

ORIGINAL ARTICLE

Defining the sports medicine specialist in the United Kingdom: a Delphi study

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Objective: To define the role and responsibilities of the sports medicine specialist using a recognised research technique.**Methods:** A Delphi technique was employed using anonymous postal questionnaires sent to a random sample of 300 members of the British Association of Sport and Exercise Medicine. The questionnaire of 300 putative attributes was developed in a pilot study and the Delphi technique used allowed participants to modify their responses according to the responses of other participants.**Results:** There was a 53% response to both rounds of the study with 75.6% of the respondents being male, 39% having a higher qualification in sports medicine, and 45.6% being general practitioners. Some 86.3% strongly agreed that sport and exercise medicine should be a recognised speciality and 90% strongly agreed that it should be available on the National Health Service (NHS). The most important specialist attributes were orthopaedic and soft tissue medicine (83.6% strongly agreed) and emergency medical management (79.7% strongly agreed). More than 75% of respondents did not agree that either research or personal playing experience were relevant.**Conclusion:** Sports and exercise medicine is an evolving speciality in the United Kingdom. We believe this is the first systematic attempt to define the role and responsibilities of the sports medicine specialist and the findings are of relevance to the future development of a career pathway.

Sports medicine is a well recognised speciality in many countries, but the nature of the speciality may differ. Sports medicine specialists may also be family doctors, general physicians, cardiologists, orthopaedic physicians or surgeons, rheumatologists, or specialists in public health medicine amongst other things. Each may be a specialist in sports medicine, but with very different knowledge and skills, viewing sport from many different personal or professional angles. They may care for the elite athlete, the top national teams and individual Olympians, or the everyday recreational athlete and each may have a different, yet legitimate, understanding of sports medicine.

So, what is a sports medicine specialist? The aim of the study was to explore the role and responsibilities of the sports medicine specialist. We attempted to define the sports medicine specialist from the UK perspective by asking those who have registered their interest in this field through membership of the British Association of Sport and Exercise Medicine. The specific objectives were to identify those attributes of training and expertise considered, by a national representative sample, to be most important in the sports medicine specialist. As there is no consensus in the United Kingdom on what constitutes a sports medicine specialist, there cannot be a defined training programme or career pathway.

Curriculum development has, to date, been defined by the examinations body behind each of the various qualifications. The curriculum for sports medicine training or examination has been defined in several countries including Canada,¹ the Republic of Ireland,² Germany,³ Finland,⁴ Australia,^{5,6} and America.^{7,8} All of these face the conundrum of defining the training programme to become a specialist when the attributes of that specialist are unknown.

We tried to identify other attempts to define the specialist from a literature search using the key words "sports medicine", "specialist", "training", and "qualities" but could identify no previous studies to help define the role or attributes of the sports medicine specialist. An editorial from *The Physician and Sportsmedicine* describes their attempts to

define sports medicine which resulted in the statement that "sports medicine is practised in a number of venues by clinicians with overlapping but distinct areas of expertise".⁹

METHOD

This study used the Delphi technique, a recognised research method of canvassing opinions using peer feedback. The Delphi technique is based on subjective consensus and according to Goodman¹⁰ "its purpose is to generate discussion and enable a judgement on a specified topic to be made so that policy decisions can be taken which can claim to represent a given group's wants and views". We sought the views of members of the British Association of Sport and Exercise Medicine (BASEM), a multidisciplinary speciality grouping of approximately 800 members. The diversity of background and professional experience of the members of BASEM allied to the commitment shown by membership was felt to present the best population from which to canvas opinion. The sample size was calculated to make the sample representative as a whole and the subgroups relatively small.

This technique is a well recognised method of obtaining consensus and has been used in many similar studies.^{10–31} In a preliminary study, we asked 13 sports medicine specialists with recognised higher qualifications in sports medicine (from backgrounds of orthopaedic surgery, general practice, and A&E) in Northern Ireland to identify all those qualities they considered important for a sports medicine specialist.³²

We identified the 300 putative attributes of the sports medicine specialist and used this list of qualities as the template for this national study. The list of attributes used in this study was identical to that determined by the pilot study and was categorised in 11 groups (table 1). One of these groups, as suggested in the pilot study, contained a list of principles of health care for sports medicine from the World Medical Association declaration amended in Budapest 1993.

Abbreviations: BASEM, British Association of Sport and Exercise Medicine; NHS, National Health Service

Table 1 Categories of attributes

- (1) Access availability and administration
- (2) Clinical skills
- (3) Education, teaching, and research
- (4) Teamwork
- (5) Uses of resources and investigations
- (6) Ethics
- (7) Communication skills
- (8) Application of knowledge
- (9) Treatment modalities
- (10) Self management skills
- (11) Practical skills

The entire list of statements was circulated to a computer generated random sample of 300 members of BASEM, using a mailing list supplied by the association, and each participant was invited to indicate how important they considered each attribute from "strongly agree", "agree", "neither", "disagree" to "strongly disagree". In the second round of the Delphi process we circulated a further copy of this list to all respondents and indicated the most frequent answer and the percentage of respondents who supported this answer. Participants were invited to score their level of agreement with each statement again, using the same criteria, but were permitted to change their views from their previous scores. This is a well recognised means of identifying opinions by consensus. Responses were collated and analysed using SPSS software with numerical values allocated to each response (1 = strongly disagree to 5 = strongly agree).

