

# The IOPTP Newsletter

The International Organisation of Physical Therapists in Paediatrics

Edition 14, February 2015

## President's Message

Hello IOPTP member countries

Lots of good news for the IOPTP. We now have updated the Clinical Guidelines document that was developed in 2013 and have posted the new document on our IOPTP web site. Many thanks to our member countries for responding to the requests for new documents; to the Committee on Practice especially Marquerithe Barree and Kristy Nicola for compiling and checking the initial draft; and to members of the Executive Committee for checking the final document. We anticipate additional links to clinical guidelines from the Paediatric Division of Canadian Physiotherapy Association and will add these to our listing once received.

We have 7 paediatric groups who are currently member elects who will be voted on for full membership to the IOPTP at the General Meeting in Singapore. The member elects are:

**Professional Network on Paediatrics (Physio Austria)**

**Ethiopian Paediatric Physiotherapy Group (Ethiopian Physiotherapists Association)**

**Japan Society of Physical Therapy for Pediatrics (Japanese Physical Therapy Association)**

**Korean Organization of Physical Therapy in Paediatrics (Korean Physical Therapy Association)**

**Association of Paediatric Physiotherapists in Nigeria (Nigeria Society of Physiotherapy)**

**Grupo de interesse de Fisioterapia em Pediatria (Associacao Portuguesa de Fisioterapeutas)**

**Paediatric Subgroup of Turkish Physiotherapy Association (Turkish Physiotherapy Association).**

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

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We are in the last few months of preparation for the 2015 WCPT Congress, which will be held in Singapore. Happily I can report that there will be much paediatric content at the conference. The IOPTP has activities that are bolded in the following list of activities but our members are also presenting many conferences, seminars, as well as platform and poster presentations.

Please note the following activities that will occur in Singapore! The IOPTP sponsored activities are in bold.

- |                             |   |
|-----------------------------|---|
| May 1: 08:30 – 16:30        | Paediatrics: Lifespan Fitness<br>Miles, Liston, Shen  |
| May 2: <b>08:00 – 10:00</b> | <b>IOPTP General Business meeting      Suntree C</b>  |
| 10:45 – 12:15               | Focused Symposium- (In) activity and health in childhood onset disability across the life span<br>deGroot, Takken, Verschuren, Maher, Wiart   |
| <b>13:45 – 15:15</b>        | <b>IOPTP Seminar - Global perspective on best practice in paediatric evaluation tools and interventions</b><br><b>Connolly, Elbasan, Mulligan, Schreiber, VanSchie</b>                        |
| May 2 16:00 – 17:30         | Focused Symposium – Muscle strength in cerebral palsy treatment: current issues and developments<br>Dallmeijer, Dodd, Damiano, Maltais, and Taylor  |
| <b>17:45 – 19:45</b>        | <b>IOPTP reception      Pan Pacific Hotel</b>   |
| May 3 <b>07:00-8:30</b>     | <b>IOPTP Networking Sessions      Suntree CC Rooms 310-311</b>  |
| 13:45 – 15:15               | Emerging use of technology in rehabilitation for young people<br>Mulligan, Rowland, Sandlum, Potterton, Kanagasabai   |
| May 4 <b>10:45 – 12:15</b>  | <b>IOPTP/INPA Seminar – Lessons to be learned: Transition from childhood to adulthood for individuals with lifelong disabilities</b><br><b>Connolly, Dodd, Hammond, Scalise-Smith, Taylor</b> |
| 13:45 – 15:15               | Go baby go: Solutions for maximizing augmented mobility for children  |

Paleg, Rodby-Bousquet, Huang

May 5 08:30 – 17:00

**Postural Stability**

**Massery, Hodges**

In addition to the preconference, focused symposia, seminars, networking sessions and post conferences, we anticipate many platform and poster presentations focused on paediatrics. There were many paediatric abstracts that were reviewed for these sessions and we anticipate much paediatric content.

For those of you who may not be able to attend the WCPT meeting in Singapore, the WCPT has announced that congresses will be held more frequently under plans designed to make the world's most important physical therapy even more accessible to all the Confederation's members. The plan is for the congresses to be held every 2 years instead of every 4 years, thus better to fulfill its objectives, serve its member organisations and move the profession forward globally. SO... put 2017 on your calendars for the next WCPT meeting.

