Peter Harrison Centre

for Disability Sport

Newsletter

Issue 2 Summer 2008

In this issue:

Welcome to the 2nd edition of the new look newsletter from the Peter Harrison Centre for Disability Sport (PHC).

Since the last newsletter was published in March 2008, the PHC's new website has been successfully re-launched. To celebrate this event and to help you navigate around the new website, a brief guide which includes a screen shot of the new homepage has been provided on page 2. This highlights the main design features including the new research section which reflects the Centre's two strands of research.

Also in this issue the PHC would like to congratulate associated PhD student Barry Mason who won the BPA Poster Awards, at this year's BPA Sport Medicine, Science & Coaching Conference. Barry's winning poster on '*The effect of glove type on wheelchair rugby performance*', can be seen alongside a photograph of the winners and an article about the event on pages 4 & 5.

On pages 6 & 7 Helen Alfano the EIS ParalympicsGB Sport Science Officer has kindly written an article on '*Performance profiling and its use in talent identification in Paralympic sports'.*

This issue also features several interesting profiles. On page 3, the Centre's PhD student Marie Dannhaeuser has provided an update on her current research interests.

In May 2008, the PHC successfully held its first Interest Group Meeting orientated around physiology and Paralympic research. The full story can be read on page 8.

Finally the PHC would like to welcome its latest associated PhD student David Purdue, whose student profile can be seen on page 8.

Editorial: Charlotte Greasley

We hope you enjoy learning more about the Centre and find the links to the website and other resources useful. If you have any feedback or would like to contact the Centre please email: PHC@lboro.ac.uk or contact the Information Officer on 01509 226387 or C.Greasley@lboro.ac.uk

Current and previous editions of this newsletter are available to download as PDFs from : http://www.peterharrisoncentre.org.uk/news.html

A Guide to the Re-Launched Website

Check out the New Homepage

The Peter Harrison Centre's new website was officially re-launched on Thursday 22nd May 2008.

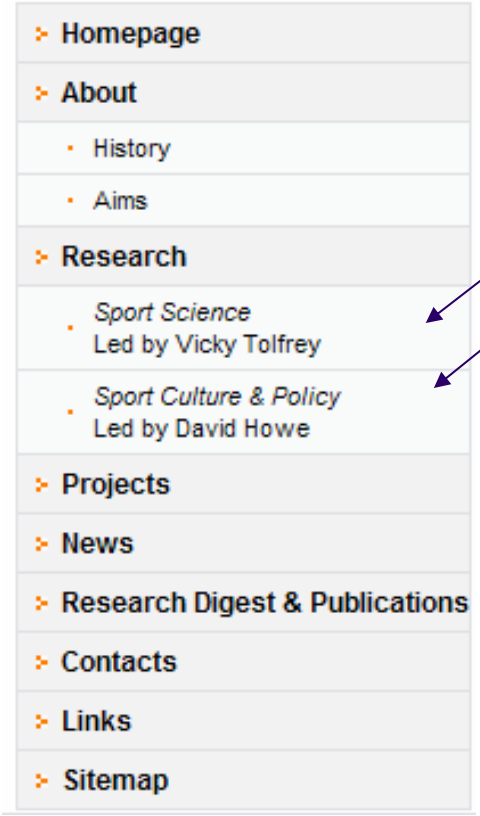
The website has been re-designed with a contemporary fresh look and a user-friendly design to enhance accessibility.

All the navigation links are located on the left hand side of the website.

Highlights of the latest news stories are featured on the homepage and are directly linked to the newspage.

This logo WAI - A

shows that the website's accessibility conforms to the World Wide Web Consortium's (W3C) standards.



Read about the PHC's Research

The new website has a new section which reflects the PHC's two strands of research which are:

- Sport Science led by Dr Vicky Tolfrey
- Sport Culture and Policy led by Dr David Howe

Each strand of research has its own webpage which provides information about the research aims, overview and current project or research themes.

….work in progress

Over the next few months the information and news on the website will be continually updated. In the 'Research Digest & Publications' section a range of guides are currently being produced by staff and students' associated with the PHC.

These guides will explain various issues and 'hot topics' in a straight forward way and will be available to download for free as PDF's. '*Tips for including students with special needs*' by Nadine Geddes is already available to download.

Archive of Resources Donated to the Centre

In April 2008, a collection of resources associated with disability sport were kindly donated to the Peter Harrison Centre for Disability Sport. The resources were donated by Mr Ivor Mitchell who played a significant role within the area of disability sport for over forty years.

