of Orthopaedic Fellowships

In November of 1982 the Advisory Council for Orthopaedic Resident Education (ACORE) sponsored a workshop to promote discussion of a number of questions raised by the rapid growth of orthopaedic fellowships. How should these fellowships relate to residency education? Should fellowships be subject to some type of quality assurance? How could the educational value of a fellowship be determined? Among the outcomes of that session was a decision that the Accreditation Council for Graduate Medical Education (ACGME) and Residency Review Committee for Orthopaedic Surgery (RRC), groups responsible for the accreditation of orthopaedic residencies, should develop a mechanism to accredit orthopaedic fellowships. Since that time, the RRC has published fellowship requirements in seven subspecialty areas (these can be found on their website at www.acgme.org).

The ACGME and RRC

The ACGME is the private national body that accredits programs of postgraduate medical education in the US. Sponsored by five national organizations (American Board of Medical Specialties, American Hospital Association, American Medical Association, Association of American Medical Colleges, and Council for Medical Specialty Societies), the ACGME accomplishes its accreditation activity through Residency Review Committees in 24 specialty areas. The RRC for Orthopaedic Surgery, which has been reviewing orthopaedic residencies since 1953, has nine members, orthopaedists appointed by the American Academy of Orthopaedic Surgeons, the American Board of Orthopaedic Surgery, and the American Medical Association. They are responsible for the preparation and publication of the special requirements for graduate education in orthopaedic Surgery and the accreditation of orthopaedic residencies and fellowships.

Accreditation versus Certification

Although frequently confused, accreditation and certification are entirely separate processes. Certification, the process of credentialing individual physicians as specialists, is the responsibility of a specialty board. In contrast, accreditation is the process that identifies residency and fellowship programs which meet published standards and is the responsibility of the ACGME and its Residency Review Committees. Thus, educational programs are accredited, and individual physicians are certified. Usually, a Board offers certification in the areas that are accredited by an RRC. However, in light of the growing interest in subspecialty/fellowship education in many specialties, accreditation is granted in some areas where certification is not offered. Currently, the American Board of Orthopaedic Surgery administers a certification examine in only one area (Hand Surgery) while the RRC accredits fellowships in seven

areas: Sports Medicine, Musculoskeletal Oncology, Pediatric Orthopaedics, Hand Surgery, Adult Reconstructive Orthopaedics, Orthopaedic Trauma, and Spine Surgery.

The RRC Accreditation Process

Fellowship accreditation is a voluntary process that is initiated upon a submission of an application for RRC review. The RRC evaluates applications in light of published requirements and, typically, grants a program “Provisional Accreditation” or requests additional information from the fellowship director. When Provisional Accreditation is granted, the RRC schedules a site visit to precede its next review of the program 1 to 2 years later. Programs accredited by the RRC are then listed in the Directory of Graduate Medical Education Programs that is published annually. Participation in the accreditation process is not mandatory, but only applicant programs, which meet the RRC’s requirements, will be accredited and listed in the Directory. Information for accreditation may be obtained from:

RRC for Orthopaedic Surgery

515 North State Street, Suite 2000, Chicago, IL 60610
(312) 464-4692

Fellowships and Residencies

When an accredited sports medicine fellowship is affiliated with an orthopaedic residency, the RRC carefully addresses the relationship between the two to ensure that the fellowship will not adversely affect the education of residents. Therefore, when residents and fellows are being educated in the same institution, the RRC will require the residency and fellowship directors to submit a written agreement specifying the relationship between the two programs. When properly planned, a fellowship program can enhance a resident education.

AOSSM FELLOWSHIP COMMITTEE

The AOSSM established in 1990 a fellowship committee to work in concert with fellowship directors, allowing for a close link of ideas and formulation of mutual education goals. This close relationship provides an avenue by which AOSSM can interact with professional societies, including the Residency Review Committee, to continue discussions on policies to the betterment of both organizations. The AOSSM adopted the recommendation of the Sports Medicine Fellowship Committee that the fellowship programs that are acknowledged by the AOSSM must be: 1) RRC accredited, 2) participate in the match, and 3) follow the guidelines of the Sports Medicine Fellowship Committee. The list of fellowships acknowledged by AOSSM is published by AOSSM and distributed through a number of communication channels. Although debated in detail, there is currently no AOSSM assessment of a sports medicine fellowship, separate from the RRC. Rather the AOSSM is asked to provide guidelines to the RRC for their consideration in their accreditation process.

RELATIONSHIP OF COMMITTEE TO RRC ACCREDITATION OF SPORTS MEDICINE FELLOWSHIP PROGRAMS

Although this report has no direct relationship to the process of receiving accreditation of a fellowship program, which is the function of the RRC, the committee believes it is vitally important that the accreditation process involve input from fellowship directors through the AOSSM Fellowship Committee. The committee recommends at least one RRC member to be a recognized leader in sports medicine. There is, in fact, no philosophical disagreement between the report and RRC recommendations; rather, the committee recommendations provide more specific curriculum requirements believed important for sports medicine fellowship education.

II. Purposes of the Orthopaedic Sports Medicine Fellowship Curriculum and Structure

1. The recommendations on curriculum and structure provide sports medicine fellowship directors (SMFD) with a strategy and template to bring together many categories of clinical and basic science-related knowledge in order to design the best and most efficacious one-year educational experience. The curriculum and structure of fellowship programs are expected to have variations and difference based on the resources, faculty of each individual fellowship, and institution.
2. The curriculum identifies in a generic manner the depth of knowledge and proficiency of a sports medicine fellow in the problem solving, judgment, and overall management of clinical problems, knowledge of surgical techniques and applied knowledge of relevant basic science and epidemiology.
3. The proficiency expectations in this document define the ideal educational experience and **it is not expected that all aspects of the total curriculum are attainable in a one-year fellowship.** The goal is for each fellowship to incorporate approximately three-fourths of the curriculum with yearly updates of the education experience.
4. The recommendations on curriculum and structure provide a template and overview to other educational bodies (Residency Review Committee, etc.) as to the essential and important areas of knowledge and proficiency, which SMFD believe important in defining an orthopaedic sports medicine fellowship.
5. The recommendations on curriculum and structure and overall educational experience of a sports medicine fellowship provide a basis for comparison of differences in other educational experiences (i.e., preceptorships) important for individuals seeking graduate education.
6. The recommendations on curriculum and structure provides a document to be utilized by future fellowship committees to update and modify as education priorities change and new fields of knowledge develop in orthopaedic sports medicine.
7. The recommendations on curriculum and structure will be available to AOSSM membership, fellowship applicants and others as a reference providing important information on orthopaedic sports medicine fellowship education requirements.

IV. Prioritizing Levels of Knowledge For Curriculum

An essential aspect of this classification scheme is the description of the type of clinical problems related to sports medicine that the graduate of a fellowship program should be able to handle and at what level of expertise. The committee acknowledges that the fellow's previous experience during medical school, in orthopaedic residency, in practice, or elsewhere is a significant and variable factor, and that the sports medicine fellowship builds on what is already known, extending it in breadth and depth to result in the level of expertise described by the classification scheme.

Further, it was realized that the graduate of a fellowship program should handle certain difficult and sports medicine cases in a highly proficient manner; others routinely, and still others only well enough to make a responsible referral. Similarly, graduates should possess an in-depth understanding of certain types of knowledge from the basic sciences because of their importance to the practice of sports medicine, while other optionally relevant knowledge, which is not essential to this subspecialty, may be known at only a minimal level.

Table 2: Prioritizing Levels of Knowledge

I. Management of Orthopaedic Sports Medicine Clinical Problems

A = Fellow learns to be capable of managing routine orthopaedic sports medicine diagnostic and treatment problems. During the training period, the fellow shows increasing judgment and proficiency to manage increasingly complex problems.

B = Fellow has experience in assisting and participating with sports medicine experts in management of complex problems, however, the fellow does not directly manage or learn all aspects of the particular problem.

C = Fellow triages and leaves management to other experts, the fellow possesses only a general understanding and familiarity of the problem.

II. Basic Science: Knowledge of Anatomy, Biomechanics, Kinesiology, Muscle Physiology, Biology of Repair, etc. of Presenting Problem.

A = Comprehensive and excellent working knowledge as to the basic science field.

B = Overall understanding and general knowledge of the basic science field.

C = Minimal understanding of the basic science field.

III. Development of Surgical Skills and Surgical Techniques

A = Fellow develops all necessary surgical skills and techniques to manage a routine surgical problem or case. During the training period the fellow shows increasing proficiency and psychomotor skills.

B = Fellow has experience in assisting and participating with sports medicine experts in complex surgical cases in this area, however, the fellow does not develop all of the necessary surgical skills to perform the surgical procedure with proficiency or manage all of the potential intra-operative problems. The fellow may develop initial surgical skills in a particular sub-specialization, which are expanded and further developed after the fellowship.

C = Fellow triages and leaves management and surgical treatment to other experts, possesses only a general understanding and familiarity of the problem.

The rating used in this curriculum applies to functional rates to topic areas. The curriculum is designed to separate: 1) topics which should be mastered by all fellows (rating of "A") with increasing proficiency and with increasingly complex and challenging issues and problems during the fellowship. 2) topics (rating "B") in which fellows are not expected to become proficient during the fellowship (rather they may assist experts in managing such cases for which diagnosis and treatment procedures only have been partly developed by the field). 3) topics (rating "C") pertaining to aspects of orthopaedic sports medicine

for which fellows are to learn to triage, since the topics are in “unknown territory” from the perspective of orthopaedic sports medicine. Diagnosis and treatment of such cases is typically left to the other experts. See examples of levels of knowledge applied to the curriculum (Table 3).

An example of teaching at the “A” level would involved most likely more than two to three conferences on that subject, the ability to understand several published articles on recent advances, and the ability to knowledgeably discern the agreements and disagreements of experts working in the field.

Table 3: Examples of Levels of Knowledge Applied to Curriculum

Typing of Presenting Problem (PP)	Clinical Management			Knowledge of Basic Science Relative to PP	Knowledge of Anatomy Relative to PP	Skill in Open Surgical Technique	Skill in Arthroscopic Surgical Technique
	Evaluation	Non-op	Operative				
1. Cervical injury	B	B	C	C	B	C	NA
2. Knee ACL	A	A	A	A	A	A	A
3. Rotator cuff tendonopathy	A	A	A	A	A	A	A
4. Flexor tendon hand injury	A	A	C	B	B	C	NA

V. Curriculum Development*

Traditionally, curriculum has been defined as a program or sequent of course or other instructional activities covering one or more years (Good, 1959). The revision in 2000 of the orthopaedic sports medicine fellowship curriculum utilized concepts and formats from previously developed orthopaedic education curricula including: Gross and Farmer, 1990; Green, Herndon, Farmer, 1991; Noyes and Farmer, 1991; and those published by the Canadian Orthopaedic Association, 1989; the Arthroscopy Association of North America, 1991; and the American Orthopaedic Society for Sports Medicine, 1999. Also utilized were concepts recently developed by the faculty of the American Academy of Orthopaedic Surgeons 1999 Basic Educator's course.

