



Sport for People with Disabilities



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Foreword

Editorial - English

A warm welcome to issue number 45 of the ICSSPE Bulletin, where this month's feature takes a look at a wide range of research topics concerning "Sport for People with Disabilities". Contributions were received from many different institutions world-wide and the research papers all aimed to provide an overview of the many issues facing different disability groups, levels, sports and regions whilst also discussing the practical applications of their research.

In continued celebration of the International Year of Sport and Physical Education, we have two important announcements for ICSSPE organised events for the remainder of the year. ICSSPE is working in close co-operation with governmental institutions to organise a hands-on seminar in Bangkok, Thailand for the "Rehabilitation through Physical Activity and Sport in the Tsunami affected area of Southeast Asia" on 28-30 October 2005. Also final preparations are being made for the "2nd World Summit on Physical Education" which will be held in Switzerland 2-3 December 2005. All the latest information on these events are included in this issue and further updates along with registration and programme details will be posted on our website.

Our partner, events and members news also contains more insightful reports, post-event stories and current news from all parts of the world. The resources section, thanks to Gretchen Ghent, contains a valuable webliography and a detailed Cyber Cafe guide on Physical Education and Adapted PE.

I hope you enjoy this edition and as always we look forward to sharing all your news and current information throughout the ICSSPE network.

Editorial

Je vous accueille chaleureusement dans cette 45ème édition du bulletin du CIEPSS, qui se penche ce mois-ci sur un vaste échantillon de thèmes tournant autour du sujet "le sport pour personnes avec un handicap ». Diverses institutions du monde entier y ont apporté leurs contributions et tous les articles ont pour intention de présenter une vue d'ensemble des problèmes rencontrés par les différents handicaps, de différents niveaux,

dans divers sports et régions, tout en évoquant les applications pratiques de ces recherches.

Dans le cadre des célébrations de l'Année Internationale du Sport et de l'Education Physique, nous avons deux annonces importantes à faire, concernant des événements organisés par le CIEPSS dans le courant de l'année. Le CIEPSS travaille en étroite coopération avec des institutions gouvernementales, pour organiser un séminaire pratique à Bangkok, en Thaïlande, du 28 au 30 octobre 2005, sur le thème de la "Réhabilitation par l'Education Physique et le Sport des secteurs du Sud-Est asiatique touchés par le Tsunami". La préparation du "2ème Sommet Mondial de l'Education Physique", qui se tiendra en Suisse, les 2 et 3 décembre 2005, arrive également dans sa phase finale. Vous trouverez des informations de dernière minute sur ces événements dans cette édition, et nous vous tiendrons au courant des dernières actualisations concernant les inscriptions et les détails du programme via notre site Internet.

La section "partner, events and members news" comportent également de nombreux rapports, des articles sur les événements récents et des actualités provenant du monde entier. La section Ressources, grâce à Gretchen Ghent, comporte une précieuse bibliographie Internet et un guide Cyber Café détaillé, sur l'Education Physique et l'Education Physique adaptée.

J'espère que vous apprécierez cette édition et nous nous réjouissons, comme toujours, de partager votre actualité et vos informations, grâce au réseau du CIEPSS.

President's Message

The year 2005 continues with many events and initiatives as part of the International Year of Sport and Physical Education. ICSSPE and many member organisations and institutions play an active role in the promotion of this very special year and in helping to achieve the objectives of the United Nations through sport and physical education.

In this context, we work very closely with the Special Adviser to the UN Secretary General on Sport for Development and Peace, Mr. Adolf Ogi, and his team.

Many international events are on the agenda for the second half of the year 2005. ICSSPE in collaboration with the Federal Ministry of the Interior of Germany will organise a hands-on seminar in Bangkok, Thailand, on 28-30 October 2005 focusing on issues related to children and youth affected by the Tsunami disaster using physical activity and sport as a means of rehabilitation and therapy. With this initiative we hope to bridge theory and practice and to make an important contribution to improved well-being and health of young people who have suffered physically and psychologically.

During ICSSPE's Board meetings in Edmonton, Canada, in August 2005 many important decisions were taken towards improved cooperation amongst our members and external partners, such as the IOC, GAISF, WADA, UN agencies, such as UNESCO and WHO, and, in particular, in preparing for a unique World Convention on Sport, Physical Education, Sport Science and Sport Medicine in 2008 in Beijing, PR China.

ICSSPE continues to actively promote physical education for all. After the 1999 World Summit on Physical Education in Berlin it is time to revisit the state and status of physical education in the world.

Therefore preparations are underway for a 2nd World Summit on Physical Education to be held in Magglingen, Switzerland, which will focus on developments which have occurred in different countries during the past years. Our evaluation will serve as a basis for the identification of strategies aimed at ensuring the delivery of quality physical education in all parts of the world.

ICSSPE appreciates the close cooperation with organisations involved in physical activity and sport for persons with a disability. This issue of the ICSSPE Bulletin is highlighting a number of research topics and issues concerning participation in sport of individuals with a disability. Joint efforts can truly make a difference!

Prof. Dr. Gudrun Doll-Tepper
President, ICSSPE

Message de la Présidente

L'année 2005 continue au gré des nombreux événements et initiatives qui accompagnent l'Année Internationale du Sport et de l'Education Physique. Le CIEPSS et de nombreuses organisations et institutions membres, jouent un rôle actif dans la promotion de cette année si particulière et contribuent à atteindre les objectifs fixés par les Nations Unies pour le sport et l'éducation physique.

Dans ce contexte, nous travaillons de manière étroite avec le conseiller spécial du Secrétaire général des

Nations Unies pour le sport au service du développement et de la paix, M. Adolf Ogi, et avec son équipe.

De nombreux événements internationaux sont inscrits à notre agenda dans cette seconde moitié de l'année 2005. Le CIEPSS, en coopération avec le ministère fédéral de l'intérieur allemand, organise un séminaire pratique à Bangkok, en Thaïlande, du 28 au 30 octobre 2005, qui se penchera sur les difficultés rencontrées par les enfants et les jeunes touchés par le tsunami dévastateur et l'utilisation de l'éducation physique et du sport comme outils de réhabilitation et de thérapie. Nous espérons avec cette initiative, lier la théorie à la pratique et contribuer de manière significative au bien-être et à la santé des jeunes gens qui ont souffert physiquement et psychologiquement.

Pendant les rencontres du Comité exécutif du CIEPSS à Edmonton au Canada, en août 2005, de nombreuses décisions importantes ont été prises pour améliorer la coopération entre les membres et les partenaires externes, tels que le CIO, l'AGFIS, l'AMA, les agences des Nations Unies, telles que l'UNESCO et l'OMS, et, en particulier, la préparation d'un événement exceptionnel : la Convention Mondiale sur le Sport, l'Education Physique, la Science du Sport et la Médecine du Sport, qui aura lieu en 2008 à Beijing, en République Populaire de Chine.

Le CIEPSS continue de s'engager activement dans la promotion de l'éducation physique pour tous. Après le Sommet Mondial de l'Education Physique, qui s'est tenu à Berlin en 1999, il est temps de refaire un bilan sur l'état et le statut de l'éducation physique dans le monde.

Ainsi, nous commençons à préparer un 2ème Sommet Mondial de l'Education Physique, qui se tiendra à Magglingen, en Suisse, et qui se penchera avec attention sur les développements qui ont eu lieu dans différents pays ces dernières années. Notre évaluation constituera une base pour l'identification de stratégies, visant à garantir l'accès à une éducation physique de qualité aux quatre coins du monde.

Le CIEPSS se réjouit de sa coopération étroite avec les organisations impliquées dans l'activité physique et le sport pour personnes avec un handicap. Cette édition du Bulletin fait un éclairage sur un certain nombre de thèmes issus de la recherche et de problèmes liés à la participation sportive des personnes avec un handicap.

Un effort commun peut vraiment faire la différence !

Gudrun Doll-Tepper

Since May 2005, ICSSPE has received the following new membership applications which will be ratified at the 66th Executive Board Meeting in 2005.

A104-3

Physical Education Organisation

IRAN

17 May 2005

D139-1

Srinakharinwirot University

THAILAND

26 May 2005

D145-1

Danish Institute for Sports Studies

DENMARK

31 May 2005

B145-1

Play the Game

DENMARK

1 June 2005

C124-1

Pakistan School's Games Association

PAKISTAN

6 June 2005

D142-1

FIK Unnes

Indonesia

8 June 2005

B145-2

International Sport and Culture Association

DENMARK

13 June 2005

B104-4

International Zurkhaneh Sports Federation

IRAN

16 June 2005

B174-2

European Yoga Federation

ITALY

21 June 2005

C174-5

Confederazione Ufficiale Italiana di Yoga

ITALY

21 June 2005

C162-1

National Sports Academy "Vasil Levski"

BULGARIA

05.08.2005

B056-2

World Flying Disc Federation

CANADA

16.08.2005

Welcome new Members

ICSSPE News

"Rehabilitation through Adapted Physical Activity and Sport for Children and Youth Affected by the Tsunami in Southeast Asia", 28-30 October, 2005 in Bangkok, Thailand

*Organised by the International Council of Sport Science and Physical Education (ICSSPE)
in co-operation with Germany's Federal Ministry of the Interior*

The scope of the tragedy resulting from the tsunami in the Indian Ocean is still impossible to truly comprehend. Of course the most urgent need for these countries is still for humanitarian aid, and there are several organisations that are providing that support. Nonetheless, many children and young people have post traumatic psychological and physical problems and are struggling to find help for their special needs.

Scientific research has shown that sport and physical activity are taking an important role in the field of physiological and psychological rehabilitation and are essential for improving health and well-being. Evidence displays the dependency from regular participation in physical activity programmes to a wide range of physical, social and mental health benefits. And these results, of course, also apply for traumatised children and youth.

Therefore the International Council of Sport Science and Physical Education considers a "hands-on-seminar" as the right way to not only bring medical help to the region that was hit by the tsunami, but also to show the children a way back to a normal life with challenges, experiences, with engagement, fun and delight.

For that reason it is a great pleasure for ICSSPE to announce the hands-on Seminar "Rehabilitation through Adapted Physical Activity and Sport for Children and Youth Affected by the Tsunami in Southeast Asia, to be held in Bangkok, 28-30 October, 2005.

In co-operation with Germany's Federal Ministry of the Interior and with the support of Thailand's Ministry of Tourism and Sport and Otto Bock HealthCare the hands-on seminar is organised for practitioners in the fields of sport, physical education, physiotherapy as well as for social workers, teachers, administrative staff, researchers and all supporters in the Tsunami affected region in Southeast Asia.

Within the seminar concrete knowledge, best practice examples, scientific research, literature and materials concerning sport and physical education will be offered as a very important tool of rehabilitation. In co-operation with experts this seminar will also put an emphasis on adapted physical activity for youth and children with special needs. During workshops specialists will introduce their projects and activities in the mentioned fields and discuss them with the participants. Experiences will be shared and participants are invited to work out solutions for the affected youth.

By inviting international and national organisations active in the field of adapted physical activity and other working areas in supportance of people with disability or other therapeutical needs, ICSSPE wants also to establish a stable network open for advise, information and other means to help. All organisations and businesses that work in or support one of the above mentioned categories have also the chance to present their projects and to provide their contact details.

The following programme gives an impression of the varieties of approaching this field and shows the scope of help that can be offered:

Programme

Friday, October 28, 2005

17:00h	Opening of the seminar by the following speakers (changes possible):
Mr. Pracha Maleenont (to be confirmed)	Minister of Tourism and Sports, Thailand
Dr. Christoph Brümmer	German Ambassador in Bangkok, Thailand
Ernst Wilzek (to be confirmed)	German Federal Ministry of the Interior, Germany
Hamadi Benaziza (to be confirmed)	World Health Organisation, Department of Health Promotion, NCD Prevention, Geneva, Switzerland
Prof. Dr. Gudrun Doll-Teppe	President of the International Council of Sport Science and Physical Education, Berlin, Germany
19:30h	19:30h Dinner

Saturday, October 29, 2005

09:00h-09:30h	Dr. Nadja Schott, University Gießen, Germany Keynote presentation: "Physical activity and education as a tool in the work with special populations"
09:30h-09:45h	Discussion
09:45h-10:15h	Anita Keller, Sports for life, VVAF, Washington DC, USA Keynote presentation: "Sport/recreation for rehabilitation, reintegration and recovery"
10:15h-10:30h	Discussion
10:30h-11:30h	Handicap International, WHO, Special Olympics, Motivation Presentation of projects
Coffee break	
11:45h-13:15h	
Workshop I	Dr. Alan Kirk and Dr. Liddell L. Madden Kennesaw State University, Atlanta, USA "The effects of the tsunami disaster on children and youth: neurobiological sequelae, behavioral impact and intervention methods"
Workshop II	Dr. Nadja Schott, University Gießen, Germany "Interdisciplinary teaching through physical education"
Lunch break	
14:45h-16:15h	Closing of the seminar by the following speakers (changes possible)
	Otto Bock HealthCare, Bangkok, Thailand

Workshop III	“Aspects of the orthopedic treatment – a way back to sports”
Workshop IV	Amy Farkas, IPC, Bonn, Germany Project presentation „Rehabilitation through sports in Sri Lanka“
16:30-18:00h	Presentation of workshop's results

Sunday, October 30, 2005

09:00h-10:30h	
Workshop V (to be confirmed)	Handicap International, Thailand and Indonesia „Rehabilitation of traumatised youth in Indonesia and Thailand“
Workshop VI (to be confirmed)	Troy Greisen, Acting Managing Director, Special Olympics International „Project Rebuild hope“
	Coffee break
10:45h-12:15h	
Workshop VII	Muffy Davis, Paralympian, Utah, USA Jeff Burley, Recreational Therapist, Utah, USA „Access the World“
12:30h-13:30h	Presentation of workshop's results
	Lunch break
14:30h	Closing of the seminar by the following speakers (changes possible)
Adolf Ogi	Special Adviser to the United Nations Secretary General on Sport for Development and Peace
Prof. Dr. Gudrun Doll-Tepner	President of the International Council of Sport Science and Physical Education
15:00h	Press Conference

18:00h Opening of the International Conference on „Sport and Education“ which is part of the „International Year of Sport and Physical Education“.

For further detailed information contact:
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2nd World Summit on Physical Education 2-3 December, 2005, Magglingen, Switzerland

Organised by the Bundesamt für Sport Switzerland and the International Council of Sport Science and

Context and Main Issues

The 2nd World Summit on Physical Education will take place on December 2-3, 2005, in Magglingen, Switzerland, and will be organised by ICSSPE and the Bundesamt für Sport, Switzerland, also co-organiser of the 2nd Sport and Development Conference (Magglingen II) on December 4-6.

Six years after the 1st World Summit in Berlin, that demonstrated the state and status of physical education and called governments for action, scientists, physical education teachers and government representatives deem it to be necessary to meet again. Looking at developments from an international point of view, it seems as if advocates for quality physical education need to be modest about their achievements. Since then, two meetings of sport ministers and senior officials (MINEPS III* and MINEPS IV) have taken place, both claiming insight into the necessity of improving physical education in practice.

During MINEPS III participants reiterated the importance of physical education and sport as essential and integral for education as well as for human and social development. They endorsed the Berlin Agenda for Action and encouraged member states to incorporate sport and physical education in school programmes or, to at least, meet legal requirements in school curricula.

Five years later participants of MINEPS IV expressed their determination to implement policies and take measures for the development of physical education and sport and step up efforts to give sport a more important role in the development of human and ethical values. The promotion of an improved training for teachers was also agreed upon. The slow pace in which changes take place is also influenced by the lack of co-operation on a national level when sport and education authorities claim competence for themselves instead of co-operating.

Goals

- Review of the status of physical education today, presentation and analysis of positive and negative developments since 1999
- Reflection on the intrinsic role of physical education in education, and its potential to contribute to the achievement of the Millennium Development Goals (MDG), based on current research results
- Development of quality standards and benchmarks for physical education, which are based on scientific evidence, and which contribute particularly to personal and social development
- Development of effective and modular strategies to secure and further develop physical education as an essential component of education (e.g. Lobbying-Toolkit), and to the introduction of high-quality and culturally sensitive physical education world-wide (for example quality standards or benchmarks)

Participants

Participants from the areas of science, politics, sports, and education: members and partners of ICSSPE, competent ministries, specialised organisations, media, sport federations, UN-agencies, NGOs (in co-ordination with OC Magglingen II) are expected.

For further information please contact the ICSSPE Executive Office at icsspe@icsspe.org

Honorary Doctorate for Gudrun Doll-Tepper

ICSSPE Press Release



ICSSPE President Prof. Dr. Gudrun Doll-Tepper & Vice-Chancellor of Memorial University of Newfoundland Prof. Dr. Axel Meisen

On 25.05.2005 the Berlin Sport Scientist and President of the International Council of Sport Science and Physical Education (ICSSPE), Gudrun Doll-Tepper, received a Doctor of Laws -honoris causa from the

Memorial University of Newfoundland.

The oration held before the members and guests of one of the most important universities on the Canadian Atlantic coast, recognised the work of Gudrun Doll-Teppe to overcome boundaries with Sport and Physical Education and to bring together people irrespective of religion, social class, gender or disabilities, as well as to push social, political and economical development. "Dr. Doll-Teppe, the President of the International Council of Sport Science and Physical Education, took down walls of inequity and intolerance between countries in the North and South, between academics of the third and first worlds, and between athletes with and without disabilities", added Professor T.A. Loeffler, from the Memorial University of Newfoundland, in her speech.

Before the background of her voluntary activities as President of the International Council of Sport Science and Physical Education Gudrun Doll Tepper stressed the meaning of taking over social responsibility: "As professionals we aim to pursue a successful career. However, it is also important - from my perspective - to make a contribution to society ... I have learned that many successful careers come from a very solid education and seizing the many, sometimes small opportunities, that life presents. Being involved in professional and volunteer activities exposes you to those opportunities ... From my own experience I know that many problems can be solved only by a global perspective and with help of specialised knowledge of different scientific disciplines, political institutions as well as practical experiences."

Gudrun Doll-Teppe explained further that she sees this award as an achievement of successful team work and referred to the global, in many parts voluntary structure of the international ICSSPE network, colleagues, students and the full-time staff from the Executive Office of the organisation in Berlin.

Feature

Pressure Measurements on Amputee's Residuum in Classification for Standing Ice Hockey

Mark Pitkin¹, Ludmila Smirnova², Konstantin Scherbina², Sergei Kurdybailo², Sergei Evseev³ and Nikolai Maslov⁴

¹Tufts University, Boston, MA, USA,

²Albrecht Rehabilitation Center, St. Petersburg, Russia

³State Research Institute of Physical Culture and Sport, St. Petersburg, Russia

⁴Ice Hockey Olympic School, St. Petersburg, Russia

Abstract

Direct measurements of pressures on the residuum were performed in three subjects – unilateral below-knee amputees – during ice practices of the Russian national standing ice hockey team. Data were collected using Tekscan technology. A hypothesis was evaluated that when pressures on the stump decrease, a subjective feeling of comfort will increase. The hypothesis was confirmed during skating and walking. During extensive jumping, a reverse effect was observed in one subject. Namely, pressures on the residuum during jumping were lower than in walking and skating, when he felt more comfort. Additional trials were conducted with simultaneous recording of the pressures on the residuum and under both the involved and uninvolved feet with Tekscan F-scan sensors. It was found that pressures under the uninvolved foot during jumping were significantly higher than during walking and skating, indicating that the subject loaded more his uninvolved leg to prevent the overloading of his residuum. This result leads to the assumption that an athlete can increase the loading of the residuum at the demand of playing tasks, but only if the loading won't reach a certain threshold associated with the exceeding pain and discomfort. It is suggested to investigate further this phenomenon for a more objective classification in standing ice hockey.

Introduction

Standing Ice Hockey is a rapidly growing new adaptive sport discipline [1]. An outline of the classification for standing ice hockey was made in 2001 by Professor Sergei Evseev [2]. Due to the collective efforts of the national member associations participating in the First (2003) and Second (2004) World Championships of the International Standing Ice Hockey Federation (ISIHF), the current classification was adopted by the ISIHF Congress [3] and recently amended. Further improvement of standing ice hockey classification ought to be conducted using the outcomes of biomechanical studies, which allow for more objectivity and consistency in team selection

Methods

Direct measurement of pressures and forces applied from a prosthetic socket to an amputee's residuum was chosen for comparison of an athlete's performance during skating and walking [4]. The current study was

conducted at the Spartak Ice Arena, St. Petersburg, Russia, to compare loads on an amputee's residuum during skating, walking, and jumping. Three subjects, unilateral below-knee amputees, members of the Russian national amputee hockey team, were asked to skate in one and the opposite direction for about 10 meters, making turns at a speed comfortable to them. After 3-4 trials on ice, subjects were asked to perform the same task, but wearing athletic shoes while walking on a wooden floor. Subjects skated and walked with their own prosthetic foot. The locations of the four sensors attached to the residuum were not changed.

