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SPECIAL REPORT

SPECTRUM OF TOPICS FOR WORLD CONGRESSES AND OTHER ACTIVITIES OF THE INTERNATIONAL SOCIETY OF PHYSICAL AND REHABILITATION MEDICINE (ISPRM): A FIRST PROPOSAL

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Background: One of the objectives of the International Society for Physical and Rehabilitation Medicine is to improve the continuity of World Congresses. This requires the development of an abstract topic list for use in congress announcements and abstract submissions.

Methods: An abstract topic list was developed on the basis of the definitions of human functioning and rehabilitation research, which define 5 main areas of research (biosciences in rehabilitation, biomedical rehabilitation sciences and engineering, clinical Physical and Rehabilitation Medicine (PRM) sciences, integrative rehabilitation sciences, and human functioning sciences). For the abstract topic list, these research areas were grouped according to the proposals of congress streams. In a second step, the first version of the list was systematically compared with the topics of the 2003 ISPRM World Congress.

Results: The resulting comprehensive abstract topic list contains 5 chapters according to the definition of human functioning and rehabilitation research. Due to the high significance of clinical research, clinical PRM sciences were placed at the top of the list, comprising all relevant health conditions treated in PRM services. For congress announcements a short topic list was derived.

Discussion: The ISPRM topic list is sustainable and covers a full range of topics. It may be useful for congresses and elsewhere in structuring research in PRM.

Key words: Physical and Rehabilitation Medicine; World Congresses; scientific field; research topics.

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INTRODUCTION

Scientific congresses are an important vehicle for the presentation of the results of scientific research (1). They allow a better discussion of results among scientists, although the peer review process is not as rigorous as for publication in scientific journals. Ideally, congresses enable continuous communication among researchers working on similar topics, thus forming a productive and creative setting and enabling problem-solving at an expert level. In order to achieve such goals it is important that specific topics within a field are discussed sequentially at each annual congress.

As congresses are a core activity of scientific societies, the International Society for Physical and Rehabilitation Medicine (ISPRM) and its Congress Committee regard it as vital to increase the continuity of World Congress topics across the different world regions, hosted by different national Physical and Rehabilitation Medicine (PRM) societies (2). Thus, in close cooperation with the Presidents and Chairpersons of the scientific committees of the ISPRM World Congresses in 2013 (Beijing, China), 2014 (Cancun, Mexico) and 2015 (Berlin, Germany), the Congress Committee has developed a comprehensive abstract topic list for use for both congress announcements and abstract submission.

The goals of the project were to compile a topic list that will be used regularly in all ISPRM World Congresses. The list should be comprehensive and cover all facets of research in the field of PRM. In addition, the abstract topic list should be based on a sound theoretical model of research in the field and on defined areas of research.

METHODS

The abstract topic list for ISPRM World Congresses has been developed on the basis of the following sources:

1. description of the scientific field of PRM (3);

2. a proposal for continuous streams in PRM congresses (4);
3. an abstract topic list for international PRM congresses (5);
4. an analysis of topics of the 2003 ISPRM World Congress, held in Prague, Czechoslovakia (6).

The first version of the abstract topic list (5) was developed on the basis of the definitions of human functioning and rehabilitation research that describe the distinct field of PRM research in a 2-dimensional framework and the axis “from cell to society” and “from basic to clinical research” (Fig. 1) (3). This model defines 5 main areas of research and provides definitions based on the World Health Organization (WHO) model of human functioning. These areas of research are (3):

- *Biosciences in Rehabilitation* are basic sciences that aim to explain body injury, adaptation and repair from the molecular to the cellular, organ system and organism level; and to identify targets for biomedical interventions to improve body functions and structures.
- *Biomedical Rehabilitation Sciences and Engineering* are applied sciences that study diagnostic measures and interventions, including physical modalities suitable to minimize impairment, control symptoms and to optimize people's capacity.
- *Clinical PRM Sciences* study how to provide best care, with the goal of enabling people with health conditions experiencing or likely to experience disability to achieve and maintain optimal functioning in interaction with their immediate environment. This area contains clinical research on best care, including guidelines and standards, organization and quality management, coordination as well as education and training of professionals in rehabilitation, evaluation of the rehabilitation team and multidisciplinary care.
- *Integrative Rehabilitation Sciences* design and study rehabilitation systems, services, comprehensive assessments and intervention programmes, which integrate biomedical, personal factors and environmental approaches suited to optimize people's performance.
- *Human Functioning Sciences* are basic sciences from the comprehensive perspective that aim to understand human functioning and to identify targets for comprehensive interventions.