RESULTS

There were 160 (53%) completed returns for both the first and second rounds. Of these, there were 121 male and 38 female respondents, composed of 73 general practitioners, 33 hospital specialists, six junior hospital doctors, 31 physiotherapists, and 14 other members including five sports scientists. Of these, 63 respondents had either a diploma (41) or masters degree²² in sports medicine. A total of 13 were currently studying for a qualification and one respondent had both qualifications.

The majority of respondents (138; 86.3%) considered that sport and exercise medicine should be recognised as a speciality and 144 (90%) considered that sports and exercise medicine should be available on the National Health Service (NHS). Most respondents (105; 65.6%) considered that there should be higher specialist training. Of particular interest currently is the fact that 54 (33.8%) believed that the Royal College of General Practitioners was the most appropriate mother college while 26 (16.3%) believed it should be the Royal College of Surgeons and 33 (20.6%) believed that the Royal College of Physicians would be most appropriate. Of the 34 (21.3%) who considered that another body should have responsibility, 10 (6.3%) specified a combined group of Royal Colleges and five (3.1%) stated that it should be a specialist body or College of Sports Medicine.

Table 2 shows the scores for the top 20 attributes on the second round. This table includes only those statements with which more than 80% strongly agreed and prioritises what people consider to be the most appropriate attributes. In table 3 we show those statements where more than 25% of respondents disagreed or had a neutral opinion on their importance.

DISCUSSION

This study attempted to define the key attributes of training and expertise considered to be important in a sports medicine specialist. It is the largest and most representative study of the opinions of those with an interest in sports medicine

reported in the literature. The strength of this study is that it provides consensus from the group as a whole and distances it from arguments between different factions, although it could be said that the role of the specialist should not be defined by generalists. It helps create a picture of what attributes are believed to be most important and it is of considerable value at a time when sport and exercise medicine is developing as a speciality in many countries, including the UK. This study uses a formal research technique to paint the picture, but future debate and discussion may help add colour and substance to this evolving outline.

As expected, the majority of respondents believe that sports and exercise medicine should be recognised as a speciality, and that sports and exercise medicine should be available on the NHS. After all, the sample base for this study was representative of the membership of the only multidisciplinary national organisation in the UK, and respondents were likely to be a self selected group of those with a particular interest. What is, perhaps, more interesting is that 15.7% did not feel that sports medicine should be a separate speciality and that 10% did not believe that it should be funded by the NHS. Even in this group, who believe strongly in the importance of the speciality, just under two thirds considered that there should be higher specialist training. Once again, the majority vote was not unexpected, but the surprising finding was that one third did not consider higher specialist training necessary. There is, therefore, even in this selected sample, a considerable group who regard sports medicine as a special interest, rather than as an independent career.

Opinions varied on which college should take overall responsibility for development of the sports medicine specialist with one third in favour of the Royal College of General Practitioners, one fifth in favour of the Royal College of Physicians, and one sixth suggesting the Royal College of Surgeons. This is interesting in the context of developments in the Republic of Ireland, where the Royal Colleges of Physicians and of Surgeons have recently joined to support a new Faculty of Sport and Exercise Medicine.

The prime aim of the study was to identify those attributes that were considered most important for a sports medicine specialist. The list of qualities with which more than 80% of respondents strongly agreed included both generic and specific skills and there was no statement with which every respondent strongly agreed. Of the 22 statements, 12 were general statements relating to appropriate care that could be applied to any medical professional, irrespective of their speciality. Ten statements could be regarded as having special relevance to sport and exercise medicine and can help define the parameters of the discipline.

It was interesting to note the emphasis on emergency care and, in particular, on the management and transfer of the acutely injured patient. Two of the top 22 attributes related to access and referral to physiotherapy colleagues, underlining the importance of multidisciplinary sports medicine care. We also tried to quantify the importance of the contributions of the various specialities (table 4). Orthopaedic medicine and soft tissue care was ranked as most important, followed by the assessment and management of emergencies in the field, and a working knowledge of rehabilitation, including physiotherapy.

The attributes that scored highest were those relating to medical indemnity and remaining sober while on duty, and nine of every ten respondents believed these were very important. One may, of course, wonder why 10% of respondents did not strongly agree, but overall all respondents agreed with the statement.

