The IOPTP Newsletter

The International Organisation of Physical Therapists in Paediatrics

Edition 16, March 2016

President's Message

Greetings,

I hope that 2016 is off to a great start for each of you. In the fall, your IOPTP officers and committee chairs met by conference call to develop the 2015-19 strategic plan. Refer to the summary of the strategic plan in this newsletter. We welcome your input and would be glad to have more individuals join our 5 committees.

Strategic Plan Overview

Vision:	IOPTP will empower physical therapists with an interest in paediatrics to provide effective PT services for children throughout the world.
Mission:	In order to promote effective services for children (birth into adulthood) and their families throughout the world, the mission of the IOPTP is to: ◊ provide professional development; ◊ disseminate current resources; ◊ develop and disseminate new resource; ◊ promote research; and ◊ provide opportunities for communication and networking for physical therapists.
Goal 1:	To encourage improved standards and consistency of practice in paediatrics care by physical therapists
Goal 2:	To provide programming and education to support practice of paediatric physical therapy.
Goal 3:	To encourage scientific research and promote opportunities for the spread of knowledge of new developments in the field of paediatrics
Goal 4:	To foster cooperation and advance practice by sharing resources and information
Goal 5:	To assist WCPT member countries in the initial and ongoing development of recognized Sub-sections in paediatrics

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For submissions or questions regarding the newsletter please contact the newsletter editor Erin Wentzell PT, DPT, PCS at

Members and Journal Update

We have just received applications for 2 new member organizations: United Kingdom and Belgium. The first edition of *Pediatric Physical Therapy* published with new editor, Linda Fetters, was recently released. The journal is full of articles and cases relevant to practice in a variety of areas. Dr Fetters introduces us to her expanded editorial board as well. I hope you enjoy and learn from this edition of *PPT.*

IOPTP at the table to discuss child health worldwide

IOPTP was asked to serve as the WCPT representative on behalf of the World Health Professions Alliance (WHPA) in discussions by telephone conference and an onsite meeting related to a workshop/planning meeting on school-based and school-linked health services.

Sheree York, IOPTP President, participated in an initial conference call chaired by Douglas McCall, Executive Director of the International School Health Network (ISHN) with representatives of organizations representing School Nurses, International Council of Nurses, International Federation of Public Health Associations as well as diabetes and other groups. The purpose of the call was to engage these groups in issues and actions aimed at improving child and family health through school-based and school-related health services. The group was also provided a summary of the intent of a meeting to be held in conjunction with the 7th Excellence in Pediatrics Conference, London, 10-12 December, 2015. Liz Gray, PT, from the UK was able to represent IOPTP/WCPT/WHPA at this meeting. Liz had completed her 2 year secondment to the Scottish Government as a project officer on Health and Wellbeing in Schools Project so seemed especially prepared to listen and make relevant comments on our behalf due to her professional experience (as well as geographical convenience with short notice).

School-based and School-Linked Health Services (SH Services) are a fundamental component of comprehensive approaches to promoting health and well-being through schools. Health systems in many jurisdictions around the world have seen the school as key setting or partner for the delivery of primary or preventive care to children and adolescents. Many studies of specific services have documented this strategy as being effective and efficient. Recently, public and policy interest in school health services has significantly increased, with recent policy initiatives , reports and reviews calling for renewed investments , better coordination with health promotion programs from the health sector, better integration with services from other sectors, particularly for disadvantaged students , a sharper focus on results, and more systemic, longer-term thinking and planning that would embed such services more firmly within and with education systems.

Two recent reports have described the various organizational models and policies that are used to deliver the wide variety of school-based and school-linked health services in Europe and globally, including community clinics and physicians' offices with strong linkages with schools, through regularly scheduled services from itinerant health professionals, full or part time school nurses and even school-based clinics. The recent global initiative from the World Health Organization and its members calls upon other sectors to incorporate "health in all policies". The recent education sector response to that HiAP call, as well as research noting a lack of sustainability in school health promotion approaches, underlines the need for the health sector to articulate and further develop its commitment to school-based and school-linked services. This need has been underlined by the recent inter-sectorial work on the European Health 2020 goals. As the health sector seeks to improve its partnerships with other sectors through their Health in All Policies (HiAP) initiatives, a renewed commitment to school health services becomes part of that renewal with school systems. This work coincides with recently developed standards and reports on child and

adolescent health services as well as school health services that have been published by the World Health Organization (WHO).

IEIP, ISHN and their partners are convening global representatives from the health sector, including nurses, physicians, public health, health promotion, allied health professions, government ministries and others to examine recent reports, cost-effective models suitable to different contexts and potential pathways towards greater effectiveness, efficiency and partnerships. A knowledge development and research agenda will be developed through hands-on discussions that will focus on topics such as:

- Different delivery models for different contexts and priorities
- Recent successes such as HPV vaccination campaigns as well as ongoing challenges such as public/parent confusion about mandatory vaccinations prior to schooling
- How a renewed health sector commitment to school health services can strengthen inter-sectorial partnerships with education systems as part of a broader Health in All Policy and a renewal of settings-based health promotion and a focus on the social determinants of health
- The rationale for and better examples of investments in school health nursing
- How school health services can be integrated with social, family, employment and other services to create support for student success and school completion, particularly for disadvantaged and at-risk students.

The workshop on December 11 was planned to contribute to the work of the International School Health Network (ISHN) and its global partners from the education sector representing teachers (Education International) and school district/education ministry officials (ASCD) to promote global dialogue on integrating health and social programs within education systems.

Seven individuals, including Doug McCall and Liz Gray, attended the workshop/planning meeting. A presenter from WHO shared the results of a literature search of all evidence/research published on school health services. There was an overwhelming lack of any allied health professions literature on this topic! The WHO has developed clear definitions of dedicated school health services and linked school health services, while recognizing a lack of alignment of SHS with health priorities and evidence base.

A second presentation given by the School Nurse Alliance addressed the changing role of school nurses and identified the importance of a public health/ health promotion role. School nurses were identified as playing a fundamental role in school health service. A presentation followed on HPV vaccination.

The work group met in the afternoon to draft document initiated by Doug McCall. He will finalize this draft and circulate it to workgroup members in January.

