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# Sport and Exercise Medicine: A Cinderella Speciality?

# **EDUCATION**

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# **ABSTRACT**

# Summary

Sports and Exercise Medicine (SEM) is an emerging specialty that integrates clinical care, public health, and lifestyle medicine. Despite its growing importance in managing musculoskeletal conditions and promoting physical activity, SEM remains underrepresented in UK medical curricula. This article examines the barriers to SEM integration, including limited curricular exposure, financial constraints, and a lack of structured training pathways. It also explores international models and policy initiatives that have successfully incorporated SEM into medical education. Recommendations are provided to enhance SEM's presence in medical training, aiming to better prepare future doctors for holistic patient care.

# Relevance

As the prevalence of chronic diseases and sedentary lifestyles increases, SEM offers essential skills in prevention, rehabilitation, and health promotion. However, many medical students graduate without adequate exposure to SEM, limiting their preparedness to address these challenges. Integrating SEM into medical education is crucial for developing a workforce capable of delivering comprehensive care that includes physical activity as a key component of treatment and prevention strategies.

# Take home message:

- SEM is a vital specialty that addresses the intersection of physical activity, injury prevention, and chronic disease management.
- Medical curricula should incorporate SEM through core modules, electives, and clinical placements to provide students with practical experience.
- International examples demonstrate that structured SEM education can be successfully implemented, offering a blueprint for UK medical schools.
- Enhancing SEM training will equip future doctors with the necessary tools to promote physical activity and manage related health conditions effectively.

### INTRODUCTION

"Sports and Exercise Medicine: A Cinderella Speciality?" introduces a paradox – a medical field of growing relevance and value that remains under-recognised in undergraduate medical education. Sports and Exercise Medicine (SEM), initially focused on athletic injuries and performance, is now a critical discipline in managing chronic disease, supporting rehabilitation, and promoting population health. Yet, despite its relevance to the National Health Service (NHS) Long-Term Plan and preventative care agendas, SEM remains marginalised in both clinical training and undergraduate curricula.

This gap presents a challenge and an opportunity. Without sufficient exposure, many students are unaware of SEM's scope, career pathways, and its potential to enhance patient outcomes across diverse populations. At the same time, rising interest among students and junior doctors, increasing public health burdens linked to physical inactivity, and shifts in national healthcare policy underscore why this is a timely topic for discussion.

This article will explore SEM's growing clinical and educational importance, examine its current challenges, and offer practical recommendations for improving its integration into medical education – particularly for students and junior doctors in the UK.

# THE RELEVANCE OF SEM IN MEDICAL EDUCATION

SEM plays a critical role in managing sports-related injuries and promoting physical activity – issues that are central to both public health and clinical practice. The annual incidence of significant sporting injury is 5.40 per 100,000 individuals, (1) which imposes considerable costs on the NHS, (2) while musculoskeletal issues account for 1 in 7 GP consultations. (3) More broadly, the UK faces a crisis of physical inactivity that contributes to non-communicable diseases such as cardiovascular disease, type 2 diabetes, obesity, certain cancers, and mental health issues. (4, 5) Only 47.0% of children and young people meet recommended physical activity guidelines, highlighting the urgent need for preventive intervention. (6) Moreover, this is a global issue, as the World Health Organization (WHO) predicts that the healthcare cost of physical inactivity may reach approximately \$300 billion between 2020 and 2030. (7)

SEM physicians treat specialist musculoskeletal injuries and, as the WHO's Global Action Plan emphasises, play a key role in preventive medicine by promoting physical activity levels at a population level. (8)

In the UK, 64% of NHS professionals recognised the potential benefits of incorporating SEM doctors into their practice, and 95% expressed a willingness to refer patients to SEM services. (9) These statistics underline the need for the NHS to expand its SEM workforce - not only to improve injury management but also to promote physical activity and prevent disease across the population. Integrating SEM into the medical curriculum is key to this. Early exposure for medical students and junior can foster confidence in managing musculoskeletal presentations and strengthen their ability to implement lifestyle interventions within routine practice.