This is my last message to you as I end my 8 years of service as President of the IOPTP. I have enjoyed working to have our subgroup recognized by the WCPT in 2007 and then seeing how much we have matured as an organization. The therapists that I have met and corresponded with during these 8 years have amazed and inspired me to be a better therapist. I feel that I have grown in my understanding of how physical therapists in paediatric are so similar no matter what part of the world they practice. The vision of the IOPTP is to empower physical therapists with an interest in paediatrics to provide effective PT services for children throughout the world. I believe that the IOPTP is beginning to address this vision and as the organization grows and matures, the vision will be met!

I look forward to seeing many of you in person in Singapore in 2015 and particularly encourage you to attend the IOPTP reception and the networking sessions so that your voices can be heard.

Best Wishes to all of you!

***Barbara H. Connolly PT, DPT, EdD, FAPTA USA***

President, IOPTP



## Secretary's Report

### IOPTP Activities at WCPT in Singapore

The IOPTP officers have been busy planning the program, reception, networking sessions, and business meeting for the IOPTP. The business meeting is open to anyone interested in what is going on with the IOPTP. Delegates from each member country will be the official and voting representatives for each member country. The agenda for the business meeting will include update from IOPTP officers and committees, election of officers and member organizations, amendments to the Constitution, presentation of Strategic Plan, and other motions presented by the delegates.

The IOPTP Nominating Committee has prepared this slate for new IOPTP officers:

Sheree York (US) for President, Ria Nijhuis-van der Sanden (Netherlands) for Vice-President, Grace O'Malley (Ireland) for Treasurer, Karen Hurtubise (Canada) for Secretary, and Kristy Nicola (Australia) for Member-at-Large

Respectfully submitted,

Sheree York, Secretary



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



## Committee Spotlight: Welcome New Committee Members

**Diana Coetzer** MSc(Physio) is a new member of the Communications Committee!

Hi! My name is Diana Coetzer. I am married with a four year old daughter and another on the way. I qualified with my BSc(Physio) in 2006 from the University of the Witwatersrand. I have my MSc in Physiotherapy and am currently studying towards my PhD. My research focus is on physiotherapy treatment for premature infants in the NICU. I was the chairperson for the South African Society of Physiotherapy's (SASP) Paediatrics Special Interest group from 2010 until 2014. I am also the current Special interest group representative on the National Executive Council for the SASP. I run my own private paediatric practice in my hometown after having worked in the state hospitals. This practice focuses on outpatients, NICU developmental physiotherapy and hippotherapy sessions once a week.

Welcome Diana!

**Chantelle van den Berg** MSc Physiotherapy (Paediatrics), BSc (Hons) Physiotherapy, HPCSA Reg Physiotherapist is a new member of the Practice Committee!

I am a private practicing Paediatric Physiotherapist in the Western Cape in South Africa. I have worked in private, government institutions in various field of practice; as well as special schools and special care centers for physically and intellectually disabled children.

I have been practicing for 6 years and have been working exclusively in Paediatrics for 4 years. My domiciliary (home visit) Physiotherapy practice consists mostly of babies and children with ideopathic neurodevelopmental delays, prematurity, Cerebral Palsy, sensory processing/integration problems and dyspraxia (Developmental Coordination Disorder). I am a trained Kinesio Taping Practitioner (elastic sensory-motor taping technique to facilitate muscle activation and movement patterns whilst correcting joint alignment or inhibit/deactivate overactive and spastic muscles). I am also a Hippotherapy Practitioner (horse assisted sensory and neurodevelopmental therapy). In addition to my neurology and developmental work, I also see a variety of respiratory Paediatric conditions as needed and referred. In 2011 I obtained my Masters of Science degree in Physiotherapy doing secondary and primary research on the effects on Kinesio Taping in young children with hypotonia. I am in the process on publishing.

We do not have a very good referral base from doctors for early intervention and it had been an uphill battle and continuous process of research and education to see especially premature babies and infants at risk for screening and early intervention. We still have this mind set from doctors that "all babies and kids develop differently and at their own pace and they do not need therapies and stimulation activities, as it is not a race". I had an unfortunate event where a paediatrician told a little patient of mine's mom (he has Down Syndrome), that she is "wasting money and time in all these therapies as kids with DS develop on their own and therapies have no place". This was such a sad and infuriating day.

I am currently the Paediatrics Special Interest Group's Western Cape Branch Chairman (of the South African Society of Physiotherapy - SASP). The SASP is a non-profit organization that assist it's members with establishing, developing, promoting and protecting out profession. Government and private physiotherapist can be members of the society. The SASP also runs courses and symposiums as well as published research and has a monthly newsletter and journal.

