Message from the Scientific Director
Professor Roslyn Boyd

Recently I was invited to present research from the QCPRRC at a National Rehabilitation Conference and the Ministry of Health in France. It was reassuring to hear that our rehabilitation programs like Mitii, COMBiT, UPBEAT and our neuroscience findings are considered to be cutting edge.

While there I was approached by the mother of a young child with cerebral palsy who was asking about our family centred practice, motor learning approaches and national cerebral palsy register in Australia, none of which are available in France. It helped reinforce that research centres like QCPRRC are working closely with the families, clinicians and Australian Cerebral Palsy Register to offer the latest and best rehabilitation to families of children with cerebral palsy or acquired brain injury. The QCPRRC team will present many of our new findings at the American Academy for Cerebral Palsy and Developmental Medicine in October this year. This newsletter also presents some of our latest publications that our families and collaborators have contributed to. On behalf of all our staff and students at QCPRRC, I extend a big thanks to all the families that volunteer their time and energy to be involved in our studies.

Move it to improve it
OVER 100 PARTICIPANTS!

Through our Mitii study we now have more than 100 participants enrolled to access the e-rehabilitation (online) training program. We have 68 children with cerebral palsy and 40 children with acquired brain injury enrolled from across Queensland, including Bundaberg, Hervey Bay, Toowoomba, Cairns, Dalby and the Sunshine Coast. As the study design is a wait-list randomised trial, all children receive the program either immediately or 20 weeks after their initial assessments (see page 12). See the postcard from Caitlyn of Hatton Vale describing her experience of Mitii!

Hi, My name is Caitlyn. I am 11 years old and have just finished being in the Mitii study. What I found good about Mitii was that I was able to do it whenever I wanted because it was on the computer. The games were fun and a bit of a challenge. I didn’t think that the Mitii helped me very much until my Dad bought a kayak and we went to the dam for the day. After doing Mitii I found I could move and use my shoulder much more than before. I was heaps better at paddling. I think the Mitii is a good study to be in. The girls were all very nice and the tests were pretty fun and easy. And I got a day away from school with my Mum. I hope more kids get the chance to do Mitii. Thanks for letting me do it!

- Caitlyn

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**Executive function in children and adolescents with unilateral cerebral palsy**


Executive functioning relates to the skills required for novel, goal-directed and complex activity. We conducted a study in children and adolescents with unilateral cerebral palsy to measure the four cognitive domains of executive function, attentional control, cognitive flexibility, goal setting and information processing. Our results showed that children with unilateral cerebral palsy had lower executive functioning in all domains in comparison to typically developing children. This was not impacted by side of hemiplegia. These findings highlight the importance of neuropsychological assessments for children with cerebral palsy, and provide evidence that ongoing neuropsychological surveillance and early rehabilitation for executive function need to become part of standard care for children with cerebral palsy.

**Oropharyngeal dysphagia (OPD) and gross motor skills in children with cerebral palsy**


This paper describes the prevalence of OPD and its subtypes (oral phase, pharyngeal phase, saliva control) and their relationship to gross motor function skills in children with cerebral palsy aged 18-36 months. We found that 85% of these children had OPD, and there was a stepwise relationship between prevalence of OPD and gross motor skills (GMFCS level). Non-ambulant children (GMFCS V) were at higher risk than ambulant children (GMFCS I) of having OPD, or a subtype. These important results demonstrate the need for proactive screening of all young children with cerebral palsy, regardless of level of gross motor severity, to improve growth and nutritional outcomes and respiratory health. These findings have been published in *Pediatrics*, the second highest ranked journal internationally for the field.

**New insights into the pathology of white matter tracts in cerebral palsy from diffusion magnetic resonance imaging: A systematic review.**


Diffusion imaging is a relatively new MRI technique used to look at the integrity of connections (white matter) within the brain. A systematic review of 22 studies using this technique showed that children with cerebral palsy have damage within many white matter tracts. The best studied tracts include motor and sensory tracts, both of which showed reduced integrity correlating with the level of impairment. Tracts in other parts of the brain are less well studied, and results are inconsistent between studies due to high variability in scanning equipment, methods, subject populations and measurements of clinical function.
The American Academy for Cerebral Palsy and Developmental Medicine (AACPDM) is an international academy with a vision and mission focused on being a global leader in the multidisciplinary scientific education of health professionals and researchers dedicated to the well-being of people with childhood-onset disabilities.