In order for a sound curriculum to be developed and updated, it is necessary for the nature and extent of potential content and alternative ways of delivering such content to be made explicit along with a plan for prioritizing potential offerings and related strategic decisions. Deciding what educational content to offer and how without a sound curriculum is like doing research without making explicit the population from which the sample is selected.

Much of what is needed in general orthopaedics and orthopaedic sports medicine more specifically is "knowledge of action" and not merely knowledge or action (Ruesch, 1975; Baskett and Marsick, 1992; Eraut, 1994, 1985). Essential in developing, updating, and implementing sound curricula is determining whether knowing about something (i.e., sports and sports rules) is necessary and sufficient of knowing and being able to do something (i.e., perform an arthroscopic ACL reconstruction) proficiently and knowledgeably is necessary (Ruesch, 1975; Baskett and Marsick, 1992; Eraut, 1994, 1985) (See Types of Knowledge section).

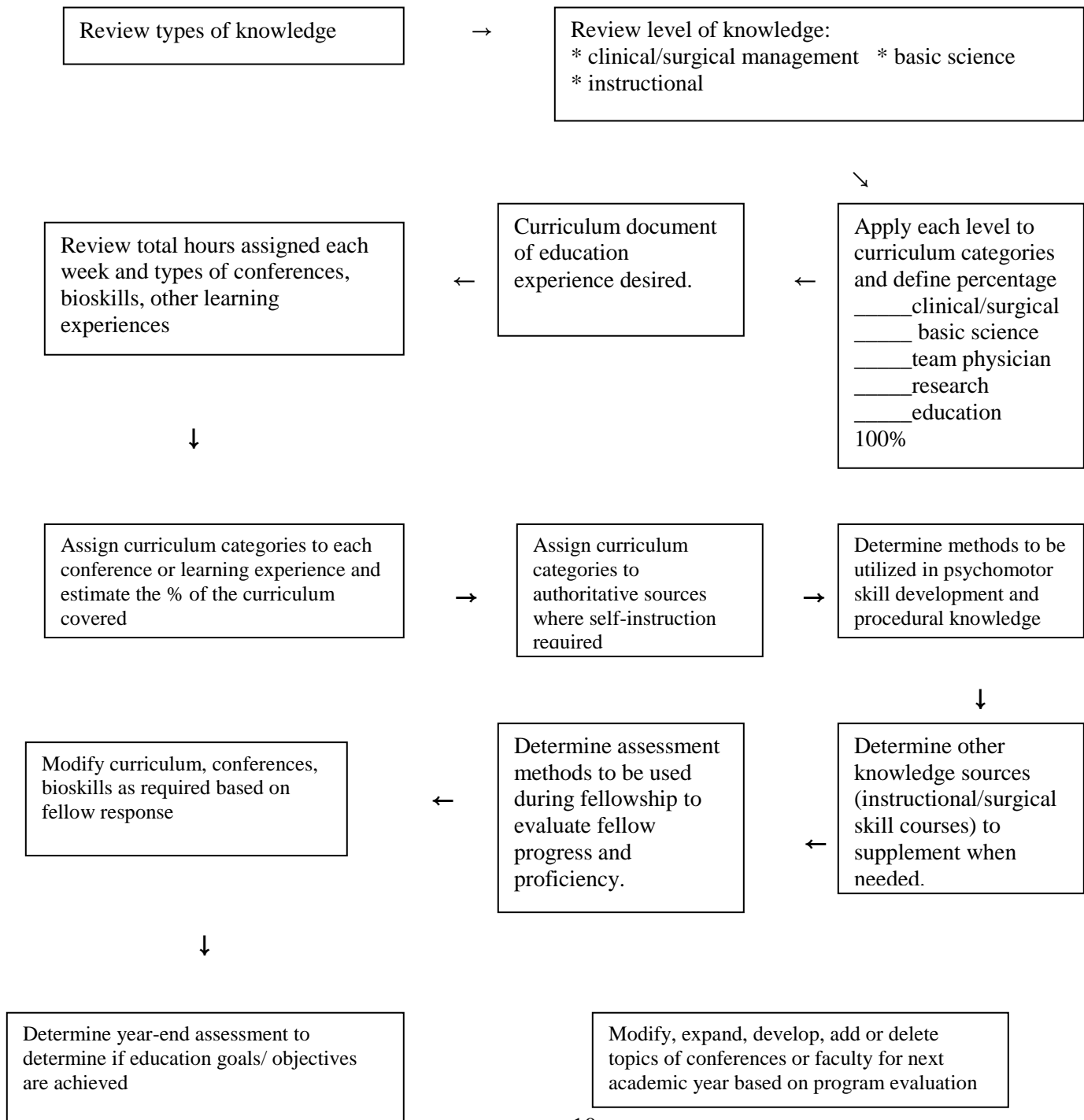
Being able to understand and deal with a particular type of injury or illness proficiently means using one or more acceptable procedures or processes (as defined by the profession) while avoiding unacceptable practices. Expertise may evolve from such proficiency as a result of extensive (at least several years) experience and, in some cases specialized training beyond the fellowship level. The basic goal of fellowship training is establishing a defined and predetermined level of proficiency. Developing expertise is a specialized goal. A secondary goal of orthopaedic sports medicine fellowships is to provide fellow opportunities to assist and participate with experts in managing cases in which diagnostic and treatment procedures are complex and successful management requires added sub-specialization. Such experiences may well contribute to fellows eventually becoming experts in handling such cases and further sub-specialization in orthopaedic sports medicine.

***Adapted from 1999 Education Curriculum Report**

VI. Fellowship Director Algorithm for Structuring Educational Program

Each step in the algorithm represents a decision important in structuring the educational experience and final curriculum document for each program. The fellowship director has the ability to structure the overall fellowship experience by determining the time spent in the major categories (Table 5), structuring the educational conferences and how the curriculum areas are to be taught. As such, each fellowship program will differ in important aspects from other programs, which is anticipated and provides fellows choices as to the educational experience desired.

Table 4: Algorithm for Structuring Education Program



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VII. Orthopaedic Sports Medicine Curriculum Categories

The following principles apply to the curriculum categories:

1. An anatomical approach is presented and summarized (Table 5: Curriculum Categories). Specific subject areas (such as braces, rehabilitation, medicine, etc.) represented discipline or subcategories that are addressed individually.
2. Each curriculum area is provided in general terms of the relevant subject, rather than in exhaustive detail. This allows each fellowship director the ability to mold and structure the fellowship experience. Undoubtedly, areas on the curriculum list will be added and deleted over ensuing years as curriculum content represents an evolving process. The fellowship director should attempt to ascertain what portions of the curriculum may have already been taught during residency.
3. The curriculum is prioritized to the knowledge or skill expected of the sports medicine fellow at the completion of the fellowship year. Unfortunately, specific means to objectively measure the knowledge levels and skills have not as yet been established nor their validity ascertained. The committee recommends the on-going development of testing procedures to allow assessment of knowledge at the conclusion of the fellowship experience.
4. It is recognized that there are gray areas between the assigned levels of knowledge in Table 2 and the curriculum. Even so, this prioritization provides information in structuring the hours of teaching and depth of material presented. Also, the curriculum list provides a fellow with a general idea as to knowledge and skill levels expected at the completion of the fellowship year.

Table 5: Curriculum Categories

Ligament

- Basic science
- Clinical
 - Classification of injury/disease (this varies for each joint and structure)
- Evaluation
- Management
 - Non-operative
 - Operative

Cartilage

- Basic Science
- Clinical
 - Classification of injury/disease (this varies for each joint and structure)
- Evaluation
- Management
 - Non-operative
 - Operative

Tendon

- Basic science
- Clinical
 - Classification of injury/disease (this varies for each joint and structure)
- Evaluation
- Management
 - Non-operative
 - Operative

Muscle

- Basic Science
- Clinical
 - Classification of injury/disease (this varies for each joint and structure)
- Evaluation
- Management
 - Non-operative
 - Operative

<u>Basic Science</u>
Anatomy
gross
functional
Biomechanics
mechanical properties
kinematics
in situ forces
Biology of Healing
injury
healing
repair

<u>Evaluation</u>
History
Physical Exam
Imaging
Additional Studies

<u>Management</u>	
Non-operative	Operative
medication/injection	indications
brace/splint/cast	rehabilitation
rehabilitation	return to play
return to play	complications
outcomes	special considerations
	outcomes
	techniques

An overview of the recommended curriculum underscores certain important principles that the committee emphasized. For example, the committee placed emphasis not only on clinical areas of sports medicine, but also on areas of basic science, rehabilitation, arthroscopic skills, ethics, and psychology as they apply to sports medicine. Additionally, some curriculum areas were purposely downgraded including complex problems of the hand, spine, metabolic, and rheumatoid disorders. In these and other areas the committee believed the sports medicine fellow functions more in a triage manner, leaving the diagnosis and treatment of these complex problems to other specialists. Finally, the curriculum list may provide the minimal requirements in certain fields, realizing that the fellow's knowledge and skill will increase with time and further experience.

SUMMARY OF RECOMMENDATIONS

1. The committee emphasizes the necessity for monitoring current and future sports medicine fellowship programs as to their curriculum and education structure.
2. It is recommended that all fellowship programs be of at least one-year duration.
3. It is recommended that an applied basic science curriculum be formally adopted and instituted by each fellowship director.
4. It is recommended that a defined research project and instruction in research methodology be a part of every fellowship program.
5. It is recommended that a fellow present a research paper to the staff and other fellows at the end of the fellowship year and a completed paper be submitted to a peer-reviewed journal within one year of fellowship completion.
6. The fellowship should have a significant on-field experience with different sports, however, the number of sports and specific experience may vary from one program to another.
7. It is recommended there be a minimum of three hours per week of scheduled conferences. The number and type of conferences is at the fellowship director's discretion with the exception that a journal club and indications/complications conference be held monthly.
8. It is recommended that each fellowship utilize the exam developed by the Fellowship Examination Committee and the results incorporated into the curriculum development.
9. It is recommended that accreditation of sports medicine fellowships remain the function of the RRC with AOSSM and the Fellowship Committee providing recommendations to the RRC on curriculum and structure.
10. It is recommended that existing fellowship programs with a high fellow to staff ratio (above two fellows to one staff) take steps for expansion of faculty to strengthen the program.
11. It is recommended that each fellowship director take steps to incorporate a majority of the recommended curriculum. The proficiency expectations in this document define the ideal educational experience and **it is not expected that all aspects of the total curriculum are attainable in a one-year fellowship**. The goal is for fellowship to incorporate approximately three-fourths of the curriculum with yearly updates of the educational experience. It is the specific responsibility of each fellowship director to closely monitor the educational process and correct deficiencies where noted.
12. It is recommended that an evaluation take place at the six-month period with each fellowship for evaluation of the fellow and the faculty. This evaluation should address the following issues:

