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Professional Issues

Sports physiotherapy standards: A minimum threshold of performance

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Abstract

Objectives: This article aims to disseminate information about the expected standards of competence for sports physiotherapists and to illustrate their application.

Context: Sports physiotherapy standards have been developed from the foundation of the competencies previously adopted by the International Federation of Sports Physiotherapy and provide specific and contextual descriptions of sports physiotherapy practice at a Master's level. These descriptions are important for professional recognition, for quality assurance mechanisms, and for the development of career pathways for sports physiotherapists. The development of competencies and standards has been carried out within the Sports Physiotherapy for All Project, funded by the European Union Leonardo-da-Vinci programme.

Process: The development of sports physiotherapy standards is briefly outlined and this article uses examples of standards that focus on both therapeutic and professional processes to illustrate the application of standards to practice.

Outcomes: As sports physiotherapists develop their ability to apply the competencies and standards to their own practice, they will be able to take greater ownership of their own career development. These behavioural descriptors enable the award of credit for prior learning through formal and informal learning, as well as facilitating informed decisions about the most appropriate future learning required to develop as a professional.

Keywords: Sports physiotherapy; Standards; Competencies

1. Introduction

The purpose of this paper is to disseminate information about the expected level of performance of sports physiotherapists and to illustrate the integral nature of standards to advanced competence and scope of practice. The development process and the framework designed to communicate the standards are outlined. Examples are then used to illustrate how the standards describe the therapeutic and professional processes carried out by the sports physiotherapist, and communicate practice at a master's level. The content is an extension of the authors' work published earlier this year (Bulley & Donaghy, 2005) and brings new knowledge to the fields of sports physiotherapy and professional education.

2. Background to the development of sports physiotherapy standards

As physiotherapy has developed, the vast knowledge and skill base has led to the development of specialist areas (Donaghy & Gosling, 1999). Sports physiotherapy has emerged as a prominent specialisation of physiotherapy.

As sports physiotherapy continues to develop, it has become important to provide descriptions of the capabilities demonstrated by professionals. Communication of professional behaviours is important for several reasons. It allows sports physiotherapists to promote their profession and gain recognition, from the level of multidisciplinary practice, to the level of policy development. At a policy level, common understandings facilitate the development of mechanisms for professional mobility between countries. At the level of service delivery, descriptions allow quality

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assurance mechanisms to be developed and implemented. Individual sports physiotherapists can make use of the descriptions in forming goals for their professional development. Employers can utilise the descriptions of professional behaviours to inform and agree personal development plans, guiding their employees in their career pathways, through competency-related education and training. Educators are able to design appropriate learning opportunities for employers and professionals who are seeking specific competency-related education and training.

These motivations lay behind the decision of the International Federation of Sports Physiotherapists (IFSP) to collaborate with five European higher education institutions in developing the Sports Physiotherapy for All (SPA) project. This EU-funded project is described more fully in Bulley et al. (2005). The first stage of the SPA project was to develop sports physiotherapy competencies. These can be defined as descriptions of 'effective professional behaviours that integrate specific knowledge, skills and attitudes in a particular context' (Ministry for Education, Culture and Science; Netherlands, 2002, in Bulley et al., 2005, p. 12). Eleven sports physiotherapy competencies resulted from a rigorous development protocol; these were accepted at the IFSP General Meeting in Estoril, Portugal, 5th November 2004 (Bulley & Donaghy, 2005, Bulley et al., 2005). Once the competencies were accepted, the process of developing sports physiotherapy standards began.

3. Sports physiotherapy standards

Standards are criteria for performance and aim to provide descriptions of the minimum level of capability expected of the professional (European Region of the World Confederation of Physical Therapy, 2003; Learning and Teaching Support Network, 2004; Quality Assurance Agency, 2004). Sports physiotherapy standards describe specific professional behaviours, including those unique to the profession, and others that integrate specialist knowledge and master's level thinking in the application of general physiotherapy skills.