Summary of work group recommendations

All agreed that the goal of school health services is to keep all children and youth in school to be successful learners by focusing on:

- Resilience
- Mental well-being/health
- Emotional well-being
- Social well-being
- Self esteem
- Physical well-being

Suggested Activities
1. Undertake a survey of Countries
2. Identify other events/conferences the group could meet eg WCPT in 2017 etc
3. Engage Education sector
4. Research Agenda – recognize that limited or unbalanced literature can bias and have a negative influence on policy!
5. Policy Guidance
6. Standards - core services with school service
7. Engage all AHP's groups, including occupational therapists and speech language pathologists
8. WHO - adolescence health document

Liz Gray suggested that "school health services" be viewed as inclusive universal health services (for all – eg. immunisation) targeted for individual needs or for groups (eg, smoking cessation obesity/ weight management & DCD) and specialized services for those with requiring supports and/or enhanced services (eg complex needs, learning disabilities, etc). During both the conference call and the workgroup session, Liz and Sheree represented the perspective of the services provided by physical therapists for children receiving special education or requiring services for physical disabilities. Other ideas recognizing the PTs' potential contributions in screening, health promotion, exercise/fitness, and injury prevention and management were also mentioned.

Liz and I would welcome any information you have on your role in schools, additional supports you provide beyond those services related to "special education", and any ideas or examples of schools working with nearby health clinics to provide services to children and families. You can contact me at sheree.york@childrensal.org

Kind regards,

Sheree York PT,DPT,PCS,cNDT

President, IOPTP

With comments from Doug McCall and Liz Gray

The IOPTP FACEBOOK page is a great resource for upcoming events and information on the IOPTP and the WCPT. It is also a great resource for information on pediatric physical therapy with an international prospective on research, practice and advocacy.

IOPTP Committee Introductions

Introducing Ria Nijhuis-van der Sanden: the incoming IOPTP Vice President

I was treasurer of the board of the IOPTP since we started in Vancouver, and now I continue for another 4 years as vice- president. We made this choice to guarantee continuity from the old to the new board. For me it was a nice opportunity to enjoy the international activities in the Pediatric Physical Therapy field for another 4 years.

I am mother of four children and grandmother of already three grandsons, while the fourth one will be born in March. And I always say: being mother and now also grandmother enriches your experiences as professional.

As a PPT I have always worked with children since I became a physiotherapist in 1974. I worked first 22 years in my own private practice in the East of The Netherlands. In 1985 I was member of the first group of physiotherapists who established the pediatric physiotherapy Association in the Netherlands. Between 1993 and 2011 I worked as head of the department Pediatric Physical Therapy in the Radboud university medical center in Nijmegen. Since 1995 I was involved as lecturer and developer of the postgraduate education in paediatrics at Avans+ in Breda, which is at this moment one of the three postgraduate Master programs for physiotherapists in Pediatrics. Together with Ron van Empelen and Annelies Hartman I am editor of the Dutch Book "Pediatric Physical Therapy" which has reached already its third edition in 2013. I got my PhD in 2003. My thesis focused on motor performance problems in Turner Syndrome. I was Secretary of the scientific committee of the Dutch Society of Pediatric Physical Therapy between 2003 and 2007 and Secretary of the Dutch Society for Follow-up in Premature Born Infants between 1999 and 2009.

Since February 2009 I am professor and chief of allied health sciences at the Radboud university medical center in Nijmegen which is partly connected to the Scientific Center for Quality of Healthcare and the Department of Rehabilitation of which the Pediatric Physical therapy department is situated. I am really proud that I received an award in 2007 from the Radboud University Children's Hospital and in 2013 the Paul Helders award from the Dutch pediatric physiotherapy association. I am proud that already four PhD candidates finished their thesis in the field of pediatric physiotherapy (and an occupational therapist) and another one will finish her thesis this year. The number of master theses passed the 50 mark already. I hope to meet you all at the next WCPT conferences and hope we are able to work together on improvement of the quality of pediatric physiotherapy care.

Introducing Kristy Nicola: the incoming IOPTP Member at Large

I have been a paediatric physiotherapist for just over a decade. In earlier years, I worked in private practice, a special school and on an outreach team. My experience and area of interest includes working as a member of an interprofessional team delivering family-centered assessment and management of children with neurodevelopmental disorders. I am one of only a few Neuro-sensory Motor Developmental Assessment instructors, qualified to deliver workshops to paediatric physiotherapists worldwide.

In 2014, I completed my PhD which contributes further to the understanding of the neuro-sensory motor presentation and impact of these challenges in children with specific language impairment. I received *The Yvonne Burns Prize in Paediatric Physiotherapy* which acknowledged my research for its excellence in contributing significantly to paediatric physiotherapy. My research interest continues to explore children with neurodevelopmental disorder, particularly DCD, ASD, and SLI, gaining a further understanding of their presentation, fitness and participation levels, as well as their quality of life. In addition, I have more recently begun exploring ways to deliver services to children living in rural and remote areas of Australia. I have joined established researchers in adult physiotherapy to explore the validity and reliability of paediatric physiotherapy via Telerehabilitation. Over the past seven years, I have transitioned into an academic position lecturing in paediatrics, cardiothoracics and musculoskeletal undergraduate and postgraduate programs at the University of Queensland. In addition, I am a clinical educator in the

musculoskeletal and acute hospital streams of the award-winning University of Queensland standardised patient program. I was involved in the development of the undergraduate paediatric curriculum that was introduced to the Australian Catholic University in 2011. Then in 2013, my teaching abilities were recognized as I was awarded both the *University of Queensland, School of Health and Rehabilitation Sciences, and the Faculty of Health Sciences Early Career Award for Teaching Excellence*.

I further contribute to paediatric physiotherapy as an ongoing committee member on the National Paediatric Group, Queensland state chapter, of the Australian Physiotherapy Association; and as a committee member on the Clinical Practice subcommittee of the IOPTP. I am enjoying learning of the activities going on around the world in paediatric physiotherapy, and am particularly learning more in my newer role as the Member at Large on the Executive Board of the IOPTP. I look forward to meeting other physiotherapists with a common shared passion for paediatrics at the upcoming WCPT congress.