Fellows to evaluate faculty:

- Indications/Journal Club
- Sports Medicine teaching conference
- Rehabilitation teaching conference
- Biomechanics teaching conference
- Teaching effectiveness of staff during clinic
- Teaching effectiveness of staff during surgery

Faculty to evaluate fellows on:

- Anatomy knowledge
- Arthroscopy skills
- Surgical skills
- Fellow on-call
- Understanding of clinical forms
- Patient contact
- Rounds
- Sports coverage, high school physicals
- Diagnostic skills
- Documentation skills
- Interface with staff
- Progress on research project
- Teaching conference performance
- Journal club performance
- Ethical/effective domain issues

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Curriculum: Basic Science Expanded List

Topic:

SM Fellowship

BASIC SCIENCE: TENDON

I. Structure and Function of Normal Tendons

- A. Anatomy, microanatomy A
- B. Biomechanical properties B
- C. Biomechanical composition B
- D. Tendon cell physiology C

II. Mechanical Aspects of Injury

- A. Effect of loading B
- B. Mechanisms of injury B

III. Tendon Repair and Healing

- A. Cellular response B
- B. Biomechanical response B
- C. Biochemistry response B
- D. Vascularization B

IV. Clinical Effects on Tendon Repair

- A. Rehabilitation concepts B
- B. Immobilization effects B
- C. Biochemical agents B

BASIC SCIENCE: LIGAMENTS

I. Structure and Function of Normal Ligaments

- A. Mechanical function A
- B. Relation to knee kinematics A
- C. Passive stabilizing mechanisms A
- D. Dynamic loads B
- E. Neurosensory aspects A
- F. Biomechanical properties A
- G. Ligament insertions A
- H. Ligament cell physiology B

II. Mechanical Aspects of Injury

- A. Mechanisms of failure A
- B. Strain rate sensitivity B

III. Normal Ligament Composition

- A. Anatomy A
- B. Histology B
- C. Biomechanical properties A
- D. Ultrastructural properties C

IV. Ligament Repair and Healing

- A. Morphology and stages of healing A
- B. Biomechanics of healing A
- C. Biochemistry of healing B
- D. Remodeling and maturation A
- E. Factors influencing healing A
- F. Vascularization B

V. Clinical Effects on Skeletal Muscle

- A. Age effects B
- B. Factors influencing growth B
- C. Biomechanical agents B
- D. Immobilization effects B
- E. Rehabilitation concepts B

Topic

SM Fellowship

BASIC SCIENCE: MENISCUS

I. Structure and Function of Normal Meniscus

- A. Morphology A
- B. Microanatomy B
- C. Ultrastructure B
- D. Vascular anatomy B
- E. Meniscus cells B
- F. Structure – function relationships B
- G. Biomechanical behavior loading B
- H. Biochemistry B

II. Mechanical Aspects of Injury

- A. Mechanism of failure A
- B. Classification of tears B
- C. Relation to joint kinematics B

III. Meniscus Injury and Repair

- A. Repair concepts A
- B. Regeneration B
- C. Suture effects A
- D. Vascularization B
- E. Synovial effects B
- F. Biomechanical response B
- G. Biomechanics B

IV. Clinical Effects

- A. Crystals B
- B. Age-related changes B
- C. Repair techniques A
- D. Improving repair response A
- E. Blood supply factors A

BASIC SCIENCE: MYOTENDINOUS FUNCTIONS

I. Structure and Function of Normal Myotendinous Functions

- A. Morphology A
- B. Relation to muscle function B
- C. Biochemistry C
- D. Biomechanical properties B

II. Mechanical Aspects of Injury

- A. Incomplete muscular tears B
- B. Complete muscular tears B
- C. Mechanisms of failure B

III. Repair and Healing

- A. Morphology B
- B. Stages of healing B

IV. Clinical Effects

- A. Immobilization effects B
- B. Rehabilitation concepts B

BASIC SCIENCE: SYNOVIUM

I. Structure and Function

- A. Morphology B
- B. Histology B
- C. Cellular B

II. Injury Aspects

- A. Response to injury B

Topic:

SM Fellowship

BASIC SCIENCE: SYNOVIUM, CONT.

III. Clinical Effects

- A. Alterations in disease B
- B. Pharmacologic effects of agents B

BASIC SCIENCE: CARTILAGE

I. Structure and Function of Normal Cartilage

- A. Morphology A
- B. Histology B
- C. Circulation B
- D. Ultrastructure C
- E. Biochemistry B
- F. Biomechanics B

II. Mechanical Aspects of Injury

- A. Response to injury A
- B. Mechanism of failure A
- C. Classification of gross changes B

III. Repair and Healing

- A. Repair concepts A
- B. Abrasion, perforation subchondral bone A
- C. Biomechanical aspects B
- D. Growth factors B
- E. Biomechanics B

IV. Clinical Effects on Cartilage

- A. Motion and loading B
- B. Immobilization B
- C. Biomechanical agents B
- D. Rehabilitation effects B
- E. Age effects B
- F. Transplantation, preservation effects B
- G. Pharmacologic effects B

BASIC SCIENCE: SKELETAL MUSCLE

II. Mechanical Aspects of Injury

- A. Mechanisms of failure B
- B. Classification of failure B
- C. Biomechanical concepts B

III. Repair and Regeneration

- A. Response to injury B
- B. Re-innervation B
- C. Regeneration B
- D. Vascularization B
- E. Biochemistry C
- F. Biomechanics B

IV. Clinical Effects on Skeletal Muscle

- A. Muscle strain B
- B. Muscle lacerations, contusions B
- C. Ischemia effects B
- D. Immobilization effects B
- E. Biomechanical and biochemical agents (anabolic steroids) B
- F. Age effects B
- G. Rehabilitation/strength building effects B

<u>Topic</u>	<u>SM Fellowship</u>
BASIC SCIENCE: NERVE	
I. Structure and Function of Normal Nerve	
A. Morphology	A
B. Histology	B
C. Microcirculation	C
D. Ultrastructure of myelinated, unmyelinated fibers	C
E. Axonal transport	C
F. Biochemistry	C
II. Mechanical Aspects of Injury	
A. Classification	B
B. Stretching injuries	B
C. Response to injuries	B
III. Repair and Healing	
A. Regeneration concepts	B
B. Factors influencing axon orientation	C
C. Growth factors	C
D. Biochemistry	B
IV. Clinical Effects	
A. Primary, secondary repair	B
B. Grafting concepts	C
C. Age effects	B
BASIC SCIENCE: BONE	
I. Structure and Function of Bone	
A. Morphology	A
B. Histology	B
C. Neurosensory	C
D. Growth	B
E. Biomechanical properties (material and structural)	B
F. Biochemistry	C
II. Mechanical Aspects of Injury	
A. Mechanisms of failure	B
B. Strain rate of sensitivity	B
C. Fatigue failure	B
D. Injury mechanisms: fractures and dislocations	B
III. Repair and Healing	
A. Morphology and stages of healing	B
B. Biomechanics of healing	B
C. Biochemistry of healing	C
D. Factors influencing healing	B
E. Vascularization	B
IV. Clinical Effects on Bone	
A. Effects of age	B
B. Factors influencing growth	B
C. Biomechanical agents	B
D. Immobilization effects	B
E. Pharmacological effects	B
BASIC SCIENCE: VASCULAR SYSTEM	
I. Structure and Function of Vascular System	
A. Morphology	A
B. Histology	B
C. Microcirculation	C

Topic:

SM Fellowship

BASIC SCIENCE: VASCULAR SYSTEM, CONT,

II.	Physiology Factors Effect on Blood Flow	C
III.	Cardiac Related Physiology	C
IV.	Peripheral Controls of Circulation	C
V.	Abnormalities in Disease States	C
VI.	Pharmacologic Effects of Drugs	C
VII.	Repair/Regeneration Concepts after Injury	C

Curriculum: All Categories

Topic:	SM Fellowship		AOSSM Educ. Curr.		
	Basic Science	Clinical	Surgical	Knowledge	Instruction
SHOULDER/GLENOHUMERAL					
I. Ligament (IGHL, MGHL, SGHL, labrum)					
A. Basic Science	A			1	B
B. Clinical – instability		B			
1. Classification of injury/disease				1	B
a. Traumatic					
i. Instability					
aa. Direction		A		1	B
bb. Degree		A		1	B
cc. Timing		A		1	B
dd. Acute/ chronic		A		1	B
ee. Associated pathology		A		1	B
ff. Frequency		A		1	B
b. Inflammatory					
i. Adhesive capsulities		A			
ii. Post-trauma/surgery		A			
c. Other		A			
2. Evaluation		A			
3. Management		A		1	B
a. Non-operative					
i. Unidirectional					
aa. Anterior		A		1	B
bb. Posterior		A		1	B
cc. Inferior		A		1	B
ii. Multidirectional		A		1	B
iii. Adhesive capsulitis		A		1	B
b. Operative (open/arthroscopic)					
i. Unidirectional					
aa. Anterior			A	1	A
bb. Posterior			A	2	A
cc. Inferior			A	1	A
ii. Multidirectional			A	1	A
iii. Adhesive capsulitis			B	1	A
II. Cartilage					
A. Articular (chondral, osteochondral)					
1. Basic Science	B			1	B
2. Clinical – instability					
a. Classification of injury/disease				1	B
i. Etiology					
aa. Traumatic		A		1	B
bb. Degenerative		A		1	B
cc. Inflammatory		A		1	B
dd. Other (tumor, infection, OCD, AVN)		B		1	B
ii. Location (size/depth)		A		1	B
b. Evaluation		A		1	B
c. Management					

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
SHOULDER/GLENOHUMERAL, CONT.					
i. Non-operative					
aa. Traumatic		A		1	B
bb. Degenerative		A		1	B
cc. Inflammatory		A		1	B
dd. Other (OCD, etc.)		A		1	B
ii. Operative					
aa. Traumatic			B	2	A
bb. Degenerative			B	2	A
cc. Inflammatory			C	2	A
dd. Other			C	2	C
B. Labral (superior, anterior, posterior)					
1. Basic Science	A			1	B
2. Clinical – instability					
a. Classification of injury/disease					
i. Traumatic (SLAP, Bankart)		A		1	A
ii. Degenerative		A		1	A
b. Evaluation		A		1	B
c. Management					
i. Non-operative					
ii. Operative					
aa. Traumatic (SLAP, Bankart)			A	1	B
bb. Degenerative			B	2	B
III. Tendon (rotator cuff, biceps)					
A. Basic Science	A				
B. Clinical					
1. Classification of injury/disease					
a. Traumatic tear		A		1	B
b. Inflammatory					
i. Tendonitis		A		1	B
ii. Calcific tendonitis		A		1	B
iii. Associated pathology		A		1	B
aa. GH arthritis (cuff arthropathy)		A		1	B
bb. AC joint arthritis		A		1	B
cc. Biceps tendon		A		1	B
dd. GH instability		A		1	B
c. Other – tumor		C		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Tendonitis		A		1	B
ii. Rotator cuff tear (partial to full)		A		1	B
iii. Rotator cuff arthropathy		A		1	B
iv. Instability/tendonitis		A		1	B
v. Biceps tendonitis/rupture		A		1	B
b. Operative					
i. Tendonitis			A	1	A
ii. Rotator cuff tear (partial to full)			A	1	A
iii. Rotator cuff arthropathy			B	2	B
iv. Instability/tendonitis			A	1	A

v. Biceps tendonitis/rupture

Topic:	SM Fellowship			AOSSM Educ. Curr.	
	Basic Science	Clinical	Surgical	Knowledge	Instruction

SHOULDER/GLENOHUMERAL, CONT.