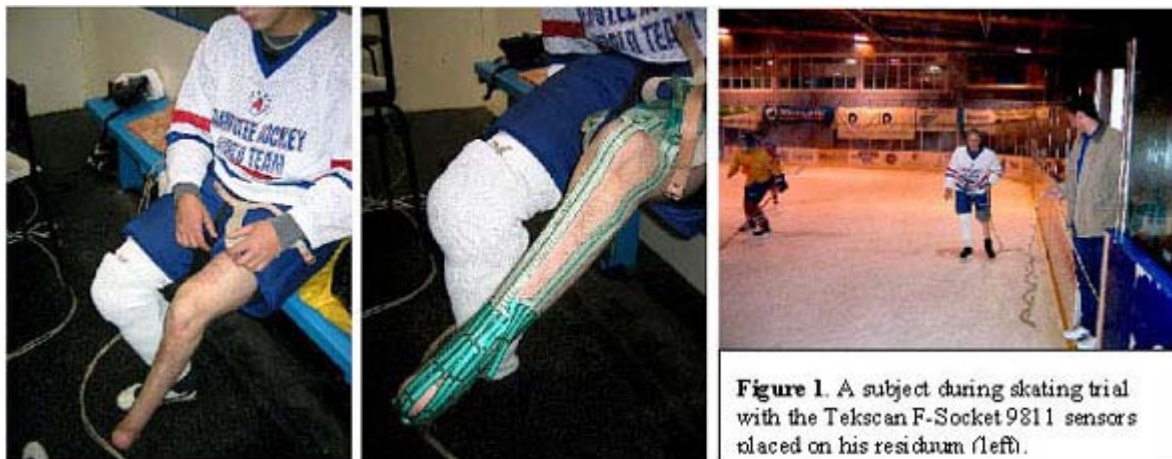


Figure 1. A subject during skating trial with the Tekscan F-Socket 9811 sensors placed on his residuum (left).

Peak pressures on each sensor were collected every 1/60 of a second. Data were exported to format for further analysis. For every trial, we identified five greatest maximal values in peak pressure series from each of the four sensors. The mean maximal values were compared respectively after linear skating, and after walking and jumping. Indexes of performance in skating relative to walking (), skating relative to jumping (), and walking relative to jumping () were calculated as a ratio of mean maximal pressures of all push-offs or steps during a given trial vs. mean maximal pressures of all push-offs or steps during a base walking trial chosen for comparison.

Results

Recordings of the peak pressures are presented in Figure 2. Data are grouped to allow for qualitative comparison of the pressures on the four sensors during skating, walking and jumping correspondingly. A quantitative comparison is presented in the Table 1.

Table 1. Comparison of the averaged maximal values of pressure (raw data) recorded on the anterior, posterior, lateral and medial sensors during skating, walking and jumping

Parameters	Position of the sensors on the residuum			
	Anterior	Posterior	Lateral	Medial
Mean maximal pressures during skating (M_s)	33713.3	20917.7	26538.0	31447.0
Mean maximal pressures during walking (M_w)	28213.3	37975.3	27054.7	24393.3
Mean maximal pressures during jumping (M_j)	58478	44316	35016	43048
Index of skating relative to walking (M_s/M_w)	1.194943	0.550822	0.9809	1.2892
Index of skating relative to jumping (M_s/M_j)	0.576513	0.472012	0.7579	0.7305
Index of walking relative to jumping (M_w/M_j)	0.482461	0.856922	0.7726	0.5667

According to the data in Figure 2 and Table 1, skating demonstrated a significant lowering of maximal peak pressures on posterior and anterior surfaces of the residuum compared to walking. Peak pressures on the three other sensors didn't demonstrate significant difference between skating and walking. Peak pressures during jumping were significantly higher on anterior and posterior sensors compared to skating, and on anterior and medial sensors compared to walking.

A single deviation from these results was observed during one jumping trial in one subject. Namely, pressures on the residuum during jumping were lower than in walking and skating. To analyze this phenomenon, additional trials were conducted with simultaneous recording of the pressures on the residuum and also under both involved and uninvolved feet with Tekscan F-scan sensors. It was found that pressures under the uninvolved foot during more extensive jumping were notably higher than during waling and skating, indicating

that the subject loaded more his uninvolved leg to prevent the overloading of his residuum.

Peak Pressure vs. Time (raw data)	Frames corresponding to the max peak pressure on the sensors		
	skating	walking	jumping

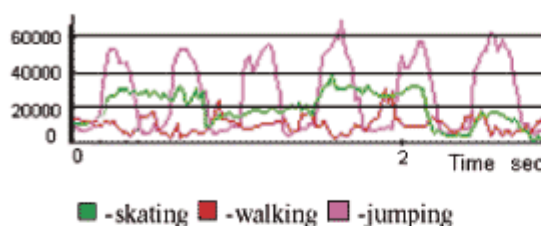



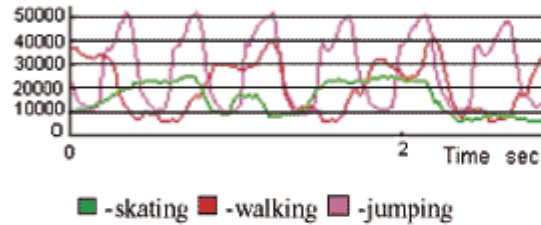



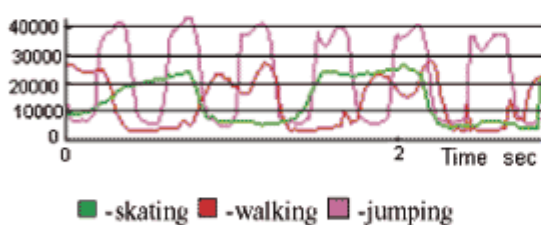



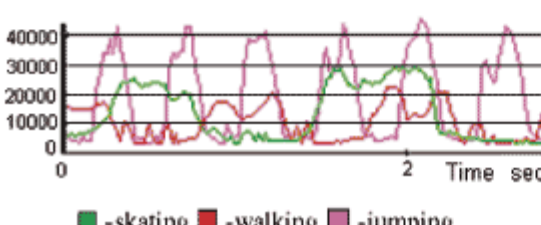



Peak Pressure vs. Time (raw data)	Frames corresponding to the max peak pressure on the sensors		
	skating	walking	jumping
Anterior sensor  <p>■ -skating ■ -walking ■ -jumping</p>			
Posterior sensor  <p>■ -skating ■ -walking ■ -jumping</p>			
Lateral sensor  <p>■ -skating ■ -walking ■ -jumping</p>			
Medial sensor  <p>■ -skating ■ -walking ■ -jumping</p>			

Figure 2. Recordings of peak pressure vs. time on the anterior, posterior, lateral and medial sensors during skating, walking and jumping.

Discussion

The acceptable level of amputees' comfort during hockey play results from both skating biomechanics and specifics of this team sport. First, there is relatively low energy expenditure during skating and gliding, as compared to other competitive sports, such as cycling [5]. Secondly, the most frequently performed skills during the game are skating forward without the puck and gliding forward without the puck [6]. The players are exposed to relatively high peak pressures associated with maneuvering for quite a small time. For the rest of the time, they are gliding and skating forward, thus experiencing, as our study demonstrated, more comfort (less pain) than while walking (if players wear the multi-axial prosthetic foot and ankle).

Another reason for the relatively high level of acceptance of standing ice hockey by amputees is the generally lower speed of skating, since the inherently slower speed decreases impact during checking. Preliminary analysis of video data give an estimate of 30% lower speed in amputees with leg prostheses compared to able-bodied players. More studies on speed of skating are required, especially for classification purposes in the teams with lower limb amputees playing together with upper limb amputees, whose speed is significantly higher. The overall results of the study suggest that amputees can participate in a highly motivational and active sport without excesses in pressure peaks on the stump for the larger part of the game.

Specifically, the results of this study demonstrated that peak pressure during skating and walking were reasonably compatible, and were lower compared to jumping. That contributes to an explanation of why standing ice hockey has become so popular in many countries, and why the players continue to play this sport with motivation.

A trial in one subject with the reverse effect during extensive jumping deserves serious attention as well. This trial shows that an athlete can increase the loading of the residuum at the demand of the playing tasks, but only if the loading won't reach a certain threshold associated with the exceeding pain and discomfort.

It is suggested to investigate further this "pain preventive" phenomenon, which might serve as a threshold for safe loading in sports, specifically in standing ice hockey. It can be a candidate for a more objective parameter to be used in classification.

Practical Implications

Direct pressure measurements on the athlete's residuum provide meaningful information on the distinction between the tasks being compared. The methodology can be used in the future for the development of a more objective classification in standing ice hockey.

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References

- [1]. Pitkin, M., International service delivery. J Rehabil Research Development, 2002. 39(3): p. 17-8.
- [2]. Evseev, S., Hockey on prostheses. Sports-medical classification. Vestnik Gil'dii Protezistov Ortopedov (Journal of Russian Guild of Prosthetists and Orthotists), 2001. 6(3).
- [3]. ISIH, Second World Amputee Ice Hockey Championship. 2004: p. 6.
- [4]. Pitkin, M., et al., Comparison of Pressure on Residuum During Gait and Skating in Transtibial Amputees Hockey Players, in 11th ISPO World Congress, August 1-6. 2004: Hong Kong.
- [5]. Kandou, T., et al., Comparison of physiology and biomechanics of speed skating with cycling and with skateboard exercise. Can J Sport Sci, 1987. 12: p. 31-6.
- [6]. Braccisi, C., et al., The method of finite elements in evaluation of the mechanical behavior of the Ilizarov apparatus. Arch Putti Chir Organi Mov, 1989. 37(1): p. 97-105.

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The Importance of Agility Related to the Performance Using Lateral Change of the Direction Test for B1 and B2

Athletes.

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Introduction

Previous research clearly shows that regular physical activity and related lifestyle changes can significantly reduce premature death and disability, improve the quality of life, and increase the chances for longevity in the population at large. Children who are visually impaired can gain those same benefits from physical activity. Children who are visually impaired consistently exhibited lower levels of fitness than their sighted peers (Blessing et al. 1993; Buell, 1973; Hopkins et al. 1987; Jankowski & Evans, 1981; Kobberling et al. 1991; Meek et al. 1996; Shindo et al. 1987; Short & Winnick, 1986; Sundberg, 1982; Winnick & Short, 1985).

Yet the need to be fit is even greater for individuals who are visually impaired, since activities of daily living demand increased energy when performed with impaired vision (Arnhold & McGrain, 1985; Buell, 1973; Dawson, 1981; Kobberling et al. 1989; Nakamura, 1997). Previous research on fitness of children with visual impairment is limited. In a review, Skaggs and Hooper (1996) reported only 11 studies published between 1950 and 1993 that addressed physical fitness. In these studies, many different methods were used to assess cardiovascular endurance, muscular strength and endurance, and body composition; the degree of visual impairment of the participants varied widely among the studies; and not all researchers precisely defined the participants' visual status. Furthermore, sample sizes were frequently low. Nevertheless, with the exception of body composition scores in two studies (Kobberling et al. 1989; Short & Winnick, 1986), the participants who were visually impaired consistently exhibited lower fitness than did their sighted peers.

Children who are visually impaired consistently exhibited lower levels of fitness than their sighted peers (Blessing et al. 1993; Lieberman & McHugh, 2001; Skaggs & Hooper, 1996; Winnick & Short, 1985). There are also many techniques or methods on how to guide a blind runner to do the physical activity or sports in particular. In addition to the advantages of running with a sighted guide, the runner who is using a tether has some space and feels more independent than other guiding techniques ((Lieberman et al. 2001).

Purpose of Study

Regular training has benefits on physical fitness among visually impaired athletes. The purpose of this study is to investigate how the motor fitness of agility influences the performance of the athletes.

Research Objectives

The objectives of this study are: 1. To set up a benchmark to measure agility among B1 and B2 visually impaired athletes.

2. To assess agility among B1 and B2 visually impaired athletes.

3. To identify the differences between B1 and B2 visually impaired athletes.

Methodology

A total of 39 athletes were recruited voluntarily for this study whereby 24 were male and 15 were female. The athletes were limited to visual impairment athletes who represented Malaysia and who recently took part in two Paralympic Track and Field circuits. Athletes selection was based on two medical classification classes – B1 and B2. These classes are based on the regulation set by the International Blind Sports Association (IBSA).

Chart 1: International Blind Sports Association Medical Classification Classes

B1

An athlete in this class will either have no light perception at all in either eye or may have some light perception but an inability to recognise the shape of a hand at any distance or in any direction.



B2

The athlete will have the ability to recognise the shape of a hand and the ability to perceive clearly will be up to 2/60. The visual field of the athletes is less than 5 degrees.



B3

The athlete will have the ability to recognise the shape of a hand and the ability to perceive clearly will be above 2/60 and up to 6/60. The visual field of the athletes varies between more than 5 degrees and less than 20 degrees.



Explanation:

2/60 – A person can see at 2 meters what is normally seen at 60 meters.

Source: Understanding Athlete Classifications & Disabilities, Sydney Paralympic Organising Committee, media guidelines, February 2000.

Test

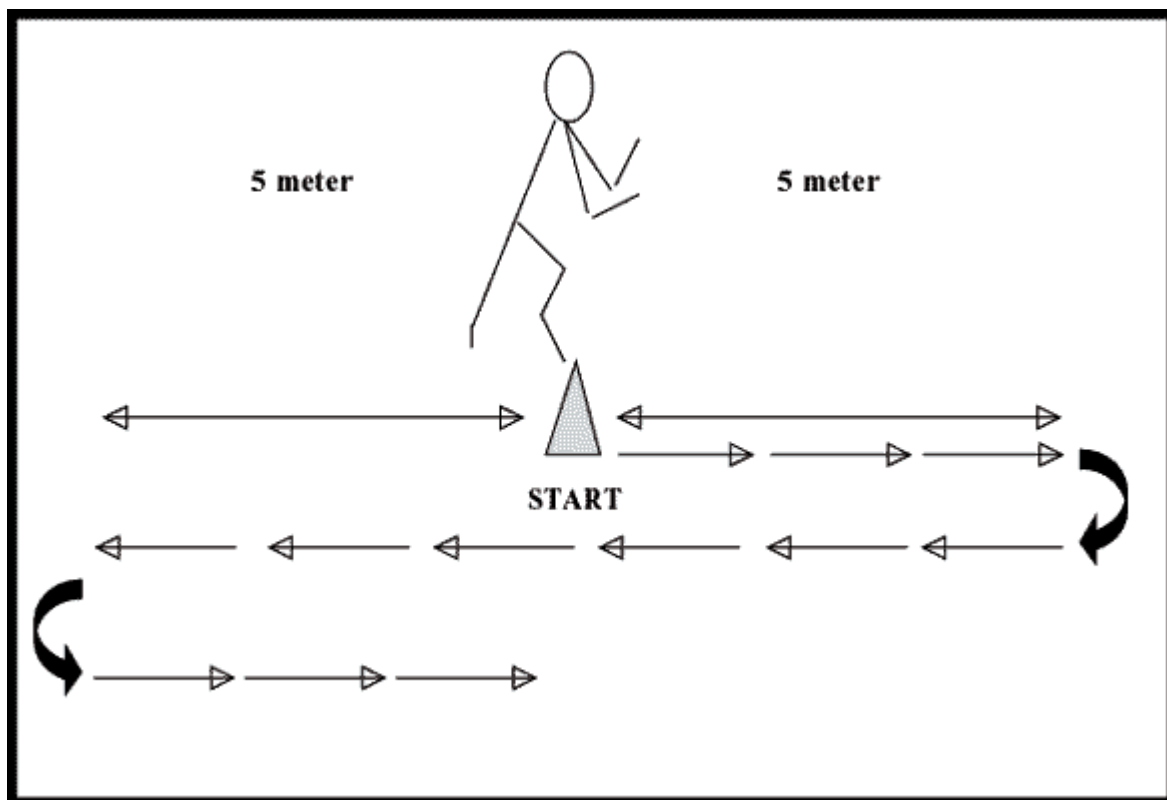
Lateral Change of Direction Test (LCDT)

LCDT (figure 1) was used to measure the physical fitness (specifically agility) of the athletes. The objective of this test was to monitor the development of the athlete's speed with directional change. This test is also known as the 20 meter shuttle run. Totally blind athletes executed this test with the help of the tester, assistant and also their friends. Methods that are used are guide wire system, tether or running side by side.

Test procedures

1. Equipment needed were a flat surface (running track would be ideal), three cones, stop watch and an assistant.
2. Three cones were set five meters apart on a straight line.
3. The athlete started at the middle cone.
4. The coach gave the signal to start and pointed to a specific direction, right or left.
5. The athlete then moves and touches the first cone, returns past the middle cone (start) to the far cone, touches it and then returns to the middle cone, touching it too.
The coach starts the stopwatch on giving the 'GO' command and stops the watch when the athlete touches the middle cone. The best score out of the two circuits in each direction were recorded.

Figure 1: Lateral Change of Direction Test



Results

Table 1: Subjects Characteristics

Variables	n	male	n	female	n	overall
Age (M)(SD)	24	14.83 ± 0.49	15	13.93 ± 0.60	39	14.49 ± 0.38
	n	%	n	%	n	%
Classification						
B1-Totally Blind	10	55.6	8	44.4	18	100
B2- Partially Blind	14	14 66.7	7	33.3	21	100
Weight (mean)	24	49.1 ± 14.8	15	42.0 ± 11.9	39	46.4 ± 14
Height(mean)	24	1.51 ± .12	15	1.4 ± .12	39	1.50 ± .09
BMI (mean)	24	22.4 ± 5.5	15	18.9 ± 6.8	39	21.0 ± 6.2

Table 1 shows the Mean (M) of subjects according to age, classification, weight, height and BMI. Subjects for this study consists of totally (B1) and partially blind (B2) athletes (n=39; totally=18, partially=21) from Paralympic Circuit Championship.

Table 2: Paired Sample T-Test during the lateral Change of Direction Test

Factor	Mean(SD)	t	df	Sig. (2 tailed)
Pair 1: Test 1(L)- Test 2 (L)	-0.0067 (.123)	-.330	38	.743
Pair 2 :Test 1(R) –Test 2 (R)	.0051 (.164)	.195	38	.846

P < 0.05 significant level

To determine the significant different between test 1 and test 2, paired sample T-Test was used. Results showed that there was no significant different between Test 1 and Test 2 (table 2). The results indicated the levels of agility between trials remained the same.

Table 3: Independent T-Test for Test 1: left and right movement during the Lateral Change of Direction Test

Class	M	SD	F	t	df	Sig.(2-tailed)

Test 1 Left: B1	8.83	1.48				
Test 1 Left: B2	7.16	.87	4.3	4.20	26.56	.000
Test 1 Right: B1	8.85	1.54				
Test 1 Right: B2	7.12	.91	4.91	4.20	26.70	.000

Table 4: Independent T-Test for Test 2: Left and Right Movement during the Lateral Change of Direction Test

Class	M	SD	F	t	df	Sig.(2-tailed)
Test 1 Left: B1	8.89	1.48				
Test 1 Left: B2	7.13	.925	3.77	4.20	26.81	.000
Test 1 Right: B1	8.84	1.55				
Test 1 Right: B2	7.12	.924	3.89	4.14	26.85	.000

Independent sample T-Test was used to determine the significant different between B1 and B2 athletes on Test 1 and Test 2. Results showed that there was a significant difference between B1 and B2 athletes on Test 1 (table 3).

Independent T-Test also was used to determine the significant difference between B1 and B2 athletes on Test 2. Results indicated that the levels of agility between totally and partially blind athletes showed differences in terms of performance score.

Table 5: Pearson Correlation (PC) between Test 1 and Test 2 On Lateral Change of Direction Test

	Class	Test 1: Left	Test 1: Right	Test 2: Left	Test 2: Right
Class Pearson Correlation	1	-.582**	-.583**	-.581**	-.577**
Sign.(2-tailed)	.	.000	.000	.000	.000
N	39	39	39	39	39

** Correlation is significant at the 0.01 level (2-tailed)

The result of the score suggested that partially blind athletes have better agility than their totally blind athletes.

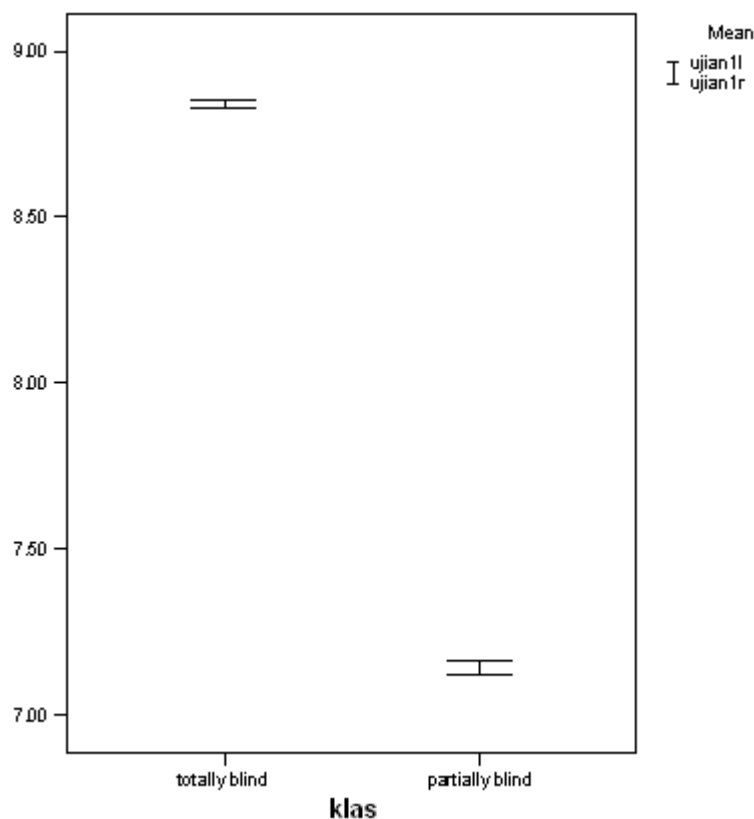


Figure 2: Mean time for Test 1 (left and Right movement) for totally blind (B1) and partially blind (B2)

The result showed that the totally blind athletes face some difficulties to score lower time compared to the partially blind athletes.