The collection includes handbooks, yearbooks, newsletters, reports and conference papers from a range of prominent disability sport organisations from the 1960s onwards. Mr Mitchell expressed his interest in donating the collection to the Centre to ensure that the resources were available to students interested in this area of study.

The collection has significant historical importance as it charts the development and rise of disability sport over several decade. This is particularly exciting for the Centre's Sport Culture and Policy research strand, led by Dr David Howe, which broadly focuses on the cultural politics and sociology/anthropology of the body in sport and leisure.

The collection has also sparked interest from David Purdue, who is the latest PhD student to be associated with the Peter Harrison Centre. If you would like to read more about David Purdue's research interests please read his student profile on page 4 of this newsletter.

Student Profile: Marie Dannhaeuser

Marie Dannhaeuser is a third-year PhD student with the Peter Harrison Centre. Her broad research topic is 'Women's Experiences in Paralympic Sport', for which she has interviewed current and former athletes for their perspectives. Here, she gives us a brief update about the progress of her research.

This spring, I completed my interview schedule. With the busy, hectic, and often unpredictable lives that athletes live, it's been a bit of a juggling act to catch up with people for interviews, but we've managed. I never envisioned carrying out an interview in a hair salon, or having an interview interrupted because a doping control officer had turned up unexpectedly before training. However, when speaking to athletes whose lives centre around training sessions, training camps and competitions, sometimes you've just got to fit in wherever you can.

I've interviewed 29 female athletes from Australia, Canada and Great Britain across five separate Paralympic sports. Some are Paralympic veterans, having gone to four or five Games, while others are relative rookies with Athens having been their first Paralympics. Many are striving for success in Beijing, but some have retired from sport in the last few years. The topic of 'Women's Experiences of Paralympic Sport' may seem very specific, however the rich diversity of women involved in my study included women from all walks of life, spanning several generations, competing across different sports, with a variety of impairments. The common thread amongst this diversity is the Paralympic experience and athletes have taken sometimes similar, and sometimes very contrasting, ways of getting there. My thesis is an exploration of these journeys, of how female athletes negotiate 'being an athlete' within today's world of Paralympic sport – one comprising a multitude of sport cultures, perpetual issues of classification, and the steady push towards integration and increased recognition.

So, what next? Over seven hundred pages of transcripts have emerged from the interviews which I use as 'data'. I then organise this data into themes and subcategories for critical analysis. I've been doing this analysis as I go, and have now started the 'writing up' phase of my research – piecing together all of the stories and themes and exploring them via theoretical perspectives for the final written thesis. It's a slow process, but also very exciting to have things starting to come together.

Finally, a brief chance for me to express my gratitude to the women who have taken the time to speak with me and share their stories: thank you. I strive to capture everyone's stories in a way that speaks to a commonality of experience, while also acknowledging the multiplicity of the athletes in this study. Your willingness to speak with me with openness and honesty has made my research both possible and interesting, and continually reminds me that the work I'm doing is worthwhile.

To contact Marie please email her at: M.C.Dannhaeuser@lboro.ac.uk

Barry Mason Wins First Place at the BPA Conference Poster Awards

From left to right: Barry Mason, Laura Sutton, Michelle Swainson, Dr. Vicky Tolfrey from the PHC and Paul Davies from the BPA.

The Peter Harrison Centre for Disability Sport would like to congratulate PhD student Barry Mason who is associated with the Centre. In March 2008, Barry won first place in the poster awards at the British Paralympic Association Sport Medicine, Science and Coaching Conference held at Burleigh Court Loughborough University.

The poster awards were sponsored by the Peter Harrison Centre for Disability Sport and Human Kinetics. The awards seek to reward those who make outstanding contributions to sport and exercise sciences by advancing knowledge in disability sport.

Barry who is currently studying at Loughborough University received a £50 Human Kinetics book voucher for his winning poster. Barry's poster can be seen on the page opposite and was titled *The Effect Of Glove Type On Wheelchair Rugby Performance*, Mason, B.S., Lutgendorf, M., van der Woude, L.H.V., & Goosey-Tolfrey, V.L.

Second place was awarded to Laura Sutton from Liverpool John Moores University, for her poster on *Body Composition Of Highly-Trained Female Wheelchair Basketball Players Measured By Dual-Energy X-Ray Absorptiometry*, Sutton, L., Wallace, J., Scott, M., Goosey-Tolfrey, V.L., Reilly, T.

Third place was awarded to Michelle Swainson from Manchester Metropolitan University, for her poster on *The Effectiveness Of Hand Cooling On Thermoregulatory and Physiological Responses in Wheelchair and Able-Bodied Athletes During Exercise in the Heat*, Swainson, M., Boyd, C., Atkinson, G., Tolfrey, K., Goosey-Tolfrey, V.L.