The IOPTP Practice Committee:

Introducing Marquerithe Barree PT BSc Paediatrie Chur, Switzerland
The Practice Committee Chair

Marquerithe Barree is a clinical paediatric physiotherapist and owner of a pediatric private practice. She works part time at a school setting. Marquerithe was born in the Netherlands. In 1989 she graduated as a Physical Therapist in the Netherlands. One year later, she received her certification by the medical Board of California to work with children in various settings in California. In 1992, she moved back to Europe and settled down in Chur, Switzerland. The Swiss Physiotherapia Paediatrica has been a part of her professional interest. Since 2002 her topic of interest has been incontinence by children. Marquerith is currently working on her Master of Science in Physiotherapie Paediatrics and focusing on coping with and caring for Infants with special needs (COPCA). Her motivation to be a part of the IOPTP is the connection between practice, evidence, resources, and education. She has been a member of the IOPTP Practice Committee since 2009 and became chair of the practice committee at the WCPT meeting in 2015. With members of the group, she has supported the collection of the factsheets and guidelines and wrote

an article for the newsletter Feb. 2013 about Swiss academic and clinical pathways. She is looking forward to seeing other IOPTP members at the WCPT Congress in Switzerland in 2019.

The Practice Committee Members would like to take a moment to introduce themselves…

Mulugeta Bayisa

I am a physiotherapist teaching at the University of Gondar, College of Medicine and Health Sciences in Ethiopia. I have completed my master's degree in physiotherapy in 2012. Currently applying for PhD in New Zealand. I have 7 years of teaching, clinical work and currently involved in various research projects. Most of my work is with adults. However, I also treat children with various disabilities. One of my contribution to paediatrics in Gondar is developing training materials in Amharic (National language of Ethiopia), and train community based rehabilitation workers and health extension workers. This enables them to screen and treat children with deviant motor development. Our project is in collaboration with Dutch physios and Ethiopian physios. We are expanding the project so that no children with disabilities are left behind.

I joined IOPTP to connect with physios across the world to learn more about paediatrics and of course contribute my share to help children with disabilities. I believe that this forum will bring great minds who can make differences in the world of children.

Hanna Flækøy Skjåkødegård

I got my authorization as a physiotherapist in 2011, after one year of mandatory internship following my bachelor degree from Bergen University College, Norway. In 2013 I completed my master`s degree in Clinical Health Science - Obesity and Health at the Norwegian University of Science and Technology, and next year I am applying for a PHD fellowship.

Since 2013, I have worked at the Obesity Outpatient Clinic at Haukeland University Hospital, Bergen, Norway. Moreover, from 2014 I got a twofold position there: as the physiotherapist in the multidisciplinary team treating both children and adults and as a research assistant in the FABO study. The FABO study is a randomized controlled trial comparing family-based behavioral social facilitation treatment to treatment as usual for children and adolescents (aged 6-18) referred to the Obesity Outpatient Clinic. The data material from this study forms the basis for my PHD application. Since august 2015, I have had a threefold position: the two positions already mentioned (60 %) and a position as an advisor at the Norwegian National Centre for Food, Health and Physical activity (40 %). This is a national resource center for interdisciplinary work promoting the importance of good health for children and adolescents and is a cooperation between The Ministry of Education and Research and the Ministry of Health and Care Services.

My motivation for being a part of the IOPTP Practice Committee is that I want to work together with other physiotherapist from around the world to form the path for physiotherapy in the future, particularly in

the field of childhood obesity. I have already started the work, by developing an online questionnaire to explore whether PTs in WCPT are treating children who are obese, together with Grace O Malley, also a member of the Practice Committee.

Brenda Morrow

I am currently an Associate Professor in the Department of Paediatrics, University of Cape Town (UCT), South Africa. A physiotherapist by training, I worked clinically from 1995 to 2006 at Red Cross War Memorial Children's Hospital in Cape Town. I developed a special interest in paediatric respiratory diseases, particularly in the context of critical care and the management of children with Cystic Fibrosis, and embarked on a Master's Degree in 2001, which was upgraded to PhD in 2003. In 2005 I was awarded a PhD for my dissertation, "*An investigation into nonbronchoscopic bronchoalveolar lavage and endotracheal suctioning in critically ill infants and children*". In 2008 I completed a two-year postdoctoral fellowship funded by the Medical Research Council of Southern Africa (MRC). In 2009 I was awarded an MRC Career Development Award to develop clinical research using electrical impedance tomography – an emerging, noninvasive imaging tool which allows real-time quantitative analysis of ventilation distribution. In 2012 I was promoted *Ad Hominem* to Associate Professor. Since 1998, I have been engaged in teaching and supervision of undergraduate and postgraduate students. My current job description includes expanding the African Paediatric Fellowship Program, a UCT Dept.Paediatrics initiative, to train paediatric allied health and rehabilitation therapists throughout Africa and to facilitate the concept of a multidisciplinary, holistic approach to child health practice and research. In 2014, I completed a Postgraduate Diploma in Health Research Ethics (with Distinction) through the University of Stellenbosch. I am currently Chair of the Department of Paediatrics' Research Committee; a member of the Faculty of Health Sciences Research and Human Research Ethics Committees; and a member of many special interest, editorial and advisory boards. I have published and presented my research findings widely, and won several awards. I am deputy editor of the *Southern African Journal of Critical Care* and a regular reviewer for many international journals. I am currently Chairperson of the Cardiopulmonary Rehabilitation Special Interest Group under the auspices of the South African Society of Physiotherapy.

Grace O Malley Executive Committee Liaison

Dr. Grace O'Malley is a Clinical Specialist Physiotherapist in Paediatric Obesity and Director of the W82GO Healthy Lifestyles Programme at The Children's University Hospital, Dublin, Ireland. She completed a PhD in Public Health at University College Cork where her thesis explored the development and implementation of a lifestyle-based paediatric obesity intervention including the development and testing of a mobile application tool for adolescents. She graduated with a BSc Physiotherapy in 2004 and an MSc 2006 from the University of Dublin, Trinity College. Her clinical and research interests include: paediatric obesity assessment, treatment strategies; exercise assessment and exercise therapy, the impact of obesity on the health of the developing child; incentives for behavior change; and the pathophysiology of type 2 diabetes in children.

