

SPECIAL COMMUNICATION

An Update to the Certificate of Added Qualification in Sports Medicine (CAQSM) Certification Blueprint

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The Certificate of Added Qualification in Sports Medicine (CAQSM) is administered by the American Board of Family Medicine (ABFM) and cosponsored by the American Board of Emergency Medicine (ABEM), the American Board of Pediatrics (ABP), and the American Board of Physical Medicine and Rehabilitation (ABPMR). The American Board of Internal Medicine (ABIM) is a qualifying board for the CAQSM. This article reviews the history of the blueprint development for the CAQSM certification examination. This article will also overview the methodology behind the creation of a new sports medicine certification blueprint. The redesign of the blueprint reflects the evolving practice of sports medicine. The intent was to develop an approach that would ensure that the sports medicine examination is relevant and reflects current practice of the subspecialty. Additionally, this blueprint will help guide the assembly of both the sports medicine certification examination and, eventually, a sports medicine certification longitudinal assessment. The new blueprint should provide more statistical precision and be more clinically relevant.

Keywords: Athletic Injuries, Certification, Clinical Competence, Examination Questions, Licenses, Program Evaluation, Psychometrics, Quantitative Research, Specialty Boards, Sports Medicine

Background

The American Board of Medical Specialties (ABMS) approved the subspecialty of sports medicine in 1989 and the first certificates were issued in 1993. To be eligible for an initial Certificate of Added Qualification in Sports Medicine (CAQSM), candidates must pass their initial board certification in their primary specialty, complete a minimum of 12 months of full-time training in an Accreditation Council for Graduate Medical Education (ACGME) -accredited Sports Medicine Fellowship Program, submit an online application with the appropriate fee and achieve a passing score on the sports medicine certification examination.

In developing the initial certification examination blueprint, the American Board of Family Medicine (ABFM) used a content blueprint that represented areas of practice in the discipline of sports medicine that defined both the subject areas and the proportion of questions on the examination. This format has been used successfully by the ABFM for nearly 40 years.¹ The most recent sports medicine certification blueprint followed this same structure and was last updated in 2004. This paper describes the process and

rationale used to revise the sports medicine certification blueprint for implementation in 2026.

The structure of this content-based definition of medical practice has been described previously.² The blueprint specifications give structure to all exam forms that use the sports medicine certification scale (SMC-S), which is utilized for the CAQSM examination, the In-Training Examination (ITE) for fellows, and a sports medicine certification longitudinal assessment (SMCLA), which is tentatively approved to begin in 2027.³ All assessments are built to reflect the proportions of the blueprint content domains.

The current American Board of Medical Specialties (ABMS) Continuing Certification Standards require that diplomate feedback be used for identifying knowledge gaps.^{3,4} This article will review how the sports medicine clinical activities survey (SMCAS) was created via multiple rounds and methods of diplomate feedback. It will also review how this process was used to develop content for the new sports medicine certification blueprint. A separate article will review the methodology used to assign the percentage of questions to each content domain.

A goal of the SMCAS was to be inclusive of the entire spectrum of sports medicine and to ensure that all the clin-

ical activities of practicing sports medicine physicians were included in the survey.

Governance and Oversight of Sports Medicine Certification

The Sports Medicine Assessment Committee is comprised of representatives of the administrative board, the cosponsoring boards, and the qualifying board. This committee writes and edits the content for the examinations using a psychometrically sound process to ensure that the examinations are effective, statistically valid and reliable. In early 2023, the Sports Medicine Assessment Committee recommended revision of the sports medicine certification blueprint as the prior blueprint did not reflect current practice for most sports medicine physicians.

The Sports Medicine Advisory Committee was created in 2022 as part of the Memorandum of Understanding between the cosponsoring boards. This committee oversees the work of the Sports Medicine Assessment Committee, reviews the blueprint, and approves the passing standard for the sports medicine assessments. The Sports Medicine Advisory Committee is comprised of representatives of the administrative board, the cosponsoring boards, representatives of the American Medical Society for Sports Medicine (AMSSM), and a public member with an extensive understanding of the practice of sports medicine. The Sports Medicine Advisory Committee approved the request for a blueprint revision. Generating the new sports medicine certification blueprint followed a process similar to that used for the new family medicine certification blueprint with several differences.³ This process is described below.