The Peter Harrison Centre would like to congratulate all the winners and to thank Human Kinetics and everyone who took part in the poster awards.

To find out more about Barry's research please read his student profile which can be found on the Centre's website at: http://www.peterharrisoncentre.org.uk/contact.html
Or email him at: B.Mason@lboro.ac.uk

THE EFFECT OF GLOVE TYPE ON WHEELCHAIR RUGBY PERFORMANCE

[1]Mason, B.S., [2]Lutgendorf, M., [2]van der Woude, L.H.V and [1]Goosey-Tolfrey, V.L

[1]School of Sport and Exercise Sciences, Loughborough University

[2]Faculty of Human Movement Sciences, Vrije University, Amsterdam

1. INTRODUCTION

Gloves form an important part of the equipment for wheelchair rugby players, as they directly influence the wheelchair-user interface. Besides protection, gloves are predominantly used to provide the player with improved grip. However, gloves designed specifically for the demands of wheelchair rugby do not currently exist and subsequently players wear a variety of gloves that are primarily designed for other purposes.

PURPOSE: To determine the effectiveness of a selection of gloves currently used by players upon wheelchair rugby performance.

2. METHODS

SUBJECTS: Eleven physically active, able-bodied participants volunteered for the study.

PROTOCOL: Participants performed all trials in 4 glove conditions (See Figure 1): building gloves (BLD), multipurpose gloves (MLP), NFL gloves (NFL) and no gloves (NO).

Figure 1. The 3 types of glove conditions sampled for testing

Gloves were tested using 3 drills incorporating skills specific to wheelchair rugby, as demonstrated in Figure 2.

Glove performance was assessed by:

- Overall time to complete Drill 1 and 3.
- Peak velocities (PV) reached.
- Acceleration profile of the 1st three pushes.
- Accuracy of ball handling.
- Subjective feedback via likert scale questionnaire.

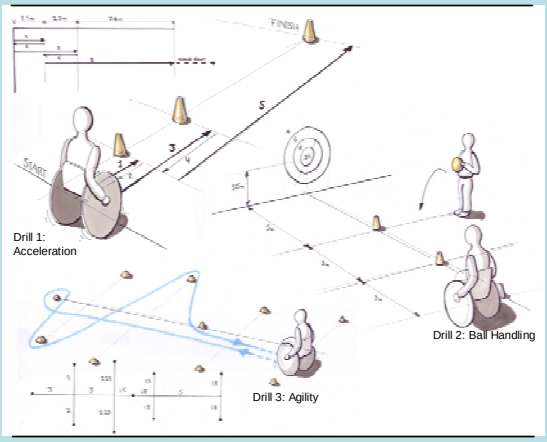


Figure 2. Illustration of the three task-specific wheelchair rugby drills used for testing

DATA ANALYSIS: A two-way ANOVA with repeated measures was performed on all data. Statistical significance was denoted by $p<0.05$ unless stated.

3. RESULTS

A significant improvement in performance was observed for session 2, which was likely to be due to a potential learning effect. Therefore, glove performance was assessed from the data of session 2, which showed:

- No significant influence of gloves on ball handling accuracy.
- NFL produced significantly quicker overall times in Drill 1 (NFL = 15.9±0.9 secs; BLD = 16.5±1.0 secs; NO = 17.0±1.0 secs; MLP = 17.5±1.3 secs).
- NFL and BLD elicited significantly quicker agility times in Drill 3 (NFL = 14.4±1.4 secs; BLD = 14.5±1.7 secs; MLP = 15.2±1.3 secs).
- NFL and BLD displayed significantly higher PV than MLP gloves (NFL = 3.45±0.36m/s; BLD = 3.35±0.38m/s; MLP = 3.19±0.36m/s [See Figure 3]).
- NFL and BLD accelerated significantly quicker over the 1st three pushes (NFL = 1.2±0.1m/s^2; BLD = 1.1±0.1m/s^2; MLP = 0.97±0.1m/s^2 [See Figure3]).

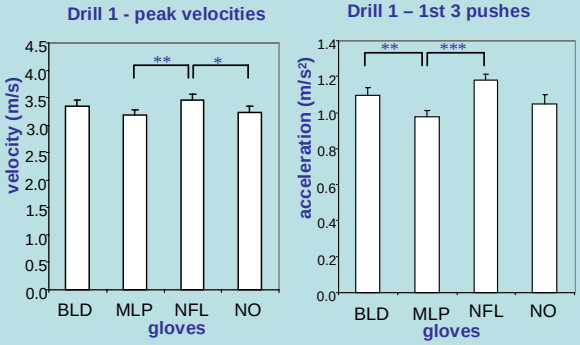


Figure 3. Peak velocities and accelerations (means±S.D) for different gloves in Drill 1 (*p<0.05, **p<0.01, ***p<0.001).