I live in a small coastal town called Gordon's Bay in the Western Cape and travel in a 30km radius for my work covering the Helderberg and Winelands areas. I am very passionate about early intervention and am trying to expand my practice to work more with premature infants (from early latching and feeding to stimulation and neurodevelopmental interventions).

I am very excited to join the IOPTP and contribute as much as I can to help strengthen the voice of Paediatric Physiotherapy.

Welcome Chantelle!



## *Clinical Spotlight: Aquatic Therapy*

- *A focus on paediatric aquatic therapy*
- *The Halliwick Concept*
- *Service learning collaboration in aquatics*
- *Aquatics in patients with MS*

## Paediatric Aquatic Physiotherapy

Holding a child's attention during therapy is challenging at the best of times.

According to the American College of Sports Medicine guidelines (ACSM 2001), children prefer shorter, recreational types of exercise although capable of performing longer duration exercise which may appeal later.

The medium of water has become a useful tool for physiotherapists, not only in the introduction of a new variety of activities. In addition, the physical and sensory properties of water can be used to advantage during therapy. The physiological effects of immersion are used where appropriate, need to be understood and are used in patient selection and therapy.

Many children, able and disabled, enjoy water play. As the therapeutic use of water evolved and became more structured, techniques developed to overcome fear and widen the group of children who could benefit from therapeutic, fun water activities. Engineer -trained swimming coach, James McMillan and his wife Kelsey, introduced the Halliwick Concept in 1949 . They became major contributors to swimming for the disabled and to paediatric aquatic physiotherapy as we know it today. The nautical principles of metacentre, i.e. the tendency to roll, was applied to disabled children who learned to recover from different positions during the course of group games with instructors.

Physiotherapist Marion Campion has been an additional inspiration and produced a text book , Hydrotherapy in Pediatrics in 1985 which she dedicated to Mr McMillan. Since then Ms Campion and many other physiotherapists, have contributed in no small way to the practice of paediatric aquatic physiotherapy for a wide range of paediatric conditions and the ongoing development of the evidence base. This has provided a solid base for both one-on-one and group therapy.

Interestingly, the Halliwick Concept was not intended just for medical persons. The basic ten points address water happiness, trunk control, selective movement, safety and independence all of which are of value to the teaching of disabled and mainstream swimming. Physiotherapists add other specific complementary techniques and occupational therapists may find the group activity, sensory and perceptual aspects useful in the paediatric rehabilitation setting. Any functional gains in water are translated to functional gains on land.

The **physical properties** of water allow the therapist to choose activities to achieve different aims:

*The Metacentric principle* describes the tendency to rotate when an object or body in water is asymmetrical. Head and trunk control is required to correct the rotation. Selective limb movement is facilitated in the process. An asymmetrical patient can achieve swimming in a straight line.

*Buoyancy* can be used to stretch muscles and to assist or resist movement. In the neurological patient, the reduced load in weight bearing reduces the effect of overactive reflexes which create a window of opportunity for the facilitation of more normal movement. Joint pain is reduced, reducing muscle inhibition and facilitating muscle strengthening.

*Hydrostatic pressure* damps down involuntary movement and assists the reduction of swelling in the lower limbs. The abdominal wall is supported, assisting breathing control, speech and coughing. Cardiac preload is affected and needs to be considered in children with cardiac abnormalities.

The increased work of breathing improves respiration in quadriplegics and in children with cerebral palsy.

*Turbulence* occurs when an object moves or is moved through water. This, with the 'drag' effect can be used to assist or resist movement and allows for stretching.

*Flow* principles are used to increase resistance.

### **Sensory factors:**

The therapy pool offers a variety of sensory and perceptual stimuli.

Skin friction, which adds to the damping down effect, provides sensory input. The pool water inlet 'jet' provides useful sensory stimulation.

### **Physiological factors**

The sympathetic nervous system is suppressed in water. Increased tone reduces, creating a window of opportunity to facilitate normal movement. The spine lengthens (2.5cm in adults). The heart rate is lower, making fitness activities safe for most patients.

**Fitness** is an important paediatric consideration. Every disabled child has a right to be fit and healthy. Reduced activity makes these children vulnerable. The rise in the metabolic syndrome and the statistics on obesity in children are a cause for increasing concern. We as physiotherapists are in a perfect position to address these needs.

Water is an additional tool, allowing a freedom of movement, at times difficult to achieve on land.

This contrast is demonstrated very well in the Halliwick DVD, 'Another kind of Playground'.

Not all schools for the disabled have funding for therapy pools, but it is encouraging to see how many do have the facility or use other pools in the area.