She is the elected Irish representative of the European Childhood Obesity Group and the European Childhood Obesity Task Force and Chairs the Association for the Study of Obesity on the Island of Ireland. For further details see: http://ie.linkedin.com/pub/grace-o-malley/9/352/67a

Nerita Chan Nar Chi, MSc, SPT

Ms. Nerita Chan is the Senior Physiotherapist of Tuen Mun Hospital of Hong Kong. She has been working as paediatric physiotherapist for more than 25 years. She is now in-charge of the paediatric physiotherapy service including in-patient and out-patient team. She gained her Master degree in Physiotherapy in 2001. Ms. Chan is specialized in motion and gait analysis in patients with neurological problems. She has collaborated with doctors from Paediatric and Neurosurgical team closely in the past 18 years and developed comprehensive spasticity management for children with Cerebral Palsy and adult neurological patient. Ms Chan is interested in carrying out various research studies and leading her team towards evidence based practice. Results of her studies had been presented in various local and oversea conferences. She had presented her data in World Congress of Physical Therapy (WCPT) 2003 in Barcelona and 2007 in Vancouver. She presented the most update result of Selective Dorsal Rhizotomy in WCPT last year in Singapore.

Ms Chan also works as the part-time lecturer of Hong Kong Polytechnics University and teaching in neuropaediatric area in 2001 and 2002. She acted as Part-Time Clinical Associate in Hong Kong Polytechnic University in 2006 to 2008 to assist with the teaching in undergraduate and the Master course in Physiotherapy in Mainland China. Over the past 15 years, Ms. Chan was invited to conduct more than 20 lectures and workshops to different health professionals in Hong Kong and Mainland China. Ms. Chan is now the supervisor of students from Chinese University Hong Kong for clinical research. She also acts as the peer reviewer of the Hong Kong Physiotherapy Journal. Ms. Chan is the chairperson of Paediatric Specialty Group of The Hong Kong Physiotherapist Association. She is the founding fellow and the honorary secretary of The Hong Kong Spasticity Management Society.

Reetta Tuomisto

I am a finnish paediatric physiotherapist and I was graduated in 2000. Since 2002 I have been working with babies, children and adolescents with disabilities in private and public sectors. Currently I work in private and mostly treating babies and children with Cerebral Palsy and similar disabilities, motor learning problems and musculoskeletal diseases. My interest to neurological field lead to authorization as a NDT, Bobath tutor in 2013. Since then along with clinical practise I also actively lecture in NDT, Bobath courses . I established Finnish Association of Paediatric Physiotherapy in 2011 and from its beginning we have clear focus to be a part of the IOPTP. The most valuable things are to share the knowledge of all matter of Paediatric Physiotherapy. I believe that it is our common profit to receive and forward the information and learn important things from each other in research, practice and education. I am really looking forward to see, how we can manage to unite the World with help of IOPTP ☺

Clinical Spotlight: *Fit for the Future! Researchers, (future) physical therapist and families working together towards healthy active lifestyles for children with chronic disease or childhood disability.*

Janke F. de Groot, PhD, P.T. & Medical Physiologist

Associate Professor within the Research Group Lifestyle and Health.

While typically developing children are increasingly less active in our modern society, this is even more the case for children with chronic disease or disability. In the Netherlands, much research is done across the country to develop best practices to improve fitness and physical activity levels these populations.

Within the research group Lifestyle and Health at the HU University of Applied Sciences in Utrecht, research is focused on healthy living in different patient populations, including children with chronic disease or disability. Two main projects are currently studying various factors related to physical activity, exercise and health in children with chronic childhood onset conditions. One of these projects is *Fit for the Future!* which is financed by SIA RAAK PRO (2013-2017) and is a continuation of and earlier project called "Healthy Active Living in Youth with Neuromotor Disability"(HALYNeD). *Fit for the Future!* is a successful consortium including HU University of Applied Sciences, Wilhelmina Children's Hospital, Rehabilitation Center de Hoogstraat, Erasmus Medical Center, VU University, KJ Projects, the Dutch organization NVFK for pediatric physical therapists (PPT), and Fitkids representing 150 PPT practices across the country. This projects aims to create a system for knowledge transfer from academic research outcomes to the daily practice of pediatric physical therapy, while at the same time working on translational research in the field of exercise physiology and physical therapy in youth with childhood onset disability. We perform our applied research in close collaboration with professionals working with the children, students (our future professionals) as well as children and parents. We do this because we want make sure our research is relevant to both patients and clinicians, but it also ensures active participation throughout the project which will facilitate implementation of the outcomes into daily practice. For example, in preparation for this project we started with interviews and focus groups with

both children and parents to discuss which factors are important in participation in daily physical activity among children with spina bifida[1] and children with muscular dystrophy, combining this research with evidence from the literature[2] . At the same time, we discussed with 40 pediatric physical therapists what their needs were to optimize care for fitness and physical activity related issues. This resulted in several areas of both research questions *and* questions how to translate research into practical knowledge. Therefore, the main goals for *Fit for the Future!* are (1) to develop a digital knowledge transfer system with best practices, (2) to develop of clinical outcome measures for physical activity, (3) to evaluate interventions aimed at improving physical activity, and (4) develop best practices for fitness and wheelchair skill training for children who are wheelchair dependent (Let's Ride…study). Examples are validity of outcomes measures for fitness[3,4], physical activity[5] (Lankhorst in progress) and wheelchair skills (Sol, in progress). The latter truly has been rather successful. Where school and PT's initially showed some doubt about the of the program, the therapist themselves by now have become true advocates for the importance of wheelchair skill training. And it is because of their enthusiasm that we were able to conduct a rather extensive intervention and evaluation within the schools. It helps that parents and children value these wheelchair skill training quite a bit and show progress not only in their skills, but in their confidence of going outside in their wheelchair as well. With our research being conducted within the daily practice of physical therapy, i.e. at these schools for special education or at the PT practices from Fitkids and with the PT's participating in the research, this not only results in outcomes being representative for those in daily practice, but also facilitates implementation. For the implementation of this research directly aimed at parents and children, the Dutch Society for Children with Disability (NSGK), is partly financing this study as well.