For the abstract topic list, these research areas were grouped according to the proposals of congress streams, as proposed by Negrini et al. (4). In a further step, the first version of the abstract topic list was compared systematically with the topics of the 2003 ISPRM World Congress (6). Any topics not included were placed in the chapters they fitted best. Finally, the resulting list was sent to all members of the Congress Committee¹ of ISPRM, who made corrections and proposed supplementary topics. These were integrated into the final list published below.

RESULTS

The *comprehensive abstract topic list* for ISPRM World Congresses contains 5 chapters according to the definition of the scientific field of human functioning and rehabilitation research (Table I). Due to the high significance of clinical research in the field of PRM, clinical PRM sciences were placed at the top of the list. Biosciences and research on modalities and rehabilitation technology were placed in the second and third sections. Research topics related to the rehabilitation system and the sciences of human functioning were placed at the end of the list.

¹Members of the ISPRM Congress Committee (www.isprm.org; 15 May 2011): Guy Vanderstraeten (Chair), Veronika Fialka-Moser, Simon Fuk-Tan Tang, Jorge Lains, and Veronica Rodriguez de la Cruz.

The *clinical sciences* topics comprise all relevant health conditions treated in PRM services, but additional topics can be added if required. Due to their importance in the field, pain and musculoskeletal, neurological and mental conditions were placed at the top of the list. However, internal medicine, geriatric and paediatric conditions are also addressed. In addition, function-orientated PRM programmes, sports rehabilitation and clinical social integration programmes have a special listing.

The heading “miscellaneous” allows the inclusion of topics not classified elsewhere and is also used in the other chapters. A few topics are highlighted under the conceptual descriptions of rehabilitation as a health strategy (7), the field of PRM (8) and descriptions of the field of competence of PRM (9, 10).

- *Basic research* covers both the biomolecular mechanisms of disabling conditions and mechanisms of interventions.
- *Biomedical rehabilitation sciences* include, in addition to research into the effects of interventions, research about diagnostic and assessment tools.
- *Integrative rehabilitation sciences* deal, among others, with design and evaluation of comprehensive rehabilitation programmes and problems related to education and training as well as management and administration of rehabilitation services.
- *Human functioning sciences* deal with theoretical models of human functioning including epidemiology of disability, ethical and human rights aspects.

For Congress announcements a *short topic list* was derived from the comprehensive topic list (Table II).

The Presidents of the ISPRM World Congress Organization Committees in the years 2013–2015 have agreed to use both the comprehensive abstract topic list and the short list for announcements of their congresses. They also agreed to evaluate the acceptance of the list by congress participants and its effects on the goal of continuous interactive communication within special interest groups.

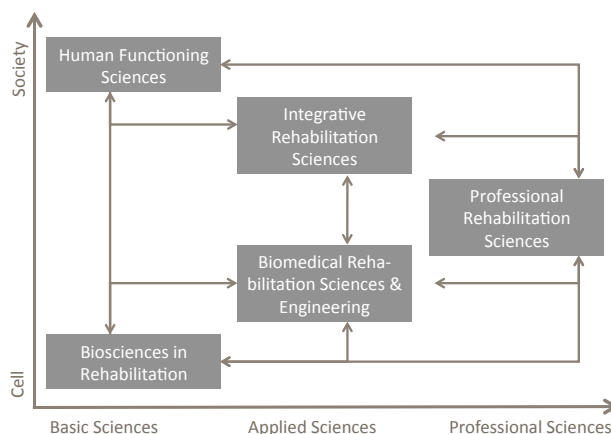


Fig. 1. Model of the field of human functioning and rehabilitation research (from (6), modified).

Table I. Comprehensive list of abstract topics to be used for abstract submission

A. Clinical Physical and Rehabilitation Medicine Sciences

Description: The Clinical Rehabilitation Sciences study how to provide best care with the goal of enabling people with health conditions experiencing or likely to experience disability to achieve and maintain optimal functioning in interaction with their immediate environment. It contains clinical research on best care including guidelines and standards, organization and quality management.

