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. We identified the 300 putative attributes of the sports medicine specialist and used this list of qualities as the basis for our Delphi study.

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, Germany, Finland, Australia, and America. All of these face the conundrum of defining the training programme to become a specialist when the role of the sports medicine specialist is still unknown.

We tried to identify other attributes 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”.

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 Goodman’s “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. 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.

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
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 sport 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 a working knowledge of rehabilitation, including applied to any medical professional, irrespective of their specialty. The list of qualities with which more than 80% of respondents agreed with the statement.

The attributes that scored highest were those relating to emergency care and, in particular, on the management and transfer of the acutely injured patient. Two of the top 22 attributes related to the relevance to sport and exercise medicine and can help define the parameters of the discipline. 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 specialty. 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 specialties (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
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.

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”. 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. Similarly, a smaller study of 21 general practitioners aimed to find consensus on competencies required in a postgraduate therapeutics course. These studies were

<table>
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<tr>
<th>The statement</th>
<th>Strongly agree, %</th>
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<tr>
<td>Has appropriate medical indemnity</td>
<td>90.6</td>
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<tr>
<td>Remains sober while on duty</td>
<td>88.9</td>
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| 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 Knowledge and understanding of how injury affects sport Provides immediate/early access for acutely injured athletes Ability to formulate appropriate management plan based on history and examination Monetary gain should not influence clinical decisions Avoid negligence Ability to formulate accurate differential diagnosis from full history and examination Should be competent at CPR/basic life support Have personal and professional integrity Deals competently with mistakes Does not endanger patient’s health nor causes needless suffering Should be competent at cervical spine immobilisation and protection Knowledge and understanding of soft tissue injury/orthopaedic medicine Can ensure an injured athlete is transferred safely in emergency situation Ability to perform detailed, systematic, general, and sports related history Has access to physiotherapist Appropriate referral to physiotherapy and liaison in management Refers appropriately 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 Updates and maintains clinical skills

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<th>The statement</th>
<th>Disagree or neutral, %</th>
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<tbody>
<tr>
<td>Has relevant publications and aspires to a research qualification</td>
<td>80.5</td>
</tr>
<tr>
<td>Experience as a player at different levels</td>
<td>75.5</td>
</tr>
<tr>
<td>Can write a research paper</td>
<td>71.6</td>
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<tr>
<td>Supervises relevant research by other doctors (A&amp;E, GPs)</td>
<td>67.9</td>
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<tr>
<td>Speaks well to the media</td>
<td>66.1</td>
</tr>
<tr>
<td>Can write an educational paper</td>
<td>66.1</td>
</tr>
<tr>
<td>Has combined clinics with orthopaedics/rheumatology</td>
<td>65.9</td>
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<tr>
<td>Lectures well</td>
<td>62.3</td>
</tr>
<tr>
<td>Has a formal attachment to a team or sport</td>
<td>62.2</td>
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<tr>
<td>Up to date on current diving legislation</td>
<td>61.5</td>
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<tr>
<td>Ability to formulate business plan for sports injury clinic</td>
<td>60.4</td>
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<tr>
<td>Provide phone coverage</td>
<td>58.7</td>
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<tr>
<td>Competent in manipulative and mobilisation techniques</td>
<td>56.8</td>
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<td>Provides information leaflets</td>
<td>38.7</td>
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<tr>
<td>Initiates and completes research relevant to sport and exercise medicine</td>
<td>36.8</td>
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<tr>
<td>Involved and local and national bodies</td>
<td>36.5</td>
</tr>
<tr>
<td>Uses sports medicine skills in a mainstream medical/surgical post</td>
<td>35.4</td>
</tr>
<tr>
<td>Always available to help others</td>
<td>33.9</td>
</tr>
<tr>
<td>Experience in general practice</td>
<td>33.6</td>
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<tr>
<td>Ability to strap/tape</td>
<td>32.0</td>
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<tr>
<td>Has access to pain clinic</td>
<td>31.0</td>
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<tr>
<td>Attends training sessions and games frequently</td>
<td>30.1</td>
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<tr>
<td>Prepared to cover the absence of others</td>
<td>27.6</td>
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<tr>
<td>Familiar with all aspects of a wide range of sports at various levels</td>
<td>26.8</td>
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<tr>
<td>Should have experience of working as team doctor to a variety of sports both team and individual Helps with physiotherapy/podiatry training</td>
<td>25.8</td>
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Table 2  Proportion of respondents who strongly agreed with the statement

Table 3  Attributes with which more than 25% would disagree or remain neutral
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,39 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.

ACKNOWLEDGEMENTS

We would like to thank all those who participated in both the pilot and main studies for their patience and diligence in completing the lengthy questionnaires.

REFERENCES