Next to *Fit for the Future!* the Health in Adapted Youth Sports (HAYS) study is a ZonMW financed project looking at the health effects of participation in organized (adapted) sports in children and youth[6,7]. This project also involves a close cooperation called SUPERLAB, ***S**hared **U**trecht **P**ediatric **E**xercise **R**esearch*,

between HU University of Applied Sciences, Wilhelmina Children's Hospital, Rehabilitation Center de Hoogstraat as well as several sport and patient organizations across the Netherlands. Besides health-related fitness and physical activity, outcomes include cognitive functioning, injuries and sickness as well as quality of life, perceived competency and emotional wellbeing (Lankhorst).

Our digital knowledge system is being developed in close cooperation with our Faculty of Technology and will include clear description of protocols, information about validity, reproducibility and reference values and (video) instruction. Next to a digital system, knowledge transfer is happing continuously by research being presented at both annual meetings of the patient organization as well as during annual symposia organized by the partners, discussion of research process and initial results several times a year with professionals, and presenting both scientific lectures[8] and skills labs for physical therapists. During these labs, we also try to facilitate knowledge transfer across PT practices and rehabilitation centers, with room to share experiences among colleagues. Last but not least, our future colleagues, now students at the pediatric physical therapy school, are participating as research assistants, preparing them early in their professional development for evidence-based practice.

Would you like to know more? Visit our (mostly Dutch) website www.fitforthefuture.hu.nl or contact janke.degroot@hu.nl For more information about KJ Projects, visit www.kjprojects.com. For pediatric therapists interested in research looking at home based video assessment of the AIMS, see www.godiva.hu.nl or contact jacqueline.nuysink@hu.nl

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Clinical Spotlight: Lessen in Determination

Fiona Burrows Physiotherapist NZRP (member of the New Zealand Physiotherapy paediatric special interest group)

Professional & Paediatric Rehabilitation Services Ltd

Tupou Seini Neuifi.

Paralympic New Zealand High Performance Paraswimmer.

This is a story of a young girl who has always had a positive attitude and through determination and hard work, is working towards the ultimate goal -To compete in the Rio de Janeiro Paralympics 2016.

Tupou Neiufi is a 14 year old girl from Mangere, Auckland, New Zealand. At 2y 8m of age Tupou was a victim of a 'hit and run' motor vehicle accident. Although Tupou is now living with the consequences of a severe head injury, she has always looked at the positive aspects of life, focuses on what she is able to achieve and how to be the best that she possibly can.

The resulting head injury was bilateral with significant weakness on the left side, though coordination and motor processing difficulties are more widespread. Tupou initially wanted to play netball, but found she couldn't catch the ball, or run well. Tupou's competitive spirit began to shine at 10 years old when she started swimming lessons.

Tupou says "My goal is to represent NZ at the 2016 Rio Paralympic Games, but also to inspire people to give things a go, because like my Mum says "you'll never know unless you try".

Over time Tupou has transformed from a child to an athlete. Tupou is naturally tall and at age 13 had size 13 feet, which has to be an advantage for a swimmer! Despite developing the physique of a competitive swimmer, Tupou continues to present with significant asymmetry in both the skeletal size and muscle

bulk, with her left arm and leg being smaller and shorter. This naturally has presented challenges with gait, swimming techniques as well as the development of a mild scoliosis.

Physically Tupou is strong, but does have some limitations with instability at the knee and hyperextension at the wrist and DIP joints in the fingers of the left hand.

Tupou has received physiotherapy from Professional and Paediatric Rehabilitation Services Ltd following her injury. When Tupou was selected by the Auckland Pathway to the Podium Programme (New Zealand), it was essential for the coaches and therapists to work collaboratively with Tupou, towards her goal for her to reach her maximum potential without injury. Tupou is classified as a Paralympic category S9 and is now with the New Zealand Paralympic High Performance swimming squad.

To date Tupou has competed in 7 New Zealand national swimming championships since she was 11 years old where she has won several medals and 2 International Meets. January 2015 Tupou won her first international medals (bronze 50m backstroke, silver 100m backstroke) at the Victoria Opens Swimming Championships in Melbourne where she was the youngest competitor, and just recently she competed at the Victoria Opens Swimming Championships in Australia, again where she won a Silver medal in the 50m backstroke.

In September 2015 Tupou represented her school, Otahuhu College at the New Zealand, Secondary Schools Competition and won 6 gold and 1 silver medals. Tupou was then awarded the Otahuhu College Junior Girls Athletics Award and the Best Individual Sporting Performance of the Year Award. Tupou was proud to be told that this was the first time in the school's history, that a junior student had won this award, let alone someone with a disability.

In Tupou's words " Throughout my journey there have been so many obstacles in my way, but with the love and support of my friends, coach and team, they've helped me overcome those obstacles and are still walking beside me on my journey, to achieve my ultimate dream of representing NZ at the 2016 Paralympic Game, because nothing is impossible"

Fiona Burrows Physiotherapist NZRP

Professional & Paediatric Rehabilitation Services Ltd

Empowering families to discover life changing solutions for a better today and a more hopeful tomorrow

Clinical Spotlight: "Babyfit®: a specific training for parents and their infants (0-12 months) to avoid obesity and lack of physical activity – a prevention program developed by physical therapists in pediatrics"

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babyfit®

Worldwide, 42 million children under the age of five are overweight or obese (1). Recommended levels of physical activity are often for children aged 5 – 16 years. There are only a few prevention programs to reduce infant obesity. The goal is to educate and sensitize parents of newborns about balanced nutrition and healthy motor development.

Pediatric physical therapists developed the unique project *"Early life in motion"*. It will give children the possibility of a typical motor development and a healthy well-balanced nutrition. *"Early life in motion"* provides exercise and nutrition classes for parents and their children (0-12months) called "babyfit®".

Physical activity, in the form of activities of daily living, including play, recreational physical activity and sports, requires certain motor competence (2). It is important for the whole development to start as early as possible.

Since 2009 the prevention project „Babyfit®" has carried out exercise and nutrition classes for parents and their children up to one-year-olds. We analyzed how the participating parents valued these courses and if the courses correspond to the scientific knowledge regarding pedagogic information transfer, sensory-motor development and balanced nutrition.