- A.1. Pain
 - A.1.1. Acute pain
 - A.1.2. Chronic generalized pain syndromes (including fibromyalgia)
 - A.1.3. Complex regional pain syndromes
 - A.1.4. Miscellaneous
- A.2. Musculoskeletal conditions
 - A.2.1. Inflammatory joint diseases (e.g. rheumatoid arthritis, ankylosing spondylitis)
 - A.2.2. Degenerative joint diseases (e.g. osteoarthritis)
 - A.2.3. Bone diseases (e.g. osteoporosis)
 - A.2.4. Regional pain syndromes of the neck and upper extremity (including enthesopathy, tendinitis and others)
 - A.2.5. Regional pain syndromes of the pelvis and lower extremity (including enthesopathy, tendinitis and others)
 - A.2.6. Back pain and spine disorders
 - A.2.7. Musculoskeletal trauma (e.g. fractures) and sports injury
 - A.2.8. Miscellaneous
- A.3. Neurological and mental health conditions
 - A.3.1. Stroke
 - A.3.2. Traumatic brain injury
 - A.3.3. Spinal cord injury and other spinal cord diseases
 - A.3.4. Autoimmune and inflammatory neurological conditions (e.g. multiple sclerosis)
 - A.3.5. Neurodegenerative diseases (e.g. dementia)
 - A.3.6. Language and speech disorders
 - A.3.7. Nerve injury
 - A.3.8. Mental health disorders (e.g. depression, bipolar disorders)
 - A.3.9. Learning disabilities
 - A.3.10. Vegetative states, minimally conscious and low awareness states
 - A.3.11. Miscellaneous
- A.4. Internal medicine and other conditions
 - A.4.1. Heart, cardiovascular and lymph diseases
 - A.4.2. Pulmonary diseases
 - A.4.3. Bladder and bowel disorders
 - A.4.4. Cancer
 - A.4.5. Metabolic disorders (e.g. obesity, diabetes mellitus)
 - A.4.6. Burns
 - A.4.7. Organ transplantation
 - A.4.8. Miscellaneous
- A.5. Paediatrics
 - A.5.1. Developmental disorders
 - A.5.2. Cerebral palsy and spina bifida
 - A.5.3. Traumatic brain injury in children
 - A.5.4. Juvenile rheumatoid arthritis
 - A.5.5. Miscellaneous
- A.6. Geriatrics
 - A.6.1. Dementia
 - A.6.2. Frailty
 - A.6.3. Sarcopenia
 - A.6.4. Risk of falls in the elderly
 - A.6.5. Other geriatric conditions

A.7. Rehabilitation addressing to specific issues

- A.7.1. Sensory and motor control (including postural control)
- A.7.2. Spasticity management
- A.7.3. Rehabilitation after limb amputation
- A.7.4. Sphincter dysfunction (including incontinence)
- A.7.5. Wound and pressure sores management
- A.7.6. Management of fatigue and sleep disorders
- A.7.7. Rehabilitation of disability-related mental disorders (e.g. depression, anxiety)
- A.7.8. Sexual functioning in people with disability and chronic health conditions
- A.7.9. Other specific functions

A.8. Sports in rehabilitation and sports rehabilitation**A.9. Social integration programmes and rehabilitation for specific**

- A.9.1. Community based rehabilitation
- A.9.2. Vocational rehabilitation
- A.9.3. Support, assistance and independent living
- A.9.4. Disability compensation
- A.9.5. Miscellaneous

A.10. Miscellaneous**B. Biosciences in Rehabilitation**

Description: the Biosciences in Rehabilitation are basic sciences that aim to explain body injury, adaptation and repair from the molecular to the cellular, organ system and organism level; and to identify targets for biomedical interventions to improve body functions and structures.

- B.1. Mechanisms of tissue injury (e.g. inflammation, repetitive strain) and development of organ dysfunction (e.g. atrophy, spasticity, chronic pain)
- B.2. Cell and tissue adaptation and maladaptation (e.g. plasticity, molecular mechanisms and mediators)
- B.3. Biological mechanism of interventions (e.g. pain relief, motor learning)
- B.4. Miscellaneous

C. Biomedical Rehabilitation Sciences and Engineering

Description: the Biomedical Rehabilitation Sciences and Engineering are applied sciences that study diagnostic measures and interventions including physical modalities suitable to minimize impairment, control symptoms and to optimize people's capacity.