Step 1. Creation of the Content Domains

The prior sports medicine certification blueprint contained several content domains that contained too few questions. For example, the first content domain on the 2004 blueprint was the “Role of the Team Physician,” which only included 1% of the items on the examination. This small number of items makes it difficult to provide precise and useful feedback for examinees.

The initial basis of the new content domains was the 2004 blueprint. From there, the Sports Medicine Advisory Committee created the five major content domains using an iterative process. These content domains mirrored the family medicine certification blueprint but included a more significant focus on distinguishing between medical conditions and musculoskeletal conditions in sports medicine.³ It also de-emphasized the nonclinical portion of the examination. The content domains are as follows:

Domain I. Foundations of Practice

Domain II. Preventive Aspects of Sports Medicine

Domain III. Care of Emergency Conditions

Domain IV. Diagnosis, Management, and Epidemiology of Sports- and Exercise-Related Musculoskeletal Conditions

Domain V. Diagnosis, Management, and Epidemiology of Sports- and Exercise-Related Medical Conditions

The first content domain, “Foundations of Practice” includes content that is fundamental to the practice of sports medicine but does not involve a specific clinical activity. For example, this content domain includes items like “Basic Science of Sport,” “Ethics and Professionalism,” and “Role of the Team Physician.” The remaining four content domains are all based on specific identifiable and observable clinical activities and are henceforth referred to as clinical content domains.

Step 2. Creating the Sports Medicine Clinical Activities

The members of the assessment committee drafted the initial sports medicine clinical activities list. They determined these by reviewing the prior blueprint content, current literature in sports medicine, and the ACGME program requirements and milestones for sports medicine while utilizing their⁵⁻¹⁵ expert medical opinion.

The assessment committee assigned each clinical activity to a clinical content domain, which was then adjusted through iterative feedback sessions. Of note, duplication of concepts and use of eponyms are avoided on the blueprint.¹⁴

As an example of the decisions the committee was required to make around different clinical activities, effort thrombosis (Paget-Schroetter syndrome) could have been included in any of three different domains (Care of Emergency Conditions; Diagnosis and Management of Sports and Exercise-Related Musculoskeletal Conditions; or Diagnosis and Management of Sports and Exercise-Related Medical Conditions). The committee elected to include this as part of Diagnosis and Management of Sports and Exercise-Related Musculoskeletal Conditions under Thoracic Outlet Syndrome to avoid splitting the other conditions found as part of the Thoracic Outlet Syndrome.

After the initial list of clinical activities was created by the assessment committee, the Sports Medicine Advisory Committee provided feedback. Additional feedback rounds were then provided by representatives of the cosponsoring boards and by the AMSSM Board of Directors in 2023. The creation of new clinical activities and the location of a clinical activity on the blueprint was adjusted through a consensus from these board-certified and practicing sports medicine diplomates during these feedback rounds before finally being approved by the Sports Medicine Advisory Committee.

Step 3. Assessing Frequency and Risk of Harm

To weight the blueprint content domains, the Sports Medicine Advisory Committee approved a recommendation from the ABFM to consider the frequency with which the clinical activities are performed by practicing sports medicine physicians while also considering the risk of harm to the

patient if the activity is not performed correctly (e.g. missed diagnosis or improper treatment). A 5-point Likert scale (1-daily, 2-weekly, 3-monthly, 4-Few Times per Year, 5-Rarely or Never) was used to create a frequency Index (FI) for each activity.¹⁵ A 4-point Likert scale (1-Minimal, 2-Moderate, 3-Considerable, 4-Extreme) was used to create an Index of Harm (IoH) for each activity. The IoH had been used previously with ABFM blueprint validity studies.^{3,16,17}

Step 4. Validating the List of Clinical Activities and Drafting the Sports Medicine Clinical Activities Survey

To validate that this list of sports medicine clinical activities was comprehensive, several rounds of feedback with board-certified practicing sports medicine physicians were sought. The feedback sessions involved a diverse group of board-certified sports medicine diplomates. Feedback participants represented all five of the primary certifying specialties. Feedback also included participation from representatives of the AMSSM committees and interest groups, and community-based sports medicine clinicians. The participants also worked in various practice settings and locations.