# THE EXPANSIVE SCOPE OF SEM AND ITS EDUCATIONAL INTEGRATION

The scope of SEM, a dynamic and multifaceted field, is still evolving. (10) The speciality encompasses exercise testing, prescription, and the diagnosis and rehabilitation of musculoskeletal injuries, catering to both elite athletes and the general population. (11) SEM research continues to drive innovations in injury prevention and sports science, while its practical applications extend to population-based initiatives aimed at reducing sedentary lifestyles. (12)

SEM support for athletes – including our armed forces – fosters enhanced performance and safe sports participation. (13) The UK Faculty for SEM (UKFSEM) describes the field as a 'broad church', noting its holistic approach. SEM physicians work within multidisciplinary teams to manage medical conditions, advise on injury prevention, and promote overall wellness. (14) The speciality also intersects with several other disciplines, including orthopaedics, soft tissue medicine, rheumatology, rehabilitation, and emergency medicine, underscoring its broad clinical relevance. (15)

# THE DEVELOPMENT OF SEM AND THE 2012 LONDON OLYMPICS

The British Association of Sport and Exercise Medicine (BASEM), established in 1952, began with a focus on managing sports injuries. Over time, its remit has broadened to address wider public health priorities through the promotion of physical activity. In 2005, SEM was formally recognised as a medical speciality by the UK government, creating career pathways across primary and secondary care, including roles in community health and elite sports settings. (14)

The London 2012 Olympics marked a turning point in SEM's development, elevating its profile and infrastructure through the creation of world-class facilities – most notably the National Centre for Sport and Exercise Medicine (NCSEM), designated by the International Olympic Committee (IOC) as a research centre for injury prevention and athlete health. (16) The legacy of the games also helped position SEM as a critical element in athlete care and injury prevention in both elite and recreational settings.

Research within the speciality has since advanced, particularly in injury prevention, rehabilitation, and wellbeing, with SEM professionals developing evidence-based guidelines and pioneering innovative treatment modalities. (17) BASEM has also played an important role in supporting medical students, offering membership benefits such as access to conferences, educational resources, networking opportunities, and student awards. These opportunities make the speciality more accessible.

# **CHALLENGES TO SEM EXPANSION**

The growth of SEM has slowed in recent years, with reductions in training posts reported in Scotland and Wales. (18) Analysts may attribute this deceleration to a range of factors, including a decline in post-Olympic momentum and unclear strategic prioritisation. As NHS SEM posts are limited, most trainees ultimately take up positions in the private sector after completing consultancy training. (18) Currently, there are only 9 SEM speciality training posts available nationally each year through the ST3 application round. (19) Recent data show that interest in SEM is rising rapidly, with competition ratios for each post increasing from 2.4 in 2015 to 8.5 in 2024, while the number of jobs available remains static. (20) Over 70 applicants applied in 2024 alone—many applying solely to SEM—highlighting the dedication among candidates and the mismatch between demand and capacity. (20)

Opportunities for academic training do exist, including a small number of National Institute for Health and Care Research Academic Clinical Fellowship (NIHR ACF) posts in SEM but they remain highly competitive and geographically limited. (21) Alternative routes, such as the General Practitioner with Extended Roles (GPwER) pathway, offer a more flexible—but self-directed—entry point into SEM, requiring years of experience and structured learning. (18) This supply-demand imbalance, coupled with limited exposure during undergraduate training, makes it difficult to develop a clear and accessible SEM career pathway—possibly deterring otherwise committed applicants.

More broadly, the field faces serious challenges, including a lack of resources to fund specialist SEM clinics and research and competition for NHS funds, which constrains the delivery of SEM services across the UK. (22) SEM professionals must also address societal barriers to physical activity, including socioeconomic factors, a shortage of safe exercise facilities, and limiting cultural attitudes towards physical activity. These challenges extend beyond the clinic and require a comprehensive approach to promote physical activity across diverse populations. Despite increasing awareness of the benefits of sports and movement, levels of inactivity remain high, highlighting the need for tailored, community-sensitive interventions. (23)

# POLICY TENSIONS AND SYSTEMIC IMPACT

The scope and definition of SEM have been the subject of policy debate, shaped in part by competing priorities between clinicians advocating for specialist training and health officials focused on broader public health cost containment. (10, 14) This has often led to an emphasis on physical activity promotion over the advancement of musculoskeletal clinical training within SEM policy. (10) In contrast, countries like Australia and New Zealand have prioritised clinical excellence in exercise and injury management, sometimes with less focus on preventive, population-level approaches. (10) These contrasting models highlight the importance of a balanced UK approach—one that integrates public health strategy with high-quality clinical training to meet both population-level and individual patient needs.