The theme for the 2013 Annual Meeting is Research and Practice. Each year, the AACPDM Annual Meeting provides high-quality dissemination of information in the basic sciences, prevention, diagnosis, treatment and technical advances as applied to persons with cerebral palsy and other childhood-onset disabilities.

This year, eight staff and students from QCPRRC will be travelling to Milwaukee for the 67th Annual Meeting for the AACPDM from the 16-19 October. Professor Roslyn Boyd, Dr Leanne Sakzewski, Dr Kristie Bell, Rachel Jordan, Stephanie Ross and PhD students Louise Mitchell, Laura Miller and Kath Benfer will all be presenting abstracts at this very prestigious international meeting. Full abstracts of the meeting will be published in the October supplement of the Journal, Developmental Medicine and Child Neurology.

**Instructional Workshop:**

eRehabilitation: Using virtual reality technologies (VRTS) in rehabilitation for individuals with cerebral palsy. *Boyd RN, Mitchell L, Fehlings D, Biddiss E, Rasmussen B, Kliim-Due M.*

**Poster Presentations:**

Reduction in thalamic volume in congenital hemiplegia. *Scheck S, Pannek K, Boyd RN, Rose SE.*


Delivering upper limb rehabilitation for children with unilateral cerebral palsy: Barriers and enablers. *Sakzewski L, Ziviani J, Boyd RN.*

Improving child quality of life and parent psychological functioning with a parenting intervention incorporating acceptance and commitment therapy. *Whittingham K, Sanders M, McKinlay L, Boyd RN.*

Impact of preterm versus term birth on comorbidities and functional outcomes in preschool age children with cerebral palsy. *Arnfield E, Jordan R, Pareezer L, Ware RS, Boyd RN.*
Free Papers (oral presentation):


Reorganization of thalamocortical projections is associated with deficits in sensorimotor function in children with congenital hemiplegia. Boyd RN, Tsao H, Pannek K, Rose SE.

How active are they? Validation and comparison of uni- and triaxial accelerometers in toddlers with cerebral palsy. Bell KL, Oftedal S, Davies PSW, Ware R, Boyd RN.

Relationship between daily physical activity performance and functional mobility capacity and performance in toddlers with cerebral palsy. Bell KL, Oftedal S, Davies PSW, Ware R, Boyd RN.

Impact of personal and environmental factors on mastery motivation in children with congenital hemiplegia. Miller L, Ziviani J, Ware RS, Boyd RN.

Mastery motivation as a predictor of occupational performance following upper limb intervention for school aged children with congenital hemiplegia. Miller L, Ziviani J, Ware RS, Boyd RN.

Parent reported feeding ability is associated with dietary intake, growth and body composition in preschool aged children with cerebral palsy. Bell KL, Weir KA, Benfer KA, Ware RS, Stevenson R, Davies PSW, Boyd RN.

Functional oropharyngeal impairments and their relationship to gross motor skills in young children with cerebral palsy. Benfer KA, Weir KA, Bell KL, Ware RS, Davies PSW, Boyd RN.

Food textures habitually consumed by preschool-aged children with cerebral palsy: Relationship to oropharyngeal dysphagia and functional gross motor skills. Benfer KA, Weir KA, Bell KL, Ware RS, Davies PSW, Boyd RN.


Randomised comparison trial of the density and context of upper limb intensive group compared to individualised training for children with congenital hemiplegia. Sakzewski L, Boyd RN, Miller L, Bowden J, Ziviani J.

Parenting intervention improves behavioral and emotional outcomes of children with cerebral palsy: A randomised controlled trial. Whittingham K, Sanders M, McKinlay L, Boyd RN.

Improving child quality of life and parent psychological functioning with a parenting intervention incorporating acceptance and commitment therapy. Whittingham K, Sanders M, McKinlay L, Boyd RN.

Improving child and parent outcomes following pediatric acquired brain injury (ABI): A randomised controlled trial of a parenting program. Whittingham K, Brown F, Sofronoff K, Boyd RN, McKinlay L.

Relationship between health resource cost and performance outcomes in preschool age children with cerebral palsy; Economic analysis. Jordan R, David M, Pareezer L, Kentish M, McKinlay L, Ware R, Boyd R.
The Gayle G. Arnold Award is the most prestigious award of the American Academy for Cerebral Palsy and Developmental Medicine. It is named in honor of Dr Arnold, a self-taught developmental pediatrician and President of the Academy (1989-90). It was initiated in 1947 and is given to the authors of the best scientific paper. This year three papers from PhD students Felicity Brown and Laura Miller have been nominated.