- BLD were significantly more effective at braking (decelerating) than MLP.
- Subjective data identified that NFL were favoured over MLP. Participants particularly valued the comfort, grip and fit of the NFL over other gloves.

4. CONCLUSION

- NFL produced the most favourable performance, with BLD also shown to perform positively.
- MLP often performed poorer than no gloves at all.
- Even though NFL performed the best, issues arose regarding the gloves durability and protection.
- Therefore, the development of a glove suitable for the specific demands of wheelchair rugby should be considered and future testing would be advised using trained wheelchair rugby players.

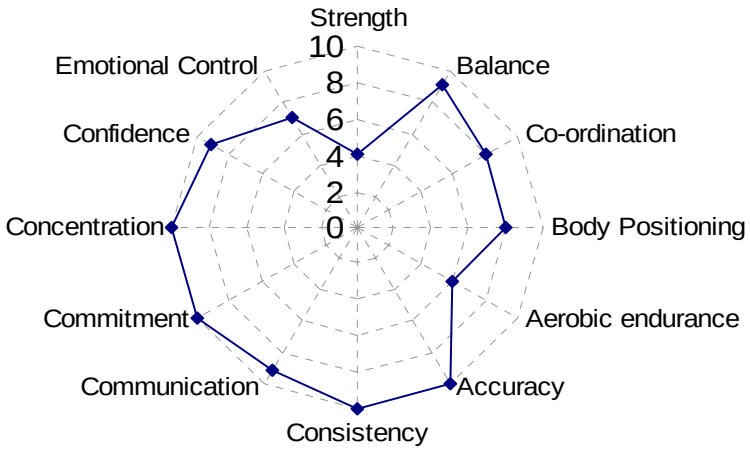
BPA Sports Science Conference, 2008

'Performance profiling and its use in

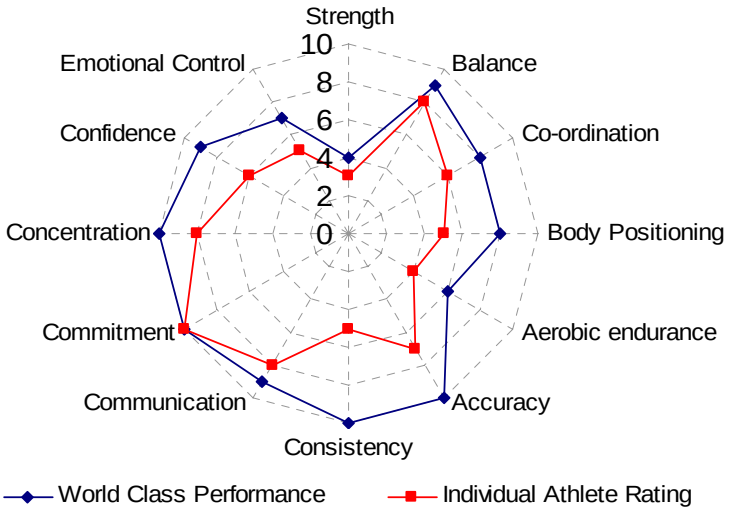
By Helen Alfano, EIS ParalympicsGB Sport Science Officer

Performance profiling has become a widely used tool, aiding the analysis and monitoring of performance in high level sport. The process involves breaking up the complexity of top performance into certain key qualities and then assessing performance based upon these. The qualities identified typically fall into four main categories: physical, psychological, tactical and technical. Both coaches and athletes are involved in this process.

The qualities identified must be clearly defined and agreed upon. Each quality is then given a rating of importance in terms of top performance in the sport. This is assessed on a scale from 1 to 10, where 10 is of most importance. The significance of each quality to performance then becomes apparent and a profiling diagram can be formed. The figure below shows a number of qualities within all categories of performance and indicates where a performer trying to achieve top performance may focus attention.



The coach and athlete themselves then assess their performance against these essential qualities, again on a scale of 1-10 with the score indicating how strongly they possess the quality. Where possible performance tests take place to quantify an athlete's possession of a certain quality, e.g. strength testing. Input of the information into the profile allows simple assessment and identification of strengths and weakness and assists goal setting and training design (see figure below). Reassessment over time allows monitoring of progression towards goals and re-evaluation of performance qualities.