The feedback sessions informed the creation of the SMCAS by validating the list of clinical activities and offering suggestions for the functionality of the survey. Overall, about 100 sports medicine diplomates provided feedback or input on the SMCAS, which served as a draft of the new sports medicine certification blueprint. The survey contained 231 sports medicine clinical activities and asked for a Likert response to the frequency and index of harm for each clinical activity. A brief demographics section was included. The survey was reviewed by ABFM staff for ease of use in an online environment.

Step 5. Diplomate Practice Survey

A SMCAS was administered to practicing board-certified primary care sports medicine physicians by asking two questions with the Likert response. Those two questions were:

1. What is the frequency with which sports medicine physicians perform the clinical activity (FI)?
2. What is the potential risk of harm if an activity is performed incorrectly or inadequately (IoH)?

The survey was sent out in February of 2025 to a nationally representative and randomly selected sample of board-certified sports medicine physicians. Diplomates were encouraged to complete the survey through incentives, email reminders, word of mouth and newsletters.

Eight hundred physicians were invited to participate in the SMCAS. Twelve invited participants had invalid email addresses and two were deemed ineligible, leaving 786 eligible invitees. Three hundred and thirty-seven eligible participants completed the survey. Five of these were excluded due to quality control checks. The final adjusted response

rate was 42.2%. The demographic data from the SMCAS, analysis process and the results will be described in more detail in a separate article published concurrently by Wang and O'Neill et al.

Step 6. Approval of the Blueprint

Using a psychometrically sound process to ensure that the content is effective, statistically valid and reliable and using input from the Sports Medicine Advisory Committee, the SMCAS data was used to help set the percentage of content items for the four clinical content domains on the sports medicine certification blueprint. Following the SMCAS data alone, the percentage of content items for the four clinical content domains were as follows:

Domain II. Preventive Aspects of Sports Medicine- 10%

Domain III. Care of Emergency Conditions- 23%

Domain IV. Diagnosis, Management, and Epidemiology of Sports- and Exercise-Related Musculoskeletal Conditions- 32%

Domain V. Diagnosis, Management, and Epidemiology of Sports- and Exercise-Related Medical Conditions- 30%

For readability and due to concerns about distribution of the clinical activities content, the Sports Medicine Advisory Committee unanimously agreed to decrease Domain III Care of Emergency Conditions from 23% to 20% and increase Domain IV Diagnosis, Management, and Epidemiology of Sports- and Exercise-Related Musculoskeletal Conditions from 32% to 35%. For the non-clinical portion of the blueprint, the Sports Medicine Advisory Committee assigned 5% of the blueprint content to the non-clinical content domain "Foundations of Practice". The new sports medicine certification blueprint was finalized by the Sports Medicine Advisory Committee in April 2025. This was approved by the cosponsoring boards and ABFM Board of Directors in May 2025. This was the same process that was used to create the family medicine certification blueprint.¹⁸

The entire sports medicine certification blueprint can be found online at the ABFM and co-sponsoring board websites: <https://www.theabfm.org/sports-medicine-blueprint/>.

Discussion

Content Gaps

The prior blueprint contained content gaps that included many clinical activities that are now listed on the revised blueprint. For example, concussion, sports ultrasound, orthobiologic treatments, considerations in parasport athletes, relative energy deficiency in sport (REDs), concepts of early sport specialization, preventing and addressing abuse in sports are all important aspects of the evolving field of sports medicine that were not included in the previous blueprint. While these concepts have been tested on the examination in conjunction with other clinical activities on the existing 2004 blueprint, it was important to recognize these as unique, individual clinical activities in the new blueprint in keeping with a desire to accurately reflect cur-

rent practice as well as to help guide clinicians' preparation for the examination and to assist fellowship program directors with curriculum development.