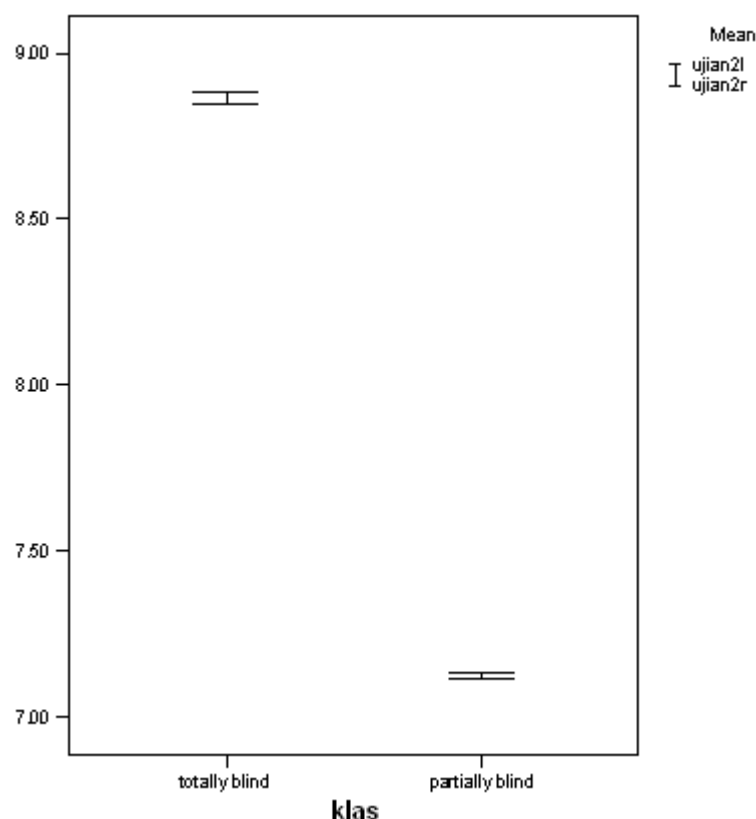


Figure 3: Mean time for Test 2(left and right movement) for totally blind (B1) and partially blind (B2)

Discussion

Agility is important in all activities and sports. Agility tests are best used for diagnostic purposes, to determine which impairment has possessed poor agility. This study shows, that the totally blind possesses a low level of motor skills. Both tests for totally blind athletes show very slow results compared to the partially blind athletes. Both visually impaired athletes face difficulties to focus on the speed and the length or space between two points.

In agility tests, there are three items that have to be completed which are (1) change in running direction, (2) change in body position, and (3) change in body part direction. This is difficult for totally blind athletes; they need to control their speed during the execution of the test. The athletes must know how fast they must go and how the distance or space that they must run. On the other hand, they are also afraid to run faster because they might fall down or hit something. This is the main reason why both the totally and partially blind athletes face some difficulties to perform in this test.

Despite the lack of significant differences between the totally blind athletes and partially blind athletes, the patterns of differences are truly major compared with the sighted athletes. In this study, all partially blind athletes performed better than the totally blind athletes, but very low compared to the sighted athletes. Visually impaired children have a greater need to be fit because engaging in everyday tasks demands more energy than for their sighted counterparts (Arnhold & McGrain, 1985; Buell, 1973; Dawson, 1981; Kobberling et al. 1989; Nakamura, 1997). For example, performing activities for daily living without sight requires additional attention to directional orientation, safety, and location of objects in space (Buell, 1973).

Some factors that lead to a lower level of motor skills in this study is that the totally blind athletes must have a partner to guide them, athletes also have to run and change body position and direction.

Some reasons for reduced activity levels

Skaggs & Hooper (1996) suggested that the reasons for lower activity include limited expectations, the lack of or inadequate programming, poor professional preparation, concerns about liability and ignorance of potential. Visually impaired children are applauded merely for participating in some activities, rather than for achieving the high standards of performance set for sighted children of the same age.

Conclusion

The increased awareness on physical activity can promote a good physical fitness. Though physical activity

participation is not essential for healthy lifestyle, many individuals enjoy taking part in physical activity and the enjoyment is usually greater for individual possessing skill-related physical fitness and health-related fitness. Present studies found that athletes with disability are not maintaining a healthy physical activity.

References

- Arnhold, R. W., & McGrain, P. (1985). *Selected Kinematic Patterns of Visually Impaired Youth in Spring Running*. Adapted Physical Activity Quarterly, 2, 206-213.
- Blessing, D. L., McCrimmon, D., Stoval, J., & Wiliford, H. N. (1993). *The Effects of Regular Exercise Programs for Visually Impaired and sighted Schoolchildren*. Journal of Visual Impairment & Blindness, 87, 50-52.
- Buell, C. E. (1973). *Physical Education and Recreation for the Visually Handicapped*. (Eric Document Reproduction service No. E. D. 079288).
- Buell, C. E. (1982). *Physical Education and Recreation for the Visually Handicapped*. Reston, VA; American Alliance for Health, Physical Education, Recreation, & Dance.
- Dawson, M. L. (1981). *A Biomechanical Analysis of Gait Patterns of the Visually Impaired*. American Corrective Therapy Journal, 35, 66-71.
- Hopkins, W.G., Gaeta, h., Thomas, A.C., & Hill, p. (1987). *Physical Fitness of Blind and Sighted Children*. European Journal of Applied Physiology and Occupational Physiology, 56, 69-73.
- Jankowski, L. W., & Evans, J. K. (1981). *The Exercise Capacity of Blind Children*. Journal of Visual Impairment & Blindness, 75, 248-251.
- Kobberling, G., Leger, L., & Jankowski, L.W (1989). *Physical Capacity in Visually Impaired Persons*. Science et motricite, 7, 38-41.
- Kobberling, G., Jankowski, L. W., & Leger, L., (1989). *Energy Cost of Locomotion in Blind Adolescents*. Adapted Physical Activity Quarterly, 6, 58-67.
- Kobberling, G., Jankowski, L. W., & Leger, L., (1991). *The Relationship Between Aerobic Capacity and Physical Activity in Blind and Sighted adolescents*. Journal of Visual Impairment & Blindness, 85, 382-384.
- Lieberman, L. J., Butcher, M., & Moak, S. (2001). *Preferred Guide-Running Techniques for Children who are blind*. Palaestra, 17 (3), 20-26, 55.
- Meek, Geoffrey A. & Maguire, Julie F (1996). *A Field Experiment of Minimum Physical Fitness of Children with Visual Impairments*. Journal of Visual Impairment & Blindness; v. 90, p. 77-80.
- Nakamura, T. (1997). *Quantitative Analysis of Gait in the Visually Impaired*. Disability and Rehabilitation, 19, 194-197.
- Shindo, M., Kumagai, S., & Tanaka, H. (1987). *Physical Work Capacity and Effect of Endurance Training in Visually Handicapped Boys and Young Male Adults*. European Journal of Applied Physiology, 56, 501-507.
- Short, F. X., & Winnick, J. P. (1986). *The Influence of Visual Impairment on Physical Fitness Test Performance*. Journal of Visual Impairment & Blindness, 80, 729-731.
- Skaggs, S., & Hopper, C. (1996). *Individuals with Visual Impairments: A Review of Psychomotor Behavior*. Adapted Physical Activity Quarterly, 13, 16-26.
- Sundberg, S. (1982). *Maximal Oxygen Uptake in Relation to Age in Blind and Normal Boys and Girls*. Acta Paediatrica Scandinavia.
- Winnick, J. P., & Short, F. X. (1985). *Physical Fitness Testing for the Disabled: Project UNIQUE*. Champaign, IL: Human Kinetics.
- Winnick, J.P. & Short, F.X. (1982). *The physical Fitness of sensory and Orthopedically Impaired Youth (Project UNIQUE) Brockport*. Physical Education Department, State University of New York, College at Rockport.

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Analysis of the Functional Sailing Classification System

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Introduction

Sailing is an exciting and rapidly-growing sport for people with disabilities. It can accommodate a wide range of disabilities, and it is one of the few sports in which people with a wide range of disabilities can compete with a degree of equity (1,2).

As a sport, sailing is governed by the International Sailing Federation (ISAF), a member of the International Olympic Committee (IOC). Sailing for people with disabilities is governed by the International Foundation for Disabled Sailing (IFDS), a member of IPC(3).

Sailing was introduced to the Paralympic Games as a demonstration event in 1996. In Atlanta, only one class of boat was sailed which was the Sonar (4). Currently, two classes are sailed in Paralympic competition:

- The Sonar - a three-person keelboat with a sloop rig (two sails – mainsail and jib) (Fig. 1), and
- The International 2.4mR (5) - a single-person, sloop-rigged keelboat (Fig. 2)

The Sonar was chosen for disabled use because of the size and design of its cockpit which can accommodate a wide range of adaptive devices. For the most part, the Sonar has fulfilled the requirements set by the IFDS for a safe competitive three-person craft that can be sailed by a crew that includes people with mild, moderate and severe degrees of disability.

The Sonar is usually sailed in open non Paralympic regattas, with spinnaker, by four able-bodied and/or disabled people. The Sonar is best sailed flat or upright in all but the lightest of conditions to maximize its performance. This means that following a tack or gibe, crew must be able to transfer to the weather (upwind) side of the boat. Such transfer requires a degree of mobility in at least some of its crew (Fig. 3)

Outside Paralympic regattas and IFDS championships, the 2.4mR also is sailed by both able-bodied and disabled sailors. The 2.4mR is less physically demanding than the Sonar where the single sailor sits facing forward with all the trim controls within easy reach. The 2.4mR may be steered with either feet or hands.

The objectives of this study are: 1. To set up a benchmark to measure agility among B1 and B2 visually impaired athletes.

Competitive sailing requires cognitive skill such as knowledge, experience, tactics and strategy . It also requires the physical and sensory abilities. These abilities relate to agility in moving about the boat (especially in the Sonar), responsiveness to boat movement (balance), adeptness in steering, and vision in trimming sails.

Classification is the grading, for sport, of people with disabilities. Classification originated as a medical system based on diagnosis of physical impairment. Current classification differentiates between motor, sensory, intellectual /cognitive, and transplant groupings (6). The Paralympic Games, which grew partly from wheelchair athletics, has focused more on motor and sensory disability and less on intellectual disability. The Special Olympics is an international sports umbrella organization that caters specifically to individuals with intellectual disabilities.

The IFDS since its foundation, has had a classification system for sailors competing in three-person keelboats. The IFDS was challenged to develop a fairer classification system when sailing was introduced to the Paralympic Games.

The development of such a system required considerable professional input. IFDS as a result reconfigured its Medical Committee to include classifiers who had knowledge of the sport. Most had sailed competitively at national or international levels. These classifiers had backgrounds in rehabilitation or neurology (see Acknowledgements). The aim of the new Medical Committee was to shift the old IFDS classification system from an impairment-specific model to a functional, sport-specific model. The new classification system had to:

- a) Enable fair and equitable competition between athletes with all types of disability, and all degrees of disability - mild, moderate and severe;
- b) Permit the compilation of multi-person crews with widely varying types and degrees of disability (to complement each other);
- c) Measure only functional limitations caused by physical disability; and
- d) Be unaffected by the skill, training or talent of the participant.

The IFDS Medical Committee, in devising a new classification system, drew on long-established classification systems from other Paralympic events. It borrowed from the profile approach of the equestrian classification system. It also borrowed from the swimming classification system which used (and still does) anatomical examination, a functional test, and observation in competition (7). The new sailing classification system was therefore devised to include three components before a final classification number was assigned:

1. A weighted or "functional" anatomical examination: tests of strength, range of motion and coordination.
2. Observation of the key operations required to sail a boat (standardized in situ tests): Use of tiller, sheeting of lines & ropes, cleating and/or securing lines & ropes, transferring within the boat, and hiking and/or leaning over the side of the boat.

3. Observation of actual competition.

The result was the IFDS Functional Classification System 2000 (FCS2000) (3).

This paper uses the results of the 2004 Athens Paralympic regatta to explore the efficacy and equity of the FCS2000.

Methodology

FCS2000 classifies sailors on a continuum of '1' to '7'. Only whole digits are used. 'Mild' degrees of disability are reflected in high classification numbers e.g. An above-the-knee amputee is classified as '7'. 'Moderate' degrees of disability are reflected in mid-range classification numbers e.g. someone with muscular dystrophy may be classified as '4'. 'Severe' degrees of disability are reflected in low classification numbers e.g. a high quadriplegic is classified as '1'.

The FCS2000 accommodates athletes with sight impairment. Sailors with, International Blind Sporting Federation (IBSA) rating, visual acuity impairment of B1, B2 or B3 are classified as '3', '5' and '7' respectively although currently under review.

The FCS 2000 system permits a person with any number of classification points ('1'–'7') to compete in the 2.4mR i.e. the sailor need meet only 'minimal disability' as an entry requirement. Most 2.4mR sailors competing at Paralympic level will also have a '1' to '7' classification as they may compete in other regattas in both classes.

The system permits a three-person Sonar crew to total no more than 14 classification points per boat. This maximum was set to encourage the inclusion of 'severe', 'moderate' and 'mild' degree of disability. Crews of less than 14 points are, of course, permitted and such crews can be highly competitive. However, in most circumstances, crews take advantage of the maximum number of classification points available under the rules.

Single-person keelboat

The single sailor in a 2.4mR must perform all cognitive, physical and visual requirements of sailboat competition. It was hypothesized that sailors with 'less' physical disability would perform better than sailors with 'more' physical disability. To test this hypothesis, two groups of 2.4mR sailors at the 2004 Paralympic regatta were studied:

Group 1 – Sailors deemed 'severe to moderate' in degree of disability (1-3 classification points); and

Group 2 – Sailors deemed 'moderate to mild' in degree of disability (4-7 classification points).

Nine of the 2.4mR competitors had classification numbers assigned while the remaining seven had entered under minimal disability requirements. These seven sailors were observed and discussed with classifiers to clearly determine the correct grouping for analysis. This was relatively simple as most had observable impairments such as paraplegia or amputation which could be compared to benchmark classifications.

It was further hypothesized that any difference between the above groups would be most apparent in heavy or strong winds conditions. To test this hypothesis, the finishing positions for races 3 and 7 [Light weather - wind speeds of less than eight knots (15km/hr)] were compared with the finishing positions for races 1 and 2 [Heavy weather - wind speed greater than 13 knots (24.4 km/hr)] for each group. The other races were not analysed as they did not clearly represent the definition of 'heavy' or 'light'. The average wind speeds for races 4,5 and 6 were in the mid range from 8 to 13 knots and race 9 was sailed in extremely light conditions. The data for each group were compared using a Wilcoxon signed rank test and analyzed using the SPSS statistical software package (version 11.5).

Three-person keelboat

Three-person keelboats, like the Sonar (Figs. 1 & 3), are typically sailed by

- A skipper (helmsperson) who steers (operates the tiller) at the stern (back) of the boat,
- A main sheet-hand (middle-person) who controls the main-sail, and
- A for'ard-hand (front-person) who controls the jib at the bow (front) of the boat.

IFDS rules for the 2004 Paralympic regatta permitted a reserve for each (three-person) Sonar but no reserve for any (single-person) 2.4mR. Four Sonar crews chose not to avail themselves of reserves.

In the Sonar, the disabled sailors divide the cognitive and physical tasks of sailboat operation between themselves. It was hypothesized that crews would optimally match their disabilities to the various physical functions required to operate a three-person boat. To test this hypothesis, the physical role undertaken by each of the 45 non-reserve Sonar competitors (skippers, sheet-hands and for'ard-hands) at the 2004 Paralympic regatta was analyzed with respect to their degree of disability as reflected in classification numbers.

Results

General

The 2004 Paralympic regatta was sailed from the Olympic regatta site in the Aegean Sea, several kilometers SE of central Athens. The water was generally flat with little swell. Competition occurred in winds ranging from 4 to 20 knots (7.5-37.6 km/hr).

There were 72 competitors at the 2004 Paralympic regatta (2.4mR and Sonar sailors including reserves), and six were women. All classification numbers were represented. Many competitors were mature (Mean age: 40 years) and would be eligible to compete as veterans in an appropriate forum. Ages ranged from late teens (18 years) to early retirement (66 years). Although somewhat skewed towards youth, the distribution of age of competitor was approximately normal (Fig. 4)

Single-person keelboat

There were sixteen individuals who sailed in the single-person keelboat (2.4mR) competition. There were nine races. Among the competitors, the distribution of degrees of disability was approximately even with eight competitors in group 1 and eight competitors in group 2.

The finishing placings for group 1 when comparing heavy to light weather showed that in three cases placings were better, twelve cases placings were worse and in one case an identical placing occurred. The finishing placings for group 2 when comparing heavy to light weather showed that in eight cases placings were better, seven cases worse and one identical. Group 1 (severe/moderate disability) performed significantly worse in heavy than light weather ($p=0.011$). There was no significant difference in performance for Group 2 when comparing heavy and light weather.

Three-person keelboat

Fifty six individuals (including reserves for 11 of the 15 Sonars) were eligible to compete in the three-person keelboat event. The number of competitors (33) with higher classification numbers ('5'-'7' i.e. less physical disability) exceeded the number of competitors (23) with low classification numbers ('1'-'3' i.e. more physical disability). More importantly perhaps, the distribution by degree of disability shows a bi-modal distribution. The two peaks are at '2-3' and another at '6' (Fig. 5)

The distribution of degree of disability was highly bi-modal for helmspersons (skippers) of three-person keelboats (Fig. 6). No skipper with a classification number of '3', '4', or '5' was represented i.e. not a single Sonar skipper was 'moderately' disabled. All were either 'severely' disabled or 'mildly' disabled.

The distribution of degrees of disability was highly variable for sheet-hands (middle-persons). No sheet-hand had a classification number of '1' while four had a classification number of '6' (Fig. 7). The distribution of degrees of disability among sheet-hands was bi-modal (peaks at '3' and '6') reflecting the distribution of the entire Sonar population and suggesting a trend towards two populations of sailors among sheet-hands.

The distribution of degrees of disability was highly skewed for for'ard-hands (front-persons). No for'ard hand had a classification number of '1' while four had a classification number of '7' (Fig. 8). These data strongly suggests a preference for crewpersons with 'mild' degrees of disability at the front of the Sonar.

Discussion

There are limitations to this study because its sample sizes are small. This is particularly so for the single-person keelboat (2.4mR) data in which the results of just two races have been contrasted with the results of just two other races. The conclusions drawn here are therefore optimistic. Nevertheless, we are reassured by the fact that the results of this small study are consistent with our discussions with sailors. That is, that disadvantages to some sailors with severe disabilities may occur in strong winds and heavy conditions.

The reasons for this for this finding may be that moderately/mildly disabled sailors have, in many cases, good trunk control. This means that in heavy weather, they can optimally position themselves in the cockpit of a 2.4mR. On the other hand, moderately/severely disabled sailors have, in many cases poor trunk control and in heavy weather, they must either lean to the leeward side of the cockpit of a 2.4mR or hold on to the gunwale (the side of the boat). Such action results in only one arm being available to steer and trim sails. And moderately/severely disabled sailors fatigue comparatively quickly in heavy weather.

Both single and three-person keelboat competition attracts athletes with a wide range of disabilities, and with widely ranging degrees of disability. The degree of disability is not evenly distributed with relatively more sailors with mild degrees of disability (high classification numbers) gaining entry to Paralympic competition than those with severe degrees of disability. The voices of the severely disabled seeking a more equitable arena of competition are numerous and loud. Any criticisms must be explored through continual research and evaluation of the systems we use. This will ensure future editions of the IFDS Functional Classification System will continue to deliver more equal opportunities for entry to Paralympic regattas and world championships.

Practical Implications

A decade ago, competitive sailing for people with disabilities was collegial in nature and classification was not crucial. This is not to say that the standard of competition was not high. It is rather, to nostalgically reflect on the camaraderie of most elite regattas in which some three-person keelboat crews were composed entirely of sailors who, by today's standards, would each be classified as 'severely' disabled. It may have been more important for those sailors to participate than to win.

The entry of sailing into the Paralympic Games as a demonstration sport (1996) changed the nature of this

competition. Suddenly, there was significant kudos to be gained through Paralympic competition. A gold medal award is often associated with funding and awards in countries like Australia and Canada. Winning was important. Coaches studied the then current IFDS classification schemes to seek advantage for national teams. Mildly disabled (some would say minimally disabled) sailors entered the sport. The result has been a benefit to the sport through a progressive increase in competitive standard. Unfortunately this has also been associated with the displacement of some severely disabled (and, in some cases, moderately disabled) sailors. The reviewing and development of classification procedures has, at times, met with resistance from national teams which develop campaigns over many years. This is why the FCS system is edited on a four year basis inline with Paralympic competition years. The results of its impact must be reviewed more frequently.

It is often said that sailing is the only sport in which the able-bodied and disabled can compete with equal opportunity. Some support for this statement can be found in the relatively high numbers of disabled sailors who contest open world championships in the 2.4mR class against able-bodied sailors. Proponents of this optimistic view often cite two significant sporting achievements to support their argument. The first is the example of Gustaf Fresk, a wheel-chair user due to Friedrich's Ataxia, who won the (open) 1995 World 2.4mR Championship. The second is the example of Heiko Kroger, a hand amputee, who won the (open) 1999 World 2.4mR Championship. This study and wide anecdotal reports suggest that equal competition holds true only in light weather. Thus even the 2.4 mR class may have to consider classification beyond the minimal disability requirements. Another approach could be to search for modifications to compensate for factors such as trunk control.