- 82.4% of the participants liked the course very much and had great interest in further courses for over one-year-olds
- 53% of the participants carried out the exercises at home, 47% did them at least partially and they were reflecting behavioral adaptation – an importang prevention goal
- Non German-speaking immigrants could only partially be reached through the courses

Trained course leaders should offer these courses nationwide in the future. More networking is required for specialists who work with children from 0-3 years old.

Children have a natural impulse for a typical motor development. Early education for parents is essential.

Pediatric physical therapists have a huge knowledge in motor development and physical activity – it is an important group for primary prevention.

1. www.who.int/mediacentre/factsheets/fs311/en/
2. Gísladóttir O., Haga M., Sigmundsson H. Motor Competence and Physical Fitness in Adolescents. Pediatric Physical Therapy. 26(1):69-74, Spring 2014.

Clinical Spotlight: Participation in recreation and sports for children with disability in New Zealand– the Halberg Disability Sports Foundation

Submitted by Celia Reid (New Zealand)

In 1963 Murray Halberg (later Sir Murray, ONZ) set up a Trust in New Zealand that bore his name. He believed every person had a right to participate in sport. When he was 17 Murray was badly injured in a rugby accident. This also brought a halt to his cricketing talent and it left him with a withered left arm. Following rehabilitation, he learnt to do everything with his right hand. This did not affect his ability to run, however; an activity he had enjoyed prior to the accident. Through sheer persistence, dedication and training over a long period he matured as an athlete and dreamed of becoming an Olympian. In an incredible journey, this was achieved at the 1960 Olympics in Rome where Halberg won a Gold medal in the 5000 metre race. His story has rightly become an inspiration to generations of New Zealanders, including, and perhaps especially, those with disabilities.

Five decades on, the Trust is now known as the Halberg Disability Sports Foundation, but true to its founder's vision, the charity still works to enhance the lives of New Zealanders with physical disabilities by enabling them to participate in sports and recreation. The Halberg Allsports programme assists young people with physical disabilities, as well as families, schools, communities, sports organisations and clubs. It provides a myriad of health, wellness and social benefits for participants. Ten Disability Sports Advisors co-ordinate the programme throughout New Zealand.

No Exceptions Training (NETS) supports teachers, teacher aides, coaches and tertiary students in the delivery of sports and recreation programmes. The NETS course consists of two one hour workshops incorporating practical and theory elements, teaching the fundamentals of adapting physical activities to suit those with various disabilities. An Activity Fund provides financial grants to have equipment adapted, attend lessons or coaching as well as enabling high needs young people to attend school or sports camps.

A letter of support is required from a healthcare professional, so a physiotherapist may be asked to write a letter for a young person applying for funding for adapted equipment (for example, providing a modified a bicycle) or for attending swimming lessons.

The Halberg Junior Disability Games are held annually. This is a national three day event for those aged 8-21 years with a physical disability or who are visually impaired. There are 13 sports including ambulant football, athletics, blind cricket, paracycling, equestrian, goalball, powerchair football, rowing and swimming. For children starting out in sport or recreation there are Have a Go days, where young people are introduced to and can try a new sport.

The value and excitement of these programmes and the work of the Trust generally cannot be underestimated. High needs' young New Zealanders are fortunate indeed to have access to the resources of the Halberg Disability Sports Foundation.

As a physiotherapist, it is a privilege to work with and encourage young people to follow their sporting and recreation dreams. Few may emulate the achievements of Sir Murray, but with the support and encouragement of the Foundation, some may become Para-Olympians, and all will experience the simple joys of movement, participation and learning skills that could otherwise be denied to them.

Clinical Spotlight: CEREBRAL PALSY: From exercise testing to training for children classified at GMFCS level I or II.

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Cerebral Palsy (CP) describes a group of disorders of the development of movement and posture, causing activity limitation, that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain.[1] It is the most common neurological disorder causing physical disability in childhood with a prevalence in Europe of around 2-3 cases per 1000 live births.[2] The motor disorders of CP are often accompanied by disturbances of sensation, cognition, communication, perception, and/or behaviour, and/or by a seizure disorder.[1] The Gross Motor Function Classification System (GMFCS) is a 5 level classification system that is used to describe the gross motor function of children and youth with CP.[3] Level I represents the highest level of functional abilities, and level V represents the lowest level of functional abilities.

In this newsletter the state of knowledge about exercise testing, and training for children who are classified at GMFCS level I and II will be summarized. In GMFCS level I, children walk indoors and outdoors and climb stairs without limitation. Children who are classified at GMFCS level II walk indoors and outdoors and climb stairs holding onto a railing but experience limitations walking on uneven surface and inclines.

EXERCISE TESTING

Not more than a decade ago, there was a paucity of exercise test protocols appropriate for children with CP. Both laboratory and field tests with acceptable validity and reliability to assess the fitness components in children with CP have been developed the last decade. Studies that have used symptom limited maximal exercise testing protocols in children and adolescents with CP reported no adverse health or safety effects.[4-8,9] This shows us that, in general, symptom-limited maximal exercise testing is safe and suitable for children with CP.

For children classified at GMFCS level I and II, the most functional (i.e. specific) way to assess their fitness levels would be a walking- or running-based exercise test. Based on a recently performed Delphi study, a core-set of field (and laboratory) exercise tests was identified for various GMFCS levels.[10] This core-set was recently updated based on recent literature.[11]

For (pediatric) physical therapists, field test might be easier to use than laboratory tests, since they do not require expensive equipment. The aerobic and anaerobic field exercise tests from this core-set will be described below.

Aerobic Performance
Since most children classified as GMFCS levels I and II are able to walk, the most functional (or specific) way to assess the fitness levels for this group of children would be a walking- or running-based exercise test.

To assess and evaluate the aerobic performance the 10 meter shuttle run test (10-m SRT) has been developed in The Netherlands.[5] The 10-m SRT requires children to walk or run between 2 markers delineating the respective course of 10 m, at a set incremental speed determined by a signal, which is played by a standard CD player. The starting speed and the increase in speed every minute are 5 km/h for the SRT-I (for children classified at GMFCS level I) and 2 km/h for the SRT-II (for children classified at GMFCS level II), with the speed increased 0.25 km/h every minute. At the end of each level, the subjects are told to go a little faster. The test is finished when, on 2 consecutive paced signals within the same level, the participant is more than 1.5 m away from the marker. Total exercise time is recorded.