I encourage all paediatric physiotherapists to share and enjoy the versatile aquatic modality.

Gillian Adams MPhysT

Chairperson

South African Society of Physiotherapy Aquatics Special Interest Group



## Clinical Spotlight Continued

### The Halliwick Concept for Therapeutic Purposes.



**Introduction:** The Halliwick Concept is an approach known worldwide which enables people to enjoy water based activities and to learn to swim. In many cases it is used for therapy. Since its inception in 1949 by James McMillan (Mac), different aspects of the Concept have been further developed. For instance we have seen the development of games and activities to enhance and consolidate learning, an increased understanding of how to teach swimming strokes to persons with limited mobility and specific use of Halliwick for therapeutic purposes. The approach Mac developed is known as the 'Ten Point Programme'. In this programme, structured in ten points, there is first a focus on breath control, adjusting and being happy to be in an aquatic environment. A second focus is about mastering control of rotations resulting from the relative instability of the body in the water. The last focus is on combining skills to allow mobility through swimming. For a full description of the Halliwick Ten Point Programme please see the paper 'The Halliwick Concept' available from the International Halliwick Association (IHA) website at <http://halliwick.org/publications/>. This article is a shortened version of the article first published by the British Association of Bobath Trained Therapists /BABTT Newsletter. It addresses more specifically the use of Halliwick when working with clients with cerebral palsy (CP) or similar conditions.

#### **Halliwick in the context of therapy for clients with cerebral palsy (CP) or similar neurological conditions.**

One of the first tasks is to determine what the aim of the treatment is. What is the purpose? For some clients it is about promoting physical activity and well-being, increasing mobility and/or learning to swim. If the aim is about providing an opportunity to practise a sport activity and learning to become independent and safe in the water as a process for learning to swim, the therapist can use the Ten Point Programme as a progressive guide.

Some might see the aquatic context as an alternative, or even a better way, to achieve set goals related to daily life activity. Improvement will therefore need to translate to dry land. Ideally, one would look at using pool work to reach goals which are relating to aspects of daily living on dry land, as well as to the pool. The aquatic environment is commonly chosen for numerous reasons such as reduced weight-bearing in cases of post-surgical intervention, for the resistance water exerts on movement allowing development of muscle strength and stamina and improving cardio-respiratory conditions.

For clients with CP there are additional reasons for choosing the water for therapy. CP is a lifelong condition often justifying intensive therapy which over the years can appear to be repetitive and may not be very motivating for the client. Having the aquatic environment as an alternative setting to dry land can be stimulating and inspiring for both the client and the therapist.

Unfortunately, funding for therapy becomes increasingly restricted, often leaving very little opportunity to work on aspects such as sports, including swimming. This means that in many cases therapy can only target the essential functional needs. Bearing this in mind, working in the pool context often needs to be justified by the functional improvement that will take place on land e.g. balance when walking, improved eating and drinking abilities or handwriting.



How can a therapist use the Halliwick Concept to achieve this?

When working with clients with CP, to achieve specific results and changes in coordination, in depth observation and analysis of the client's spontaneous motor behaviour (on land and in water) is needed. It is important to understand the way clients often influence the therapists' ways of handling without the therapist's awareness. For example, when first in the water, a client with CP might be excited by the experience but may be frightened of things going wrong. Typically, the clients will hold on, if possible, to the therapist and try to keep the head and shoulders high up out of the water. In doing so, the client desperately tries to use strategies he/she developed on land instead of learning new or appropriate ways to move or adjust posture. The client needs to realise that less, and a different sort of, effort is actually needed to control his/her position in the water because of the supporting properties of water. This is in contrast with what is needed on land. The Mental Adjustment and Disengagement points of the Ten Point Programme are essential to allow the client to be mentally and physically adjusted in the water, which is a first step to learning about the new rules for movement in the aquatic environment. Without this, therapeutic aims could be difficult to achieve. For example: if working for full hip extension with a client with diplegia in a horizontal back float, full extension will be impossible to achieve if the client is desperately trying to bring the head in a vertical position to avoid water in the ears. Once the client is open to experiencing and learning to move effectively in the water, the therapist can start to select activities which will focus on the client's main difficulties. The selection of activities chosen is coupled with specific starting positions, support and instruction.

Supports used by the therapist are adaptations of the basic supports taught on the Halliwick Foundation Courses. These adaptations are tailored to meet the individual's needs. (Adapted supports for children with CP are discussed and practised on the Halliwick Advanced Course for Therapists in Paediatric Neurological Rehabilitation.)