IV. Muscle (extrinsic muscles: i.e., not rotator cuff, pec major, deltoid, trapezius)

A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease				1	B
a. Traumatic		A			
b. Inflammatory		B			
c. Other – tumor		C			
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Strains/ruptures (e.g. pec major)		A		1	B
ii. Tumors		C		2	C
b. Operative					
i. Strains/ruptures			A	1	B
ii. Tumors			C	2	C

V. Bone (humerus)

A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic (intra-articular, extra-articular)					
i. Stress fracture		A		1	B
ii. Macro fracture		A		1	B
b. Disease					
i. Metabolic		C		2	C
ii. Infectious		C		2	C
iii. Tumors		C		2	C
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Intra-articular (glenohumeral)		A		1	B
bb. Extra-articular (humerus, tuberosities)		A		1	B
ii. Disease					
aa. Metabolic		C		2	C
bb. Infectious		C		2	C
cc. Tumors		C		2	C
b. Operative					
i. Traumatic					
aa. Intra-articular (glenohumeral)			B	2	B
bb. Extra-articular -humerus (stress/macro function)			B	2	B
-tuberosities			B	2	B

VI. Nerve (brachial plexus, peripheral, axillary, Suprascapular nerve, long thoracic nerve)

A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease					

Topic:	SM Fellowship			AOSSM Educ. Curr.	
	Basic Science	Clinical	Surgical	Knowledge	Instruction
a. Traumatic		B		2	C
SHOULDER/GLENOHUMERAL, CONT.					
b. Inflammatory		B		2	C
c. Other-tumor		C		1	C
2. Evaluation		B		1	C
3. Management					
a. Non-operative					
i. Traumatic (neuropraxia to axonotmesis)					
aa. Brachial plexus		B			
-stringers		B		1	B
-thoracic outlet		B		2	C
bb. Suprascapular nerve entrapment		B		2	B
cc. Long thoracic nerve		B		2	B
ii. Inflammatory					
aa. Brachial plexopathy		C		2	C
iii. Tumor				2	C
b. Operative					
i. Traumatic (neuropraxia to axonotmesis)					
aa. Brachial plexus			C	2	C
bb. Suprascapular nerve entrapment			B	2	C
cc. Long thoracic nerve			C	2	C
ii. Inflammatory			C	2	C
iii. Tumor			C	2	C
VII. Vessel (subclavian, axillary)					
A. Basic Science		C		1	C
B. Clinical					
1. Classification of injury/disease					
a. Traumatic (rupture, external compression)		B		1	C
b. Inflammatory (included occlusion)		C		2	C
c. Tumor		C		2	C
2. Evaluation		B		1	C
3. Management					
a. Non-operative					
i. Traumatic		B		1	C
ii. Inflammatory		C		2	C
iii. Tumor		C		2	C
b. Operative					
i. Traumatic			C	2	C
ii. Inflammatory			C	2	C
iii. Tumor			C	2	C
SHOULDER/ACROMIOCLAVICULAR					
I. Ligament					
A. Basic Science		A		1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic (sprains/separations[I-IV])		A		1	B
b. Inflammatory		B		1	B
c. Tumor		C		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic (sprains/strains)		A		1	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
ii. Inflammatory		B		1	B
SHOULDER/ACROMIOCLAVICULAR, CONT.					
iii. Tumor		C		2	C
b. Operative					
i. Traumatic			A	1	B
ii. Inflammatory			A	1	B
iii. Tumor			C	2	C
II. Cartilage (articular, meniscal)					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic (post-traumatic, OA)		A		1	B
b. Inflammatory (DJD, osteolysis, etc.)		A		1	B
c. Tumor		C		2	C
2. Evaluation		A		2	C
3. Management					
a. Non-operative					
i. Traumatic (sprains/strains)		A		1	B
ii. Inflammatory(DJD, osteolysis, etc.)		A		1	B
iii. Tumor		C		2	C
b. Operative					
i. Traumatic			A	1	B
ii. Inflammatory			B	1	B
iii. Tumor			C	2	C
III. Tendon – not applicable					
IV. Muscle – not applicable					
V. Bone (includes acromion, clavicle and joint)					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic(fractures, non-unions)					
i. Intra-articular		A		1	B
ii. Extra-articular		A		1	B
b. Inflammatory					
i. osteolysis		A		1	B
ii. Os acromial		A		1	B
c. Tumor		C		2	C
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic(sprains/strains)					
aa. Intra-articular		A		1	B
bb. Extra-articular(clavicle,acromion)		A		1	B
ii. Inflammatory				1	B
aa. osteolysis		A		1	B
bb. Os acromial		A		1	B
iii. Tumor		C		2	C
b. Operative					
i. Traumatic (fracture)					
aa. Intra-articular			B	C	C
bb. Extra-articular(clavicle,acromion)			B	1	B
ii. Tumor			C	2	C
VI. Nerve					
VII. Vessel					

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
SHOULDERS/SCAPULOTHORACIC					
I. Ligament – not applicable					
II. Cartilage – not applicable					
III. Tendon – not applicable					
IV. Muscle					
A. Basic	B			2	C
B. Clinical					
1. Classification of injury/disease					
a. Traumatic		B		1	B
b. Inflammatory		B		1	B
c. Tumor		C		2	C
2. Evaluation		A		2	C
3. Management					
a. Non-operative					
i. Traumatic		B		2	C
ii. Inflammatory		C		2	C
iii. Tumor		C		2	C
b. Operative					
i. Traumatic			B	2	C
ii. Inflammatory			C	2	C
iii. Tumor			C	2	C
V. Bone					
A. Basic	B			2	C
B. Clinical					
1. Classification of injury/disease					
a. Traumatic (fractures)					
i. Scapula fractures		A		1	B
ii. Rib fractures		B		1	B
b. Inflammatory (bursitis)		B		1	B
c. Tumor		C		2	C
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic				2	C
aa. Scapula fractures		A		1	C
bb. Rib fractures		B		1	C
ii. Inflammatory (bursitis)		B		1	C
iii. Tumor		C		2	C
b. Operative					
i. Traumatic			B	2	C
aa. Scapula fractures			C	2	C
bb. Rib fractures			C	2	C
ii. Inflammatory (bursitis)			C	2	C
iii. Tumor			C	2	C
VI. Nerve					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic (winging of scapula)		B		1	B
b. Inflammatory (bursitis)		B		1	B
c. Tumor		C		2	C
2. Evaluation		B		1	B

3. Management

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
SHOULDERS/SCAPULOTHORACIC, CONT.					
a. Non-operative		B		1	B
b. Operative			C	1	B
SHOULDER/STERNOCLAVICULAR					
I. Ligament					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic		B		1	B
b. Inflammatory		C		1	B
c. Other -- tumor		C		2	C
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Strains/Sprains		A		1	B
ii. Inflammatory		B		1	C
iii. Tumor		C		2	C
b. Operative					
i. Traumatic					
aa. Strains/sprains			C	2	C
ii. Inflammatory			C	2	C
iii. Tumor			C	2	C
II. Cartilage					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic		A		1	B
b. Inflammatory		B		1	B
c. Other -- tumor		C		2	C
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic		B		1	B
ii. Inflammatory(arthritis, infection)		B		1	B
iii. Tumor		C		2	C
b. Operative					
i. Traumatic			B	2	C
ii. Inflammatory			B	2	C
iii. Tumor			C	2	C
III. Tendon – not applicable					
IV. Muscle – not applicable					
V. Bone					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic		A		1	B
b. Inflammatory		B		1	B
c. Other -- tumor		C		2	C
2. Evaluation		A		1	B
3. Management					

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
a. Non-operative					
SHOULDER/STERNOCLAVICULAR, CONT.					
i. Traumatic (fractures)					
aa. Intra-articular		A		1	B
bb. Epiphyseal		A		1	B
ii. Inflammatory(arthritis, infection)		B		1	B
iii. Tumor		C		2	C
b. Operative					
i. Traumatic			B	2	C
ii. Inflammatory			B	2	C
iii. Tumor			C	2	C
VI. Nerve – see Glenohumeral Joint					
VII. Vessel – see Glenohumeral Joint					
ELBOW					
I. Ligament					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		A		1	B
2. Evaluation		A		1	A
3. Management					
a. Non-operative					
i. Acute medial rupture		B		1	B
ii. Chronic medial instability		B		2	B
iii. Dislocations		A		1	C
b. Operative					
i. Acute medial rupture			B	2	B
ii. Acute lateral rupture			B	2	B
iii. Chronic medial instability			B	2	B
iv. Dislocations			B	2	C
II. Cartilage					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. OCD (loose bodies)		A		1	B
b. DJD		B		2	C
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. OCD		A		1	B
ii. DJD		B		2	C
b. Operative (open/arthroscopic)					
i. OCD			B	2	B
ii. DJD			B	2	C
III. Tendon					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Epicondylitis		A		1	B
b. Biceps/triceps – tendonitis		A		1	B
c. Biceps/triceps – ruptures		A		1	B
2. Evaluation		A		1	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
ELBOW, CONT.					
3. Management					
a. Non-operative					
i. Lateral epicondylitis		A		1	B
ii. Medial (flexor/pronator) tendonitis		A		1	B
iii. Biceps tendonitis/triceps		A		1	C
iv. Tendon rupture		A		1	C
b. Non-operative					
i. Lateral epicondylitis			A	2	B
ii. Medial tendonitis			A	2	B
iii. Biceps rupture			A	2	C
iv. Tendon rupture			B	2	C
IV. Muscle – not applicable					
V. Bone					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Supracondylar fracture		A		1	C
b. Radial head fracture		A		1	C
c. Olecranon fracture		A		1	C
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Supracondylar fracture		A		1	B
ii. Radial head fracture		A		1	B
iii. Olecranon fracture		A		1	B
iv. Coronoid fracture		A		1	B
v. Tumors (benign)		C		2	C
b. Operative					
i. Supracondylar fracture			B	2	C
ii. Radial head fracture			B	2	B
iii. Olecranon fracture			B	2	C
iv. Coronoid fracture			B	2	C
v. Tumors (benign)			C	2	C
vi. Tumors (malignant)			C	2	C
VI. Nerve					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Ulnar nerve entrapment		B		2	B
ii. Posterior interosseous nerve entrapment		B		2	B
b. Operative					
i. Ulnar nerve entrapment			B	2	B
ii. Posterior interosseous nerve entrapment			C	2	C
VII. Vessel – not applicable					