Psychology PhD student Felicity Brown has been shortlisted for her paper:
Improving child and parenting outcomes following pediatric acquired brain injury (ABI): An RCT of a parenting program. Ms Felicity Brown, Dr Koa Whittingham, A/Prof Kate Sofronoff, Prof Roslyn Boyd, Dr Lynne McKinlay
This study tested the efficacy of Stepping Stones Triple P (Positive Parenting Program) plus a stress management workshop in a sample of 59 parents of children aged 2 to 12 years old with acquired brain injury (ABI). Results indicated that compared to those not receiving the program, parents receiving the program experienced greater improvements in parenting style, as well as reductions in child behaviour and emotional problems. When we followed the families up 6-months after the program, most of these improvements were maintained. This study is one of the first to trial an evidence-based parenting program in this population, and is an important step in improving care for families following paediatric ABI.

Occupational Therapist PhD student Laura Miller has had two papers nominated:
Mastery motivation as a predictor of occupational performance following upper limb intervention for school aged children with congenital hemiplegia. Ms Laura Miller, Prof Jenny Ziviani, Dr Rob Ware, Prof Roslyn Boyd
The purpose of this study was to determine the extent to which a child’s mastery motivation predicts occupational performance outcomes following upper limb intervention while controlling for age, gender, functional capacity, environmental factors (parenting style, family composition and income) and occupational performance at baseline. We found children’s persistence with object oriented tasks significantly impacts occupational performance outcomes following upper limb intervention. Predetermining children’s motivational predispositions would enable tailoring of intervention delivery to improve the effectiveness of upper limb interventions.

Impact of personal and environmental factors on mastery motivation in children with congenital hemiplegia. Ms Laura Miller, Prof Jenny Ziviani, Dr Rob Ware, Prof Roslyn Boyd
The purpose of this study was to examine relationships between mastery motivation and other personal and environmental factors in school aged children with congenital hemiplegia. We found parenting style contributes significantly to mastery motivation in children with congenital hemiplegia. Inconsistent and ineffective parenting practices may discourage children from persevering with task mastery. Clinicians should consider caregivers’ parenting styles and their influence on children’s motivational predispositions when engaging families in rehabilitation. Strategies to promote functional parenting styles and positive discipline practices should be integrated into intervention programs to support children’s mastery motivation.
Meet our new team members...

Dr Carly Mayberry
Clinical Neuropsychologist/Clinical Psychologist

Carly joined the QCPRRC team in February 2013. She has just completed her Professional Doctorate degree in Clinical Neuropsychology and Clinical Psychology from The University of Queensland. Prior to this she completed her Psychology Honours at The University of Queensland and her Bachelor Degree at Bond University. Her previous research has been in the areas of language difficulties and attention and she has completed numerous placements in rehabilitation and outpatient wards. Carly has joined the Mitii Team to conduct research on a novel internet-based multidisciplinary rehabilitation program.

Ms Camilla Davenport
Research Dietician

Camilla joined the team at QCPRRC in March 2013 and is excited about the opportunity to work in research. She has just completed her Bachelor of Health Science, Nutrition and Dietetics from the Queensland University of Technology. Her full time position is split between the QCPRRC three days a week and as a clinical dietitian for the remainder of the week at the Royal Children Hospital. Since commencing at the QCPRRC in March Camilla has been busy attending assessments for children in the CPChild: Growth, Nutrition and Physical Activity study and assisting with data collection.

Ms Emmah Baque
Physiotherapist, PhD student

Emmah first joined the team in 2011 while completing her Bachelor Degree in Physiotherapy (Honours) at The University of Queensland. Since graduation, Emmah has returned to commence her PhD within the QCPRRC. As part of her PhD project, Emmah will be investigating the effects of a web-based multimodal training program, “Move it to improve it” (Mitii) to improve motor abilities in children with acquired brain injuries. She also works at the Queensland Paediatric Rehabilitation Service and privately, treating children and adolescents with disabilities.

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Farewell to team members...

Ms Kath Benfer – temporary goodbye!
*Speech Therapist PhD student*

Kath is off to Bangladesh for 6 months where she will trade in the famous dairy snack, spaghetti oops, Arnott's biscuit for rice, dhal and bananas! Kath will look at feeding issues unique to a low income country, and contribute to beginning a dialogue with local staff surrounding ways we can help promote better nutrition in children with CP.