Main difficulties for clients with CP can vary enormously. For example, one client might present with persistent asymmetry another might be stuck in stereotyped symmetrical patterns. Some move too little, others too much. For some the main area of concern is the lower part of the body, for others, it is the upper part. Some have primary motor problems with secondary perceptual difficulties as a consequence, whilst for others the primary problems are perceptual. There is a huge variety which doesn't allow us to set stereotyped therapeutic activities.

The control of rotations, as described in the Halliwick Concept 2010 paper, is about the ability for the client to initiate or to prevent rotations; in other words to move or to prevent moving in order to remain still.

The therapist can select which part of the Ten Point Programme is most needed for a particular client and the best ways to work on a particular point having the therapy aim in mind.

Task analysis, knowledge of hydrodynamics and acquiring a wide repertoire of ways to work on a particular point of the Ten Point Programme is an essential quality for an aquatic therapist working with clients with CP. Cerebral palsy is such a heterogeneous condition, that in-depth knowledge of the client's motor behaviour on land and in the water together with task analysis skills is essential for the therapist to develop optimal clinical skills.

So far we have discussed movement components and have not highlighted enough that Halliwick practitioners present tasks through games and activities which allow the activity to be meaningful and motivating, which we know facilitates the learning process. Games and activities can be on a one-to-one (client and therapist) basis or in a group setting (several clients with their individual therapists, parents or Halliwick instructors). This approach, using games and activities, fits in well with the International Classification of Functioning, Disability and Health (ICF) because of its strong focus on participation, without losing sight of the body function and structure and activity levels.

## **Conclusion**

The Halliwick Concept is a structured approach designed to allow persons, with or without a disability, to participate in water activities. Progression according to the Ten Point Programme takes into account knowledge of the challenges, physical and emotional that a person experiences when in the aquatic environment. The Concept recognises the importance of being mentally and emotionally ready to

experience being in water as a positive first step, before learning to control movements in different positions. Through games and activities, designed by the instructor, the swimmer is exposed to increasing levels of difficulty, which allows for decreased dependence of support and often leads to developing the foundation for swimming unaided. From a therapy point of view, the Halliwick approach provides the therapist with a means of analysing the competences and challenges of the clients when in water. It helps the therapist to identify priorities and how to progress, expanding the ability of the therapist to problem-solve and to work on a particular aspect of coordination in a more in-depth way.



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- Halliwick Association of Swimming Therapy (2010). Halliwick Swimming for Disabled People (3rd edition), ISBN: 978-0-9565088-0-5
- For more information about Halliwick see the websites of the International Halliwick Association (IHA) at [www.halliwick.org](http://www.halliwick.org) and the Halliwick Association of Swimming Therapy (Halliwick AST) at [www.halliwick.org.uk](http://www.halliwick.org.uk)

## *Clinical Spotlight Continued...*

### **Aquatic Therapy Program: A Collaboration through Global Health Service Learning Course**

#### Background

SolyLuna (<http://solylunamx.blogspot.com/>) is an innovative educational and therapeutic program for children with unique learning needs and their families in Mérida, Yucatán, México. By offering a wide range of medical, educational and therapeutic services, the privately financed program aims to integrate children with multiple disabilities into family life, appropriate educational settings and the community. The aquatic program has been ongoing for at least 5 years and is available to all children, providing the child has one adult who is able to be an assistant in the pool. The aquatic sessions are held at an aquatic center in Mérida, Aquatico Lalo. During each one hour intervention session, the child's intervention is directed by one of the staff therapists who monitor progress and make changes in each child's program as needed.

Beginning in 2011, faculty and students from the Division of Physical Therapy, School of Health and Rehabilitation Sciences, The Ohio State University, Columbus, Ohio, USA have partnered with the SolyLuna staff and families to assist in the adapted aquatics and aquatic physical therapy component of the curriculum. In addition to working with the children, parents and staff in the pool, continuing education has consisted of the use of aquatic assessment instruments, approaches for meeting individual behavioral needs, goal setting and incorporation of the International Classification of Functioning, Disability and Health. Over the years, direct contact between the group from OSU and SolyLuna has been limited to approximately 16 hours. The goals for this collaboration have developed in consideration of the very limited amount of contact. The goals are to assist the staff at SolyLuna to meet the needs of the children by providing continuing education, in the classroom and the pool, to assist the parents of the children in gaining comfort and safety in the pool, and to provide OSU DPT students with a global health experience that meets the self-identified needs of the program requesting assistance. In 2014, the Humphries' Assessment of Aquatic Readiness (HARR) was translated into Spanish and introduced to the staff as a possible instrument to objectively assess the children's skills. This instrument has been translated into Spanish with only a slight modification. The portion of the HAAR pertaining to holding water in the mouth and spitting it out was intentionally omitted.