Reliability, validity and sensitivity to change.
The test-retest reliability for exercise time (ICC coefficients of 0.97 for the SRT-I and 0.99 for the SRT-II) and reliability for peak heart rate attained during the final level (ICC coefficients of 0.87 for the SRT-I and 0.94 for the SRT-II) are good. High correlations were found for the relationship between data for both shuttle run tests and data for the treadmill test (both $r = 0.96$). The test has also been shown to be sensitive to change in children with CP.[12] Change in a child's performance of more than 0.84 minute (one level) for the SRT-I and of more than 0.50 minute (half level) for SRT-II can be attributed to real change with 95% confidence.

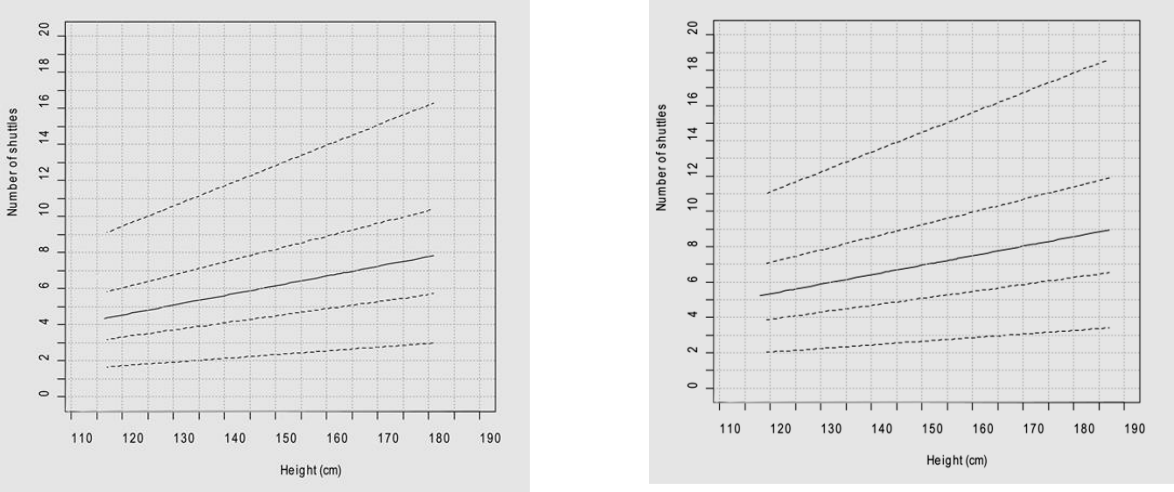
Anaerobic performance
To assess and evaluate the anaerobic performance, the Muscle Power Sprint Test (MPST) has been developed in The Netherlands. For the MPST a sprinting trace of 15 m is marked by two lines taped to the floor. Cones are placed at the end of each of the lines. Participants are instructed to complete six 15-m sprints at maximum pace and to be sure to cross each line. Each sprint will be timed manually to the hundredth of a second. Between each run, participants are allowed to rest for 10 s before turning around, to allow them to prepare for the subsequent sprint. Each 10-s interval between the sprints is also timed manually. Participants are verbally encouraged to sprint as fast as possible during each run to ensure a maximal effort. For the first sprint, the instructions given are a countdown from: "ready, 3, 2, 1, go". For the other five sprints, a countdown from 6 to 1 and the start signal "go" proved to be sufficient. Power output for each sprint is calculated using body mass and sprint times: Power output = (body mass × s2) / t3, in which 'Power output' is expressed in Watts (W), 'body mass' is expressed in kilograms, 's' is the sprint distance in meters, and 't' represents the sprint time in seconds. Power is calculated for each of the six runs. Peak Power at the MPST is defined as the highest calculated power, while Mean Power at the MPST is defined as average power over the six sprints.

Reliability, validity and sensitivity to change.
The test-retest reliability for Peak Power (PP) and Mean Power (MP) (ICC coefficients of 0.97 for PP and 0.98 for MP) are good.[13] Very strong significant correlations were seen for PP and MP from the MPST and

Wingate Anaerobic Cycling test (the gold standard) PP and MP values (PP: $r = 0.731$, $P < .001$; MP: $r = 0.903$, $P < .001$). Change in a child's performance of more than 18.0 Watts for MP and 27.8 Watts for PP on the MPST can be attributed to real change with 95% confidence.

Disease-specific Norm Values

For the field exercise tests CP-specific norm values are available. These norm values are available for the 10 meter Shuttle Run Test (GMFCS I & II),[14] the Muscle Power Sprint Test (GMFCS I and II),[15] and the 10x5 meter sprint test.[15]



Reference values for the 10-m shuttle run test for girls (left) and boys (right) with CP, classified at GMFCS level I.

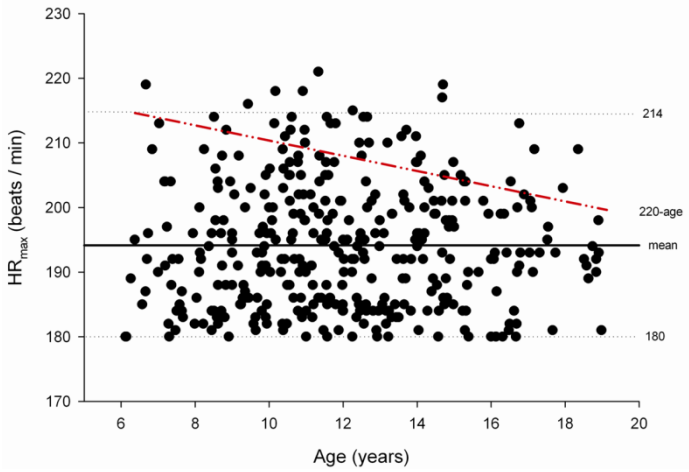
TRAINING

Aerobic training

The effectiveness of aerobic training in children with CP, that included only children classified at GMFCS level I and II, is evaluated in two RCTs.[12,16] Participants received exercise training aimed at increasing aerobic fitness. The reported increases were:

- 23% for an 8 week intervention with young people (age: 14.2 ± 1.9 yrs) in GMFCS levels I and II[16];
- 41% for an 8 month intervention with children (age: 12.1 ±2.6 yrs) in GMFCS levels I and II[12]

According to the results of both studies, we can conclude that cardiorespiratory training can effectively increase aerobic performance in children and adolescents with CP, classified at GMFCS level I or II. In these studies the participants exercised 2-3 times per week for a minimum of 40 minutes at an intensity of 60-80% maximum heart rate (HR_{max}), or 50-65% peak oxygen uptake.