Goals

The primary goal of the development of the new blueprint was to comprehensively cover the entire spectrum of sports medicine as currently practiced, as well as to ensure that all clinical activities of practicing sports medicine physicians were appropriately represented. The sports medicine clinical activities survey then helped determine the percentages of questions for each domain by utilizing the frequency index and index of harm scales. It was important to write the clinical activities in a way that provided flexibility for future changes in the subspecialty, while also providing sufficient specificity for items writers, examinees, and psychometricians of the administrative board.

One of the primary reasons for updating the blueprint was to emphasize both the common and potentially life-threatening diagnoses (e.g., significant morbidity or mortality) that the profession would expect sports medicine physicians to encounter in clinical practice. For example, rather than focusing only on the musculoskeletal system alone, board-certified sports medicine physicians are expected to understand the neurologic, rheumatologic, endocrinologic, cardiac, and connective tissue disorders that also affect the musculoskeletal system and the athlete or active individual. While a board-certified sports medicine physician might not treat all these conditions, it is important for them to appropriately diagnose and manage these conditions when encountered in a clinical scenario. Physicians may encounter these clinical activities in a variety of settings throughout their careers, including a primary care office, a sports medicine or orthopedic subspecialty clinic, a training room, event/sideline coverage, or a military practice among many other sites of practice in the field of sports medicine. In the SMCAS, the term "manage" was frequently used to describe an action from a physician with a specific clinical activity. Management, in this sense, may include a simple referral to another specialist, a sideline triage to an emergency department, or a more complex management decision like prescription treatments or decisions on hospitalization and surgery. With this language, the Sports Medicine Assessment Committee will have the flexibility to develop items pertinent to the current and future field of sports medicine.

Additionally, it was important to emphasize that the specialty can train and assess board-certified diplomates to function in a team physician role as this is a common clinical practice for sports medicine physicians. Often, these roles for sports medicine physicians include a significant amount of medical and emergency clinical activities, not just musculoskeletal clinical activities. Diplomates should be expected to have the knowledge and skills to treat the variety of clinical conditions that could be encountered in these scenarios. For example, board-certified sports medicine diplomates are expected to recognize the appropriate indication for a joint aspiration for evaluation of a crystalline arthropathy or recognize the need to refer some

skeletal lesions to Orthopedic Oncology for a bone biopsy to evaluate for malignancy. While some of these conditions may not be specific to an athlete or sports, these types of conditions will be encountered in clinical practice across almost all primary care sports medicine specialty practices.

Finally, it was important to have specific updates around inclusive terminology, systemic bias, and racism, care of transgender athletes, Para Sport, and athletes with disabilities. A 'Priorities in Health and Healthcare' framework for the blueprint is planned as a future publication to encourage item writers of knowledge assessment items to include these topics as part of the assessments.¹⁹

Limitations

The new family medicine certification blueprint utilized Entrustable Professional Activities (EPAs) as a large basis for the list of family medicine clinical activities. Although sports medicine EPAs exist in India and the UK, and Orthopedic EPAs have been created, currently, sports medicine EPAs have not been developed by the ACGME for use in the United States.²⁰⁻²² Therefore, EPAs were not included in this process. Additionally, the creation of the clinical activities list and content domains are inherently subjective and at risk for bias. However, multiple rounds of external feedback were provided, which enhanced the external validity of the blueprint.

Finally, after implementing the blueprint, the Sports Medicine Advisory Committee and Sports Medicine Assessment Committee will have the option to edit the sports medicine certification blueprint if needed based off ongoing diplomate feedback and feedback from other significant stakeholders.

Conclusion

This article reviews the development of the sports medicine clinical activities survey, which was the first step in creating a new sports medicine certification blueprint. A subsequent manuscript will review how the survey was used to generate the percentage of assessment items that will be included from each clinical domain in future assessments.

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Conflicts of Interest

The authors report no conflicts of interest.

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