- C.1. Physical and Rehabilitation Medicine (PRM) diagnostics (e.g. cardio-vascular functions and physical endurance, lung function testing, or imaging techniques) as related to organ systems and body functions (based on the first level of the International Classification of Functioning, Disability and Health (ICF) component body functions)
 - C.1.1. Diagnosis and assessment of mental functions (including neuropsychological assessment)
 - C.1.2. Diagnosis and assessment] of sensory functions and pain
 - C.1.3. Diagnosis and assessment of voice and speech functions
 - C.1.4. Diagnosis and assessment of functions of the cardiovascular, haematological, immunological, and respiratory systems
 - C.1.5. Diagnosis and assessment of functions of the digestive, metabolic, and endocrine systems
 - C.1.6. Diagnosis and assessment of genitourinary and reproductive functions
 - C.1.7. Diagnosis and assessment of neurological, musculoskeletal and movementrelated functions (including gait analysis, posturography)
 - C.1.8. Diagnosis and assessment of functions of the skin and related structures
 - C.1.9. Assessment of health perception and quality of live
 - C.1.10. Miscellaneous

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- C.2. PRM interventions research
 - C.2.1. Exercise
 - C.2.2. Muscle training
 - C.2.3. Ergonomics
 - C.2.4. Joint mobilization and manipulation techniques
 - C.2.5. Prosthetics and orthotics
 - C.2.6. Massage and myofascial techniques
 - C.2.7. Lymph therapy (manual lymphatic drainage)
 - C.2.8. Heat and cold
 - C.2.9. Hydrotherapy and balneotherapy
 - C.2.10. Light and climate
 - C.2.11. Electrotherapy (including functional electrophysiological stimulation)
 - C.2.12. Pharmacological interventions (e.g. pain, spasticity, anti-inflammatory drugs)
 - C.2.13. Nerve root blockades and local infiltrations
 - C.2.14. Acupuncture and complementary and alternative therapies
 - C.2.15. Nutrition and diet
 - C.2.16. Virtual reality
 - C.2.17. Rehabilitation technology, including implants, prosthesis, orthoses
 - C.2.18. Robots, aids and devices
 - C.2.19. Miscellaneous
 - C.3. Miscellaneous
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D. Integrative Rehabilitation Sciences

Description: the Integrative Rehabilitation Sciences design and study rehabilitation systems, services, comprehensive assessments and intervention programmes, which integrate biomedical, personal factor and environmental approaches suited to optimize people's performance. This section includes the principles and contents of education and training of professionals in rehabilitation, as well as the evaluation of the rehabilitation team and multidisciplinary care.

- D.1. Rehabilitation systems and services research
 - D.1.1. Health policy and law (including medical and social model of disability and rehabilitation)
 - D.1.2. Health strategies in PRM
 - D.1.3. Rehabilitation service organization
 - D.1.4. Rehabilitation economics
 - D.1.5. Community-based participation research
 - D.1.6. Miscellaneous
 - D.2. Comprehensive rehabilitation intervention research
 - D.2.1. Rehabilitation service evaluation (including acute, post-acute and community rehabilitation services)
 - D.2.2. Rehabilitation programme evaluation (e.g. home-based rehabilitation)
 - D.2.3. Rehabilitation technology assessment (e.g. tele-rehabilitation)
 - D.2.4. Rehabilitation strategies for specific issues (including rehabilitation strategies for developing countries and rehabilitation after natural disasters)
 - D.2.5. Technology transfer
 - D.2.6. Patient and proxy education
 - D.2.7. Miscellaneous
 - D.3. Education and training in rehabilitation
 - D.3.1. Undergraduate medical education
 - D.3.2. Specialist training
 - D.3.3. Continuous medical education and professional development
 - D.3.4. Training in science and research
 - D.3.5. Training of other rehabilitation professionals
 - D.4. Rehabilitation management and administration
 - D.4.1. Rehabilitation service management (including integrated care and service concepts)
 - D.4.2. Case management
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- D.4.3. Structures and processes in rehabilitation institutions
 - D.4.4. Miscellaneous
 - D.5. Miscellaneous
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E. Human Functioning Sciences

Description: the Human Functioning Sciences are basic sciences from the comprehensive perspective that aim to understand human functioning and to identify targets for comprehensive interventions.