Standards are integrally linked with competencies, as specific behavioural indicators of the level at which competencies should be demonstrated. Therefore, the decision was made to develop a set of standards for each competency, and to merge the eleven competencies and related standards into one document. Although this allowed a small amount of overlap between standards relating to different competencies, it also enabled greater ease of communication and understanding.

Several key decisions informed the development of the standards. There was agreement that standards should be inclusive and apply to sports physiotherapists working in a wide variety of settings, with recreational and competitive athletes. There was also consensus that the standards should be written at Master's level, which requires the ability to transfer knowledge between contexts; sports physiotherapists should be able to demonstrate this flexibility by being able to work in more than one sporting context (Scottish Credit and Qualifications Framework: SCQF, 2003).

The development of sports physiotherapy standards was carried out in several stages. First, a group of international experts who had previously been involved in the development of the competencies met to discuss specific behavioural requirements of sports physiotherapists. They discussed issues such as the level at which the professional should be working, and the number of contexts in which standards should be demonstrated. The panel of experts was facilitated by the project leader and the researcher from Queen Margaret University College. Experts worked individually and then in pairs to describe the activities relating to each of the competency areas. These activities were further described in relation to advanced knowledge and skill application. Group discussion led to consensus in relation to the different competency areas.

Following the expert meeting the standards were formulated by the researcher, ensuring that context and level were incorporated where appropriate. The first draft was reviewed by the international experts in sports physiotherapy and the SPA core group members, including membership of the IFSP and the five European education institutes.

Following revision, the standards were subjected to external review via the SPA website. A dissemination strategy was used to ensure that people were aware of the review process. The revised document was presented and accepted at the IFSP General Meeting in Oslo, Norway, on the 21st of June, 2005. It is available through the SPA website [www.SportsPhysiotherapyForAll.org].

4. Standards as process descriptions

A framework was developed to facilitate communication of the standards. This is based on theories about knowledge and skill development (Winterton, Delamare-Le Deist, & Stringfellow, 2005; Jarvis et al., 2003), and aims to reflect a cognitive and behavioural process that may be therapeutic, and/or professional. Fig. 1 illustrates the framework used. This process will be explained further, with examples of standards relating to a primarily therapeutic competency (Rehabilitation: Table 1) and examples from a professional competency (Life-long learning: Table 2).

4.1. Foundation knowledge

Several learning theories state that cognitive learning is required to increase the knowledge base before problem-solving and behavioural learning can occur (Winterton et al., 2005). It is important that some standards reflect the development of knowledge at a high enough level. For

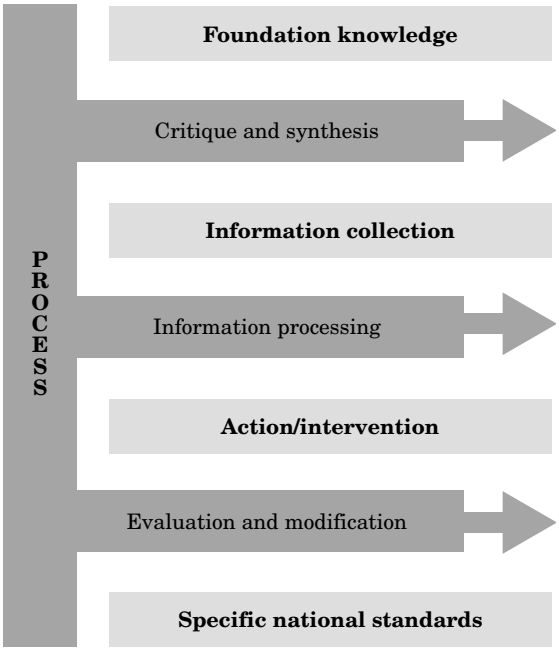


Fig. 1. Sports physiotherapy standards framework (Bulley & Donaghy, 2004).

example, in relation to rehabilitation, standard 3A: 2 specifies that 'the sports physiotherapist demonstrates the ability to discuss the impact of co-existing and pre-existing pathologies on the rate and quality of tissue healing'. In other words, the professional has scientific knowledge relating to pathology and tissue healing, and the effects of one on the other. In relation to life-long learning, standard 6A: 1 requires that sports physiotherapists demonstrate the ability to 'discuss the importance of ongoing learning to ensure quality of service provision'. This requires knowledge and thought regarding learning, service development, and quality assurance. In both cases, elements of cognitive learning precede the development of behavioural standards.