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
WRIST/HAND					
I. Ligament					
A. Basic	B/C			1	B
B. Clinical					
1. Classification of injury/disease					
a. Carpal instability		B		2	B
b. Thumb MCP instability		B		2	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Wrist sprain		B		1	B
ii. DRUJ sprain		B		2	B
iii. Thumb MCP sprain		A		1	B
iv. Finger sprain		A		1	C
v. Finger dislocation		A		1	C
b. Operative					
i. Wrist instability(acute/chronic)			C	2	C
ii. DRUJ instability(acute/chronic)			C	2	C
iii. Skier's thumb (thumb UCL sprain)			C	2	B
iv. Thumb RCL sprain			C	2	C
v. Finger dislocation			C	1	C
II. Cartilage					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		C		2	C
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. TFC tear		B		2	B
ii. DJD – thumb – CMC		B		2	B
iii. DJD – carpals		B		2	B
iv. DJD – fingers		B		2	B
b. Operative (open/arthroscopic)					
i. TFC tear			C	2	B
ii. DJD – thumb – CMC			C	2	C
iii. DJD – fingers		C		2	C
III. Tendon					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Hand lacerations		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. DeQuervain's		B		2	C
ii. Flexor strains		B		2	B
iii. Extensor strains		B		2	B
iv. Mallet finger		B		1	C
v. Lacerations		C		2	B
vi. Trigger finger		B		2	C
b. Operative					
i. DeQuervain's			C	2	C
ii. Mallet finger			C	2	B

Topic:	SM Fellowship			AOSSM Educ. Curr.	
	Basic Science	Clinical	Surgical	Knowledge	Instruction
v. Lacerations			C	2	C
WRIST/HAND, CONT.					
vi. Trigger finger			C	2	C
IV. Muscle					
V. Bone					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Distal radial		B		1	B
b. Thumb MC		B		2	B
c. Finger		B		1	C
d. Scaphoid		B		1	C
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Distal radial		B		1	B
ii. Scaphoid Fracture		B		2	B
iii. Hamate fracture		B		2	B
iv. Thumb MC fracture		B		2	B
v. MC Fracture		B		2	C
vi. Phalanx fracture		B		1	C
vii. Lunate AVN (Kienback's)		B		2	C
viii. Tumors (benign)		C		2	C
b. Operative					
i. Distal radial			B	1	B
ii. Scaphoid Fracture			C	2	C
iii. Hamate fracture			C	2	B
iv. Thumb MC fracture			C	1	C
v. Phalanx fracture			C	1	C
vi. Lunate AVN			C	2	C
vii. Tumors (benign)			C	2	C
viii. Tumors (malignant)			C	2	C
VI. Nerve					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		B		1	C
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Carpal Tunnel		A		1	C
ii. Ulnar Tunnel compression		A		1	C
b. Operative					
i. Carpal Tunnel			B	2	B
ii. Ulnar Tunnel compression			B	2	C
iii. Digital nerve laceration			C	2	C
VII. Vessel					
A. Basic	B			1	B
B. Clinical					
1. Evaluation		B		1	B
2. Management					
a. Non-operative					
i. Raynaud's syndrome		C		2	C
ii. Thrombosis		C		2	C
iii. Laceration		C		1	C

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
b. Operative					
WRIST/HAND, CONT.					
i. Laceration			C	2	C
HIP					
I. Ligament					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. SI sprain		B		1	B
b. Hip subluxation/dislocation		B		1	B
c. Osteitis pubis		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Ligamentous sprain		B		1	B
ii. SI joint sprain		B		1	B
iii. Osteitis pubis		B		1	B
b. Operative					
i. Osteitis pubis			C	2	C
II. Cartilage and Labral Injuries					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		B			
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Loose bodies		B		1	B
ii. Chondral lesions		B		1	B
iii. Degenerative lesions		B		1	B
iv. Labral tear		B		1	B
b. Operative					
i. Loose bodies			C	2	C
ii. Chondral lesions			C	2	C
iii. Degenerative lesions			C	2	C
iv. Labral tear			C	2	C
III. Tendon					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		A			
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Greater trochanteric bursitis		A		1	B
ii. “Snapping hip” syndrome		B		1	B
b. Operative					
i. Greater trochanteric bursitis			C	2	C
ii. “Snapping hip” syndrome			C	2	C

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
HIP, CONT.					
VI. Muscle					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Strain		A		1	B
b. Contusion		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Strain		A		1	B
ii. Contusion		A		1	B
V. Bone					
A. Basic	B				
B. Clinical					
1. Classification of injury/disease					
a. Pelvic ring fractures		B		1	B
b. Avulsion fractures		A		1	B
c. Hip fractures		A		1	B
d. Stress fractures		A		1	B
e. Hip dislocations		A		1	B
f. Avascular necrosis		A		1	B
g. Slipped capital femoral epiphysis		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Pelvic ring fractures		B		1	B
ii. Avulsion fractures		A		1	B
iii. Acetabularl fractures		B		1	B
iv. Femoral head fractures		B		1	B
v. Femoral neck fractures		B		1	B
vi. Trochanteric fractures		B		1	B
vii. Hip dislocation		B		1	B
viii. Avascular necrosis		B		1	B
ix. Slipped capital femoral epiphysis		C		1	B
b. Operative					
i. Pelvic ring fractures			C	2	C
ii. Avulsion fractures			C	2	C
iii. Acetabularl fractures			C	2	C
iv. Femoral head fractures			C	2	C
v. Femoral neck fractures			C	2	C
vi. Trochanteric fractures			C	2	C
vii. Hip dislocation			C	2	C
viii. Avascular necrosis			C	2	C
ix. Slipped capital femoral epiphysis			C	2	C
VI. Nerve					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		B			
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. femoral nerve		B		1	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
ii. Sciatic nerve		B		1	B
HIP, CONT.					
iii. Obturator nerve		B		1	B
b. Operative					
i. femoral nerve			C	2	C
ii. Sciatic nerve			C	2	C
iii. Obturator nerve			C	2	C
VII. Vascular Injuries					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		C			
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Femoral artery and vein		C		1	B
b. Operative					
i. Femoral artery and vein			C	2	C
KNEE: TIBIOFEMORAL					
I. Ligament (ACL, PCL, MCL, LCL, posterolateral structures)					
A. Basic	A			1	B
B. Clinical					
1. Classification of injury/disease		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Isolated					
aa. ACL		A		1	A
bb. PCL		A		1	A
cc. MCL		A		1	A
dd. LCL/posterolateral		A		1	A
ii. Combined injuries		A		1	A
iii. Dislocated knee		A		2	A
iv. Arthritis/instability		A		2	A
b. Non-operative					
i. Isolated					
aa. ACL			A	1	A
bb. PCL			B	2	A
cc. MCL			A	2	A
dd. Posterolateral			B	2	A
ii. Combined injuries					
aa. ACL/medial		A		2	A
bb. ACL/lateral		A		2	A
cc. PCL/medial		B		2	A
dd. PCL/lateral		B		2	A
iii. Dislocated knee		B		2	A
iv. Arthritis/instability		A		2	A
II. Cartilage/Articular (chondral, osteochondral)					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		A		1	B
a. Etiology					
i. Traumatic		A		1	C
ii. Degenerative		A		1	C

Topic:	SM Fellowship			AOSSM Educ. Curr.	
	Basic Science	Clinical	Surgical	Knowledge	Instruction
iii. Inflammatory		A		1	C
KNEE: TIBIOFEMORAL, CONT.					
iv. Tumor/Other		C		1	C
b. Timing					
i. Acute versus chronic		A			
c. Location					
i. Depth/size		A			
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
b. Operative					
i. Traumatic (acute/chronic)					
aa. Chondral			A	1	A
bb. Osteochondral			A	1	A
ii. Degenerative			A	1	A
iii. Inflammatory			B	1	A
III. Meniscal					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease (see articular cartilage)		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
b. Operative					
i. Meniscectomy			A	1	A
ii. Meniscal repair			A	1	A
iii. Meniscal replacement			B	2	A
IV. Tendon (quadriceps, patellar, hamstring, popliteus)					
A. Basic	B			1	B
B. Clinical					
1. Classification of injury/disease		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Partial tear		A		1	B
bb. Complete tear		A		1	B
ii. Inflammatory (tendonitis, bursitis)					
aa. Acute		A		1	B
bb. Chronic		A		1	B
iii. Other		A		1	C
b. Operative					
i. Traumatic					
aa. Partial tear			A	2	B
bb. Complete tear			A	2	B
ii. Inflammatory (tendonitis, bursitis)					
aa. Acute			A	2	B
bb. Chronic			A	2	B
iii. Other		A		2	C

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
KNEE: TIBIOFEMORAL, CONT.					
V. Muscle (thigh, lower leg)					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic					
i. Strain		A		1	B
ii. Contusion		A		1	B
b. Inflammatory		A		1	B
c. Disease		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Strain		A		1	B
bb. Contusion		A		1	B
cc. Compartment syndrome - chronic and acute		A		1	B
ii. Inflammatory					
aa. Post-exercise		A		1	B
iii. Disease					
aa. Tumor		C		2	C
bb. Infection		C		2	C
cc. Neuropathic		C		2	C
b. Operative					
i. Traumatic					
aa. Strain			A	2	B
bb. Contusion			A	2	B
ii. Inflammatory			B	2	C
iii. Disease					
aa. Tumor			C	2	C
bb. Infection			C	2	C
cc. Neuropathic			C	2	C
VI. Bone (femur, intra-articular, tibia, fibula)					
A. Basic Science	B			2	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic (intra-articular, extra-articular)					
i. Fracture		A		1	B
ii. Stress fracture		A		1	B
b. Disease					
i. Metabolic		C		1	B
ii. Infectious		C		1	B
iii. Tumors		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Fracture		A		1	B
bb. Stress fracture		A		1	B
ii. Disease					
aa. Metabolic		B		1	B
bb. Infectious		B		1	B