Ms Laura Pareezer
*Research Clinical Nurse Consultant*

Laura has been with the Centre for nearly five years, and in her time has contributed across many projects. We send a big thanks to Laura for all she has achieved, providing great leadership and support to our staff and students, and building relationships with many of our families over the years. We wish Laura all the best!

Ms Kerry Provan
*Research Occupational Therapist*

We say farewell to Kerry after several years of research with our Centre. Kerry has previously coordinated the INCITE circus camps, and in recent years has coordinated the UPBEAT study and worked with our Italian collaborators on their arm of the study. Kerry has made a fantastic contribution, and we wish her all the best.

Ms Jo Bowden
*Research Occupational Therapist*

Jo has been with our team since April 2012 as the study coordinator for the COMBiT project. She has made a great contribution coordinating the COMBiT project, and assisting with data collection for the UPBEAT project. We bid Jo farewell as she begins her next exciting project of parenthood! We wish Jo all the best for this next adventure.

Ms Shannon Hayes
*Research Allied Health Assistant*

Shannon joined the team in a part-time 5-month project role in March 2013. She has been involved in the PPREMO study under the guidance of PhD student Joanne George. We bid Shannon farewell as she commences her full-time role down the corridor with the RCH Music Therapy and Occupational Therapy Departments.
The overall aim of Dr Walker’s thesis was to investigate energy balance and body composition in a group of preschool aged children with cerebral palsy. This involved exploring details such as: dietary intake, measuring the amount of energy a child used each day, and determining the average amount of muscle mass and body fat in the children who participated. The three major outcomes of the study were as follows:

1. To determine the energy (kilojoule) requirements of young children with cerebral palsy, telling us how much food or feeds a child requires each day. Energy requirements were investigated according to the level of functional ability, motor type and distribution, and compared to findings from a group of typically developing children.

2. To determine the differences in body composition (average levels of muscle mass and body fat) in children with cerebral palsy in relation to functional ability, and compared to typically developing children.

3. To determine the links between energy (kilojoule), protein, fat and carbohydrate intake and body composition (average levels of muscle mass and body fat).

Eighty-five children with cerebral palsy aged between 1.4 and 5.1 years, representing all gross motor functional abilities, and 16 similarly aged typically developing children participated. Measurements included details of functional ability, motor type and distribution, anthropometry, energy requirements, body composition, dietary intake and a clinical feeding evaluation. Jacqui was awarded an APA scholarship to complete her doctoral studies and has achieved 5 first author publications from her thesis in well ranked journals such as the American J of Clinical Nutrition (IF= 6.7).
Major Outcomes from Jacki’s PhD Study

- A modified three-day weighed food record developed for the nutrition study accurately measured energy intake in the children. This means the record can now be used in every day clinical practice to determine energy intake.

- Children with cerebral palsy had significantly lower energy requirements when compared to typically developing children. Children who are marginally ambulant and non ambulant will have an energy requirement that is 31% lower than a typically developing child, and 18% lower than children who are ambulant. This finding will help guide clinical practice when estimating energy requirements and prescribing oral supplements and enteral feeding regimes.

- There was a trend towards decreasing levels of muscle mass and increasing percentages of body fat as functional ability declined. Children who can walk were similar to typically developing children in all body composition parameters. Early nutritional intervention in preschool aged children with cerebral palsy is important, as these changes in body composition have the potential to persist through childhood and impact on overall health.

- Children with cerebral palsy had a lower energy intake compared to typically developing children, which decreased as functional ability declined. The protein, fat and carbohydrate content of the diet were similar for all children. Energy intake is linked to the amount of muscle mass in children with cerebral palsy.

The unique results of this research will be of use in determining the timing of nutritional and growth abnormalities in this population, and increasing the capacity to develop and implement effective early nutritional management strategies. Four papers have been published as a result of this research. Jacki was also fortunate to present her final results at the prestigious International Cerebral Palsy Conference in Pisa, Italy in October 2012. Once again, Jacki would like to thank all of the families who were part of this study for their help, time and effort, it was much appreciated.
CPChild: Gross Motor and Brain Development

Prof Roslyn Boyd, Dr Lynne McKinlay, Ms Megan Kentish, Ms Meredith Wynter, Ms Christine Finn, Ms Rachel Jordan (NHMRC 465128)

The start of 2013 has been busy for the Qld CP child team. While we are very close to our target recruitment numbers, we are still recruiting children who are born in Queensland in 2008 and 2009 with a diagnosis of cerebral palsy. The study appointment takes approximately 1 hour and is play based. If you know who is interested please do not hesitate to contact Rachel Jordan on 07 3646 5541. Analyses of the 18-36 month old data is well under way with papers recently published on school readiness, communication and hip development. We also have a paper on health resource use in review. In early June we welcomed Dr Simona Fiori from Italy who is analysing the children’s brain MRI. These data will then be used to explore relationships between motor development, brain structure and musculoskeletal development.