Encouragingly, there is a growing alignment between SEM's preventive focus and the UK government's evolving health strategy. The current Labour government has launched a Child Health Action Plan aimed at reducing smoking and obesity, banning junk food advertising, and embedding healthy behaviours early. (24) Broader NHS reform documents, such as the government's Road to Recovery mandate and commentary from leading think tanks, have also emphasised a strategic shift from hospital-based care to community delivery, and from treatment to prevention. (25, 26) These priorities strongly reflect SEM's core competencies—such as exercise prescription, lifestyle counselling, and early musculoskeletal intervention.

A 10-year plan for health and care is currently in development. (26) If SEM is acknowledged and supported within this plan, it would represent a significant advance in integrating the speciality into the NHS. However, even without this, SEM remains well-positioned to contribute meaningfully to the government's preventive and community-based healthcare goals.

# GAPS IN UNDERGRADUATE SEM EDUCATION

Exposure to SEM during medical school is frequently inadequate. Thirty-one percent of NHS practitioners have suggested that insufficient SEM education hampers the growth of the speciality within the NHS and many medical students interested in SEM cite a lack of formal teaching in their curricula. (14, 27, 28) In one study, a significant majority of medical students reported receiving no training on physical activity counselling and 87.8% of them were unaware that SEM is even a speciality. (29) Unsurprisingly, only 52% of final-year medical students in the UK feel confident about offering patients advice on physical activity. (30)

In fact, few medical schools offer compulsory SEM training, limiting students' only experience of the field to managing sport-related fractures during an orthopaedic rotation. This is inconsistent with the General Medical Council's "Outcomes for Graduates" guidance, which encourages doctors to be skilled in providing tailored exercise advice and demonstrating core musculoskeletal skills. (31)

To address these educational shortcomings, some medical students choose to intercalate in SEM-related subjects or pursue optional modules where available. (32) Recent studies have helped define what an undergraduate SEM curriculum could look like. A Delphi study identified core topics for inclusion—such as exercise prescription, lifestyle medicine, and common musculoskeletal injuries-providing a foundation for curriculum planners and medical educators. (33) Other studies have proposed postgraduate SEM syllabi to standardise advanced training pathways, including both clinical and academic competencies. (34, 35) These structured frameworks offer the potential to align SEM education across the undergraduate-postgraduate continuum, supporting consistent training and clearer career progression.

Extra-curricular SEM activities are also thriving across UK medical schools. BASEM has seen record student membership levels, and most medical schools now host SEM societies run by students. These groups are coordinated through the Undergraduate SEM Society (USEMS), which supports national events, webinars, and student-led initiatives to raise awareness of SEM career pathways and clinical relevance. (32, 36) While these efforts remain largely student-driven, their growing popularity reflects a clear appetite for SEM exposure. Greater institutional support could help formalise these initiatives—turning interest into structured opportunities.

# OPPORTUNITIES FOR MEDICAL SCHOOLS AND STUDENTS

Increasing undergraduate SEM exposure may help foster recruitment into the speciality. To ensure sustainable growth and integration, medical schools should consider embedding SEM content into core teaching—particularly within public health and musculoskeletal modules.

Public Health England and Sport England have acknowledged the need for medical education to emphasise the importance of physical activity for patient health. (32) They recognise that students can play a key role in encouraging medical schools to adopt these frameworks, helping to ensure that future doctors are equipped to promote physical activity and manage musculoskeletal injuries effectively, ultimately improving healthcare outcomes. In the meantime, undergraduate medical students interested in SEM can take several steps to engage with the speciality. Joining BASEM, following USEMS on social media, and attending USEMS events are excellent starting points. (36, 37)

Students interested in further engagement might undertake SEM-related research, choose intercalated degrees, or find electives in sports clinics and musculoskeletal services. (37, 38) To reduce financial barriers, educators and governing bodies should consider expanding access to NHS-sponsored training schemes, travel bursaries, and scholarships that support student attendance at SEM events or clinical placements.