4.2. Critique and synthesis

Knowledge does not remain isolated. An individual must be critical of the source of the information, and of the way in which it was generated. They must synthesise it, or integrate it with information from a variety of other sources, while taking into account the credibility of the information. This is an ongoing process, with the continual development of new information. For example, standard 3B: 1 requires that sports physiotherapists criticise current research relating to rehabilitation, making judgements regarding its credibility. This enables the professional to appropriately integrate new developments into practice, rather than accepting potentially flawed opinions and practices. Similarly, standard 6B: 1 requires sports physiotherapists to be critical of information gained in different learning environments, whether these are informal (such as mentoring situations), or formal (such as accredited or non-accredited courses).

4.3. Information collection

The critiqued and synthesised knowledge enables the sports physiotherapist to make decisions about the most relevant information to be collected. This may involve obtaining a client history (e.g. 3C: 2), or may require the collection of audit data to enable evaluation of one's own practice (6C: 1).

4.4. Information processing

This information is processed, requiring cognitive skills. The process frequently requires integration of different types of information and knowledge, from a variety of sources. This is described in standards 3D: 2 and 6D: 2. It also requires a sports physiotherapist to problem-solve, and arrive at conclusions regarding the most appropriate course of action, for example, 3D: 3 and 6D: 3.

4.5. Action/intervention

Finally, behavioural learning is described, as the sports physiotherapist may require specific skill development to enable the action plan to be implemented. In the case of rehabilitation, the sports physiotherapist must be able to design appropriate exercise programmes (e.g. 3E: 2) and learn specific therapeutic techniques (e.g. 3E: 4). In relation to life-long learning, this requires different responses to identified learning needs, such as participation in relevant courses (6E: 1). Action also incorporates standards that relate to communication with the athlete and the multi-disciplinary team (e.g. 3E: 11, 3E: 12), and participation in the provision of educational opportunities (6E: 2).

4.6. Evaluation/modification

The cycle is never complete. It is important to evaluate our actions and decide whether any modifications would be recommended. It is easy to see the applicability of evaluation in relation to rehabilitation, as the assessment of a client's progress and modification of intervention is crucial. However, it is also relevant in relation to life-long learning, for example, in the evaluation of a course that you have attended, with analysis of its impact on your practice.

4.7. Specific national standards

The final stage of the framework reflects the need for transparency regarding differences in international requirements for sports physiotherapy practice. As yet, none have been identified in relation to rehabilitation or life-long learning. However, any issues identified by national sports physiotherapy organisations should be communicated to the IFSP. For example, there are a variety of specific national requirements relating to cardiopulmonary resuscitation,

Table 1
Standards relating to competency 3: rehabilitation (extract from Bulley et al., 2005)