For more information or if you would like to be involved, please contact us:
Rachel Jordan (study coordinator), Ph 07 3646 5541, email rachel_jordan1@health.qld.gov.au

New Opportunity for CPChild Participants: Bone Health at 5 years

A new opportunity is now available for children who will be attending for their 5 year old assessments. In combination with the Children's Nutrition Research Centre, we are now able to investigate bone health in this group of children and how it relates to body composition. This involves an additional 10 minute DEXA scan in addition to your child’s final appointment. Check out the study flyer on page 19!

For more information or if you would like to be involved, please contact us:
Dr Denise Brookes (study coordinator), email d.brookes@uq.edu.au

CPChild: Growth, Nutrition and Physical Activity

Prof Peter Davies, Prof Roslyn Boyd, Dr Kristie Bell, Prof Richard Stevenson, Ms Camilla Davenport, Dr Jacki Walker, Ms Stina Oftedal, Ms Kelly Weir, Ms Kath Benfer (NHMRC 569605)

The growth, nutrition and physical activity study team has been very busy this year conducting assessments, visiting families on outreach and analysing data. Many of the children participating are now being seen for their 4 and 5 year old assessments, and it is fantastic to catch up with families and see how the children are progressing. We are still recruiting for the study, and would welcome any children who are born in Qld in 2008 and 2009 with a diagnosis of cerebral palsy. Appointments are scheduled in combination with visits for the CPChild: Gross Motor and Brain Development Study, and take an extra 30 minutes.

We have successfully been analysing data relating to feeding ability, dietary intake and body composition, physical activity, and food textures. Members of our team will be attending the prestigious American Academy for Cerebral Palsy and Developmental Medicine conference later this year in Milwaukee, USA to present these results.

For more information or if you would like to be involved, please contact us:
Dr Kristie Bell (study coordinator), Ph 07 3646 5537, email k.bell@uq.edu.au
**Child Study Updates**

**MiYoga: Mindfulness Yoga for Children with Cerebral Palsy and their Caregivers**  
*Ms Catherine Mak, Dr Koa Whittingham, Prof Roslyn Boyd and A/Prof Ross Cunnington*

The MiYoga pilot study was a success! Thank you to all of those who participated. Some children showed improvements in their ability to sustain attention, improved executive function in everyday life, functional leg strength and balance. The pilot study results suggest that MiYoga can also enhance the quality of life and wellbeing for children with cerebral palsy, as well as for their primary caregivers. This successful pilot study provides strong support for the implementation of a randomized controlled trial (RCT) to properly test the efficacy of the MiYoga program. Recruitment of children with diplegia and their caregivers for the MiYoga study is underway. We aim to commence our first MiYoga group for the RCT in July 2013.

If you have a child with diplegia between 8-12 years of age and would like to be involved or if you would like to find out more about this project, please contact us. Check out the study flyer on page 20!

Catherine Mak, Ph 07 3646 5539, email c.mak@uq.edu.au  
Website: https://exp.psy.uq.edu.au/miyoga/index.html?page=home

**Muscle Studies in Cerebral Palsy**  
*Dr Lee Barber, Dr Chris Carty, Dr Glen Lichtwark, Prof Roslyn Boyd*

The cerebral palsy muscle mechanics group are very interested in how muscles grow and how muscles and tendons function in individuals with cerebral palsy. In children with cerebral palsy we have been busy scanning muscles using ultrasound to see how big the muscles are and how they grow. In older children and young adults we have been tracking muscles and tendons during walking and running to see how strong and stretchy the muscles are. We have also been studying how the muscles are impacted by interventions such as Botox and surgery.

Our group is continuing to recruit more interested children, young adults and families to help us with the following studies:

- **Muscle growth and Botox:** Children aged 2-5 years old who have not had Botox.
- **Muscle function and surgery:** Children aged 4-12 years old who have not had leg surgery.
- **Muscle growth study:** Children aged 4-8 years old.
- **Muscle function during walking and running study:** Young adults aged 15-25 years old.