The IFDS sought two additional events for the 2008 Beijing Paralympic regatta. The request for a competition for severely disabled sailors in a single-person class was declined. However, the request for a competition for severely disabled and less severely disabled sailors in a two-person class was successful. IPC recently announced that it would endorse three events for Beijing:

- A three-person class (the Sonar),
- A single-person class (the 2.4mR), and
- A (new) two-person class.

The IFDS Functional Classification System FCS2000) is a powerful analytical and assessment tool. However, the system is still constrained by the degrees of subjectivity inherent in observation. There is current interest in evaluating a sailing simulator which can be adapted for a range of boats (8,9). This has been developed in Australia and on the horizon have a glimmer of hope for an eventual gold standard for classification. The future direction in sailing classification continues towards function and detailed evaluation of the sport and its components. This study demonstrates that the FCS for sailing has progressed towards achieving one its goals. The goal of enabling fair and equitable competition between athletes with all types of disability.

Figure 1
The International Sonar
The Three-person Paralympic class sloop-rigged keelboat



Specifications

Length Overall :	23'0" (7.0 m)
Length Waterline :	19'11" (6.1 m)
Draft:	3'11" (1.2 m)
Beam:	7'10" (2.4 m)
Displacement:	2,100 lb. (952.5 kg)
Ballast (lead keel):	900 lb. (408.2 kg)
Sail Area (main / jib):	250 sq. ft. (23.2 sq. m)
Spinnaker:	245 sq. ft. (22.8 sq. m)

Figure 2
The International 2.4mR
The single-person Paralympic class sloop-rigged keelboat

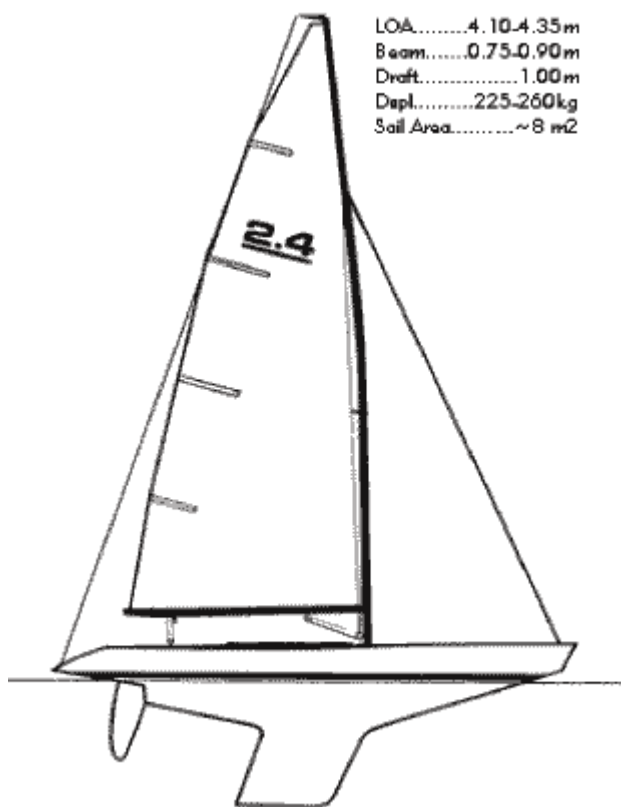


Figure 3
Sonar Sailboat in Competition



Figure 4

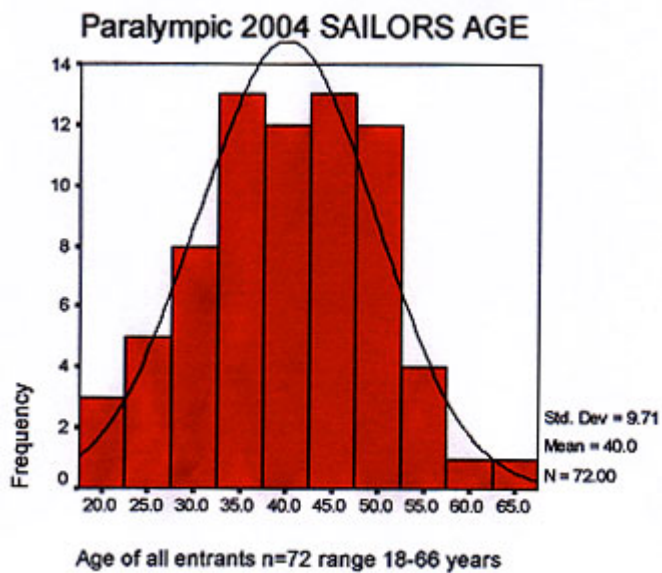


Figure 5
The distribution of degrees of disability among 2004 Paralympic Sonar sailors

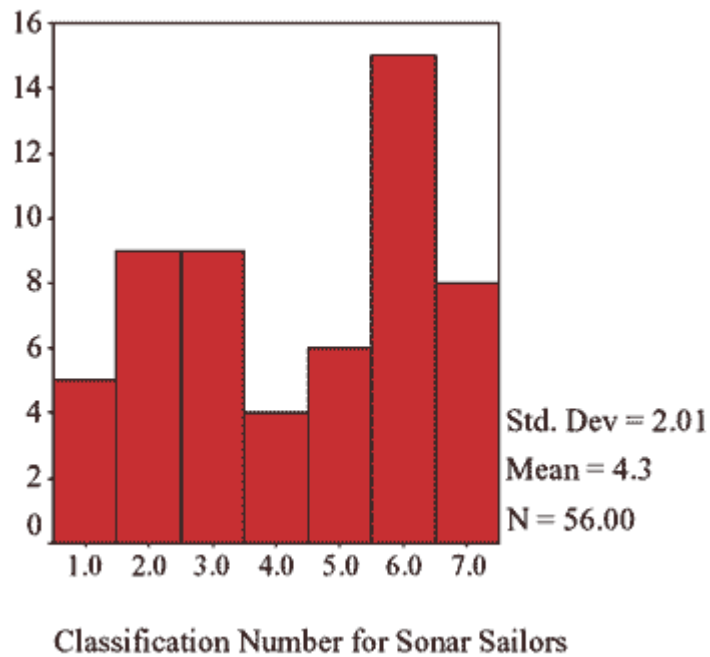


Figure 6
The distribution of degrees of disability among Paralympic Sonar skippers

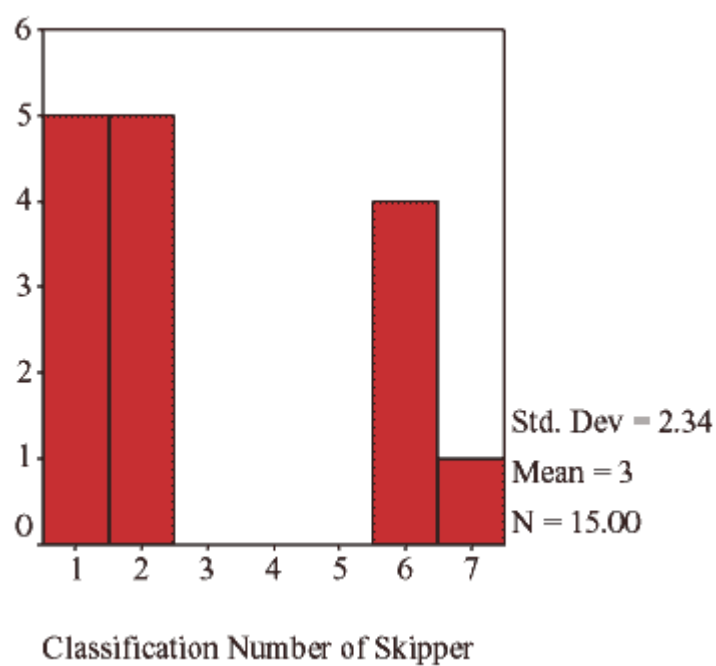


Figure 7
 The distribution of degrees of disability among Paralympic Sonar main sheet-hands

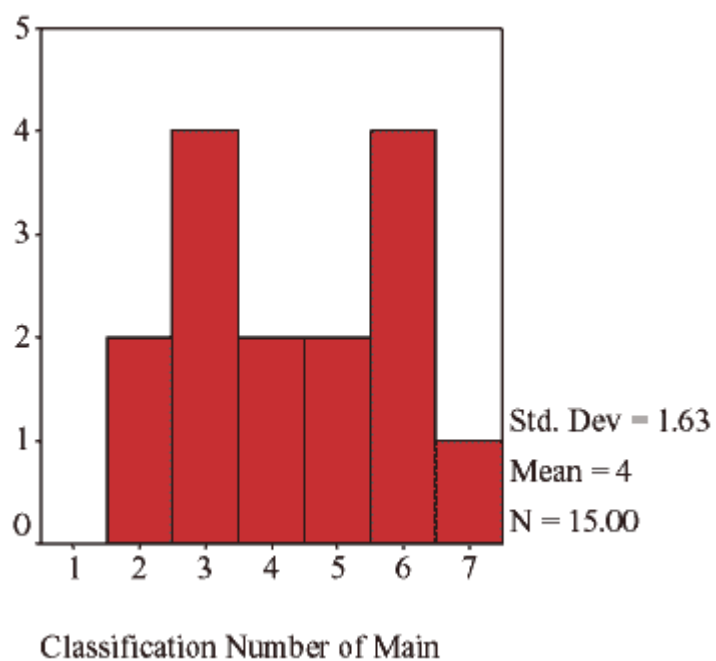
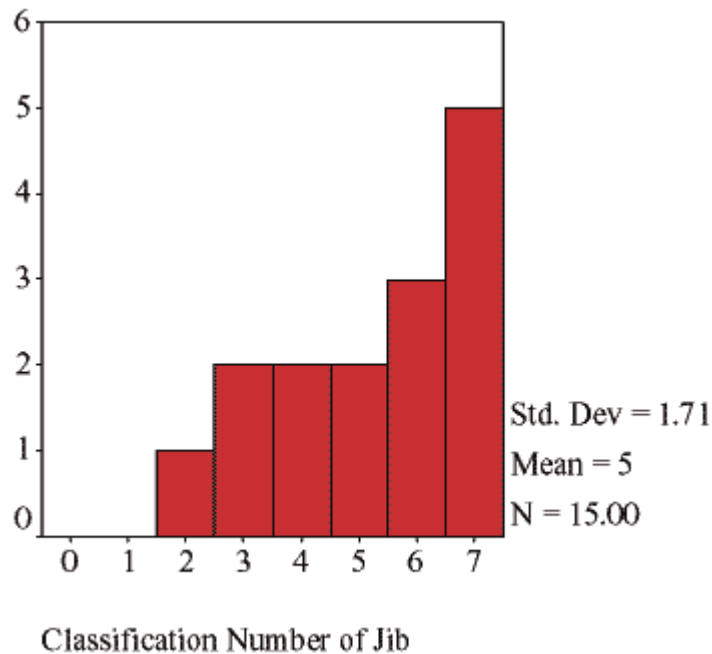


Figure 8
 The distribution of degrees of disability among Paralympic Sonar jib for'ard hands



References

1. Vardy, P.H. (1996) *Craft Suitable for Disabled Sailors – Sonar World Disabled Sailor 1:3*
2. Vardy, P.H. (1997) *Craft Suitable for Disabled Sailors ? International 2.4mR World Disabled Sailor 3:7*
3. International Foundation for Disabled Sailing on International Sailing Federation website: www.sailing.org/disabled
4. Sonar Class Association website: <http://www.sonar.org>
5. International 2.4 metre website: www.sailingsource.com/24metre/files/about24.htm
6. Wilson, S.F. (1998) *The Athlete with a Disability Ch. 20* Oxford Handbook of Sports Medicine, Oxford University Press, Oxford 674-698
7. Wu, S.K. & Williams, T. (1999) *Paralympic Swimming Performance - Impairment, and the Functional Classification System*, Adapted Physical Activity Quarterly 16:251-270
8. Virtual Sailing website: www.virtualsailing.com.au
9. Bethwaite Yacht Designs website: www.bethwaite.com

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Exercise habits and aspects of Health - A survey of Norwegian persons with Longstanding Incomplete Spinal Cord Injuries.

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Introduction

A large number of studies have described the benefits of physical exercise for persons with spinal cord injuries (SCI). Hjeltne concludes in his review-article that there is no need to debate the importance of physical exercise and training for persons with SCI. An important question is, what is the best way to perform the exercise in the long term after discharge from the hospital. (Hjeltne N, 1988).

In Norway, Hjeltne et al. stated that physical activity had a positive influence on the respondents' well-being in a study of 72 persons with longstanding SCI. The persons who were physically active had fewer complications from their SCI, and they had a higher level of independence regarding daily life activities (Hjeltne N & Jansen T, 1990).

In Canada, Noreau and Shephard noticed a support in the hypotheses that physical fitness is positively related to the overall productivity of the person with SCI. Noreau et al defines productivity after Trischman as "all activities that contribute to a sense of usefulness and life satisfaction" including a person's participation in gainful employment, education programs, community services and active leisure pursuits (Noreau L & Shephard RJ, 1992). In 1995 the same authors publish a review article concerning SCI, Exercise and Quality of Life (Noreau L & Shephard R.J, 1995b). This article states that almost all results suggest that regular exercise benefits individuals with SCI in physiological, functional (ADL) and psychological ways (higher level of self-satisfaction, stronger self-image, fewer suicidal tendencies, more independent attitude and better sense of well-being). The respondents represented in the different studies, however, do not include the whole range of individuals with SCI. Persons with incomplete injury and those not using a wheelchair are often excluded in these studies.

The cognitive requirements for walking have been studied in persons with incomplete SCI (Lajoie Y, Barbeau H, & Hamelin M, 1999). The results indicated that walking was cognitively more challenging for the study group when compared to a reference group of 10 healthy young men.

Physical exercise and training have been an important part of the rehabilitation programme in Spinal Cord Injury (SCI) since the days of Sir Ludvig Guttmann (Scruton J, 1998). Shephard emphasises the social and psychological benefits of regular physical activity in addition to the general health benefits of physical activity (Shephard RJ, 1991). However, long-term effects of adapted exercise for persons with incomplete injuries were never thoroughly described in the literature (Noreau L & Shephard R.J, 1995a). Based on this, the purpose of the study was to gain more knowledge about the differences according to perception of life satisfaction and health as experienced by physically active as opposed to physically inactive persons with longstanding incomplete SCI. In this paper the main purpose is to present exercise habits, self-reported health and quality of life in the group studied.

Methodology

The study is a cross-sectional survey, including retrospective questions giving quantitative data for analysis.

Respondents

Included in the study were persons with incomplete SCI grade Frankel D (Maynard FM et al., 1997) rehabilitated at Sunnaas Rehabilitation Hospital before 1992 and at age below 60 years at the time of injury.

Definition of activity level

Breivik et al. defines inactive persons as those who exercise every second week or less (Breivik G, Vaagbø O, 1998). Based on Breivik the present cut off between physically active and physically inactive respondents was set at 60 minutes a week.

Life satisfaction Scale

Fugl-Meyer's and his co-workers' questionnaire was used to measure global and domain specific life satisfaction in physically active and inactive respondents regarding life as a whole (1 question) and in 8 domains of life (8 questions) (Bränholm IB, 1992). **Sample characteristics** A total of 100 persons with longstanding incomplete SCI received the questionnaires. After two reminders, 72 persons (72%) returned the questionnaire. Due to wrong diagnoses, two returned questionnaires were excluded. One respondent was excluded because of senile dement. There were 69 questionnaires analysed in the present study.

Table 1

Gender distribution and age at injury in the present study, the Sunnaas SCI study and in the Stockholm SCI study.

	Study groupASIA D n=69	The Sunnaas SCI study n=461	The Stockholm SCI study n=353
Sex F/M (%)	13/56(18,8/81,2)	79/351(18,4/81,6)	67/286(19/81)
Age at injury median			

(range)	24,5 (16-58)	-	27(3-77)
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The gender distribution corresponds with the Sunnaas SCI study and the Stockholm SCI study (see Table 1).

In total 35 persons (51%) were diagnosed with incomplete tetraplegia, and 33 persons (49%) were diagnosed with incomplete paraplegia. The results correspond with the results of the Stockholm SCI study (Levi R, 1996), where the distribution of incomplete tetraplegia / paraplegia were 50 % in both groups.

There was no difference between the subgroups physically active / physically inactive regarding neurological level of injury.

Statistical analysis To study the relationship between a continuous dependent variable and a set of independent variables, linear regression analysis was used.

Results Exercise habits The results from the present study group were compared to those of other studies with comparable data; statistics on exercise in the Stockholm SCI study, (Levi R, 1996) and the general Norwegian population (Breivik G & Vaagbø O, 1998). Persons with longstanding incomplete SCI in the group studied were more physically active than the general Norwegian population (72% versus 65%), and in the Stockholm SCI study 66% were physically active.

Exercise methods

The most frequent methods of exercise in the physically active group were walking 23 (46%), cycling 20 (40%), swimming 14 (28%) and strength training 13 (26%).

Functional abilities

In total 2 persons (3%) in the present study group were not able to walk at all, 5 persons (7%) could walk 10 metres or less. Before getting tired, as many as 34 persons (49%) could walk more than 700 meter. Among the physically active, 28 persons (56 %) walked outdoors without mobility aids and 14 persons (28%) used wheelchairs. Among the physically inactive, 14 persons (74%) walked outdoors without mobility aids, and only 1 person (5%) used wheelchair.

Self-reported physical fitness.

The respondents were asked to rate how satisfied they were with their physical fitness on a scale from 1 (dissatisfied) to 5 (satisfied). The persons that were physically active registered a statistically significant better self-reported physical fitness ($p < 0,001$) than the physically inactive group.

Health problems

In total 59 persons (86%) reported health problems, 7 persons (10%) reported no health problems and 3 persons (4%) did not respond. Forty-one persons (82%) of the physically active group reported health problems, and 18 persons (95%) of the physically inactive group reported health problems. From the results given, no correlation between health problems in general and physical activity were detected.

Quality of life

Quality of life includes social activities and a scale of life satisfaction (Bränholm IB, 1992).

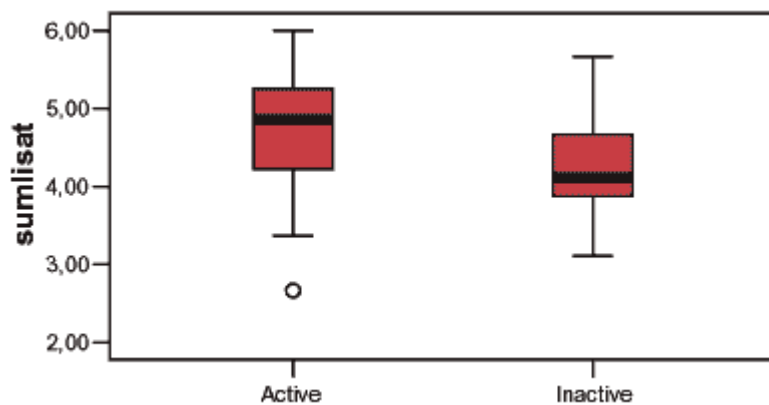
Contact with friends

In total, 68 (99%) reported having close friends and 48 (70 %) of the respondents had frequent contact with friends (= once a week). **Feeling lonely** The results of the study showed no association between the physically active and inactive groups and the sense of feeling lonely.

Life Satisfaction.

Statistically significant differences were found in favour of the physically active group regarding financial situation ($p = 0,024$), leisure time ($p = 0,005$) and partnership relations ($p = 0,003$), see also Figure 1.

Figure 1 Mean score of global and domain specific life satisfaction in active in inactive respondents



The respondents was compared to two reference groups, adults in northern Sweden (R1) and Persons with SCI in Sweden (R2) (Fugl-Meyer AR, Bränholm I.B., & Fugl-Meyer K S, 1992). The results are presented in Table 5. The physically inactive group showed a significantly less life satisfaction than the SCI in Sweden regarding their vocational situation, financial situation and leisure time, and a significantly greater degree of life satisfaction with regard to ADL.

Table 5
Life satisfaction in the physically active and inactive groups in the present study and in 2 reference groups, R1 = adults in Northern Sweden, R2 = Persons with SCI in Sweden

	Activen=50	Inactiven=19	R1n=201	R2n=82
Life as a whole	57%(CI=45%-69%)	41%(CI=29%-53%)	69%	49%
Vocational situation	48,7%(CI=37%-60%)	25%(CI=15%-35%)	56%	45%
Financial situation	62%(CI=51%-73%)	33%(CI=22%-44%)	44%	61%
Leisure	63%(CI=52%-74%)	27,8%(CI=17%-38%)	55%	40%
Contacts	70%(CI=59%-81%)	72%(CI=61%-83%)	60%	66%
ADL	80%(CI=71%-89%)	77,8(CI=68%-88%)	94%	39%
Sexual life	38%(CI=27%-49%)	35,3%(CI=24%-47%)	63%	34%
Family life	83,3%(CI=74%-92%)	70,6%(CI=60%-81%)	82%	76%
Partnership relations	85,7%(CI=77%-94%)	53,8%(CI=42%-66%)	76%	83%

Discussion

When we are talking about persons with SCI going back to a normal life, or to live as closely as possible to normal in all aspects of life, we are dealing with the concepts of normalization and social integration in society. To specify these words it is necessary to look back and see when the words were used for the first time and in what setting. A person with a disability should have the same right to equal living conditions and the same right to make his or her own choice as those of the general population in the society. They should live with social integration in situations characterized by respect, a feeling of belonging, and being responsible for themselves. The basic requirements for security, well-being, development and stimulation should be available (Sandvin J, 1992).