Main objectives:

- To develop awareness of important qualities essential for success in a sport
- To consider performance from a joint coach and athlete perspective
- To aid in identifying an appropriate intervention in desired areas of change
- To assist in training programme design with focus on best performance
- To monitor changes over time

Key benefits:

- Assists focus and progress towards common agreed goals
- Provides a visual display easy for reference and feedback

Maximises the athlete's motivation and adherence to a program

Sitting volleyball player and coach
Image courtesy of ParalympicsGB and the Press Association

Performance Profiling in Talent Identification

With 2012 fast approaching we have a fantastic opportunity to unearth some new talent and have GB representatives in all events across all sports. At ParalympicsGB we have recognised the potential for the use of performance profiling in our talent identification initiatives.

All experienced coaches can tell you when they think someone has potential or talent, but often on reflection they find it hard to express why and almost never record the justifications for focusing support on an identified individual. With several talent initiatives running it is imperative that we are clear on the qualities we are looking for and record, measure and monitor potential talent. Performance profiling assists us in doing this. The only difference to the process described above is that input comes only from the coaches and the qualities assessed are those they feel an individual must possess in order to be identified as talented and be fast tracked ready for top performance in 2012.

Forms are produced where each quality can be assessed quickly in a talent ID environment. Potential athlete's strengths and weaknesses based on coach perceptions are then easily identified. Where possible an objective measure is also taken to support this subjective assessment, for example a score is taken in Shooting. This process is completed for all potential athletes in a sport allowing for easy identification of the talented individuals a sport should focus on. The continued use of these forms during the development of the athlete assists in tracking progression and monitoring performance improvements.

Success of PHC's 1st Interest Group Meeting

On the 13th May 2008, the Peter Harrison Centre for Disability Sport (PHC) organised the first Interest Group Meeting which was orientated around physiology and Paralympic research. The meeting proved to be a great success and brought together academics and practitioners from Loughborough University's School of Sport and Exercise Sciences, the English Institute of Sport (EIS) and the PHC.

The aim of the meetings are to stimulate discussion for future and collaborative projects relevant to disability sport research. The first meeting was presented by Dr Vicky Tolfrey, the Director of the PHC who leads the Sport Science research strand at the Centre. Vicky provided an overview of current projects in disability sport which have been carried out at Loughborough University since September 2007 and projects that will take place over the summer of 2008.

- The second meeting will take place on the 7th July 2008 and will be led by Nik Diaper and Helen Alfano from the EIS.
- A third meeting is also scheduled for October 2008 and will be presented by the Deputy Director of the PHC, Dr David Howe and his team from the Sport Culture and Policy research stand.

If you would like any further information about the Interest Group Meetings please email the Information Officer at C.Greasley@lboro.ac.uk

Student Profile: David Purdue

The PHC would like to welcome its latest associated PhD student, David Purdue to the Centre. David gained his BSc with Honours in Sport and Exercise Science in 2006, from Loughborough University and continued his studies at the University where he gained an MSc with Distinction in the Sociology of Sport in 2007.

David describes how he first became interested in the area of disability sport when he studied his BSc, which included a module on how to incorporate people with disabilities into PE. This interest was furthered during his MSc as several lectures were focussed on the sociological aspect of disability sport. These lectures were delivered by Dr D. Howe, Deputy Director of the PHC and provided David with the opportunity to learn of a forthcoming PhD opportunity which focussed on the sociological aspects of disability sport.

His PhD started in October 2007 and his research explores the experiences of 'severely impaired' athletes within the Paralympic Movement. Primarily, this research intends to investigate the historical development of disability sport from the start of the Stoke Mandeville Games to the Paralympics). It is anticipated that the current manifestation, and potential future of the Paralympic Games, can be better understood and critiqued in light of this historical investigation.

Furthermore, this research aims to better appreciate the complexities of disability theory and terminology used surrounding disability, as well as the structure of disability sport (incl. issues of classification and use of technology within the Paralympic Games).

Currently, literature on this area of study is very limited and David plans to further his research by visiting the archives at Stoke Mandeville and the International Paralympic Committee in Bonn. In April 2008, David recently attended a meeting with Ivor. Mitchell, who played a significant role within the area of disability sport and who recently donated his archive of resources to the PHC. David expressed that this meeting with Mr. Mitchell proved to be very helpful for his research. Firstly, Mr Mitchell's donation has provided an invaluable collection of literary resources which are otherwise difficult to obtain. Secondly, David was able to hear a first hand account from an eye witness who brought to life the historical aspects of disability sport.

To contact David please email him at: D.E.J.Purdue@lboro.ac.uk