Standards relating to competency 3: rehabilitation
A foundational knowledge
The sports physiotherapist demonstrates the ability to:
3A: 1 recognise sport-specific demands and their potential effects on healing and pain processes, *in different sporting contexts*
3A: 2 discuss the impact of co-existing and pre-existing pathologies on the rate and quality of tissue healing
3A: 3 identify the potential impacts of various factors on recovery, including: co-existing and pre-existing conditions, the experience of acute or chronic pain, the effects of other medical interventions on different body systems, and the impact of complications on recovery psychological, social and cultural influences
3A: 3 show insight into the biopsychosocial impact of injury on athletes and other professionals *in different sporting contexts*
3A: 5 identify clinical and performance-related assessment techniques and protocols that are most appropriate *in different sporting contexts*
3A: 6 recognise the relevance of medical investigations and of information collected by other professionals in the multidisciplinary team
3A: 7 identify current intervention strategies used to promote early safe return to activity and progression to optimal function, including risks associated with their use
B critique and synthesis
The sports physiotherapist demonstrates the ability to:
3B: 1 critically analyse current research into measurement and intervention strategies used in rehabilitation and appropriately integrate new information into practice
C information collection
The sports physiotherapist demonstrates the ability to:
3C: 1 collect existing information relating to the athlete's condition, its severity, and implications for their daily life and sport or exercise participation
3C: 2 obtain a client history using reasoned selection of questions and sensitive communication *in different sporting contexts*; the history should incorporate information relating to: the client's priorities and goals the specific sport or exercise activity and context, psychosocial influences co-existing and pre-existing conditions or treatments that might impact on diagnosis or intervention, and other influences on performance, such as equipment and hydration or nutrition
3C: 3 assess the severity and duration of acute and chronic pain
3C: 4 observe and analyse specific sporting movements required by the athlete on return to participation *in different sporting contexts*, including activities associated with the original injury, and movements specific to a team role or position
3C: 5 select and apply the most appropriate clinical and performance-related tests to the individual, the injury, and the sport, *in different sporting contexts* (for example, tests of strength, functional performance, range of motion and flexibility)
D information processing
The sports physiotherapist demonstrates the ability to:
3D: 1 analyse the results of clinical and performance-related tests relative to sport-specific expectations
3D: 2 interpret assessment results to make a clinical diagnosis of developing or existing pathologies that are unrelated to the sport
3D: 3 reach a clinical diagnosis and devise a problem list that integrates information from a variety of sources: a critical analysis of best practice, the results of therapeutic evaluations, information relating to any previous, or concurrent, injury, illnesses or interventions, awareness of the psychosocial influences on the athlete, and sport-, athlete-, and team-specific rehabilitation goals
3D: 4 integrate rehabilitation goals with foundational knowledge to devise an individual, research-based, sport-specific programme of intervention strategies
3D: 5 consider co-existing and pre-existing pathologies in rehabilitation planning, ensuring that strategies have a positive impact on the problems identified
3D: 6 make professional judgements regarding the appropriate times for progression of participation following illness or injury *in different sporting contexts*
E action/intervention
The sports physiotherapist demonstrates the ability to:
3E: 1 recognise and act on indications for urgent or non-urgent referral of an athlete for further investigations or intervention by other members of the multidisciplinary team (for example, MRI, ultrasound imaging, X-ray, surgery)
3E: 2 design and implement evidence-based conditioning, strengthening and stretching exercise programmes, specifically related to a specific individual, injury, and sporting role
3E: 3 design and implement individualised and evidence-based programmes to increase neuromuscular control, incorporating skill acquisition principles (for example, static, dynamic, reactive or preparatory techniques)
3E: 4 skilfully and appropriately carry out massage and manual therapy techniques *in different sporting contexts*, for example, for warm-up, recovery, and rehabilitation
3E: 5 use taping in an evidence-based strategy targeted at different treatment aims *in different sporting contexts*, for example, to promote rest, protection and facilitation of healing
3E: 6 use intervention strategies or appropriate referral to facilitate an athlete's coping with pain, and reduce its severity and duration where possible

(*continued on next page*)

Table 1 (*continued*)

Standards relating to competency 3: rehabilitation
3E: 7 sensitively communicate with the athlete to promote compliance with advice and rehabilitation, incorporating exercise psychology principles such as goal-setting, pacing and feedback
3E: 8 design training methods to maintain fitness and function of uninjured parts of the body during the recovery period, e.g. metabolic training, visual imaging techniques
3E: 9 estimate risks involved in the independent use of equipment or strategies by the athlete or other individuals: provide guidance regarding situations where the knowledge and skills of the sports physiotherapist are required educate individuals regarding the appropriate application of the equipment or strategies
3E: 10 sensitively advise the athlete and other professionals regarding progress and appropriate timing of return to sporting and exercise activities
3E: 11 sensitively educate the athlete and other individuals regarding principles of post-injury rehabilitation and prevention of re-injury to the athlete and other individuals
3E: 12 communicate effectively and respectfully in the multidisciplinary team, to ensure a coordinated and effective multidisciplinary approach in collaboration with the athlete
3E: 13 integrate strategies to ensure privacy and confidentiality for the athlete and sports team, in all communications
F evaluation and modification
The sports physiotherapist demonstrates the ability to:
3F: 1 modify the use of clinical and performance-related testing to provide the most appropriate information at different stages in the rehabilitation process (for example, progressing from tests of functional movements to complex field testing that relates directly to the sporting demands)
3F: 2 incorporate awareness of the principles of measurement reliability and validity into judgements relating to the interpretation of assessment data
3F: 3 make appropriate use of intervention outcomes: as biofeedback for the athlete and other professionals to encourage compliance to inform advice regarding participation and progression of training, and to influence team decisions
G specific national standards
3G: 1