- E.1. Theory and models of functioning (e.g. disability creation process)
 - E.2. Classification of functioning (e.g. ICF Core Sets; ICF up-date and revision)
 - E.3. Measurement of functioning (e.g. psychometrics of assessment tools; operationalization of ICF categories)
 - E.4. Functioning epidemiology (population-based comparative studies of functioning across conditions, cultures, and time, e.g. on employment of people with disability)
 - E.5. Functioning impact assessment (e.g. prediction of the implications of policy and legislation on functioning)
 - E.6. Ethical issues and human rights
 - E.7. Miscellaneous
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Table II. *Brief list of abstract topics for use in congress announcements*

A. Clinical PRM Sciences

- A.1. Pain
- A.2. Musculoskeletal conditions
- A.3. Neurological and mental conditions
- A.4. Internal medicine conditions
- A.5. Paediatrics
- A.6. Geriatrics
- A.7. Rehabilitation addressing specific functions
- A.8. Sports in rehabilitation and sports rehabilitation
- A.9. Social integration programmes
- A.10. Miscellaneous

B. Biosciences in PRM

- B.1. Mechanism of tissue injury and development of organ dysfunction
- B.2. Cell and tissue adaptation and maladaptation
- B.3. Biological mechanism of interventions
- B.4. Miscellaneous

C. Biomedical Rehabilitation Sciences and Engineering

- C.1. PRM diagnostics as related to organ systems and body functions
- C.2. PRM interventions
- C.3. Miscellaneous

D. Integrative Rehabilitation Sciences

- D.1. Rehabilitation systems and services research
- D.2. Comprehensive rehabilitation intervention research
- D.3. Education and training in rehabilitation
- D.4. Rehabilitation management and administration
- D.5. Miscellaneous

E. Human Functioning Sciences

- E.1. The theory and models of functioning
 - E.2. The classification of functioning
 - E.3. Measurement of functioning
 - E.4. Functioning epidemiology
 - E.5. Functioning impact assessment
 - E.6. Ethical issues and human rights
 - E.7. Miscellaneous
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DISCUSSION

The new regular abstract topic list is sustainable and covers a full range of topics. It is comparable to those used in other regional and international scientific societies, e.g. in pain research and rheumatology. However, due to the broad range of topics in the field of PRM, it is even more extensive. The list demonstrates the large range of research topics related to the field and has the potential to highlight research topics that might not have been at the centre of previous PRM congresses, such as biomolecular research, rehabilitation technology, diagnostic and assessment research, issues of rehabilitation strategies, human functioning research, and others.

The size and complexity of the list could, however, be problematic. Participants might be confused by the large number of topics and might have difficulties classifying their research into one distinct topic. Secondly, it may be expected that, in some of the topics, very few or even no abstracts may be submitted. In such circumstances, the congress organizers should integrate abstracts that fit in the same group into sessions covering more than one topic.

Another issue might be that the topics listed are not mutually exclusive. This raises the possibility that one researcher or scientific project might be classified under different categories in the topic list. This would be a limitation if the list is used to classify research. However, the main aim in compiling the list was to make it as comprehensive as possible in order to avoid omitting relevant research topics, especially with regard to international PRM conferences. At the present stage, this gives researchers the opportunity to classify their projects under the heading they consider most appropriate. For future projects a list with a reduced number of mutually exclusive topics should be derived. This could be done using the proposed list for classifying research either in congresses or journals with the aim to extract most relevant topics. The derived core set of topics might then be used to classify research.

In the context of the set up of a comprehensive topic list for PRM congresses the role of World Congresses might be discussed. Such congresses aim at enabling communication between scientists from all over the world and providing them with a forum for discussion with researchers interested in the same field. Thus, all relevant areas of research should be represented and structured in a way that is easy to orientate. This is the main reason to use a comprehensive list for abstract submission. Of course, such large congresses will not replace smaller, more specialized, meetings that focus on only a single or a few topics, which are discussed in depth (e.g. the Baltic and North Sea Forum on PRM or Meetings for Rehabilitation of disorders of the nervous system). These conferences do not require a comprehensive abstract topic list, since the topics discussed concern a focussed area of research.

One could also envisage that a list of topics of the ISPRM may, in the future, be used for other purposes. These may include the creation of committees in the area of clinical sciences aimed at writing clinical definitions and functional properties of important diseases or to classify existing guidelines and best-practice models. Another possible application is in structuring scientific journals and teaching programmes. Of course, some modifications or adaptation of the topic list might be necessary.

In conclusion, the use of the topic list for abstracts will improve continuous communication and interaction within special interest groups. It is hoped that researchers in fields that have not traditionally been at the centre of PRM congresses will feel supported and stimulated to submit abstracts on their research. Finally, such a list may be helpful elsewhere in structuring research in PRM, e.g. for research-funding programmes and other scientific information tools within the field. Evaluation of the acceptance and feasibility of the list among congress participants will provide information for use in refining and optimizing the list.

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