Scatterplot of maximum heart rate in relation to age in children and adolescents with CP, classified at GMFCS level I or II. The red line represents the 220-age formula.

Since exercise intensity is an essential part of the exercise training recommendations for aerobic performance for children with CP, it is important for clinicians and researchers to have a valid determination of HR_{max}. Although it has been criticized,[17] the most common method to estimate HR_{max} is the 220-age formula. However, estimations of HR_{max}, using the 220-age equation is not appropriate for determining effective aerobic exercise training intensities for individual children with CP.[18]

The use of a heart rate monitor to determine the child's HR_{max} during a graded exercise test to exhaustion (like the 10-m SRT) is optimal when designing exercise programs. When individual heart rate monitoring or exercise testing is not possible for the child with CP, it is recommended to use the mean of 194 bpm as an estimate of HR_{max} rather than calculating it using the equation 220-age.[18]

Anaerobic training

A 8-month combined aerobic and anaerobic training programme in 68 children and adolescents with CP showed that the anaerobic power, evaluated with the Muscle Power Sprint Test, was significantly increased by 12% during the last four months.[12] During these months the main focus of the training was on anaerobic performance. These findings suggest that anaerobic performance, measured as sprinting ability, is trainable in ambulant children/adolescents with CP.

Exercise intensity for anaerobic performance is at maximal capacity. Heart rate monitoring is not necessary.

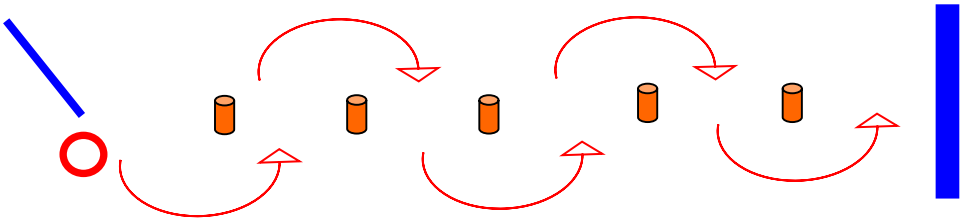
Practical examples

Task-specific exercises such as running and changing direction of the body abruptly, step-ups and negotiating stairs can be used for training purposes. These activities are important in everyday life of children and adolescents with CP.

Example exercise 1.

Equipment:

5 pylons, 1 stick, 1 ring, 1 blue exercise mat

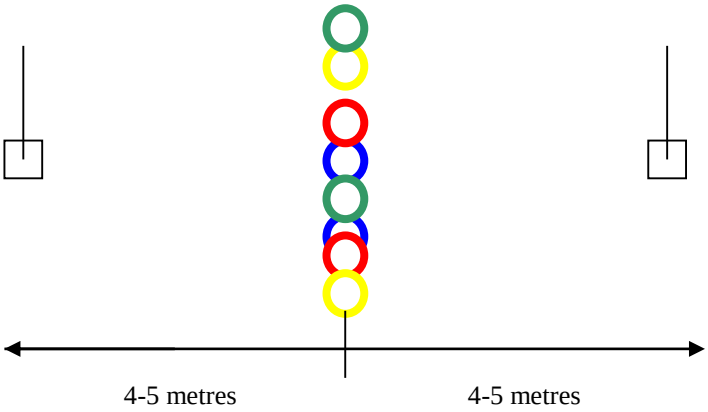


Instruction: "Starting at the first cylinder/cone, run between the others to the end. While running keep the stick in one or two hands while pushing the ring along the ground with the stick. At the end, try to get the ring against the exercise mat. Another child can be the keeper who guards the goal and tries to catch the ring. Repeat the process. Count and enter the number rings (not just goals scored) on the circuit scorecard."

Example exercise 2.

Equipment:

2 sticks (e.g. stick in pylon), 10-15 rings



Instruction: "The child starts at the stick and runs to the other stick. While passing the rings on the floor the child picks up a ring from the floor and brings it to the other stick and puts it around it. The child runs back again and takes another ring and puts it around the other stick and so forth. Count the total number of rings and enter on the circuit scoreboard."

Extra materials/free downloads:

Shuttle Run Audio Files:

http://www.dehoogstraat.nl/onderzoek-innovatie/producten/producten/shuttle-tests-voor-cp

Reference Values for Field Exercise Tests:

http://www.dehoogstraat.nl/images/products/862/reference-values-fitness-tests-cp.pdf

Exercise Training Program:

http://www.dehoogstraat.nl/onderzoek-innovatie/producten/producten/fitnesstraining-voor-cp

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NEW: *Starting the next newsletter we will be highlighting dissertation or thesis work in the field of pediatrics. If you have recently completed your dissertation you can submit a summary of your work (no more than 2 pages) for consideration in the newsletter.*

Please contact with questions:

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World Confederation for Physical Therapy

CONGRESS 2017

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2-4 July 2017

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Call for pre- and post-congress course proposals

Submission deadline: 25th March 2016

Submission guidelines

Please read this information carefully before proceeding to the online submission form.

Submission process:

All submissions must be made via the congress website www.wcpt.org/congress

Important dates:

Submission opens	**1st February 2016**
Submission deadline	**25th March 2016**
Notification of outcome	**20th June 2016**

The general call for abstracts for platform and poster presentation will be available from June 2016 with a submission deadline of October 2016 [exact dates to be confirmed]. Information will be published on the WCPT website when available.

IOPTP International Organisation of Physical Therapists in Paediatrics

We are seeking submissions for the next newsletter. The next newsletter will focus on adolescent and school-based physical therapy.

Submissions are due by July 15, 2016.

Please send submissions to Erin Wentzell at ewentzell@gmail.com