included in the standards relating to Competency 2: Acute Intervention.

5. Standards as communications of practice at a master's level

The examples provided are also useful to explain issues relating to performance level. Standards are descriptions of the minimum threshold of achievement of a competency, set at Master's level. There is no Europe-wide descriptor of Master's level as yet; therefore, an existing framework was selected for the development of sports physiotherapy standards: the Scottish Credit and Qualifications Framework (SCQF, 2003). The SCQF describes 'how' behaviours should be performed at 'Level 11,' or Master's level. To summarise, extensive knowledge and skills should demonstrate critical reasoning, flexibility, creativity, independence, and leadership. Fig. 2 illustrates the relationships between competencies, standards, and Level 11 descriptors.

It is important to note that one standard is unlikely to demonstrate all these descriptors. For example, standards within the section relating to critique and synthesis reflect the requirement for critical reasoning, as do standards within the information processing section. It is also important to demonstrate the ability to be flexible, for example, working in different settings and in different types of sport. This is reflected whenever a standard indicates that it should be demonstrated 'in different sporting contexts' (e.g. 3A: 1). Another requirement of Master's level is the demonstration of creativity. To some extent, this is required in many of the standards. However, it is addressed explicitly in standards that use the word 'design,' for example, 3E: 2. A Master's-level professional should be able to demonstrate independence, and this is reflected in many of the standards, including those that require individual reflection, analysis, and problem-solving, such as the appropriate integration of new information into decision-making processes (6D: 1). However, this does not over-ride the need for appropriate and effective communication with the athlete and other members of the multidisciplinary team.

Finally, the sports physiotherapist should demonstrate leadership. This may be demonstrated in the education of athletes and other professionals (e.g. 3E: 11 and 6E: 2). It may involve innovation and dissemination activities, as described in standards relating to competencies 9 and 10 (Bulley et al., 2005).

6. Beyond the sports physiotherapy standards

International implementation of the competencies and standards will be facilitated by their adoption and dissemination by the membership of IFSP and their network of employers, sports physiotherapists, professional bodies and sporting organisations. This has the potential to raise the quality of sports physiotherapy service provision worldwide. The competencies and standards provide a platform for continuous professional development that is equitable and flexible. The use of a credit and qualifications

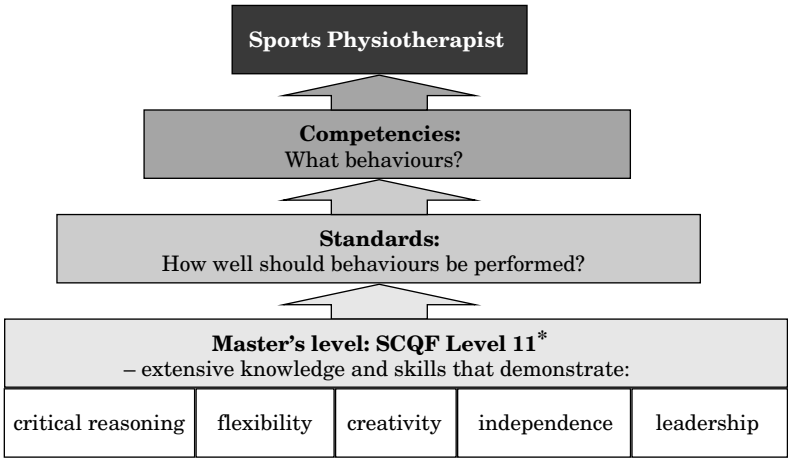
Table 2
Standards relating to competency 6: life-long learning (extract from Bulley et al., 2005)