The role the parents have in this program needs to be emphasized. Each year, there are a number of parents participating in the SolyLuna program who have no previous exposure to swimming or aquatics. Involving these parents in the aquatic program is a unique aspect of SolyLuna. During each session while the children are receiving intervention from university students, the DPT students the SolyLuna staff and other volunteers, the parents receive water safety instruction and practice, including relaxation/floating, submersion and breath holding. For these parents, gaining confidence in the water can be seen in the growth of their willingness to help their children move in the water. Within a one hour session, there are 10 minutes of parent instruction and 50 minutes of time for each parent to work with their child and the therapists.

#### Bibliography

Humphries K. Humphries' Assessment of Aquatic Readiness. Unpublished Master's Thesis. Denton TX, 2008.

### **Humphries' Assessment of Aquatic Readiness**

[http://www.twu.edu/downloads/inspire/haar\\_manual\\_1.pdf](http://www.twu.edu/downloads/inspire/haar_manual_1.pdf) Accessed March 2013.

Examinación de preparación acuático de Humphries (Spanish translation by: Lanora Queckborner)

Nombre de estudiante: \_\_\_\_\_ Nombre de maestra: \_\_\_\_\_

Edad de estudiante: \_\_\_\_\_ Fecha de examinación: \_\_\_\_\_

<b>Progreso de entrar</b> <b>Manual adjustment</b>	<b>Introducción al ambiente de acuático</b> <b>Introduction to water environment</b>	<b>Rotaciones</b> <b>Rotations</b>	<b>Equilibrio y movimiento controlado</b> <b>Balance and controlled movement</b>	<b>Movimiento independiente en el agua</b> <b>Independent movement in water</b>
Juega con un juguete en el borde de la piscina Plays with toy on the edge of the pool	Salpica el agua con ayuda de los manos de la maestro Splashes water with hand over hand	Se mueva de una posición boca arriba hacia una posición de pie en la piscina Moves from back to	Alcanza para un juguete de forma independiente mientras está de pie en el escalón de la	Flota boca abajo de forma independiente Floats on tummy independently

	assistance	standing position in the pool	piscina. Reaches independently while standing for a toy on the pool step	
Sits on a step of the pool Siente en el escalón de la piscina	Salpica con los manos sin ayuda Splashes with hands without assistance	Rolls over from front to back and back to front by turning to the side Se da vuelta de adelante hacia atrás y de atrás hacia adelante girando de lado	Alcanza para un juguete debajo de agua Reaches for a toy held under water	Se desliza por su propia cuenta desde la orilla de la piscina hacia el instructor Glides independently from side of the pool to instructor
Entre y sale la piscina en los brazos de un adulto Enters and exits the pool when carried	Toca la barbilla en el agua Touches chin to water	Pasa de pie a boca abajo y luego desplaza hacia boca arriba Moves from standing to back lying and then roll to front	Le permite el maestro mover todo el cuerpo en el agua mientras esta boca abajo Allows the teacher to move entire body in the water while on tummy	Desliza por su propia cuenta con patada pierna doblada Glides independently with bent leg kick
Entre y sale la piscina mano a mano con la maestro Enters and exits pool holding the teacher's hand	Toca el oído en el agua Touches ear to water	Pasa de pie a boca arriba y luego desplaza hacia boca abajo Moves from standing to front lying and then rolls to the back	Allows the teacher to move entire body through the water while on the back Permite el maestro mover todo el cuerpo en el agua mientras esta boca arriba	Desliza por propia su cuenta patada extendida hacia la maestra Glides independently using straight leg kick to teacher
Entre la piscina sin ayuda de la maestra Enters with pool without holding the teacher's hand	Toca la boca en el agua Touches mouth to water	Total/Score: ___/4 Porcentaje/Percentage: ___%	Patea las piernas con ayuda del maestro Kicks legs with teacher's help	Viene a la maestro usando patada pierna extendida y movimientos sencillos del brazo Comes to the teacher using straight leg kick and simple arm movements
Total/Score: ___/5 Porcentaje/Percentage: ___%	Hace burbujas en el agua Blows bubbles in the water		Mueva los brazos en un movimiento de remo Moves arms in a paddling motion	Viene a la maestro con patada pierna extendida y movimiento del brazo extendido
	Places head in the water independently Se pone la cabeza en el agua por su propia		Mueva los brazos extendidos en un movimiento brazada con la ayuda del	Total/Score: ___/6 Porcentaje/Percentage: ___%