In the Norwegian society, exercise and physical activities have long and strong traditions as both leisure time activities for recreation and as a tool for better health. Based on the normalisation and social integration theory, going back to "normal life" after a SCI includes participation at all the different arenas in society as well as using physical activity as a leisure-time activity. Persons who have been through a period of rehabilitation after a SCI normally have a decrease in the activity level compared to what they had before the injury due to a lower level of physical functioning. This decrease in activity leads to an increased level of high-risk behaviour with regard to health, this means that persons with a restriction in physical abilities, needs an exercise programme even more than the general able-bodied population.

The main reference group used, with regard to the comparison of exercise habits, was the general Norwegian population. In addition, comparable data from a Swedish sample of persons with SCI was available (Levi R, 1996). The analysis of the comparison of exercise habits in these groups revealed no differences in the percentage of regularly physically active persons.

The exercise methods in the present study group do not differ from the exercise methods in the general

Norwegian population, except for Nordic skiing and jogging. This can easily be explained by the physical limitations found in persons with incomplete SCI. Both Nordic skiing and jogging are functionally demanding regarding strength, endurance, elasticity and coordination. For some persons with incomplete SCI these activities are too demanding, refer the range of functional abilities reported. Thus, the character of the disability can explain this small difference in the choice of exercise methods. With this exception it can be said that with regard to exercise methods, the present study group has almost returned "back to normal," or that it has been socially integrated, according to the normalization theory.

The dependents between physical fitness and physical activity is in agreement with the theory on health and exercise, those that are physically active, achieve a better physical fitness (Nieman DC, 1998).

From the list of complications experienced in the presented study, reduced range of motion and stiffness were two of the symptoms that may have been associated with too much strain. To avoid this type of overuse, a wheelchair was recommended as a form of functional relief from overuse for many persons with incomplete spinal cord lesions even if they had relatively good walking ability. On a regular basis 28 % of the physically active group of the present study used a wheelchair outdoors as opposed to only 5 % of the physically inactive group. The odd ratio indicated that it was 7 times more likely for a person to use a wheelchair in the physically active group than in the physically inactive group.

We found a close relationship between physical activity and social activity. This could be explained in a social context by the fact that physical activity and sports are often associated with many persons exercising together in a sport club, fitness centre, or by simply going for a walk together.

Regarding feeling lonely, the presented study showed the same pattern as young persons with disabilities in Norway. The results from both these groups indicated that in the Norwegian society persons with disabilities were feeling lonely more often than the general population. An explanation might have been the discrimination that persons with disabilities often feel when participating in activities in the society (Manneråkutvalget, 2001). From this aspect there is still a long way to go "back to normal life" with social integration for persons with physical disabilities.

The results of the presented study showed a positive relationship between physical activity and global and domain specific life satisfaction. The relationship was statistically significant in favour of the physically active group regarding the domains financial situation, leisure time and partnership relations. Fugl-Meyer set a cut-off for being happy at the score 5-6 and unhappy at the score 1-4. As shown in Figure 1, the physically active group were close to the definition of happiness, and the inactive group were more clear on the unhappy side of the border. Even if the difference was not statistically significant, the difference in level of life satisfaction had a clinical value. The difference between our two groups corresponds with the study from Beitostølen (Blaasvør S & Stanghelle JK., 1999).

Compared to persons with SCI in Sweden the results indicated a similar pattern, except for ADL and leisure time activities, where the scores were significantly higher in the physically active group studied.

Practical implications

The aim of the present study was, first, to explore the exercise habits in a sample of persons with incomplete SCI and compare the results with similar results in reference groups. The second aim was to investigate potential correlation between physically active and physically inactive participants regarding self-reported health and quality of life aspects. The results indicate that the exercise habits in the study group are comparable to the exercise habits in the general Norwegian population. The physically active participants reported better physical fitness, were more socially active, and experienced a greater level of life satisfaction than those who had a more sedentary lifestyle.

Further studies are recommended to investigate the connection between health and activity level in persons with disabilities. It would also be interesting to look closer at what type, intensity, and amount of exercise that should be recommended for better health in persons with SCI. Evidence-based exercise programmes for longstanding SCI are still not to be found, even if we could assume some of the same recommendations as for the general population.

The results of the present study indicated that physical activity was an important factor regarding health and well-being for persons with incomplete SCI. The sample in this study is limited. It would be interesting to investigate some of the same aspects in a broader sample, the whole population of persons with SCI. An initiated study at Sunnaas Rehabilitation Hospital / the Norwegian University of sport and Physical Education, will look more closely into different levels of physical activity and influence on health and life satisfaction. The main question for the future will be what the best way of performing exercise is for persons with longstanding SCI in order to optimise aspects of health and life satisfaction. Important questions as "How to get more people active?" and "Which activities are most suitable?" remain also still to be answered.

References

- Blaasvør S & Stanghelle JK. (1999). *Rehabiliteringsopphold med tilpasset fysisk aktivitet - hva skjer med pasientens livskvalitet?* Tidsskr Nor Lægeforen, 119, 1281-1286.
- Bränholm IB (1992). *On life satisfaction, Occupational Roles and Activity Preferences*. Medical Dissertation, Umeå University, Sweden.
- Breivik G & Vaagbø O (1998). *Utviklingen i fysisk aktivitet i den norske befolkning 1985-1997 Oslo, Norway*. The Norwegian Olympic Committee and Confederation of Sports.

- Dallmeijer A (1998). *Spinal Cord Injury and Physical Activity - Wheelchair Performance in Rehabilitation and Sports*. Doctoral Dissertation Vrije Universiteit, Amsterdam, Netherlands.
- Eriksen J, Næss S, & Thorsen V (1989). "Jeg må jo egentlig være fornøyd" Livskvalitet hos unge funksjonshemmede (Rep. No. 12). Oslo, Norway. Institutt for sosialforskning (INAS).
- Frankel HL, Hancock Do, Hyslop G, Melzak J, Michaelis LS, Ungar GH et al. (1969). *The value of postural reduction in the initial management of closed injuries of the spine with paraplegia and tetraplegia*. Paraplegia, 7, 179-192.
- Fugl-Meyer AR, Bränholm I.B., & Fugl-Meyer K S (1992). *Om tilfredsstillelse, lycka och rehabilitering*. Socialmedicinsk tidskrift, 33-41.
- Fugl-Meyer AR, Bränholm IB, & Fugl-Meyer KS (1991). Happiness and domain-specific life satisfaction in adult in northern Swedes. Clin Rehabil, 5, 25-33.
- Hjeltnes N (1988). *Physical exercise and physiological exercise testing in patients with spinal cord injuries – a short review*. Scandinavian journal of of sports sciences, 10, 55-59.
- Hjeltnes N & Jansen T (1990). *Physical Endurance Capacity, Functional Status and Medical Complications in Spinal Cord Injured Subjects with Long-standing Lesions*. Paraplegia, 28, 428-432.
- Janssen TWJ (1994). *Physical strain and physical capacity in men with spinal cord injuries*. Doctoral Dissertation Vrije Universiteit, Amsterdam, Netherlands.
- Lajoie Y, Barbeau H, & Hamelin M (1999). *Attentional requirements of walking in spinal cord injured patients compared to normal subjects*. Spinal Cord, 37, 245-250.
- Leon AS (1997). *Physical Activity and Cardiovascular Health - A National Consensus*. University of Minnesota, USA, Human Kinetics.
- Levi R (1996). *The Stockholm Spinal Cord Injury Study: Medical, Economical and Psycho-social Outcomes in a Prevalence Population*. Doctoral Dissertation Department of Clinical Neuroscience and Family Medicine, Karolinska Institute, Stockholm, Sweden.
- Lidal I. (2005). *Late effects after Spinal Cord Injury. Ongoing study Sunnaas Rehabilitation Hospital 2005*. Ref Type: Personal Communication
- Manneråkutvalget (2001). "From user to citizen." (*Fra bruker til borger. En strategi for nedbygging av funksjonshemmende barrierer.*) (Rep. No. 22). Oslo. The Norwegian Directorate for Health and Social Affairs.
- Maynard FM, Bracken MB, Creasey G, Ditunno JF, Donovan WH, Ducker TB et al. (1997). *International Standards for Neurological and Functional Classification of Spinal Cord Injury*. Spinal Cord., 35, 266-274.
- Noreau L & Shephard R.J (1995). *Spinal cord injury, exercise and quality of life*. Sports Med., 20, 226-250.
- Noreau L & Shephard RJ (1992). *Return to work after spinal cord injury: the potential contribution of physical fitness*. Paraplegia, 30, 563-572.
- Sandvin J (1992). *Mot normalt? Omsorgsideologier i forandring*. Oslo, Norway. Kommuneforlaget.
- Scruton J (1998). *Stoke Mandeville - Road to the Paralympics*. Aylesbury, England: The Peterhouse Press.
- Shephard RJ (1990). *Fitness Assessment, Current fitness Status, Training programs*. In *Fitness in Special Populations* (pp. 61-172). Champaign, USA: Human Kinetics books.
- Shephard RJ (1991). *Benefits of sport and physical activity for the disabled: implications for the individual and for society*. Scand.J.Rehabil.Med., 23, 51-59.
- www.shdir.no (2000). *Fysisk aktivitet og helse - Anbefalinger* (Rep. No. 2/2000). Oslo, Norway. The Norwegian Directorate for Health and Social Affairs.
- www.shdir.no (2001). *Fysisk aktivitet og helse - Kartlegging* (Rep. No. 1). Oslo, Norway. The Norwegian Directorate for Health and Social Affairs.

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Current Issues

Status of Physical Education in Kathmandu

Diwakar Lal Amatya

Introduction

At present the most popular sports in Nepal is Football (Soccer). Nepal never came under British colonisation, which is the main reason why modern sports and games never became more popular among the Nepalese people. Around 53 years ago the Nepalese people had the opportunity of playing modern sports. Before sports was confined within the places of Rana regime and the Nepalese people had fewer chances of enjoying modern games. After more than 5 decades, developments have been made in many sectors of Nepalese people's lives and sports is one of them (Amatya, D.L.2004). It is estimated that more than two million Nepalese youth have taken part in various sports activities.

Background of Physical Education in Nepal

Due to lack of evidence, it is impossible to quote the exact date of the introduction of modern sports and physical education into Nepal. Himalayan range at the north and open borders in east, west and south of Nepal with India. Indian influences are also there in cultural, economical, social and other fields on Nepalese people. Although the cultural value of sport exists in Nepalese society with different sports competitions at various cultural festivals, most of the modern sports came into Nepal by the Nepalese students, army men serving for Indian and British army's, tourists visiting Nepal and civil servants who went for further education and professional knowledge. According to the National Sports Council sports magazine, Cricket was played during the 1920s in Kathmandu. Volleyball and track and field were introduced in Nepal during 1932. In 1935 the first Football (Soccer) Tournament was organised in Jawalakhel (Lalitpur).

In 1956, physical education was started at the Tribhuvan University in the name of College of Education. At that time there was no fixed physical education curriculum. In 1971, National Education Policy was introduced and physical education was taught all over Nepalese schools. Physical education can be taken by the student up to a bachelor level as a main subject (Dr. Maharjan, R.K-1999). From 1995 the master degree and one year Bachelor of Education were introduced.

In 1981, the Education ministry launched a policy to give physical education as an optional subject for 9th and 10th class (Standard). The paper was 50% theory and 50% practical. Schools were attracted to this because practical numbering can be given by the school itself. The government could not provide trained physical education teachers as wanted by most of the schools. This was the main reason that subject teaching was confined only in the classrooms. Now the composition of physical education paper is 25% practical and 75% theoretical. During 1971 most of the districts would have track and field competition and volleyball tournaments. Initially the program was very successful, but gradually many of the sports teachers did not know the tournament rules. This meant due to the lack of trained physical education teachers that the majority of the districts no longer held any tournaments. In 1998 Higher education commission recommended that health and physical education should be compulsory from 1st to 8th class (standard) and for 9th and 10th class to be provided to students as second choice of elective paper. This shows the ignorance of the importance of physical education to school children within the government policy makers.

The percentage of physical education students are a decreasing trend every year and numbers of students failing in the School Leaving Certificate (SLC Board) are also increasing. This is the main reason that majority of school management boards no longer want to keep this exam paper for their students.

Physical education is regarded as a low status, peripheral subject, also as a non-constructive and vocationally non-productive, non-academic, lacking in educational value and merely as a compensatory recreational activity (Hardman & Marshall, 2000).

A perceived decline in the position and presence of physical education in the school curricula worldwide was apparent in some countries in the 1970s and 1980s. Subsequent manifestations of a deteriorating situation were reported by a number of conference themes, a range of journal articles reporting on the perilous position of physical education in schools, several international and national surveys, on-going analysis of national and international trends and a plethora of international agencies' and regional continental organisations' Position, Policy, Advocacy and Declaration Statements (Hardman and Marshall, 2000, pp.1-2).

Materials and Method

According to the District Education Office (2000) there are more than 221 high schools (ten standards) in Kathmandu districts. 23.5 % (52 schools) schools do offer Health and Physical Education subjects. Six students from Mahendra Ratna Campus - Health and Physical Education Department (3rd Year) were involved in collecting the data for this study. Out of these 52 schools, students had visited 20 schools (government funded) (38.46 %) for the survey, interviewing headmasters (principals), physical education teachers (sports teachers) and students on physical education status and related subjects. Simple statistical tools such as means testing and percentages were used for the study. The principals (20), physical education teachers (20) and students (103) were interviewed in this survey by students under the guidance of the author of this paper.

Result and Discussion

1. Responses from the principals

Responses from the principals were interesting. Only 8 schools allocated one practical session (normally 40-45 minutes per class), 50% of the schools have allocated 2 practical classes. Only 2 schools have allocated 3 practical classes in a week. The remaining classes were taught in the classrooms in the form of theory

classes. Normally most of the schools have six days of working days in one week.

Similarly 50% of schools have only one physical education teacher with them. Three schools had 2 teachers, 5 schools had 3 teachers, two schools had 4 teachers and one school had no physical education teacher. To conduct practical classes the schools did provide sports goods and materials. After interviewing the principles 60% of the schools(12 schools) had sports goods with them and the remaining schools had no sports goods for the practical classes.

Since these schools are government funded schools, financially they are very weak. Five schools have an annual fund of Rs. 10,000.00 (1 US \$ = 71 Nepalese rupees), 7 schools have 10 – 20,000 Rupees and 6 schools have more than 20,000 rupees a year. Two schools did not want to respond to this matter. These funds are utilised for purchasing sports goods and occasionally in taking part in local tournaments. Observation of sports facilities and its availability was a part of this study. 65% of the schools (13 schools) did not have sports facilities within their schools. Sometimes students are taught out of the school premises for their practical lessons or they play minor games within the class which are not part of their curriculum.

2. Responses from the Sports Teacher

The level of experience of the teacher is an important factor on how they impart knowledge to the student. Lack of a fully trained PE teacher is a big problem in Nepal. Almost 90% of the teachers have more than 3 years experience in physical education teaching. But 20% of the teachers have no sports playing background. 35% of the physical education teachers are from other subject teachers (like Science or Math's teachers) and only 45% of teachers are purely physical education teachers. 52% of the teachers had responded that they are satisfied with the school management in terms of sports good provided by schools for the practical lessons. The remaining teachers were unsatisfied with the school management. Some science teachers have some experience playing football, volleyball or other games, so in such situations these teachers were encouraged to teach some PE classes.

3. Responses from the Students

This study was carried out interviewing 103 physical education students. 89% of the students expressed their interest in studying physical education, while the remaining students said they would not like to study this subject. Within organised sports competitions, 56% of the students disclosed that they only had an opportunity to take part in internal competitions only, 25% of the students said they had the chance to take part in inter-school competitions and 19% of the students had no chance to participate in any competition. They were asked whether studies were hampered by taking physical education. 18% said it does hamper other subjects' studies, 82% of students expressed that it did not hamper other subjects studies. It is revealed that 14% of the students do play in nearby clubs outside of school, 39% of the students did not have the chance to play out of school and 47% of the students did play near home with friends (local friends).

Top six sports according to level of interest:

Football (soccer)	41 %
Volleyball	20 %
Badminton	19 %
Cricket	10 %
Table Tennis	5 %
Running	5 %

Seven sports goods most available in Schools:

Football
Volleyball
Badminton
Basketball
Table Tennis
Chess
Carom-board

Conclusion

The situation described by Ken Hardman and Marshall, J.J. quoted in the introduction section is exactly how it is in Nepal. The people in Nepal, including parents, do not want their children to play. This is mainly because

of modern computer technology taking a major part of the school curriculum. As a result the children in Nepal in the urban areas, are becoming less physically active and health problems such as diabetes, blood pressure, including mental pressure to gain high grades at school, are the main drawbacks for the children's poor health. There is no organisation to convince our government that physical education is as equally as important for their proper growth. The author of this study was surprised to see that his own daughter studying in the 4th class had 20 subjects. In this his way schools are placing more importance into theoretical knowledge with no emphasis given to physical well being and their creativity. If this situation of the capital city of Nepal reflects the physical education status all over Nepal, then it would come as no surprise to see a pitiable and miserable picture in Kathmandu and in other remote areas of Nepal.

Acknowledgment

National Association for Sports, Health & Fitness is thankful to students Rabindra Acharya, Indira Niraula, Sitaram Bhattarai, Upendra Dawadi, Shovakar Bhushal, Yudharam Shrestha from Mahendra Ratna Campus - Health and Physical Education Department (3rd Year) for their kind cooperation in collecting data for the present study.

References

1. Amatya, D.L. (2004): Study on Nepalese International Athlete's and Coaches Academic and Professional Qualification. Sports Science & Physical Education ICSSPE Bulletin, No. 9 Sept.2003, Pp: 63-69.
2. Hardman, K. & Marshall, J.J. (2000a). *World-wide survey of the state and status of school physical education, Final Report*. Manchester, University of Manchester.
3. Hardman, K. (2003): The State and Status of Physical Education in School: Foundation for Deconstruction and Reconstruction of Physical Education. Sports Science Studies-12, Pp: 20.
4. Dr. Maharjan, R.K.(1999): Physical Education -I. Ratna Pustak Bhandar, Bhotahiti. Kathmandu. Pp: 48-49.
5. Kathmandu District Education Office Bulletin (2000). Pp: 38-47.

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Association Between Rat Myocardial PKC Response to Acupoint Iontophoresis and Endurance Training

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Introduction

Exercise induced fatigue is a common phenomenon in the process of endurance training. It is an important limitation of performance improving and physiological well being. In order to delay the occurrence of exercise induced fatigue and accelerate its elimination, we adopted acupoint iontophoresis as a possible method to achieve this. Acupoint iontophoresis is an organic combination of Traditional Chinese Medicine and modern physical method that is utilised on acupoints. According to previous research, pure electric stimulation on acupoints in endurance training can increase the movable platform fatigue time and exhausting time of rat [1-3]. In order to observe the effect of acupoint iontophoresis on an endurance training rat, we designed this experiment. Since previous research shows that PKC (Protein Kinase C, PKC) has the function of cardiac protection [4,5], we take myocardial PKC expression as an evaluation window, separately from protein and mRNA level, so as to find out if there is any possible molecular mechanism to explain the rats' longer exhausting time during the experiment.

Materials and methods

Materials

Immunohistochemistry Kit (Boster Co., China), TRIZOL Reagent (Gibco), one step RNA PCR Kit (Takara). The primer of PKC and β -actin were synthesis by Bocai Biotechnology Corporation.

Animals

36 SD rats were used, aged 2 months old, weight 200~220g all provided by the experiment animal centre of Shanghai University of TCM. In terms of experimental purpose, all rats were divided into 5 groups at random: 1) contrast group (n=4); 2) endurance training group (ET, n=8), rats in this group receive exercise training on animal platform everyday and 6 days a week, the load is increasing during the whole 8 weeks; 3) endurance training and dosing group (ED, n=8), rats in this group take Chinese herbs everyday based on training; 4) endurance training and acupoint iontophoresis group (EAI, n=8), rats in this group; 5) endurance training, dosing and acupoint iontophoresis group (EDAI, n=8), rats in this group were treated having both Chinese herbs and acupoint iontophoresis everyday, 6 days a week.

Training method

Each group (except the contrast group) received exercise training on animal platform everyday and 6 days a week, the load was increased during the whole 8 weeks. Before the test, the experimental animals received one-week adaptive training. The load increased from the second week as follow: 20m/minx20min, 25m/minx20min, 25m/minx25min, 25m/minx30min, 30m/minx25min, 30m/minx30min, and 35m/minx30min.

Harvesting specimen

At the end of the experiment, all rats were sacrificed by intravenous injection of a lethal dose of barbiturate. The left ventricles were extracted and fixed in 10% neutral buffered formaldehyde (pH 7.2) for 48 hours. After being dehydrated, the specimens were embedded in paraffin. Sections of up to 5 μ m were made and specimens were stained with an immunohistochemistry Kit.

Immunohistochemistry

5 μ m sections were deparaffinized in xylene and then passed through decreasing gradients of ethanol. Endogenous peroxidase activity was blocked with 1% hydrogen peroxide. The sections were then immersed in 20% normal horse serum to block nonspecific reactions and were incubated in moisture chamber at 4 degrees Celsius overnight with Mouse monoclonal antibody against PKC, an intrinsic protein expressed yellow identically in myocardial cell. 0.01M phosphate-buffered saline solution was applied as a control.