Standards relating to competency 6: life-long learning
A foundational knowledge
The sports physiotherapist demonstrates the ability to:
6A: 1 discuss the importance of ongoing learning to ensure quality of service provision
6A: 2 differentiate the level to which learning should be developed and demonstrated at basic (undergraduate) and post-basic (Master's) levels
6A: 3 identify a variety of mechanisms for professional development from different information media and networks
B critique and synthesis
The sports physiotherapist demonstrates the ability to:
6B: 1 critically analyse and synthesise new information gained through different learning environments and media
C information collection
The sports physiotherapist demonstrates the ability to:
6C: 1 collect information that allows ongoing evaluation of practice and evidence for knowledge and skill development, for example, peer evaluations, client views, audit and outcomes research
D information processing
The sports physiotherapist demonstrates the ability to:
6D: 1 appropriately integrate new information into decision-making processes, emphasising evidence-based practice
6D: 2 critically reflect on personal experiences and information collected in relation to practice, identifying strengths and areas for further development
6D: 3 formulate a learning action plan that identifies opportunities and strategies that will address professional learning needs
6D: 4 reflect on ways in which a contribution can be made to the learning of others, while contributing to personal professional development
E action/intervention
The sports physiotherapist demonstrates the ability to:
6E: 1 regularly respond to identified learning needs, for example, through: the collection and analysis of information that fills gaps in professional knowledge, locating opportunities for skill development, independent and experiential learning, mentoring, and participation in accredited and non-accredited courses,
6E: 2 participate in the provision of opportunities for continuing professional development in a multidisciplinary context, including teaching and mentoring in structured and non-structured environments.
F evaluation and modification
The sports physiotherapist demonstrates the ability to:
6F: 1 critically reflect on the extent to which learning needs have been met, and the application of new learning to practice;
G specific national standards
6G: 1

framework across the globe enables the translation of a range of learning into academic credit.

The next stage of the SPA project is to design and test an audit toolkit which will clarify ways in which the sports physiotherapist can provide evidence of their competencies, and will enable their evaluation. The IFSP will use the audit tool-kit to inform the development of a process for international registration of sports physiotherapists.

Together, the audit tool-kit, competencies and standards can be used to inform competency-related education and



*SCQF, 2003

Fig. 2. The relationship between competencies, standards, and descriptors of master's level.

training and quality assurance mechanisms, thus promoting professional recognition internationally. At a local level employers and individual sports physiotherapists can use the information to develop career pathways.

The SPA website provides information of interest to the public and members of the sporting and physiotherapy communities. In addition, it has facilitated the development of an educational portal for sports physiotherapists, recently launched in Italy. This currently offers a series of online learning in relation to clinical effectiveness and evidence-based practice. These are short, 10-h courses, with tutor support. A further online course on developing a reflective portfolio is also available. Further planned developments include online tutorials, seminars, and master classes. It is hoped that the provision of these facilities will enable sports physiotherapists to develop their knowledge and skills to demonstrate professional competence at the minimum threshold levels of performance that will allow them to register through the IFSP, thus further promoting professional recognition and mobility.

There are a variety of further applications of the work carried out in developing the sports physiotherapy competencies and standards. The framework selected for the development of the competencies (Coppoolse & Van den Heuvel, 2004; Bulley et al., 2005) and the framework developed to communicate the standards (Bulley & Donaghy 2004) could be used to develop competencies and standards for other specialist areas in physiotherapy. The transferability of these frameworks could also be explored in a range of other allied health care professions, thus allowing transparency in areas of specialist and generalist knowledge and skills. This may be important in the future, with movement towards a more integrated delivery of inter-disciplinary health care in clinical and community settings, requiring the identification of both generic and specialist knowledge skills and competence across a range of professions.

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