Countries such as Canada, Italy, Portugal, and the Netherlands offer useful examples of how SEM exposure can be embedded more systematically into medical education. In Portugal, students can undertake undergraduate internships with hands-on experience in clinical and athletic settings. (39) The Netherlands integrates SEM into wider public health and lifestyle medicine frameworks, aligning medical education with national prevention strategies. (40) Canada offers SEM electives across multiple universities, while Italy includes SEM modules within both sports science and medical degree programs. (41, 42) By contrast, SEM exposure in the UK still relies heavily on voluntary, student-led initiatives such as USEMS, and lacks a standardised curriculum or formalised clinical placements. (36) UK medical schools could draw on these models to provide scalable and equitable SEM opportunities.

# EXPERIENTIAL TRAINING AND ENGAGEMENT OPPORTUNITIES IN SEM

Entry into SEM typically follows the completion of Foundation Training (FY1 and FY2), after which doctors may pursue Core Medical Training, Acute Care Common Stem, or General Practice (GP) before applying for higher speciality training in SEM. (11) The four-year SEM training programme includes rotations across musculoskeletal medicine, public health, general practice, and emergency medicine – exposing trainees to the broad, interdisciplinary nature of the speciality. (11) Figure 1 illustrates the pathway for Higher Speciality Training in SEM.

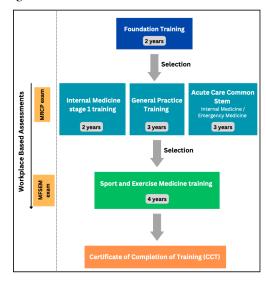


Figure 1: Pathway for Higher Specialty Training (HST) in Sport and Exercise Medicine, adapted from the Joint Royal Colleges of Physicians Sport and Exercise Medicine Training Curriculum. (11)

During training, doctors develop key practical competencies, such as musculoskeletal ultrasound, exercise stress testing, and sports-specific rehabilitation, often in collaboration with national sports governing bodies and performance institutes. (11, 12) Training includes diverse placements across NHS and private sector settings, supporting both elite and recreational athletes, as well as those involved in disability sports. (14) For GPs, self-directed development is an alternative structured learning option, which demands significant time and commitment to achieve competence across SEM domains. (43)

There are also a small number of academic posts available, such as the NIHR ACF. (21) SEM training equips clinicians to become leaders in physical activity promotion, injury prevention, and rehabilitation, with a strong emphasis on practical experience.

# CONCLUSION AND ACTIONABLE RECOMMENDATIONS

The high incidence of sports-related injuries and a broader physical inactivity crisis underline the pressing need for an established and well-defined SEM speciality within the UK healthcare system. Despite growing interest and policy recognition, SEM continues to face systemic barriers—including limited training posts, variable policy direction, and insufficient exposure in "Ĉinderella undergraduate curricula. The term speciality" reflects SEM's paradoxical position—a field promise considerable that underrepresented in both education and clinical infrastructure. Realising SEM's full potential will require greater strategic alignment between medical schools, professional bodies, and national health policy. The following actions are recommended to support SEM's integration into medical education and practice:

For Medical Educators and Curriculum Designers:

- Embed SEM within core teaching—particularly in musculoskeletal medicine and public health modules.
- Collaborate with SEM organisations (e.g. BASEM) to offer structured student placements, teaching resources, and guest lectures.
- Reduce barriers to participation by expanding access to funded electives, bursaries, and NHS-sponsored initiatives.

For Medical Students and Resident Doctors:

- Join SEM-focused student societies and national bodies to build networks and gain early insight into the speciality.
- Seek out clinical opportunities—through placements, electives, or shadowing—to build confidence in exercise-based care.
- Advocate for curriculum change by highlighting the value of SEM in delivering modern, preventative healthcare.

With a coordinated effort, SEM can transition from a marginalised field to a foundational component of modern medical training—improving outcomes for patients, practitioners, and the wider healthcare system.

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