RT-PCR

Immediately extracted 100mg heart point organization when the rats were sacrificed, and preserved in liquid nitrogen. The total of myocardial RNA were extracted by TRIZOL, and take 2 μ g RNA to carry on RT-PCR according to operation manual. After amplification, the products of RT-PCR did electrophoresis on gel, then analysed the result using KS400 image analysis system.

Statistics

All data were analysed with ANOVA. Significance was set at $p < 0.05$. Analysis was performed using the statistical software package SAS 6.12 for Windows.

Results

PKC can be seen on the cell membrane and in the cell nucleus after endurance training while it mainly exists in plasma among contrast group. Both PKC protein and mRNA expression are higher in ET group, ED group or EAI group than in contrast group ($P < 0.05$), especially in EDAI group ($P < 0.01$). The results summarized in Tables 1 and 2 and could be seen in Figures 1 and 2.

Table 1. Effects of acupoint iontophoresis on endurance training rat myocardial PKC protein expression

Group	expression strength	expression area	the index of immunohistochemistry
Control group	5.33 \pm 0.58	38030.00 \pm 946.76	0.78 \pm 0.07
ET group	7.67 \pm 0.58	65644.00 \pm 1147.29	1.94 \pm 0.18*
ED group	10.67 \pm 0.58	85730.00 \pm 4137.10	3.51 \pm 0.15* #
EAI group	11.00 \pm 1.00	74288.00 \pm 1835.03	3.14 \pm 0.24* #
EDAI group	11.67 \pm 1.15	99222.00 \pm 3557.79	4.44 \pm 0.27* # 1

The index of immunohistochemistry = expression strength \times expression area/260000;

*compared with control group: $P < 0.05$;

compared with * group: $P < 0.05$;

1 compared with *# group: $P < 0.05$.



Figure 1. Result of immunohistochemistry of rat myocardial PKC protein

- A. Control group: PKC mainly exit in cell plasma, expression strength weak and expression area small.
- B. ET group: PKC could be seen both in cell membrane and in the cell nucleus, expression strength were stronger than Control group, and the expression area was also enlarged.
- C. ED group: PKC' expression strength and area were much higher than ET group.
- D. EAI group: PKC' expression strength and area weren't changed than ED group.
- E. EDAI group: PKC could be seen in cell membrane and nucleus clearly, expressed extensively in sight.

Table 2. Effects of acupoint iontophoresis on endurance training rat myocardial PKC mRNA expression

Group	PKC optical density	β -actin optical density	PKC/ β -actin
Control group	8.27 \pm 0.38	61.99 \pm 0.13	0.13 \pm 0.00
ET group	12.56 \pm 0.30*	64.23 \pm 0.15	0.20 \pm 0.00*
ED group	19.15 \pm 0.56* #	72.16 \pm 0.08	0.27 \pm 0.00* #
EAI group	19.56 \pm 0.43* #	70.04 \pm 0.30	0.28 \pm 0.00* #
EDAI group	21.73 \pm 0.49* # □	21.73 \pm 0.49* # □	0.32 \pm 0.00* # 1

The index of immunohistochemistry = expression strength \times expression area/260000;

*compared with control group: $P < 0.05$;

compared with * group: $P < 0.05$;

1 compared with *# group: $P < 0.05$.



Figure 2. Result of RT-PCR of rat myocardial PKC mRNA T

Discussion

Exercise can be taken as a kind of preconditioning that cause relative ischemia and hypoxia in myocardium. Repetitions enable athletes to adapt to the load and therefore engage in longer and more vigorous exercise. Such kind of adaptation can partly be explained by some endocrine change, such as incretion of atrial natriuretic factor, catecholamine, endothelins, angiotensin, etc. it can also cause some initial response gene (such as c-fos, c-myc, Egr-1, myb, ebrA, CuZn-SOD, et al.) and the subsequent response gene (such as MHC, MLC-2, Actin, et al.) to express [6-9]. Meanwhile, tumor correlation gene, cytoskeleton protein gene, G protein signal transduction gene and CD98 gene is also present in a different expression [10]. All of these molecular changes could result in myocardium hypertrophy and function reinforcement. On the other hand, if the heart load is beyond its bearing capability, it would result in ischemia and hypoxia locally and produce free radicals, heat shock protein and cytokine, which could damage myocardium structure and function. Therefore, we combined the Chinese herb, acupoint and modern physical methods organically, expecting it could increase some protective gene, protein or endogenous protective medium to express.

PKC is a calcium and phospholipid dependence phosphorylase, constituted by types of isoenzyme of serine/threonine protein kinase family and distributing widely in organic tissue. It can transmit signals from the nucleus to the out-cell, therefore its activation plays an important role in across membrane signal delivering processes [11]. It can protect cells and adjust its growth, contraction, excretion, conduction, permeability, extracellular matrix and gene expression via catalysing many protein phosphoricacidulated.

In this study, it could be observed that PKC transferred after the endurance training when having Chinese herbs and acupoint iontophoresis. Whereas in the control group it existed mainly in the cell plasma. This illustrates that endurance training with Chinese herbs or acupoint iontophoresis can activate PKC and accelerate its protein expression, although the expression level is different. The results also showed that having Chinese herbs or acupoint iontophoresis had a stronger effect than endurance training and that there is a synergism between these two methods. Moreover, we found that PKC mRNA expressed in low amounts in normal myocardium and expressed significantly higher amounts after endurance training and with Chinese herbs or acupoint iontophoresis than in the control group. Especially after combining the two methods (Chinese herbs and acupoint iontophoresis ($P<0.05$)). This explains why activated PKC might be an important pathway for acupoint iontophoresis to protect heart and prevent cardiogenic fatigue.

Till now, researchers have detected nPKC-d, nPKC-e, nPKC-a, nPKC-? et al isoforms existing in myocardial cell by utilising the immunoblot technique. However, there are still many areas which need further investigation. The exact mechanism of PKC cardioprotection may contribute to a more appropriate application of external facilities.

Conclusion

Endurance training can activate PKC to transfer, increase its protein and mRNA expression, but the effects are not as strong as when having Chinese herbs and acupoint iontophoresis; the effect seems stronger than one method used on its own.

Since the heart function is the main restricting factor in an endurance event, activating PKC may be one of the main mechanisms that acupoint iontophoresis protects the myocardium and prevents it from exercise induced fatigue.

References

- [1] Yi Y, Zhonghua L, Jinsen H, et al. *Effects of Acupoint Transcutaneous Electrical Nerve Stimulation on Endurance Training in rats*. Chin J Rehabilitation Theory and Practice. 2004,10(7):408-410
- [2] Lei L, Xiaojin X. *The effect of electric acupuncture on free radical metabolism and function of rat's kidney mitochondria in exhausting swimming*. Chin Acupuncture and Moxibustion. 2001,21(6): 366-368
- [3] Xunjie G, *The improvement effect of electric acupuncture on mouse performance*. Clinical J of Acupuncture and Moxibustion. 1998,14(12): 9-10
- [4] Ding HL, Zhu HF, Dong JW, et al. *Intermittent hypoxia protects the rat heart against ischemia/reperfusion*

- injury by activating protein kinase C. Life Sci. 2004 Oct 8;75(21):2587-603.
- [5] Sarre A, Lange N, Kucera P, et al. *MitoKATP channel activation in the post-anoxic developing heart protects E-C coupling via NO, ROS and PKC dependent pathways*. Am J Physiol Heart Circ Physiol. 2004 Nov 18 doi:10.1152
- [6] Baldwin KM, Haddad F. *Effects of different activity and inactivity paradigms on myosin heavy chain gene expression in striated muscle*. J Appl Physiol, 2001,90(1): 345-357
- [7] Yun C, Zhongying Z. *The expression of cardiac MLC-2 in endurance trained rats*. Chin J Sports Medicine, 2000,19(2):132-134,144
- [8] Min Z, Junzong P, Quan Z. *The effect of exercise preconditioning on the Cu-Zn gene expression in rat heart*. Chin J Sports Medicine, 2001, 20(3): 239-240,309
- [9] Jin H, Yang R, Li W, et al. *Effects of exercise training on cardiac function, gene expression, and apoptosis in rats*. Am J Physiol Heart Circ Physiol, 2000,279(6):H2994-3002
- [10] Zhenjun T, Zhiqi Z, Liang T, et al. *Study on differentially expressed gene of exercise-induced cardiac hypertrophy mice using cDNA microarray*. Chin J Sports Medicine, 2002, 21(2): 122-126
- [11] Wang Yanlin, Wang Chenyao, Zeng Rui, et al. *Effect of angelica on protein kinase C during myocardial ischemia reperfusion injury in rat*. Chin J Anesthesiol, 2000, 20(8): 490-491
- [12] Peter J. Parker, Judith Murray-Rust. *Cell PKC at a glance*. J Cell Sci. 2004 Jan 15;117(Pt 2):131-2.
- Nishizuka Y. *Protein kinase C and lipid signaling for sustained cellular responses*. FASEB, 1995;9(7):484
- [13] Liu WS, Heckman CA. *The sevenfold way of PKC regulation*. Cell Signal. 1998;10(8):529
- [14] Neckar J, Markova I, Novak F, et al. *Increased expression and altered subcellular distribution of PKC isoform {delta} in chronically hypoxic rat myocardium: involvement in cardioprotection*. Am J Physiol Heart Circ Physiol. 2004 Dec 2; [Epub ahead of print]
- [15] Kim MJ, Moon CH, Kim MY, et al. *Role of PKC-delta during Hypoxia in Heart-Derived H9c2 Cells*. Jpn J Physiol. 2004 Aug;54(4):405-14.
- [16] Cleveland JC, Meldrum DR, Rowland RT, et al. *The obligate role of protein kinase C in mediating clinically accessible cardiac preconditioning*. Surgery, 1996,120(2): 345-353
- [17] Light PE, Sabir AA, Alien BG, et al. *Protein kinase C-induced changes in the stoichiometry of ATP binding activate cardiac ATP-sensitive K⁺ channels. A possible mechanistic link to ischemic preconditioning*. Circ Res, 1996,79(3): 399-406
- [18] Wang Y, Hirar K, Ashraf M, et al. *Activation of mitochondrial ATP sensitive K channel for cardiac protection against injury is dependant on protein kinase C activity*. Circ Res, 1999,85(8): 731-741

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Australian Conference of Science and Medicine in Sport "Promoting Innovation, Measuring Success"

13-16 October, 2005, Melbourne Convention Centre, Australia

The Australian Conference of Science and Medicine in Sport is a multidisciplinary meeting held annually for professionals with an interest or a specialisation in sport and physical activity.

Angela Cox, Conference Manager

Tel: 02 6230 4650
Fax: 02 6230 5908
Email: acsms@sma.org.au
Web: <http://www.sma.org.au/ACSMS/2005/>

Sport & Peace

2-5 October, 2005, Moscow, Russia

Members of the Government of the Russian Federation and Moscow Government, sportsmen and Olympic champions known in the whole world and also scientists specialising in sport researches will make their reports at the Conference. Heads of state sport administrations of more than 70 countries, leaders of the UN, UNESCO, Council of Europe, World Anti-doping Agency (WADA) are invited to this important international event.

Contact: Organising Committee
Russia, 105064, Moscow, Kazakova str. 18
Tel/fax: +7 095 105 6432, +7 095 261-1943
Web: <http://www.rossport.ru>

2005 International Summit Effecting Social Change Through Women's Leadership in Sport

20-22 October, 2005, Atlanta, Georgia, Cobb Galleria Centre

A two-day conference on sport participation as a means for combating challenging societal and personal issues, recognising the unique contribution of female leadership.

Contact: Dr. Sandra Gangstead, Kennesaw State University,
USOC, UN/ILO "Sport for Development and Peace" Program
HPS Dept. #0202 KSU
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Rehabilitation through Physical Activity and Sport in the Tsunami Affected Area of Southeast Asia – A Hands on Seminar in Bangkok

28-30 October, 2005, Bangkok

ICSSPE in co-operation with Germany's Federal Ministry of the Interior and with the support of Thailand's Ministry of Tourism and Sport is hosting a Bangkok based seminar for practitioners in the fields of sport, physical education, physiotherapy as well as for social workers, teachers, administrative staff, researchers and all supporters in the Tsunami affected region in Southeast Asia.

Play the Game: The world conference on sports politics

6-10 November, 2005, Copenhagen, Denmark

International experts from sports science and the media will meet high ranking sports officials in open debates on problems that trouble modern sport: corruption, doping and political abuse.

Contact: Jens Sejer Andersen
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Aarhus N, Denmark, DK-8200
Tel: +4570275577
Email: Jens@play-the-game.org
Web: www.play-the-game.org

Sport and Urban Development

9-11 November, 2005, Rotterdam, The Netherlands

Email: sportcongres2005@senr.rotterdam.nl
Web: www.rotterdamssportjaar2005.nl

AIESEP International Congress: Active lifestyle: the impact of educational sport

17-20 November, 2005, Lisbon, Portugal

The International Association for Physical Education in Higher Education will co-host this event with the Faculty of Human Kinetics of the Technical University of Lisbon.

Contact: AIESEP Secretary General Dr. Maurice Pieron
Email: mpeiron@ulg.ac.be

2nd World Summit on Physical Education

2-3 December, 2005, Magglingen, Switzerland

ICSSPE will be organising the next summit together with the Bundesamt für Sport, Switzerland. The

organisers of the 2nd Summit intend to develop a strategic action plan on how to implement benchmarks for quality physical education on a national level.
(Held in conjunction with the 2nd Magglingen Conference on Sport and Development)

2nd Magglingen Conference "Development through Sport: Moving to the Next Stage"

4-6 December, 2005, Magglingen, Switzerland
The culminating event of the International Year of Sport and Physical Education 2005.

Players from all sectors of society will meet in Switzerland for a truly multi-stakeholder event – to take stock of what has been achieved, to share lessons learnt and to define a common agenda for future action.
Web: <http://www.magglingen2005.org/>

9th International Sports Science Conference "SCIENTIFIC MANAGEMENT OF HIGH PERFORMANCE ATHLETES' TRAINING"

24-25 February, 2006, Vilnius, Lithuania
Contact: Dr. Linas Tubelis
Department of Physical Education and Sports under the Government of the Republic of Lithuania, Lithuanian National Olympic Committee, Lithuanian Sports Information Centre,
Vilnius Pedagogical University
Zemaites str. 6, Vilnius,
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Tel: +370 5 2337431
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Sport Information in the Commonwealth

6-7 March, 2006, Australian Institute of Sport, Canberra
Greg Blood
Australian Sports Commission
Canberra, ACT, Australia
Tel: 61 2 6214 1369
Fax: 61 2 6214 1681
Email: nsic@ausport.gov.au

13th Commonwealth International Sport Conference

9-12 March, 2006, Melbourne, Australia
The scientific program of the 13th Commonwealth International Sport Conference spans three days of communications relating to our important conference theme **People, Performance and Participation**. On each day there will be keynote presentations reflecting the breadth of the sporting industry and addressing the overall Conference theme.
CISC 2006 Conference Organisers
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Ground Floor, 120 Jolimont Rd, Jolimont, VIC 3002
Tel: + 61 3 9654 7733
Fax: + 61 3 9654 8556
Email: enquiries@cisc2006.com/div

II International Congress on Physical Education

11-13 April, 2006, Havana, Cuba
Dr. Gladys Bequer Díaz
Pan-American Health Organization, INDER, CARICOM
Coliseo Ciudad Deportiva. Vía Blanca y Boyeros
Havana, Ciudad de la Habana, Cuba 10600
Tel: (53-7) 577054
Email: convencion@inder.co.cu

VISTA 2006

6-7 May, Bonn, Germany
The theme of this years' Conference will be "Classification – Solutions for the Future"
Deadline for submission of abstracts is 1 August 2005
Miriam Wilkens
IPC Media and Communication Director
Tel: +49 228 209 7180
E-mail: Miriam.wilkens@paralympic.org

Web: www.paralympic.org.

4th World Conference on Women and Sport

11-14 May, 2006, Kumamoto City, Japan

This conference will provide an opportunity to review the progress for women and sport since the 2002 World Conference on Women and Sport in Montreal, Canada, share experiences and solutions, celebrate achievements plan future directions and strategy for the women and sport movement from 2006 - 2010.

Contact: Yacine Kabbage, Secretary General

International Working Group on Women and Sport (IWG)

P.O. Box 1111 HHD, Tokyo Chiyoda Central Station

Tokyo, 100-8612, JAPAN

Tel: +81-3-5446-8983

Fax: +81-3-5446-8942

E-mail: yacine@jws.or.jp

<http://www.iwg-gti.org>

3rd EASS Conference (European Association for Sociology of Sport)

Changing Role of the Public, Civic and Private Sectors in Sport Culture

2-5 July, 2006, University of Jyväskylä,

The conference will gather together researchers, scientists and scholars to discuss new ideas in the field of Sociology of Sport.

Ms. Pila Löppönen, Secretary General, University of Jyväskylä

Faculty of Sport and Health Sciences

P.O. Box 35 (L), FI-40014, University of Jyväskylä

Tel: +358 14 260 2018

Fax: +358 14 260 2001

Email: programme@eass2006.fi

Web: www.eass2006.fi

AIESP World Congress

Role of Physical Education and Sport in Promoting Physical Activity and Health

5-8 July, 2006, University of Jyväskylä, Faculty of Sport and Health Sciences

University of Jyväskylä

Faculty of Sport and Health Sciences

P.O. Box 35 (L), FI-40014, University of Jyväskylä

Tel: +358 14 260 2018

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Email: programme@aiesep2006.fi

Web: www.aiesep2006.fi

11th World Sport for All Congress

31 October – 3 November, 2006, Havana, Cuba Main theme: Physical activity; benefits and risks

International Summit: Effecting Social Change Through Women's Leadership In Sport

Press Release Kennesaw State University's, USA

Kennesaw State Joins UNITED NATIONS in Presenting International Summit Highlighting Women's Leadership, Creating Social Change Through Sports

Only Conference in US as Part of United Nations' Series of Worldwide Events

Atlanta, GA – 2005 – Kennesaw State University (KSU), in the Metropolitan Atlanta area, will host an international summit, **"Effecting Social Change through Women's Leadership in Sport"** on **October 20-22, 2005**. The summit will be opened by **Adolf Ogi**, Special Adviser to the Secretary-General of the United

Nations on Sport for Development and Peace.

This summit is the only conference to be held in the U.S. as part of the United Nations' International Year of Sport and Physical Education and is the only UN-endorsed conference to integrate the importance of women in sports to fostering social improvement. Special focus will also be placed on educational role modeling to reach community youth as a means of minimizing behavioral-influenced societal challenges. "This is an exciting opportunity for our University to host a significant conference that can provide the framework for addressing important global issues through women's leadership," says **Dr. Betty Siegel**, President of Kennesaw State University. "The conference is also an opportunity to foster strategic partnerships for the University's future." KSU's WellStar College of Health and Human Services is presenting the summit in cooperation with the United States Olympic Committee and the International Labor Organization.

With more than 25 internationally-renowned speakers, the summit offers a unique opportunity for participants to interact with experts in the areas of leadership and community development through sports. Speakers will include sports leaders, researchers and advocates for social change such as International Olympic Committee member Anita DeFrantz, two-time Olympic Gold Medallist Donna de Varona and Christine Shelton, Co-Chair for the Project on Women and Social Change and Professor of Exercise and Sport Science at Smith College.

Registration is now open for this two and a half day conference, which will be held at the Cobb Galleria Centre in Atlanta. Space is limited to the first 500 registering. The conference fee is \$329. For additional information and to register, visit: www.kennesaw.edu/Sport2005.

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A Taste of Yemen (11-15 May 2005)

Lilamani de Soysa, Switzerland



I had the honour of representing the ITTF at the 3rd Asian Conference on Women and Sport, 11-12 May 2005, held in Sana'a, Yemen, entitled "Empowering Women to Benefit from Sport and Physical Education". I was invited to speak on the "Importance of Leadership, Training and Promotion of Women's Competence Programs in Sports". The Conference was a great success with the participation of delegates from 27 Asian countries. I presented the challenges faced and the achievements made by the ITTF in the past few years on the advancement of women and girls in table tennis. I also showed the film "Breaking Down Barriers in Afghanistan".

Table Tennis was also well represented at the Conference as the photograph shows:



From left to right: Faouzia Dayoub (Syrian table tennis coach), Naela Nasr (former Arab table tennis champion from Yemen), Lilamani de Soysa (ITTF Project Manager), Tatyana Tcherestova (national table tennis player and coach from Jordan), Visam Ali (General Secretary Maldives Table Tennis Association).

All speakers without exception stressed the need for promoting and empowering women to benefit from sport and physical education and highlighted the existing barriers and challenges that still needed to be overcome.

The Conference produced a declaration named:

The Yemen Challenge



"Recognising and supporting the objectives declared by the United Nations through the International Year for Sport and Physical Education 2005 "for a better understanding of the values of sport and physical education for human development programmes", with special emphasis on the needs of girls and women, Delegates from 27 countries and regions participating at the 3rd Asian Conference on Women and Sport emphasise the importance of the following:

1. **For the AWG** to work in collaboration with the Olympic Council of Asia for the promotion and development of women in sport in Asia, such as co-hosting projects, conferences, workshops, in a spirit of mutual co-operation;

Delegates from 27 countries and regions participating at the 3rd Asian Conference on Women and Sport emphasise the importance of the following:

2. **For the AWG** to compile information on the current status of women and sport in Asia and to present an evaluation report at the World Conference on Women and Sport in Kumamoto, Japan, May 11-14, 2006.

3. **For all sports organisations** to actively pursue strategic alliances and partnerships with governmental and non-governmental organisations for the promotion and development of women and sport.