<u>Topic:</u>	C			1	B
	SM Fellowship	AOSSM Educ. Curr.			
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
cc. Tumors					
KNEE: TIBIOFEMORAL, CONT.					
b. Operative					
i. Traumatic					
aa. Fracture			A	1	B
bb. Stress fracture			A	1	B
ii. Disease					
aa. Metabolic			C	2	C
bb. Infectious			C	2	C
cc. Tumors			C	2	C
VII. Nerve (sciatic, femoral, tibial, peroneal)					
A. Basic Science	B			1	C
B. Clinical					
1. Classification of injury/disease (traumatic inflammatory)		A		1	C
2. Evaluation		A		1	C
3. Management					
a. Non-operative					
i. Injury					
aa. Rupture		B		2	C
bb. Entrapment		B		2	C
ii. Disease					
aa. Inflammatory		C		2	C
bb. Tumor		C		2	C
iii. Other		C			
b. Non-operative					
i. Injury					
aa. Rupture			C	2	C
bb. Entrapment			C	2	C
ii. Disease					
aa. Inflammatory			C	2	C
bb. Tumor			C	2	C
VIII. Vessel (popliteal, geniculates, tibial)					
A. Basic Science	B			2	C
B. Clinical					
1. Classification of injury/disease					
a. Traumatic		B		1	B
b. Inflammatory		C		1	B
c. Tumor		C		2	C
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Partial rupture (intimal tear)		C		1	B
bb. Complete		C		1	B
ii. Inflammatory (including occlusion) (e.g. PUT, arterial orcle)		C		1	C
iii. Tumors		C		2	C
b. Operative					
i. Traumatic					
aa. Partial rupture (intimal tear)			C	2	C
bb. Complete			C	2	C
ii. Inflammatory (including occlusion)			C	2	C
iii. Tumors			C	2	C

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
KNEE: PATELLOFEMORAL					
I. Ligament					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease (traumatic, inflammatory, tumor)		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Isolated		A		1	A
ii. Combined injuries		A		1	A
iii. Dislocated knee		A		2	A
iv. Arthritis/instability		A		2	A
b. Operative					
i. Isolated			A	1/2	A
ii. Combined injuries			A	2	A
iii. Dislocated knee			A	2	A
iv. Arthritis/instability			A	2	A
II. Cartilage/Articular (chondral, osteochondral)					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease				1	B
a. Etiology					
i. Traumatic		A		1	C
ii. Degenerative		A		1	C
iii. Inflammatory		A		1	C
iv. Tumor/Other		C		1	C
b. Timing					
i. Acute versus chronic		A		1	B
c. Location					
i. Depth/size		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative		A		1	B
b. Operative					
i. Traumatic (acute/chronic)					
aa. Chondral			A	1	A
bb. Osteochondral			A	1	A
ii. Degenerative			A	1	A
iii. Inflammatory			B	1	A
IV. Tendon (quadriceps, patellar, hamstring, popliteus)					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease (traumatic, inflammatory, other)			A	1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Partial tear		A		1	B
bb. Complete tear		A		1	B
ii. Inflammatory (tendonitis, bursitis)					
aa. Acute		A		1	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
bb. Chronic		A		1	B
KNEE: PATELLOFEMORAL, CONT.					
iii. Other		A		2	C
b. Operative					
i. Traumatic					
aa. Partial tear			A	2	B
bb. Complete tear			A	2	B
ii. Inflammatory (tendonitis, bursitis)					
aa. Acute			A	2	B
bb. Chronic			A	2	B
iii. Other			A	2	C
V. Muscle (thigh, lower leg)					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic					
i. Strain		A		1	B
ii. Contusion		A		1	B
b. Inflammatory		B		1	B
c. Disease		B		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Strain		A		1	B
bb. Contusion		A		1	B
cc. Compartment syndrome-chronic/acute		A		1	B
ii. Inflammatory					
aa. Post-exercise		A		1	B
iii. Disease					
aa. Tumor		C		2	C
bb. Infection		C		2	C
cc. Neuropathic		C		2	C
b. Operative					
i. Traumatic					
aa. Strain			A	2	B
bb. Contusion			A	2	B
ii. Inflammatory			B	2	C
iii. Disease					
aa. Tumor			C	2	C
bb. Infection			B	2	C
cc. Neuropathic			C	2	C
VI. Bone (femur, intra-articular, tibia, fibula)					
A. Basic Science	B			2	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic (intra-articular, extra-articular)					
i. Fracture		A			
ii. Stress fracture		A			
b. Disease					
i. Metabolic		B			
ii. Infectious		B			
iii. Tumors		C			

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
KNEE: PATELLOFEMORAL, CONT.					
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Fracture		A		1	B
bb. Stress fracture		A		1	B
ii. Disease					
aa. Metabolic		B		2	C
bb. Infectious		B		2	C
cc. Tumors		C		2	C
b. Operative					
i. Traumatic					
aa. Fracture			A	1	B
bb. Stress fracture			A	1	B
ii. Disease					
aa. Metabolic			C	2	C
bb. Infectious			B	2	C
cc. Tumors			C	2	C
VII. Nerve (sciatic, femoral, tibial, peroneal)					
A. Basic Science	B			1	C
B. Clinical					
1. Classification of injury/disease (traumatic, inflammatory)		A		1	C
2. Evaluation		A		1	C
3. Management					
a. Non-operative					
i. Injury					
aa. Rupture		B		2	C
bb. Entrapment		B		2	C
ii. Disease					
aa. Inflammatory		C		2	C
bb. Tumor		C		2	C
b. Operative					
i. Injury					
aa. Rupture			C	2	C
bb. Entrapment			C	2	C
ii. Disease					
aa. Inflammatory			C	2	C
bb. Tumor			C	2	C
VIII. Vessel (popliteal, geniculates, tibial)					
A. Basic Science	B			2	C
B. Clinical					
1. Classification of injury/disease					
a. Traumatic		A		1	B
b. Inflammatory		C		1	B
c. Tumor		C		1	C
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Traumatic					
aa. Partial rupture (intimal tear)		C		1	B
bb. Complete		C		1	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
KNEE: PATELLOFEMORAL, CONT.					
ii. Inflammatory (including occlusion (e.g. PUT, arterial orcle)		C		1	C
iii. Tumors		C		2	C
b. Operative					
i. Traumatic					
aa. Partial rupture (intimal tear)			C	2	C
bb. Complete			C	2	C
ii. Inflammatory (including occlusion)			C	2	C
iii. Tumors			C	2	C
TIBIA/FIBULA (PROXIMAL)					
I. Ligament					
A. Instability	B	B	B		
II. Cartilage – not applicable					
III. Tendon – not applicable					
IV. Muscle					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		A			
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Posterior tibial tendonitis		A		1	B
ii. Peroneal tendonitis		A		1	B
iii. Compartment syndromes		A		1	B
iv. Gastrosoleus muscle tendon injuries		A		1	B
b. Operative					
i. Posterior tibial tendonitis			A	1	A
ii. Peroneal tendonitis			A	1	A
iii. Compartment syndromes			A	1	A
iv. Gastrosoleus muscle tendon injuries			A	1	A
V. Bone					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Fractures of the lower leg		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Stress reactions		A		1	B
ii. Stress fractures		A		1	B
iii. Fractures		A		1	B
b. Operative					
i. Stress fractures			A	1	A
ii. Fractures			A	1	B
VI. Nerve – not applicable					
VII. Vessel – not applicable					

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
ANKLE					
I. Ligament					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		A			
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Ankle sprains		A		1	B
b. Operative					
i. Ankle sprains					
aa. Acute			A	1	A
bb. Chronic			A	1	A
II. Cartilage					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease					
a. Traumatic					
i. OCD		A		1	B
ii. Osteochondral fractures		A		1	B
iii. Chondral Injury		A		1	B
b. Degenerative					
i. DJD		B		1	B
ii. Loose bodies		A		1	B
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
b. Operative					
i. Open/arthroscopic			B	1	A
III. Tendon					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		A			
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Tendonitis					
aa. Achilles		A		1	B
bb. Posterior tibial		A		1	B
cc. Peroneal		A		1	B
cc. Bursitis		A		1	B
ee. Retrocalcaneal bursitis		A		1	B
b. Operative					
i. Achilles tendon rupture/tendonitis			A	1	A
ii. Posterior tibial tendonitis/rupture			B	1	A
iii. Peroneal tendonitis/rupture			B	1	A
iv. Retrocalcaneal bursitis			B	1	A
IV. Muscle					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		A			
2. Evaluation		A		1	B
3. Management					

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
a. Non-operative					
ANKLE, CONT.					
i. Tendonitis					
aa. Achilles		A		1	B
bb. Posterior tibial		A		1	B
cc. Peroneal		A		1	B
ii. Bursitis					
aa. Retrocalcaneal bursitis		A		1	B
b. Operative					
i. Tendonitis					
aa. Achilles tendonitis/rupture			A	1	A
bb. Posterior tibial tendonitis/rupture			B	1	A
cc. Peroneal tendonitis/rupture			B	1	A
ii. Bursitis					
aa. Retrocalcaneal bursitis			A	1	A
V. Bone					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		A			
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Osteochondritis dissecans of the talus		A		1	B
ii. Talor dome fractures		A		1	B
iii. Stress reactions – talus		A		1	B
iv. Fracture – talus		A		1	B
v. Fracture – malleoli		A		1	B
b. Operative					
i. Osteochondritis dissecans of the talus			A	2	A
ii. Talor dome fractures			B	2	A
iii. Fracture – talus			B	1	A
iv. Fracture – malleoli			A	1	A
VI. Nerve – Posterior MB. Saphenous, Peroneal Tarsal Tunnel			B	C	
VII. Vessel – not applicable					
FOOT					
I. Ligament					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		B			
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Midfoot: sprains and diastasis (Lisfranc injuries)		A		1	B
ii. Plantar fascia		A		1	B
b. Operative					
i. Midfoot: sprains and diastasis (Lisfranc injuries)			B	2	A
ii. Plantar fascia			B	2	A
II. Cartilage – chondral Injuries (DJD, hallux rigidus)		A		2	B
III. Tendon – Ruptures (flexor tendons, extensor tendon)		B		2	B
IV. Muscle – Compartment Syndrome		B		2	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
FOOT, CONT.					
V. Bone					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		A			
2. Evaluation		A		1	B
3. Management					
a. Non-operative					
i. Toe injuries					
aa. Turf toe		A		1	B
bb. Hallux rigidus		A		1	B
cc. Sesamoid injuries		B		1	B
ii. Forefoot injuries					
aa. MTP		A		1	B
bb. Bunions		A		1	B
cc. Metatarsal stress fracture		A		1	B
dd. Fractures		A		1	B
ee. Fractures at the base of the 5 th metatarsal		A		1	B
ff. Osteonecrosis		B		1	B
gg. Tarsal coalition		B		2	B
iii. Midfoot injuries					
aa. Stress fractures		A		1	B
bb. Accessory navicular		B		1	B
iv. Hindfoot injuries					
aa. Pes planus		B		1	B
bb. Tarsal bossing		B		1	B
cc. Calcaneal stress fracture		B		1	B
dd. Plantar fasciitis		A		1	B
iv. Hindfoot injuries					
b. Operative					
i. Toe injuries					
aa. Hallux rigidus			B	2	C
bb. Sesamoid injuries			C	2	C
ii. Forefoot injuries					
aa. Bunions			B	2	C
bb. Metatarsal stress fracture			B	2	C
cc. Fractures			B	2	C
dd. Fractures at the base of the 5 th metatarsal			A	2	A
ee. Osteonecrosis			C	2	C
iii. Midfoot injuries					
aa. Stress fractures			B	2	C
bb. Accessory navicular			C	2	C
iv. Hindfoot injuries					
aa. Pes planus			C	2	C
bb. Tarsal bossing			C	2	C
cc. Calcaneal stress fracture			C	2	C
dd. Plantar fasciitis			C	2	A