Each of the statements included in the study had been considered important by at least one of the original panel in the pilot study. Yet, there were a number of statements with

Table 2 Proportion of respondents who strongly agreed with the statement

The statement	Strongly agree, %
Has appropriate medical indemnity	90.6
Remains sober while on duty	88.9
When the sports participant is a professional sportsman or athlete and derives livelihood from that activity the physician should pay due regard to the occupational aspects involved	88.1
Knowledge and understanding of how injury affects sport	87.5
Provides immediate/early access for acutely injured athletes	87.4
Ability to formulate appropriate management plan based on history and examination	85.8
Monetary gain should not influence clinical decisions	85.8
Avoid negligence	85
Ability to formulate accurate differential diagnosis from full history and examination	84.4
Should be competent at CPR/basic life support	84.4
Have personal and professional integrity	84.3
Deals competently with mistakes	84.1
Does not endanger patient's health nor causes needless suffering	83.7
Should be competent at cervical spine immobilisation and protection	83.6
Knowledge and understanding of soft tissue injury/orthopaedic medicine	83.6
Can ensure an injured athlete is transferred safely in emergency situation	83.6
Ability to perform detailed, systematic, general, and sports related history	83.6
Has access to physiotherapist	83.5
Appropriate referral to physiotherapy and liaison in management	82
Refers appropriately	81.1
In sports medicine as in all other branches of medicine professional confidentiality must be observed. The right to privacy over medical attention the sportsman/athlete has received must be protected, especially in the case of professional sportsmen/athletes	81.0
Updates and maintains clinical skills	80.5

which few agreed nationally. This helps us to identify those areas that respondents would not prioritise. Of the top ten statements with which more than 25% of respondents would disagree or were neutral, five were related to research and publication. Clearly these academic endeavours are not considered important, although recent opinions suggest that they are important.³³ In fact an article on post-graduate medical education with regard to sports medicine stated that "it is generally agreed that an understanding of the principles of research and the ability to assess critically the results of published work are essential attributes of a doctor".³⁴ This is in keeping with the British Medical Association statement that "an individual with expertise in sport and exercise

medicine will understand the need for continuing research and audit".³⁵ More surprising, perhaps, was that three quarters did not consider it important that sports medicine specialists should have experience as a player, nor that they should have a formal attachment to a team.

There have been few attempts in other disciplines to define a speciality or curriculum using a formal method. In one study of 730 medical graduates, researchers tried to prioritise areas of knowledge in order to define a curriculum and the educational objectives of a surgical curriculum using a Delphi study.³⁶ Similarly, a smaller study of 21 general practitioners aimed to find consensus on competencies required in a postgraduate therapeutics course.³⁷ These studies were

Table 3 Attributes with which more than 25% would disagree or remain neutral

The statement	Disagree or neutral, %
Has relevant publications and aspires to a research qualification	80.5
Experience as a player at different levels	75.5
Can write a research paper	71.6
Supervises relevant research by other doctors (A&E, GPs)	67.9
Speaks well to the media	66.1
Can write an educational paper	66.1
Has combined clinics with orthopaedics/rheumatology	65.9
Lectures well	62.3
Has a formal attachment to a team or sport	62.2
Up to date on current diving legislation	61.5
Ability to formulate business plan for sports injury clinic	60.4
Provide phone coverage	58.7
Competent in manipulative and mobilisation techniques	56.8
Provides information leaflets	38.7
Initiates and completes research relevant to sport and exercise medicine	36.8
Involved and local and national bodies	36.5
Uses sports medicine skills in a mainstream medical/surgical post	35.4
Always available to help others	33.9
Experience in general practice	33.6
Ability to strap/tape	32.0
Has access to pain clinic	31.0
Attends training sessions and games frequently	30.1
Prepared to cover the absence of others	27.6
Familiar with all aspects of a wide range of sports at various levels	26.8
Should have experience of working as team doctor to a variety of sports both team and individual	26.7
Helps with physiotherapy/podiatry training	25.8

Table 4 The importance of different specialist attributes

The statement	Strongly agree, %
Orthopaedic medicine/soft tissue	83.6
Should be competent in the assessment and management of emergencies in the field	79.7
Working knowledge of rehabilitation, especially physiotherapy	72.7
Sports related asthma	30.5
Pharmacology and prescribing	28.9
Physiology	25.8
Knowledge and understanding of: general medicine	21.9
Rheumatology	16.4
Psychology	16.4
Cardiology	10.9
ENT	7.8
Gynaecology	7.0

Take home message

There is still lack of agreement in the UK as to the precise nature of the key attributes of a sports medicine specialist. Until there is agreement on this there cannot be a suitable training scheme.

successful in reaching consensus among professionals, but we could identify no formal research on sports medicine. An expert panel, convened from ten specialists in sport and exercise medicine in the United States,³⁸ issued a consensus statement in order to provide guidelines on what would be expected from a team physician (as opposed to a sports medicine specialist). They identified the definition, qualifications, duties, and education of a team physician, but it was not undertaken using a formal research based consensus method. In our study, we used a recognised method to identify the opinions of those who had signalled their interest in the field through their membership of BASEM and we believe that this is the first systematic attempt to define the roles and responsibilities of the sports medicine specialist.

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