4. **For all sports organisations** to exceed the IOC target of 20% women representation at all levels of decision making structures, by December 2005.

5. **For all Asian governments and NOCs** to formulate a national women and sport policy, by the 2006 Doha Asian Games, and to include therein a special chapter on women with disabilities.

6. **For all governments and sports organisations** to ensure that sport and physical education initiatives are established and implemented within the rebuilding process of tsunami affected countries and those affected by other natural disasters or war.

7. For all governments and sports organisations to reaffirm and continue to implement actively the resolutions of the 2003 Doha Asian Conference on Women and Sport.

All delegates congratulate and thank the President of Yemen H.E. Mr. Ali Abdellah Saleh and his government, the Yemen NOC and in particular the Yemen women and sports group for hosting the 3rd Asian Conference for women and sport and making it such a resounding success."

Following the Conference, I remained in Yemen as the guest of the Yemen Table Tennis Association. I take this opportunity to thank the President, Mr. Nabil Al-Fakih and his colleagues as well as members from the Yemen NOC and Women's Committee, for their wonderful hospitality and friendship extended to me during my stay.

Apart from one or two indispensable visits to the Old City and the suq, I spent two days meeting with officials of the Yemen Table Tennis Association, journalists, and players (many girls and women included). Once upon

a time, Yemen table tennis produced Arab champions. But several years of poor management had weakened the structures of the association. However, since 2000, under the leadership of Mr. Nabil Al-Fakih, the Association has been restructuring and striving to make table tennis a prominent sport in Yemen. I had the pleasure of visiting the new hall, reserved entirely for table tennis, being constructed within the NOC complex in Sana'a. A brand new building fully-equipped to host an international event like a Pro Tour which can hold 14 tables, seat 700 spectators and has all the necessary facilities for administration and the Media. The national association is well organized and has its own office situated in the heart of Sana'a. It is in the process of creating its own website. They have also hired a Korean, a Chinese and a female Japanese coach who will be starting work in Yemen soon. The Yemen national association counts approximately 1150 registered players and holds around 24 tournaments in the country per year. Having hosted the 3rd Asian Women and Sport Conference, Yemen is eager to promote the country through other sports and sport related activities.

I was in Yemen to promote women and sport and as such, most of my talks were directed towards the development of women's table tennis. Through discussions with the women present at my talks I was able to see many of the cultural and social barriers that prevented girls and women from doing sport, for example:

- inadequate facilities for women (many women still do not show their faces in public, therefore there is a need for special facilities only for women)
- strict chaperoning is necessary for girls to attend tournaments or other events
- the restrictive clothing and lack of women coaches
- lack of social awareness of the importance of sports as a vehicle for development, for education, for the prevention of drug abuse and other social problems
- the traditional belief that physical exercise was not good for girls. The Australian Conference of Science and Medicine in Sport is a multidisciplinary meeting held annually for professionals with an interest or a specialisation in sport and physical activity.

There is a need for changing attitudes and beliefs and promoting sport as essential for improving health and well-being not only for females but also for males. The national players present at the meeting raised issues concerning the table tennis clubs in Yemen and pointed out areas where there was room for improvement. Journalists were eager to discuss the role of the media. The Ishraq film was received with enthusiasm and the need to create such grass-root programmes in Yemen was discussed at length.



Organisers of the 3rd Asian Conference on Women and Sport

As explained by Naseem Al Muliki (left on photo), Chairwoman of the NOC Women and Sport Group, at the Conference, in her talk entitled "Sports and Yemeni Women: Between Reality and Ambition", the Yemeni government has taken some supportive decisions for the promotion of women at all levels of sport. For example, the Yemen Olympic Committee:

- has officially formed a women and sport committee and included 5 women leaders in the NOC General Assembly and 2 women in the Board of Directors in 2000
- has allocated a fund from the Youth and Junior Fund to support the women and sport committee
- has formed 9 sport committees in the capital cities of the provinces of Taiz, Aden, Lahj, Abean Sana'a, Hodeidah, Ibb, Dhamar and Hadramout to conduct sport events for women and girls
- has pledged to increase female representation at the NOC to 20% according to IOC targets.

The 3rd Asian Conference has asked "For all Asian governments and NOCs to formulate a national women and sport policy, by the 2006 Doha Asian Games, and to include therein a special chapter on women with disabilities". I suggest that this request should be extended to national associations and that the Yemen Table Tennis Association should give the example to other sports federations and to the Yemeni government, by creating a women and table tennis policy which includes a comprehensive action plan for the next

quadrennial.

The Yemeni people are immensely proud of their land and their traditions, which date back to the kingdom of the Queen of Sheba, believed to have originated in the first millennium BC. The capital Sana'a, legend has it, is one of the oldest continuously inhabited cities on earth. It is a maze of towering brick buildings, mosques and well-tended gardens with the suq in the middle of the Old City.



The legendary city of Sana'a

Almost everyone in the Old City wears the impressive Sana'ni dress of white robe, leather belt and large curved dagger hanging prominently at the waist.



Noble Yemeni boy

The women in the streets are mostly fully veiled and clad in black. I also learnt in Yemen that when we are drinking coffee, we are enjoying a little taste of Yemen.



Pretty Yemeni girl

Thank you to all the beautiful Yemeni people who made my stay an unforgettable one.

Lilamani de Soysa
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Rights, Welfare and Life Chances

Celia Brackenridge, Scotland



Hosted by Coventry City Council at Warwick University, UK, July 8th 2005

Child welfare and rights in sport have not been prominent themes over the years but have been brought to our attention recently through human rights advances elsewhere and through some serious scandals affecting youth sports in several countries.

Unique in the 37 year history of the International Children's Games, the 2005 ICG, hosted by the City of Coventry, England, ran the first ever International Symposium on Children's Rights, Welfare and Life Chances in Sport. This doubled as the Inaugural Annual Conference of the Sport England/NSPCC Child Protection in Sport Unit, a unique resource that advises English sport organisations on how to optimise child safety and protection in sport. Despite around thirty pre-registered delegates being unable to get to the venue because of the tragic London bombings the previous day, 194 people attended the event.

The objectives of the Symposium were:

- empowerment of young people
- knowledge transfer
- enhancement of service delivery and quality to young people in sport

... and the main messages were that:

- sport builds children's and young people's resilience and therefore helps to protect them from abuse, and
- sport should provide a voice for children and young people.

Keynotes speeches covered: The Status of Children's Rights and Welfare in Sport (Celia Brackenridge, researcher), Strategic Plan for Safeguarding Children in Sport (Steve Boocock, Director of the CPSU) and Parenting in Sport (Ian Tofler, American Sport Psychiatrist). In addition, the Panathlon International Declaration on Ethics in Youth Sport was signed on behalf of the ICG by President Torsten Rasch and on behalf of the CPSU by Steve Boocock, presided over by Panathlon Vice President Vic de Donder from Belgium.

A programme of ten workshops was run to help the Symposium to meet its objectives by offering a wide range of choices to delegates including best practice from several sport bodies, international examples of child safety schemes in sport and several training-orientated sessions on event safety and child welfare. A CD Rom has been prepared containing all the speeches and materials from the Symposium keynotes and workshops. This will be used by delegates to cascade their learning from the event to colleagues in clubs and sports associations throughout England and beyond: in a few months time the CD contents will be made available free to the public through the website of the CPSU (www.thecpsu.org.uk).

Twelve young people from Coventry's Democracy Project and four from local Stratford College assisted with the event. They were given pre-event training and were all presented with certificates and gift bags at the end of the Symposium. Videotape collected by the young people will be submitted as part of the ICG legacy.

In addition to an exhibition by a range of sport and child welfare agencies, children's art on the theme of 'My passion for sport', by pupils from Bluecoats School in Coventry, was displayed. The pieces were later shown at Coventry's Herbert Gallery for the pleasure of the children, their families and the local public.

Evaluations of the ICG Symposium were excellent, with all aspects achieving top scores. It is to be hoped that the ICG will now incorporate such an event in future International Children's Games and thus help spread learning and good practice on children's rights, welfare and life chance throughout the world.

Celia Brackenridge
Symposium Director
August 2005



ICG Symposium opening: left to right Steve Boocock (CPSU Director), Torsten Rasch (ICG President), John Timms (Event Director, Montgomery Leisure Services Ltd.), Clara Nellist and Rajay Naik (Coventry Democracy Project).



Representatives from Coventry with the ICG President: left to right, Rajay Naik and Clara Nellist (Coventry Democracy Project), Torsten Rasch (ICG President).



ICG speakers: left to right Celia Brackenridge (Symposium Director, Ian Tofler, (Sport Psychiatrist), Vic de Donder (Vice President, Panathlon International)

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Progress in Research on Intellectual Disability and Sport

Press release from the International Paralympic Committee (IPC), Germany

Bonn, Germany – From 29 to 30 August, a group of researchers, including representatives of the International Paralympic Committee (IPC), International Sports Federation for Persons with an Intellectual Disability (INAS-FID) and independent researchers, met in Bonn to further plans for the development of eligibility and verification systems for athletes with an intellectual disability. The group was joined by representatives of IPC Athletics and IPC Nordic Skiing.

The aim of the meeting was to provide the sports present with current information regarding the research plans and to finalise the methodology of collection and analysis of data at forthcoming INAS-FID competitions in Athletics, Basketball, Swimming and Table Tennis. Possible opportunities to test the system in Nordic Skiing were also discussed.

It was decided that research will be conducted at the INAS-FID Athletics World Championships in Australia (25 September - 1 October) and at the INAS-FID Basketball Open European Championships in Russia (9 - 16 October). Discussion will take place with Table Tennis and Swimming with regard to suitable competitions. The methodology to be used will be based on the Global Games research including performance analyses, general and sport-specific physical tests, skill proficiency tests and tactical analyses. These data will be cross-referenced with diagnosis of intellectual disability by accepted standards.

Over the past few months the IPC and INAS-FID have agreed on a revised Athlete Eligibility Form to be used at both INAS-FID and IPC competitions. The development of a system that will benefit athletes with an intellectual disability has been a main priority of both organisations with much progress being made in the collection and analysis of data aimed at confirming certain aspects of intellectual disability as it relates to sport.

The International Paralympic Committee (IPC) is the international governing body of sports for athletes with a disability. It supervises and co-ordinates the Paralympic Summer and Winter Games and other multi-disability competitions, of which the most important are World and Regional Championships. The IPC also supports the recruitment and development of athletes at a local, national and international level across all performance levels.

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Members News

Underprivileged youngsters in Africa overjoyed with Global Gear Drive shipment

Greg Bach, USA



More than 3,000 youngsters in Lusaka, Africa, are all smiles after receiving a shipment of sports equipment and clothing through the Global Gear Drive.

The Global Gear Drive - created by the National Alliance For Youth Sports - collects new and used youth sports equipment from recreation agencies, companies and individuals that it distributes to children in poverty-stricken regions of the world.

The equipment was distributed to the Fountain of Hope and Word of Life Community School.

"Our school has been facing a lot of problems in sports equipment like footballs, netballs and volleyballs and this brought a big confusion which has lead to some of our friends to lose interest in sports activities and to stop coming for practice," said Sibeso Mwale, one of the youngsters at the school. "I would like to thank National Alliance For Youth Sports for the donation of these good balls and attire. This is an improvement and it is a very big motivation to me and my friends. I would to thank you very much and may God bless you."

The Alliance shipped more than 100 soccer and basketballs, as well as t-shirts, shorts, soccer socks, shin guards, shoes, sports bags, pumps and cones to Africa. Clement Mubanga Chileshe, coordinator of Sport in Action, is utilizing it in his sports programs.

Sport in Action is one of several groups that comprise Kicking AIDS Out!, an international network of organizations working together to use sport and physical activity as a means to raise awareness about HIV/AIDS.

"It makes me feel loved to receive a ball which I can play with," said 15-year-old Agness Phiri.

"I am very happy because I will be able to learn many games using the different equipment," said 10-year-old Mwaanga Akabana.

"I want to say thank you to the people who donated the equipment because this will give me a chance to improve my sport talent," said 14-year-old Josephine Banda.

For more information on getting involved with the Global Gear Drive contact the National Alliance For Youth Sports at nays@nays.org visit www.nays.org or call (800) 729-2057.

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Test, Measurement & Evaluation in Athletics Coaching Clinic Concluded Kathmandu, 15-08-2005

Mr. Diwakar Lal Amatya, Nepal

In sprint and jumping events, various countries are striving to achieve better performance results in international competitions. Modern sports science and technology, financial incentives for the runners, new talented athletes are emerging every year and gradually improving the standard of the events.

Nepalese Sprinters and jumpers performances at the national and international level competitions are not promising in comparison to the runners of other South Asian countries and the rest of the world. They lack modern training methods skills, testing procedure during coaching and lack of scientific knowledge amongst coaches and the athletes in schools, colleges, and at a national level seems to be the main drawback for its development.

With all this in mind, the National Association for Sports Health and Fitness decided to conduct a three day "Test, Measurement & Evaluation in Athletics" coaching clinic concentrating on 100m, 200m, 400m, Long Jump and Triple Jump Athletics events. This Program was jointly organised by NASHF and Nepal China Education Society marking the auspicious 59th birthday of His majesty The King Gyanendra Bir Bikram Shah Dev. This coaching clinic was also organised to mark the "International Sports and Physical Education Year-2005" Called by UN & ICSSPE.

Topics on Sprint section

- Introduction and Purpose of Test & Measurement in Sports
- Calculating Block Position in 100 m sprint-anthropometric approach
- Predicting Sprint Performance -100 m sprint
- Speed Test for Sprinters & Sprinting Analysis
- Control Norms For 100m & 200m Sprinters
- Bounding Control Norms for 100 m. Sprint
- Strength Test for Sprinters
- Second half of 200m race is decisive
- A New Training Approach 400m

Topics on Jump section

- Criterion of Selection for Jumpers
- Length of Long Jump Approach Run-Up
- Means To Develop Different Motor Qualities
- Index for Performance Determining Factors for Top Level Jumpers
- Criterion for Jumping Events for 13 years Age
- Phase Distance and Ratio Calculation for Triple Jump
- Control Norms for Triple Jumpers and more

The coaching clinic was conducted from August 12-14, 2005, at Galaxy Public School, Gyaneshwor, Kathmandu. The clinic was successful with 4 Athletics Coaches from National Sports Council, 27 sports teachers from schools, 16 Masters and Graduate Physical Education students from Tribhuvan University, 2 sports administrator from Education Ministry, 12 Athletics coaches from various athletics clubs and 2 coaches from Nepal Police (Total 62 participants). All the lectures were delivered by Mr. Diwakar Lal Amatya-MSc, Athletics and Sports Science and the president of NASHF.

At the end of the coaching clinic, a formal programme was organised for the distribution of certificates to all the successful participants. Chief Guest Mr. Saran Kumar Sthapit-Vice President of Nepal China Education Society gave away the certificates to the participants. Other dignitaries Mr. Ram Krishna Verma-president of Nepal Amateur Veteran Athlete's Committee, Mr. Madhu Shumsher Rana-Founder president and advisor of NAVAC, and Mr. Ravi Rajkarnikar-IAAF-Cross Country and Road Running Committee member were presented at the program and praised highly for the coaching clinic.

Some Comments from Participants

1. **Krishna Bahadur Basnet -Athletic Coach (1988 Olympian):**

I'm very much excited that the knowledge I gained from this coaching clinic will be so valuable in my coaching carrier and for my athletes. I was surprised to get all the handouts in Nepali language and lots of material and tips on coaching sprinters and jumpers. Since all the lectures were delivered in the Nepali language, it was easy for me to understand.

2. **Man Bahadur Gurung (School Sports Teacher)**

First of all I would like to say that the learning process never ends. I came to know how Test, Measurement and Evaluation is done in track and field-athletics. The lectures given by Mr. Diwakar Lal Amatya were very much practical oriented and can be used on the track or playing field without using highly sophisticated electronic equipment, which is not possible to offer by the poor schools in Nepal. What we have learned in this coaching clinic has to be used with our students in a practical way. Only then will we fulfil the purpose of this coaching clinic. From my innermost heart, I thank the National Association for Sport, Health and Fitness and Nepal China Education Society for giving me this wonderful and useful opportunity to join this clinic.

Some Glimpses of the Coaching Clinic



(Mr. Diwakar Lal Amatya-demonstrating how to find the stronger leg for the sprint start)



(Participants of the coaching clinic)



(Mr. Saran Kumar Sthapit-Vice President of Nepal China Education Society handed over the certificates to the participants and Mr. Ram Krishna Verma-president of Nepal Amateur Veteran Athlete's Committee)

Mr. Diwakar Lal Amatya
President - National Association for Sports Health & Fitness
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IOC, IPC and IAKS assign international AWARD for sports facilities

Press release from IAKS, Germany



Gold for Portugal, United Kingdom, Denmark, Austria, France, Switzerland and Germany 8 Gold, 7 Silver and 7 Bronze - 7 IPC Distinctions for Accessibility - 11 Special Distinctions Presentation at FSB 2005 in Cologne

The Jury for the IOC/IAKS AWARD 2005, composed of international personalities from the IOC, the IPC and the IAKS, met in Cologne from 29th June to 1st July. The Chairman was Erhard Tränkner, Honorary President of the Federation of German Architects (BDA). The IOC was represented by Ching-Kuo Wu, architect and personal IOC member from Taiwan.

The IOC/IAKS AWARD is the only architecture award of international importance for existing sports and leisure facilities. This year 93 teams of operators and designers from 25 countries took part in the competition - a new participation record.

The Jury awarded 8 Gold, 7 Silver and 7 Bronze medals, 7 IPC Distinction for Accessibility and 11 Special Distinctions.

The eight gold medals went to:

- Braga Municipal Stadium/Portugal
Architect: Souto Moura Arquitectos, Porto
- City of Manchester Stadium in Manchester/United Kingdom
Architect: Arup Associates, London
- Estádio Municipal de Aveiro/Portugal
Architect: Tomás Taveira S.A., Lissabon
- Malik Swimming Pool in Nuuk/Grönland/Denmark
Architect: KHR Architects AS, Virum
- Bodensee Thermal Pool in Überlingen/Germany
Architect: Prof. Dr. R. Wienands, München
- Bergisel Ski Jump in Innsbruck/Austria
Architect: Zaha Hadid Architects, London
- Multifunctional Arena "Zenith de Rouen" in Rouen/France
Architect: Bernard Tschumi Urbanistes Architectes, Paris
- National Youth Sport Center in Tenero/Switzerland
Architect: Mario Botta, Lugano

For the first time the submitted entries were also eligible to compete for the "IPC Distinction for Accessibility" jointly sponsored by the IAKS and the International Paralympic Committee (IPC). **The "IPC/IAKS Distinction" was awarded to seven projects:**

- City of Manchester Stadium in Manchester/United Kingdom
Architect: Arup Associates, London
- Sport and leisure facility in Stattegg/Austria
Architect: Hohensinn Architektur ZT GmbH, Graz
- Cottonera Sports Complex in Cospicua/Malta
Architect: EMANUEL BUTTIGIEG PROJECT HOUSE - WORKS DIVISION, Malta
- Aquatic Centre in Ozarów/Poland
Architect: ATJ Architekci Sp. Z.o.o., Warsaw
- Scottish National Swimming Academy in Stirling/United Kingdom
Architect: FaulknerBrowns Architects & Urban Designers, Killingworth, Newcastle upon Tyne
- Hintertux Glacier Ski Lift in Hintertux/Austria
Architect: Seilbahnbüro Gröbner, Kitzbühel
- Curling Arena in Prag/ Czechia
Architect: Glenn architekti, Ivana Kubeskova, Jiri Trojan, Prague 10 - Vrso-vice

The AWARDS will be presented in the course of the 19th International IAKS Con-gress in conjunction with the international trade fair FSB - Amenity Areas, Sports and Pool Facilities - on 26th October 2005 in Cologne.