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
FOOT, CONT.					
VI. Nerve					
A. Basic Science	B			1	B
B. Clinical					
1. Classification—nerve entrapment		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Interdigital neuroma		B		1	B
ii. Tarsal tunnel syndrome		B		1	B
b. Operative					
i. Tarsal tunnel syndrome			C	2	C
VII. Vessel – not applicable					
VIII. Skin					
A. Basic Science	C			1	B
B. Clinical					
1. Evaluation		B		1	B
2. Management					
a. Non-operative					
i. Blisters		A		1	B
ii. Hard corns		A		1	B
iii. Soft corns		A		1	B
iv. Tinea pedis		A		1	B
v. Plantar warts		B		1	B
vi. Ingrown toenails		A		1	B
b. Operative					
i. Blisters			B	2	A
ii. Hard corns			B	2	A
iii. Soft corns			B	2	A
iv. Plantar warts			B	2	A
v. Ingrown toenails			B	2	A
CERVICAL SPINE					
I. Ligament					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Neck sprains		A		1	B
ii. Facet subluxation/dislocation		B		1	B
iii. Dislocation		B		1	B
b. Operative					
i. Facet subluxation/dislocation			C	2	C
II. Cartilage – not applicable					
III. Tendon – not applicable					
IV. Muscle – not applicable					
V. Bone					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		B		1	B
2. Evaluation		B		1	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
CERVICAL SPINE, CONT.					
3. Management					
a. Non-operative					
i. C-1 fractures		B		1	B
ii. Odontoid fractures		B		1	B
iii. Spinous process fractures		B		1	B
iv. Fractures/dislocations of the cervical spine		B		1	B
v. Spinal stenosis		C		2	C
b. Operative					
i. C-1 fractures			C	2	C
ii. Odontoid fractures			C	2	C
iii. Spinous process fractures			C	2	C
iv. Fractures/dislocations of the cervical spine			C	2	C
v. Spinal stenosis			C	2	C
VI. Nerve					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Brachial plexus injuries					
aa. Burners and stingers		A		1	B
bb. Traumatic avulsions		B		1	B
cc. Herniated disk		B		1	B
ii. Spinal cord injury to include paralysis		B		1	B
b. Operative					
i. Brachial plexus injuries			C	2	C
ii. Spinal cord injury to include paralysis			C	2	C
iii. Herniated disk			C	2	C
VII. Vessel – not applicable					
SPINE					
I. Ligament					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Thoracolumbar sprains		A		1	B
ii. Lumbosacral sprains		A		1	B
II. Cartilage – not applicable					
III. Tendon – not applicable					
IV. Muscle					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Strains		A		1	B
ii. Contusions		A		1	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
SPINE, CONT.					
V. Bone					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Kyphosis		B		1	B
ii. Scoliosis		B		1	B
iii. Spinous process fracture		B		1	B
iv. Vertebral compression fractures of the thoracolumbar spine		B		1	B
v. Fracture dislocations of the thoracolumbar spine		B		1	B
vi. Spondylolysis		B		1	B
vii. Spondylolisthesis		B		1	B
viii. Spondylitis and sacroiliitis		B		1	B
b. Operative					
i. Spinous process fracture			C	2	C
ii. Vertebral compression fractures of the thoracolumbar spine			C	2	C
iii. Fracture dislocations of the thoracolumbar spine			C	2	C
iv. Spondylolysis			C	2	C
v. Spondylolisthesis			C	2	C
VI. Nerve					
A. Basic Science	B			1	B
B. Clinical					
1. Classification of injury/disease		B		1	B
2. Evaluation		B		1	B
3. Management					
a. Non-operative					
i. Sciatica		B		1	B
ii. HNP		B		1	B
b. Operative					
i. HNP			C	2	C
VII. Vessel – not applicable					
GENERAL SPORTS MEDICINE TOPICS					
I. Medical Aspects of Sports Medicine					
A. Cardiac		C		2	C
B. Dermatology		C		2	C
C. Pulmonary		C		2	C
D. Infection		C		2	C
E. Nutrition					
1. Eating disorders		B		2	C
2. Hydration		B		1	C
3. Anabolic steroids		B		1	C
4. Nutritional supplements		B		2	C
5. Ergogenic aids		B		2	C
F. Drug testing/banned substances		B		2	C
G. Environmental exposure					

Topic:	SM Fellowship			AOSSM Educ. Curr.	
	Basic Science	Clinical	Surgical	Knowledge	Instruction
1. Hypothermia		A		2	C
GENERAL SPORTS MEDICINE TOPICS, CONT.					
2. Heat injuries		A		1	B
3. Altitude sickness		B		2	C
4. Decompression sickness		C		2	C
II. Exercise Physiology					
A. Response to exercise		B		2	C
B. Fitness level		B		2	C
C. Training		B		2	C
D. Adaptation		B		2	C
E. Motor skills		B		2	C
F. Performance factors		B		2	C
III. Athletic Populations					
A. Female athletes		A		1	B
B. Disabled athletes		A		1	B
C. Aging athletes		A		1	B
IV. Pediatric and Adolescent Issues in Sports		A		1	B
V. Preventative Sports Medicine					
A. Pre-participation guidelines		A		1	C
B. Rules of sports		B		2	C
C. Protective equipment		A		1	C
VI. Sports-Specific Trauma					
A. Eye, ear, mouth, and face		B		2	B
B. Head: concussion, closed head injury		B		1	B
C. Chest					
1. Rib		B		1	B
2. Cardiac contusion		B		2	B
3. Pneumothorax		B		2	B
D. Abdomen					
1. Spleen		C		2	B
2. Liver		C		2	B
3. Other organ injury		C		2	B
E. Genito-urinary					
1. Male/Female		C		2	B
VII. Protective Equipment Including Braces					
A. Head gear – football helmet					
1. Design		B		1	B
2. Removal		A		1	B
3. Protective effect		B		1	B
B. Head gear – other sports (hockey, boxing, etc.)					
1. Design		B		1	C
2. Protective effect		B		1	C
C. Neck – soft orthoses					
1. Use of collars in football		A		1	B
2. Use of rolls in football		A		1	B
D. Neck – spine boards				1	B
1. Indications for use		A		1	B
2. How to apply		A		1	B
3. How to transport		A		1	B
E. Lumbar spine					
1. Corset		A		1	B
2. Brace for spondylosis in adolescent adults		B		1	B
F. Ribs					
1. Flak jacket		B		1	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
GENERAL SPORTS MEDICINE TOPICS, CONT.					
G. Shoulder					
1. Use of harness to prevent glenohumeral instability in football, hockey, etc.		A		1	B
H. Elbow					
1. Hyperextension brace		A		1	B
I. Hand and wrist					
1. Plastic and silicone materials for navicular fractures and game keepers thumb in football, skiing, etc.		B		1	B
J. Knee					
1. Patella brace					
a. How to apply		A		1	B
b. Function		A		1	B
2. Sleeves		A		1	B
3. Ligament brace					
a. Classification					
i. Prophylactic		A		1	B
ii. Rehabilitation		A		1	B
iii. Functional		A		1	B
b. Design		A		2	C
c. Objective data					
i. Biomechanical		A		1	B
ii. Clinical		A		1	B
K. Ankle					
1. Taping					
a. Techniques		B		1	B
b. Effects		A		1	B
c. Results		A		1	B
2. Air stirrup brace		A		1	B
3. Lace-up support		A		1	B
L. Foot					
1. Orthoses for runners					
a. Different materials		B		1	B
b. Indications		B		1	B
2. Heel protectors		B		1	B
3. Foot wear		B		1	B
4. Plantar fascia braces		B		1	B
VIII. Team Physician Issues					
A. Traveling team physician		A		1	C
B. Pre-participation physicals		A		1	C
C. Medical/legal issues		A		1	C
D. Ethics		A		1	C
E. Re-certification		B		1	C
F. Sports environment and facilities		B		2	C
G. Interaction with auxiliary medical personnel		B		2	C
H. Policies on blood borne pathogens		B		2	C
I. Policies on drug abuse		B		2	C
J. Rules of sports as it pertains to medical coverage		B		1	C
K. Emergency plans at sporting events		B		1	C
L. Medical guidelines					
1. State high school		B		2	B
2. NCAA/collegiate		B		2	B
3. Professional sports		B		2	B

<u>Topic:</u>	SM Fellowship			AOSSM Educ. Curr.	
	<u>Basic Science</u>	<u>Clinical</u>	<u>Surgical</u>	<u>Knowledge</u>	<u>Instruction</u>
GENERAL SPORTS MEDICINE TOPICS, CONT.					
IX. Practice Management					
A. Office		B		1	B
B. Billing/coding		B		1	B
X. Information technology		B		1	B
SPORTS MEDICINE RESEARCH					
I. Critical Appraisal of Literature		A		1	B
II. Bias		A		1	B
III. Study Design		A		1	B
IV. Statistics		B		1	C
V. Computers		B		1	B

ACME Program Requirements for Postgraduate Fellowship Education in Orthopaedic Sports Medicine

(can also be found at www.acgme.org)

I. Introduction

- 1) Postgraduate fellowship education in orthopaedic surgery is a component in the continuum of the education process, and such education will take place after completion of an accredited residency. Graduate medical education programs in the subspecialties of orthopaedic surgery will be accredited to offer 12 months of education.
- 2) Postgraduate fellowship programs in the subspecialties of orthopaedic surgery may be accredited in institutions that sponsor accredited residency programs in orthopaedic surgery or that are affiliated with an Accreditation Council for Graduate Medical Education (ACGME) – accredited orthopaedic surgery residency. Requests for exceptions to this policy will be reviewed on a case-by-case basis.
- 3) When orthopaedic residents and fellows are being educated in the same institutions, the residency director and the director of the fellowship must jointly prepare and approve a written agreement specifying the education relationship between the residency and fellowship programs, the roles of the residency and fellowship directors in determining the education program of residents and fellows, and the roles of the residents and fellows in patient care.
- 4) The director and teaching staff of a program must prepare and comply with written educational goals for the program. All educational components of a program should be related to program goals.
 - 1) The program design and/or structure must be approved by the Residency Review Committee (RRC) as part of the regular review process.
 - 2) Participation by any institution providing more than 2 months of training must be approved by the RRC.