	cuenta		maestro Moves straight arms in a stroking motion with teacher assistance	
	Se pone la cabeza en el agua y lo saca del agua con un consumo mínimo de agua Places head in the water and raises head above water with minimal water consumption		Patea piernas extendidas con ayuda del maestro Kicks legs with straight pattern with teacher assistance	
	Total/Score: ___/9 Porcentaje/Percentage: ___%		Total/Score: ___/8 Porcentaje/Percentage: ___%	

**Adaptaciones/ Adaptations and special equipment:**

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### *Clinical Spotlight Continued...*

## **Aquatic Exercises For Individuals With Multiple Sclerosis: The Results Of A Randomized Controlled Study And A Systematic Review Of Literature.**



The use of aquatic exercise for individuals with multiple sclerosis has received attention in recent years. It is now recommended by many physicians, therapists, the National Multiple Sclerosis Society and the Multiple Sclerosis Association of America as an adjunct treatment for individuals with multiple sclerosis. Physical therapists use the physical properties of water and specifically designed exercises and treatment activities to enhance treatments for patients/clients across the age span including patients with musculoskeletal, neuromuscular, pulmonary, cardiovascular, and skin diseases or conditions. The natural properties of water provide a low risk exercise environment that may reduce the likelihood of acute injury, fatigue, fears, and falls while exercising. There is no specific contraindication to aquatic therapy other than general contraindications associated with exercises and immersion in water such as fever and severe cardiac diseases. When properly performed, aquatic therapy is a gentle and invigorating exercise with little or no adverse effects.

Despite the growing use of aquatic therapy particularly for individuals with multiple sclerosis and the trend toward evidence-based practice, limited research has been conducted on the effects of aquatic exercises in individuals with multiple sclerosis. We conducted a single blind randomized controlled study and a systematic review of literatures study to examine the efficacy of aquatic exercises in individuals with multiple sclerosis.

### **Results from the Randomized Controlled Study**

We conducted a randomized controlled study to examine the effectiveness of aquatic therapy for individuals with multiple sclerosis. The aquatic training program for the exercise group consisted of a 10-week group aquatic exercises including strength, balance, walking, and aerobic training. Participants were assessed one week before and after participation in the study by a blind investigator. The outcome measures were self-paced Ten-Meters Walk Test (10MWT), Timed “Up & Go” test (TUG), Berg Balance Scale (BBS), grip strength measured by a handheld dynamometer, Modified Fatigue Impact Scale (MFIS), and quality of life using the Short Form 36 (SF-36). Our results showed that participants in the aquatic exercise program showed significant improvement in their strength, mobility function including balance and walking and quality of life as compared to their peers who did not participate in the aquatic exercise program.

In addition to the outcome measures used in the study, we solicited the feedback of the participants in the aquatic program using a satisfactory survey and interview. The results of the survey showed that participants rated the aquatic exercise program as “extremely beneficial” and they were “very satisfied.” All participants reported that participation in the program had been a positive experience and they enjoyed the program and benefited in some way. This was reflected in the appreciative comments of the participation about the aquatic exercise program. Participants seemed to enjoy the opportunity to move and exercise without pain, fatigue or discomfort. They also reported improvements in pain and in their ability to move and perform activity of daily living such as walking with less pain and less discomfort.

The results of this randomized controlled study suggest that a 10-week aquatic training program can improve balance, strength, walking, fatigue, and quality of life in persons with multiple sclerosis.

### **Results from the Systematic Review Study**

We conducted a systematic review of literature to examine the evidence concerning the effectiveness of aquatic exercises in individuals with multiple sclerosis. A total of eleven studies that examined the effectiveness of aquatic exercises for individuals with multiple sclerosis were identified. Of the eleven studies, three were randomized controlled trials, five were single subject design and three were case studies. Across all studies, a total of 141 individuals with multiple sclerosis were investigated. A range of aquatic exercises were used in the identified studies including general exercises, stretching exercises, strengthening exercises, aerobic training, endurance exercises, balance exercises, and gait training. A range of outcome measures were used in the identified studies including strength, balance, gait, fatigue level, endurance, aerobic capacity, psychological well-being, and quality of life.