Price Preis	Project name Projektname	Place, Country Ort, Land	Architect Architekt
Gold	Braga Municipal Stadium Stadion in Braga	Braga, Portugal	Souto Moura Arquitectos, Porto
Gold	City of Manchester Stadium City of Manchester Stadion	Manchester, United Kingdom/Großbritannien	Arup Associates, London
Gold	Stadium in Aveiro Stadion in Aveiro	Aveiro, Portugal	Tomás Taveira S.A., Lissabon
Gold	Malik Swimming Pool Schwimmbad Malik	Nuuk, Denmark/Dänemark	KHR Architects AS, Virum
Gold	Bodensee Thermal Pool Bodensee-Therme	überlingen, Germany/ Deutschland	Prof. Dr. R. Wienands, München
Gold	Bergisel Ski Jump Bergisel-Sprungschanze	Innsbruck, Austria/ Österreich	Zaha Hadid Architects, London
Gold	Multifunctional Arena "Zenith de Rouen" Multifunktionsarena "Zenith de Rouen"	Rouen, France/ Frankreich	Bernard Tschumi Urbanistes Architectes, Paris
Gold	National Youth Sport Center	Tenero, Switzerland/ Schweiz	Mario Botta, Lugano
Silver	Sports and leisure facility	Stattegg, Austria/	Hohensinn Architektur ZT

Silber	Stattegg Sport- und Freizeitanlage Stattegg	Österreich	GmbH, Graz
Silver Silber	Benfica Stadium Benfica Stadion	Lisboa, Portugal	HOK sport architecture, London
Silver Silber	Sports Hall DGI-huset in Arhus Sporthalle DGI-huset in Arhus	Arhus, Denmark/ Dänemark	3XNielsen A/S and Arkitekterne maa Schmidt, Hammer & Lassen K/S, Arhus C
Silver Silber	Sports Hall in Neu-Ulm Sports Park Sporthalle im Sportpark Ulm-Nord	Ulm, Germany/ Deutschland	Auer+Weber+Architekten Freie Architekten Dipl. Ing. BDA, München
Silver Silber	Sports Hall in Bietigheim- Bissingen Sporthalle in Bietigheim- Bissingen	Bietigheim-Bissingen, Germany/ Deutschland	Auer+Weber+Architekten Freie Architekten Dipl. Ing. BDA, Stuttgart
Silver Silber	Kyoto Aquarena Aquarena in Kyoto	Kyoto-City, Japan	Mitsuru Senda+Environment Design Institute, Norihiko Dan and Associates, Tokyo
Silver Silber	Gunda-Niemann- Stirnemann Hall Gunda-Niemann- Stirnemann Halle	Erfurt, Germany/ Deutschland	Pohl Architekten Stadtplaner, Prof. Göran Pohl und Julia Pohl, Jena
Bronze	RheinEnergie Stadium RheinEnergieStadion	Köln, Germany/ Deutschland	gmp von Gerkan, Marg und Partner, Aachen
Bronze	Salzburg Stadium Stadion Salzburg	Salzburg, Austria/ Österreich	Schuster Architekten, Düsseldorf
Bronze	Koblenz University Sports Hall Sporthalle der Universität Koblenz	Koblenz, Germany/ Deutschland	Gerber Architekten, Dortmund
Bronze	Geibelt Pool Pirna Geibeltbad Pirna	Pirna, Germany/ Deutschland	Arnke und Häntsch Architekten BDA, Berlin
Bronze	Sports Hall for Artists Sporthalle für Artisten	Berlin, Germany/ Deutschland	LANGHOF®Professor Christoph Langhof, Berlin
Bronze	Goodwood Racecourse Goodwood Rennbahn	Goodwood, United Kingdom/ Großbritannien	Hopkins Architects Ltd, London
Bronze	Texas Christian University Recreation Center Texas Christian University Sportzentrum	Fort Worth, USA	Cannon Design i.a.w. Hahnfeld Hoffer Stanford, Los Angeles
S.D. L.E.	Arena AufSchalke	Gelsenkir-chen, Germany/ Deutschland	HPP Hentrich-Petschnigg & Partner KG, Düsseldorf
S.D. L.E.	Cottonera Sports Complex Cottonera Sportzentrum	Cospicua, Malta	EMANUEL BUTTIGIEG PROJECT HOUSE - WORKS DIVISION, Malta
S.D. L.E.	Stadium Jean Péllez Jean Péllez Stadion	Aubière, France/ Frankreich	CRR Architectes, Clermont Ferrand
S.D. L.E.	Tuscany Thermal Pool Toskana Therme	Bad Sulza, Germany/ Deutschland	Ollertz & Ollertz, Fulda
S.D. L.E.	Parc de loisirs aquatiques Swimming Pool/Schwimmbad	Le Bouveret, Switzerland/ Schweiz	FABRICE FRANZETTI Bureau d'architecture SA, Marigny
S.D. L.E.	Aquatic Centre Schwimmbad	Ożarów Poland/Polen	ATJ Architekci Sp. Z.o.o., Warsaw
S.D. L.E.	Toboggan Run Rennrodelbahn	Zwickau, Germany/ Deutschland	Karl Zenker, Zwickau

S.D. L.E.	Sports hall of public school Schulsporthalle	Choszczno, Poland/Polen	Wojciech Zablocki, Damian Wesolowski, Warsaw
S.D. L.E.	Area 51 Skatepark	Eindhoven, Netherlands/ Niederlande	Maurer united architects TU Eindhoven, Maastricht
S.D. L.E.	Skater Park Cornaredo	Lugano, Switzerland/ Schweiz	Architetto Humberto Perez Architetto Miro Bizzozero, Ruvigliana
S.D. L.E.	Lakeshore Fitness Sports Center Sportzentrum Lakeshore Fitness	Homewood, USA	KPS Group, Inc., Birmingham
IPC	City of Manchester Stadium City of Manchester Stadion	Manchester, United Kingdom/ Großbritannien	Arup Associates, London
IPC	Sports and leisure facility Stattegg Sport- und Freizeitanlage Stattegg	Stattegg, Austria/ Österreich	Hohensinn Architektur ZT GmbH, Graz
IPC	Cottonera Sports Complex Cottonera Sportzentrum	Cospicua, Malta	EMANUEL BUTTIGIEG PROJECT HOUSE - WORKS DIVISION, Malta
IPC	Aquatic Centre Schwimmbad	Ozarów Poland/Polen	ATJ Architekci Sp. Z.o.o., Warsaw
IPC	Scottish National Swimming Academy Schottische Nationale Schwimmakademie	Stirling, United Kingdom/ Großbritannien	FaulknerBrowns Architects & Urban Designers, Killingworth, Newcastle upon Tyne
IPC	Hintertux Glacier Ski Lift Hintertuxer Gletscherbahn	Hintertux, Austria/ Österreich	Seilbahnbüro Gröbner, Kitzbühel
IPC	Curling Arena	Prag 4 - Rožtyly, Czechia/ Tschechien	Glenn architekti, Ivana Kubeskova, Jiri Trojan, Prague 10 - Vrsovice

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ASPIRE Workshop Focuses on Champions' Education

Katia Abboud, Qatar

International Experts Arrive in Doha to Discuss Advanced Educational Concepts

ASPIRE, the Academy for Sports Excellence in Doha, has hosted an International Workshop on Champions' Education, which saw experts from a number of countries work together to share best practice in student-athlete education.

One of the major themes of the event was the different levels of social support and educational strategies which boarding schools - schools where students are lodged and fed as well as taught - provide.

ASPIRE, which has full boarding facilities, is unique in the Middle East, so the opportunity to share information with leading academics from Europe and the US provided an important opportunity to discuss educating student-athletes in school and boarding school environments.

As very few children attend boarding schools in the region, the concept of live-in education is still largely under-discussed. With this in mind, the workshop demonstrated how successful many boarding schools have been in providing high level sports training and a solid path to future excellence.

Embracing a range of sub-topics, including curricula, time-tables, leisure-time and students' social life, the workshop reflected the level of thought and expertise which supports ASPIRE's innovative education strategy.

Academy Dean Prof. Dr. Dieter Hackfort, said: "Through informed discussion and the exchange of ideas, we aim to further improve the quality of the ASPIRE's educational approach and continue to provide a formula for learning which hones the minds as well as the athletic prowess of our student athletes.

"We have a duty to our student athletes to provide a balanced education, nurturing those who are as intellectually curious as well as those who are physically proficient. We want to become a benchmark not just for sporting excellence, but also for academic expertise, and workshops like this one provide an ideal opportunity to share information with some extremely experienced academic experts."

About ASPIRE

ASPIRE, the Academy for Sports Excellence, is a world-class organization that aims to identify, educate and train world-class athletes to compete in professional sports at the highest levels. ASPIRE provides exceptional facilities, including full educational and recreational facilities, advanced dormitories, an amphitheatre, lecture halls, seven outdoor football training fields, and state-of-the-art weight rooms and physiotherapy. The Academy is distinguished by a philosophy which aims to develop the whole student, providing them with full academic and sports development so that they have the widest possible range of opportunities in adult life. ASPIRE TODAY, INSPIRE TOMORROW

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Tomorrow's Sporting Champions Take Their First Steps on the Ladders to Success

Katia Abboud, Qatar

School-Children in Qatar have been Offered the Chance of Training and Studying in One of the World's Most Advanced Facilities

A group of children from across Qatar have been handed a "golden ticket" which offers them a unique opportunity - to train and study at one of the world's most advanced sporting academies, ASPIRE, based in Doha.

The student athletes will start at the Academy in September 2005. They do so knowing that they've been offered a chance which aspiring athletes around the world would relish and with the knowledge that they have already triumphed against competition from across Qatar.

These potential champions were chosen through a country-wide talent identification program, conducted by ASPIRE, which tested students in schools across Qatar. Coordinating closely with the Qatari Ministry of Education, the talent identification team took student athletes through a three-stage program - Bronze, Silver, and Gold - which examined their physical, emotional and intellectual readiness for sporting excellence.

This year, more than 5,000 children were put through their paces during the "ASPIRE Bronze" evaluation stage. This involved each student being examined for their body shape characteristics, such as standing and sitting height, arm span and body mass. Teachers and coaching staff then put the children to the test with a range of challenges to determine lower body power, upper body power, distance throwing, speed and endurance.

For the first time, the talent identification program also tested female students for their athletic potential, sharing data from the tests with their schools to help identify future competitors.

The second phase - "ASPIRE Silver" - saw 300 of the successful athletes from the "ASPIRE Bronze" stage invited for more detailed testing. These students, along with selected athletes from local federations, were examined across a range of physical and practical tests that measure set performance characteristics to identify sporting potential.

For the final Gold phase, the candidates participated in a training camp at ASPIRE, working with a highly qualified team of international coaches from the Academy to find out whether they have the right attributes to train to be professional sportspeople.

Successful student athletes who made it through the final stage have now been offered the chance to join ASPIRE for the next term. Each successful entrant will have the opportunity to fully develop their potential in a range of sports, including track and field, table tennis, squash, gymnastics, aquatic events and football.

Ultimately, these students are being offered a once-in-a-lifetime opportunity. ASPIRE provides exceptional facilities, including full educational and recreational facilities, advanced dormitories, an amphitheatre, lecture halls, state-of-the-art sport science facilities, seven outdoor football training fields and state-of-the-art fitness

rooms and physiotherapy.

The Academy is distinguished by a philosophy which aims to develop the whole student, providing them with full academic and sports development so that they have the widest possible range of opportunities in adult life.

In addition, the students' progress will be tracked and supported by ASPIRE's physiological, biomechanical and psychological programs. ASPIRE Sport Science programs are using the latest technology, equipment and expertise. The student athletes are also supported by sports medicine and sports physiotherapy

The talent identification process is an annual event in Qatar, as part of ASPIRE's ongoing mission to unearth new talent in the region. ASPIRE will also offer scholarships to talented student-athletes from around the world, so that the Academy will eventually be home to a fully international community of world-class athletes.

Beyond the opportunity offered to its own student athletes, coaches at the Academy hope that it will play a major social role, encouraging everyone in Qatar to take a wider interest in physical fitness. One of the benefits of the talent identification program is that everybody has a chance to take part and students who don't make the grade this year could have the chance, with training and dedication, to enter again next year.

Leading figures at ASPIRE argue that this, combined with the motivational impact of witnessing the sporting success of the student athletes who made it through the "ASPIRE Gold" phase of the talent identification process, will hopefully stimulate more students to get involved in sport. In addition, the data provided offers an important resource for those involved in developing sporting programs in Qatar.

Dr. Andreas Bleicher, ASPIRE's sports manager, said, "The talent identification program is probably the most far-reaching and in-depth study of sporting potential ever undertaken in the Middle East. Not only does it help identify sporting talent that can be nurtured and developed at ASPIRE, but it also provides us with a major insight into the depth of talent and levels of athleticism of children throughout Qatar."

The talent identification program is not the only activity which ASPIRE is supporting to encourage greater physical fitness and "sport for all" in Qatar. It runs a range of fitness classes for the local community, in addition to an innovative "First Steps to Fitness" program, which aims to instill a healthy attitude from an early age with an exercise program catering for pre-school children.

As Qatar moves forward with its ambitions to become the sporting hub of the Middle East, ASPIRE is playing its role in selecting, supporting and developing the champions of tomorrow. Its talent identification process - which has attracted global attention in the sports world - plays a vital part in supporting this mission and vision.

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Resources

Watching the Web: Sport Policy Documents on the Web

Gretchen Ghent, Canada

Introduction

When tracking down all the appropriate sport policy documents, those with unique names, e.g. The Windhoek Call to Action, are easy to find when using the metasearch engine Google (<http://www.google.com/>). Sport policy documents may be found at many websites, from the local organization level, to the national level and international. These emanate from national governments, international organizations, professional associations and international conferences. They reflect the advocacy and leadership endeavors of sport and physical education professionals. Following is a sampling of some of resources available to the avid web researcher.

National Resources

Many national government sport websites have their policy documents readily available. For instance:

- [Ireland. Dept of Arts, Sports and Tourism](#)
- [Sport Canada Policies](#)
- [Australian Sports Commission - Organisation of Australian Sport](#)

National Resources

International Resources At the international level, many governmental and sport organizations also have their

key sport policy documents available, albeit at some very complex URLs. For instance:

- [European Commission - Sport Unit](#)
- [UNESCO. Education - Physical Education and Sport](#)

International Conferences

At the conclusion of many international conferences there are important declarations and resolutions resulting from the discussions and conference presentations of the participants. For instance:

- [Joint Declaration on Sports and the Environment \(Global Forum for Sports and Environment, 2005\)](#)
- [Doha Conference Resolutions \(2nd Asian Conference on Women and Sport, Doha, Qatar, 2003\)](#)

Sport Policy Directory Websites

There are two websites that attempt to pull together many of the sport policy documents from the national, governmental and international sources. [sportdevelopment.org.uk](#) is a collection of resources for students and contains many documents on sports development in the United Kingdom. This website also has European documents in PDF format where the sport policy affects UK sport.

- [Sport and Development.org](#)

A recently revamped section of Scholarly Sport Sites (the Bibliography section), has been renamed and refocused on codes of ethics, international conference declarations and resolutions, important government policy documents, professional position statements and standards for physical education and coaching education and practice.

- [Scholarly Sport Sites - Sport Charters, Codes, Declarations, Policies, Resolutions, Standards](#)

This section of the Scholarly Sport Sites is divided into the following topical areas:

1. Codes of Ethics
2. College/University/High School
3. Drugs/Doping/Supplements/Genetics
4. Governmental Issues/Policy/Structure
5. Healthy Living/Diet/Nutrition
6. Physical Education/Adapted/Physical Activity
7. Sports Medicine/Sports Sciences/Injuries
8. Training/Safety
9. Women/Gender Issues/Children

One exception to the topical structure is the Sports Medicine and Sciences section. Note here that the position statements of the key organizations are listed under each organization. The user will find many topics, for instance:

- International Federation of Sports Medicine (FIMS) - Position Statements
 1. Excessive Physical Training in Children and Adolescents
 2. Eye Injuries and Eye Protection in Sports
 3. Statement on Doping in Sport
- Canadian Academy of Sports Medicine - Position Statements
 1. Head Injuries and Concussions in Soccer
 2. Physical Inactivity in Children and Adolescents
 3. Exercise and Pregnancy

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International Association for Sports Information Pre-Olympic Congress Thessaloniki, Greece August 6-11, 2004

IASI Cyber Café Information Guide Physical Education / Adapted PE

Core Resources

Databases

SPORTDiscus

Updated monthly, SPORTDiscus contains over 650,000 records (from 1830 to date), to periodical articles, books, book chapters and essays, conference papers, reports, videotapes and URLs to fulltext documents/sources. Subject coverage includes all aspects of sports sciences, physical education, health and recreation. Each record is assigned a level of difficulty: A) advanced (scientific research), (I) intermediate (based on scientific research but easier to understand), and (B) basic (popular and easy to read).

The University of Oregon, Kinesiology Publications records from 1949 to date are included along with the sociology of sport records from the discontinued SIRLS database, other projects, and from the major indexing partner, the Australia National Sport Information Centre, 1987 to date. Other databases incorporated into the SPORTDiscus database include:

1. [Héracles, the French database produced by the INSEP in Paris](#)
2. [the Catalogue du Musée Olympique, Lausanne, Switzerland](#)
3. [Amateur Athletic Foundation of Los Angeles online catalogue](#)
4. Atlantes, the Spanish language sport database

For SPORTDiscus subscription information see www.sirc.ca/products/sportdiscus.cfm

ERIC

The ERIC database contains more than one million abstracts of education-related documents (ED prefixes) and journal articles (EJ prefixes). Nearly 100,000 ERIC documents published from 1993 are accessible electronically through the ERIC Document Reproduction Service, www.edrs.com. Many academic libraries have a complete ERIC document (ED prefixes) collection in microfiche. Documents may be purchased separately. The ERIC database is freely available on the internet. www.eric.ed.gov

SPOLIT / SPOFOR / SPOMEDIA

Produced by BISp, the Bundesinstitut für Sportwissenschaft (Federal Institute of Sport Science) this mainly German language sport sciences database is freely available via the [BISp website](#). This database has over 130,000 advanced-level records (40,000 on sports medicine) from 1970 to date. Includes citations to periodical articles, books, dissertations, and conference papers. Approximately 85% of the records are in German or English. The database is updated monthly. Formerly called: Sportliteratur. Also available on the same website is the complimentary databases, SPOFOR and SPOMEDIA. SPOFOR is a database of approximately 6,000 research projects and SPOMEDIA is a database of audiovisual resources.

Web Resources

[Australian Sports Commission. Sport Information: Topics](#)
[disABILITY Information and Resources. Sports Training and Athletic Competition](#)
[PE Central](#)
[PE 4 LIFE](#)
[Scholarly Sport Sites: a Subject Directory](#)
[SIRC: Online Resources: Topics](#)
[Sports Media: Physical Education for Everyone](#)
[Thematic Network of Adapted Physical Activity](#)

Key National & International Organizations

African Association for Health, Physical Education, Recreation, Sport and Dance (AFAHPER-SD)
American Alliance for Health, Physical Education, Recreation and Dance ([AAHPERD](#))

Associazione Italiana Cultura Sport ([AICS](#))
 Australian Council for Health, Physical Education and Recreation ([ACHPER](#))
 Bond voor Lichamelijke Opvoeding ([BVLO](#))
 British Association of Advisers & Lecturers in Physical Education ([BAALPE](#))
 Canadian Association for Health, Physical Education, Recreation and Dance / L'Association canadienne pour la santé, l'éducation physique, le loisir et la danse ([CAHPERD](#))
 Comité d'études et d'informations pédagogiques de l'éducation physique et du sport ([REVUE-EPS](#))
 Conselho Federal de Educacao Fisica ([CONFED](#))
 Deutscher SportLehrer Verband ([DSLTV](#))
 European Physical Education Association ([EUPEA](#))
 Federación Internacional de Educación Física (FIEP)/International Federation of Physical Education ([FIEP Argentina](#))
 International Association for Physical Education in Higher Education/ Association Internationale des Ecoles Supérieures d'Education Physique ([AIESEP](#))
 International Association of Physical Education and Sports for Girls and Women ([IAPESGW](#))
 International Council for Health, Physical Education, Recreation, Sport and Dance ([ICHPERSD](#))
 International Council for Physical Activity and Fitness Research ([ICPAFR](#))
 International Council of Sport Science and Physical Education ([ICSSPE](#))
 International Federation of Adapted Physical Activity ([IFAPA](#))
 International Society for Comparative Physical Education and Sport ([ISCPES](#))
 International Society for Aging and Physical Activity ([ISAPA](#))
 International Sports Organization for the Disabled ([IS-OD](#))
 National Association for Sport and Physical Education ([NASPE](#))
 National Center on Physical Activity and Disability ([NCPAD](#))
 Physical Education Association of the UK ([PEA](#))
 Physical Education New Zealand ([PENZ](#))
 Schweizerischer Verband für Sport in der Schule / Association suisse d'éducation physique à l'école / Associazione swizzera di educazione fisica nella scuola ([SVSS](#))
 Syndicat National Education Physique ([France](#))
 UNESCO Physical Education and Sport Unit www.unesco.org/education
 Verband de Leibeserzieher Österreichs ([VDLOE](#))

Key Serials

ACHPER healthy lifestyles journal (Australian Council for Health, Physical Education and Recreation)
Adapted Physical Activity Quarterly (Human Kinetics Publishers for the IFAPA)
British journal of teaching physical education (Physical Education Association of the United Kingdom)
EPS, Education Physique et Sport (Comité d'études et d'informations pédagogiques de l'éducation physique et du sport)
ICHPER-SD Journal (International Council for Health, Physical Education, Recreation, Sport and Dance)
International journal of Physical Education / Internationale Zeitschrift für Sportpädagogik (Verlag K. Hofman)
International Journal of Sport and Health Science (Japan Society of Physical Education, Health and Sport Sciences)
Journal of Aging and Physical Activity (Human Kinetics Publishers)
Journal of Health Education (AAHPERD)
Journal of Physical Activity and Health (Human Kinetics Publishers)
Journal of Physical Education, Recreation and Dance JOPERD (Pub by AAHPERD)
Journal of Teaching in Physical Education JTPE (Human Kinetics Publishers)
New Zealand Physical Educator / Te reo kori Aotearoa (Leisure Publications for Physical Education New Zealand)
Palaestra (Challenge Publications, Ltd.)
Physical and Health Education Journal (Canadian Association for Health, Physical Education Recreation and Dance)
Physical Educator (Phi Epsilon Kappa)
Quest (Human Kinetics Publishers for the National Association for Physical Education in Higher Education)
Research Quarterly for Exercise and Sport (AAHPERD)
Revista Brasileira de Ciência & Movimento (Universidade Católica de Brasília, Fac. De Educacao e Cultura)
Revista Brasileira de Educação Física e Desportiva (Ministério da Educação e Cultura)
Sportunterricht (Deutscher Sportlehrerverband)
STAPS: Revue des sciences et techniques des activités physiques et sportives (Association Francophone pour la Recherche en Activités Physiques et Sportives)
Strategies (AAHPERD)
Teaching Elementary Physical Education (Human Kinetics Publishers)
Therapeutic Recreation Journal (National Therapeutic Recreation Society)

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