II. Institutional Resources and Organizations

- A. Programs must provide an intellectual environmental for acquiring the knowledge, skills, clinical judgment and attitudes essential to the practice of orthopaedic sports medicine. This objective can be achieved only when the program director, the supporting faculty and staff, and the administration are fully committed to the educational program and when appropriate resources and facilities are present. Effective graduate education is not achieved when the educational program functions primarily meet service commitments.
- B. A sufficient number of new and follow-up patients must be available to ensure adequate inpatient and outpatient experience for each fellow without adverse diluting the educational experience of the orthopaedic surgery residents or the educational experience of residents in other specialties.
- C. There must be close monitoring of the interface between residency and fellowship education. It is imperative that orthopaedic fellowship education not interfere with the education of residents. Lines of responsibility for the orthopaedic resident and the fellow must be clearly

defined. In addition, the fellow should maintain a close working relationships with orthopaedic residents and other fellows in orthopaedic surgery and in other disciplines.

- D. Facilities to accomplish the clinical and educational objectives of the specialty must be available and functioning for both inpatients and outpatients.
 - 1) The physical therapy and athletic training departments must be completely equipped with the modern therapeutic modalities used in the treatment of the injured athlete.
 - 2) The operating room facilities must contain modern equipment, including arthroscopes, adjunctive equipment for arthroscopy, and necessary radiologic equipment.
- E. The educational program must be conducted in a setting that will allow interaction with the disciplines of radiology, physical therapy, internal medicine, and such other specialties ordinarily encountered in sports medicine.

III. Program Personnel.

The program director and the teaching staff are responsible for the general administration of a program, including those activities related to the recruitment, selection, instruction, supervision, counseling, evaluation, and advancement of fellows and the maintenance of records related to program accreditation.

- A. The director of the subspecialty program and the director of the affiliated orthopaedic surgery program, in conjunction with the administration of the institution, will be responsible for ensuring that adequate facilities and other necessary resources are available to provide an education of high quality. There must be a single program director responsible for the program. Qualifications of the program director include:
 - 1) Requisite and documented clinical, education, and administrative abilities and experience.
 - 2) Licensure to practice medicine in the state where the institution that sponsors the program is location (certain federal programs are exempted.)
 - 3) Certification by the American Board of Orthopaedic Surgery or suitable equivalent qualifications.
 - 4) Appointment in good standing to the medical staff of an institution participating in the program.

Responsibilities of the program director include:

- 1) Preparation of a written statement outlining the educational goals of the program with respect to knowledge, skills and other attributes of fellows at each level of training and for each major rotation or other program assignment. This statement must be distributed to fellows and members of the teaching staff. It should be readily available for review.
- 2) Selection of residents for appointment to the program in accordance with institutional and department policies and procedures
- 3) Selection and supervision of the teaching staff and other program personnel at each institution participating in the program.
- 4) The supervision of fellows in accordance with explicit written descriptions of supervisory lines of responsibility for the care of patients. Such guidelines must be communicated to all members of the program staff. Fellows must be provided with prompt, reliable systems for communication and interaction with supervisory physicians.
- 5) Regular evaluation of fellows' knowledge, skills, and overall performance, including the development of professional attitudes consistent with being a physician. The program director, with participation of members of the teaching staff, shall:

- a. At least semi-annually evaluate the knowledge, skills, and professional growth of the fellows, using appropriate criteria and procedures.
 - b. Communicate each evaluation to the fellow in a timely manner.
 - c. Advance fellows to positions of higher responsibility only on the basis of evidence of the satisfactory progressive scholarship and professional growth.
 - d. Maintain a permanent record of evaluation for each fellows and have it accessible to the fellow and other authorized personnel.
- 6) The provision of a written final evaluation for each fellow who completes the program. The evaluation must include a review of the fellow's performance during the final period of training and should verify that the fellow has demonstrated sufficient professional ability to practice competently and independently. This final evaluation should be a part of the fellow's permanent record maintained by the institution.
 - 7) Fellowship directors must ensure that trainees are given reasonable duty and call assignments. It is desirable that fellows' work schedules be designed so that an average, excluding exceptional patient care needs, fellows have at least one day of 7 free of routine responsibilities and be on-call in the hospital no more often than every third night. Scheduling will necessitate flexibility, as fellows are at the postgraduate level, so the ratio of hours worked and on-call time may vary.
 - 8) Implementation of fair procedures as established by the sponsoring institution regarding academic discipline and resident complaints or grievances.
 - 9) Monitoring resident stress, including mental or emotional conditions inhibiting performance or learning and drug- or alcohol-related dysfunction. Program directors and teaching staff should be sensitive to the need for timely provision of confidential counseling and psychological support services to residents. Training situations that consistently produce undesirable stress on residents must be evaluated and modified.
 - 10) Preparation of an accurate statistical and narrative description of the program as requested by the RRC.

B. Teaching staff.

- 1) There must be a sufficient number of teaching staff with documented qualifications to instruct and supervise adequately all the fellows in the program.
- 2) Members of the teaching staff must be able to devote sufficient time to meet their supervisory and teaching responsibilities.
- 3) All members of the teaching staff must demonstrate a strong interest in the education of fellows, sound clinical and teaching abilities, support of the goals and objectives of the program, a commitment to their own continuing medical education, and participating in scholarly activities.
- 4) A member of the teaching staff of each participating institution must be designated to assume responsibility for the day-to-day activities of the program at that institution, with overall coordination by the program director.
- 5) The teaching staff must be organized and have regular documented meetings to review program goals and objectives as well as program effectiveness in achieving them. At least one fellow representative should participate in these reviews.
- 6) The teaching staff should periodically evaluate the utilization of the resources available to the program, the contribution of each institution participating in the program, the financial and administrative support of the program, the volume and variety of patients available to the program for educational purposes, the performance of members of the teaching staff, and the quality of supervision of fellows.

IV. Educational Program

- A. The fellowship must provide sufficiently advanced education to allow the fellow to acquire the expertise of a specialist in orthopaedic sports medicine. This education must consist of academic and technical components.
 - 1) The academic component must emphasize a scholarly approach to clinical problem solving, self-directed study, teaching, development of analytic skills and surgical judgment, and research.
 - 2) The technical component should ensure the ability of the fellow to perform skillfully the procedures required for practice of the subspecialty.
- B. The program must offer supervised training in the operative and other technical skills integral to orthopaedic sports medicine. Instruction and experience must be sufficient for the fellow to understand the indications, risk, and limitations of the commonly performed procedures in the subspecialty.
- C. Fellows must have the opportunity to provide consultation with faculty supervision and should have clearly defined educational responsibilities for residents, medical students, and allied health personnel. The teaching experiences should correlate basic biomedical knowledge with the clinical aspects of the subspecialty.
- D. Clinical experience must include inpatient and outpatient opportunities to observe, manage, operate, and follow patients with a wide variety of sports medicine problems.
- E. The program must be structured to provide the fellow with an opportunity to assume continuing responsibility with appropriate supervision for patients with acute and chronic injuries to observe the natural course of athletic injuries and the effects of various therapeutic modalities on their outcome.
- F. The program should provide the fellow with the opportunity to work with athletic teams and/or athletic organizations.
- G. The program must emphasize the pathology and biomechanics of athlete injuries and the effects of injury on the athlete, including both physical and psychological manifestations. Appropriate utilization of laboratory tests, physical modalities, and operative procedures for the diagnosis and treatment of athletic injuries must be stressed.
- H. The program must provide the fellow with specific experience with athletic trainers and physical therapists and with related experience in writing appropriate prescriptions and in monitoring patient progress.
- I. The program must provide sufficient opportunity for the fellow to gain knowledge and skill in a number of areas that include but are not limited to:
 - 1) Taking a history and performing an appropriate physical examination for orthopaedic sports injuries.
 - 2) Exposure to patients with typical histories and physical findings of chronic orthopaedic sports injuries and the management of those injuries.
 - 3) Differentiating between those sports injuries that require immediate surgical treatment and those that can be treated non-operatively.

- 4) Recognizing those sports injuries for which a minor delay in treatment would not be deleterious to the patient.
- 5) Acute care of orthopaedic and other acute sports medicine injuries that may occur during athletic competition and how to deal with those injuries on the athletic field.
- 6) How to order and interpret radiologic examinations that are used for diagnosis of sports injuries, including specific views, tomograms, bone scans, arthrograms, computerized axial tomography scans, and magnetic resonance imaging.
- 7) Therapeutic modalities offered in the department of physical therapy, how to use them, and how to judge to appropriateness and efficacy of a treatment plan.
- 8) Diagnostic and operative arthroscopy.
- 9) Non-orthopaedic problems that occur in sports medicine and how to deal with those problems or how to refer them appropriately.
- 10) The psychological effect of injuries on athletes and how to deal with them or how to select consultants to assist in their management.
- 11) Sports equipment, particularly protective devices intended to allow the athlete to continue to compete, including helmets, protective pads, knee braces, foot orthotics and others not specifically named.

V. Program Research and Scholarly Activity

- A. Graduate medical education must take place in an environment of inquiry and scholarship in which fellows participate in the development of new knowledge, learn to evaluate research findings, and develop habits of inquiry as a continuing professional responsibility.
- B. The responsibility for establishing and maintaining an environment of inquiry and scholarship rests with the teaching staff. While not all members of a teaching environment must be investigators, the staff as a whole must demonstrate broad involvement in scholarly activity. This activity should include:
 - 1) Active participation the teaching staff in clinical discussions, rounds, and conferences in a manner that promotes a spirit of inquiry and scholarship. Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal states and the application of current knowledge of practice.
 - 2) Participation in journal clubs and research conferences.
 - 3) Active participation in regional or national professional and scientific societies, particularly through presentations at the organizations' meetings and publications in journals.
 - 4) Participation in research, particularly in projects that are funded following peer review and/or result in publication or presentations at regional and national scientific meetings.
 - 5) Offering of guidance and technical support (e.g. research design, statistical analysis) for fellows involved in research.
 - 6) Provision of support for fellow participation in scholarly activities.
- C. Fellows must participate in basic and/or clinical research.
 - 1) Fellows must learn to design, implement, and interpret research studies under supervision by qualified faculty.
 - 2) The program must provide time and facilities for research activities by fellows.

VI. Library

- 1) Fellows must have ready access to a major medical library, either at the institution where the fellows are located or through arrangement with conveniently nearby institutions.

- 2) Library services should include the electronic retrieval of information from medical databases.
- 3) There must be access to an on-site library or to a collection of appropriate texts and journals in each institution participating in-site libraries and/or collections of texts and journals must be readily available during nights and weekends.

VII. Evaluation

- A. Program directors must have a clearly defined method for regular periodic assessment of the performance of the fellow. The assessment must include cognitive, motor, and interpersonal skills; attitudinal traits; and surgical judgment. There must be at least semi-annual communication of this information to the fellow and to the director of the residency program in orthopaedic surgery.
- B. The educational effectiveness of a program must be evaluated in a systemic manner. In particular, the quality of the curriculum and the extent to which educational goals have been met by fellows must be assessed. Written evaluations by fellows should be utilized in this process.

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