Our results showed that all of the identified studies (100%) reported that aquatic training resulted in positive outcomes. None of the studies identified any exacerbation or reported adverse change in neurologic status. The results of this systematic review study showed that research on the effects of aquatic training for individuals with multiple sclerosis suggests that aquatic training is effective for improving flexibility and range of motion, cardiovascular endurance, fatigue level, muscle strength, mobility

function (including gait and balance), quality of life and psychological well-being. Our result indicates that individuals with multiple sclerosis can benefit from aquatic training to improve physical functions and enhance quality of life. The available data are sufficient to determine that aquatic therapy is safe and effective treatment for individuals with multiple sclerosis. The available literature revealed that there was no good evidence comparing aquatic therapy to physical therapy land therapy. Future studies should take into account comparing aquatic therapy to land physical therapy.

From the results of the randomized controlled study and a systematic review of literatures study we can concluded that aquatic therapy is safe and effective treatment option for the management of individuals with multiple sclerosis. Aquatic training holds promise as an effective treatment strategy to minimize detrimental affect and maximize function in persons with multiple sclerosis. Our results support the clinical recommendation to include aquatic exercise for individuals with multiple sclerosis. Physical therapists are encouraged to adopt and support the development of aquatic therapy programs for individuals with multiple sclerosis.

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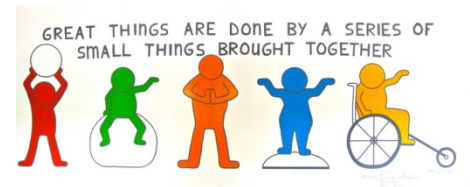
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## **Member Spotlight: Exceptional Therapists Honoring the work of José Nunspeet**



Since 2008 José Nunspeet has been involved in several projects in Sri Lanka. Trained as Haptotherapist & Physiotherapist she started to work for various projects in Sri Lanka. From day one she has endeavored to do her best for the welfare and happiness of the (disabled) people there.

She has kept many informed with the Newsletters, first in Dutch and later in English. She is Chair of the SriLanka4all Foundation [www.srilanka4all.nl](http://www.srilanka4all.nl)

### **Here are some highlights of the year /activities in 2013 for the SriLanka4all Foundation:**

- Many buildings, like the Main Building, Alfi, Sharmini and Achendra's house the Transit House, the Computer Center and the Swimming pool have been made wheelchair accessible.
- On top of that, a small part of the road towards the Medical Center, has been levelled in order to make it wheelchair accessible.
- Two Sri Lankan fysiotherapists were offered a job at Home of Home.



- We provided placements to students of Cesar Therapy, Psychomotoric Therapy, Physiotherapy, Wellness and Lifestyle.
- Over 200 (multiple disabled) children got therapy.
- The students taught the children to swim and organized a sports day for them.
- Facilities in the Transit House were adapted, like the toilets for disabled children.
- The Medical Centre has been fully equipped with three up-and-down treatment tables, wheelchairs, walking aids, fitness apparatuses and other parmedic material. We can now use the Sensamove, a special device for therapy for disabled children.
- There are now high-quality toys for sensomotoric therapy.
- Tens of clinics were organized with Sharmini and Athula, Head of Social Services in the surroundings of Home of Hope, in order to select disabled children for therapy at Home of Hope.
- Informing Sri Lankan volunteers and Social Service employees, who support parents with giving therapy at home.
- We gave prostheses and orthoses to the Centre for Handicapped in Kundasale.



**Thank you José Nunspeet for your dedication and hardwork!** Jose was nominated by Esther de Ru

*Do you know a pediatric physical therapist who is doing amazing work that you would like to recognize? We will be highlighting the accomplishments of our members every newsletter. Please contact:*

*Erin Wentzell at: [ewentzell@gmail.com](mailto:ewentzell@gmail.com)*

## WCPT News...

The World Confederation for Physical Therapy Congress is fast approaching



*Where the world of physical therapy meets*

*Registration is now open for the world's largest and most influential international physical therapy gathering.*

For information about registration go to: [www.wcpt.org/congress/registration](http://www.wcpt.org/congress/registration)

To see the most recent information about the WCPT Congress read the latest edition of the Congress

Update at: [www.wcpt.org/congress/update](http://www.wcpt.org/congress/update)

*We are seeking submissions for the next newsletter. The next newsletter will focus on clubfeet and congenital limb deformities.*

*Submissions are due by June 15, 2015.*

*Please send submissions to Erin Wentzell at [ewentzell@gmail.com](mailto:ewentzell@gmail.com)*