Thank you very much to those that have already been involved and we look forward to meeting new interested participants.

If you would like to be involved please contact us.  
Dr Lee Barber  
Ph 07 3346 4955 or 07 3646 4955  
Email l.barber@uq.edu.au

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Joshua is a Mitii participant from Townsville. His mum wrote to us to tell us how the young budding sports star is improving already! “We can see the improvement with Josh already...One of Josh’s team mates threw Josh the football from half way across the field everyone held their breath as Josh has never been able to catch the ball from a long distance. Josh caught the footy with both hands and passed the best pass to another team mate who then scored and they won the game. There was a very proud Mum, Grandma and Coach at touch footy”.

For more information on Mitii, contact our study coordinator Melinda Lewis
Ph 07 3646 6423 email m.lewis3@uq.edu.au

Mitii® - Move it to improve it for Children with Cerebral Palsy
Prof Roslyn Boyd, Prof Jenny Ziviani, Ms Louise Mitchell, Ms Sarah James, Ms Melinda Lewis, Dr Carly Mayberry, Dr Stephanie Ross

We are very excited to have recruited 68 children to the Mitii study! These families have been able to access up to 60 hours of a novel, multimodal internet therapy program in their home. Every child who is in the study will get the opportunity to do the training – half of the children start straight away and the other half start after a 5 month wait. This helps us to work out if Mitii is helping to improve hand and arm skills, physical skills and activity levels as well as attention, memory and other skills. Most importantly we want to find out if the Mitii program helps children participate and enjoy more things at school, home and in the community. We are recruiting our final groups (in Qld and NSW) so get in touch if your child has hemiplegia and is aged 8-16 years.

Joshua is a Mitii participant from Townsville. His mum wrote to us to tell us how the young budding sports star is improving already! “We can see the improvement with Josh already...One of Josh’s team mates threw Josh the football from half way across the field everyone held their breath as Josh has never been able to catch the ball from a long distance. Josh caught the footy with both hands and passed the best pass to another team mate who then scored and they won the game. There was a very proud Mum, Grandma and Coach at touch footy”.

For more information on Mitii, contact our study coordinator Melinda Lewis
Ph 07 3646 6423 email m.lewis3@uq.edu.au

Mitii® - Move it to improve it for Children with Acquired Brain Injury
Prof Roslyn Boyd, Prof Jenny Ziviani, Ms Melinda Lewis, Ms Emmah Baque, Dr Carly Mayberry, Dr Stephanie Ross, Dr Lynne McKinlay, Owen Lloyd.

We are very excited to have commenced our Mitii ABI study as of June 2013. We currently have 40 children and their families participating in the study. The children recruited for Mitii ABI have had an acquired brain injury more than 12 months before starting the study. Like the CP study, children will have the opportunity to access up to 60 hours of an internet based multimodal training program in their own home using the internet. An occupational therapist, physiotherapist and neuropsychologist act as ‘virtual trainers’ to deliver an individualised program to the children in the study. The goal of the study is to find out if the Mitii program helps children participate and enjoy more things at school, home and in the community. To evaluate the program we assess hand and arm skills, physical skills and activity levels as well as cognitive ability. To be able to do the assessments and the Mitii training, the children will need to be able to walk independently and hold objects independently. If you know a child who is 8-16 years with ABI who you think might be interested, we are still recruiting for the study.

Funding support:
The COMBiT study has now been completed, with the final data now being analysed. The study aimed to determine if a new intervention COMBiT, is more effective than standard therapy care to improve upper limb function, independence in daily life and quality of life for school aged children with congenital hemiplegia. Children were randomly allocated to either COMBiT or standard therapy. We assessed 167 children for eligibility, of which 58 children were recruited to the study and randomised to receive either the COMBiT camp (28 children), or the Standard Care (25 children). We were able to successfully achieve data collection from 48 children at each of the three time points.

Our preliminary analysis has found that both the COMBiT and Standard Care models of therapy led to improved movement efficiency, bimanual performance and achievement of individualised outcomes. The analysis so far suggests minimal differences immediately post intervention between these two models of therapy, with the individualised therapy approach producing greater satisfaction with occupational performance goals.

We are very pleased with the successful completion of the three 2 week-day-camps at Flipside circus in Brisbane, and the individual therapy that has been carried out over the past year. The feedback we received from both models of therapy was very positive. This is what one parent had to say about the camp “My child has been able to do things at camp that he never would have done before”. The parent of a child in the standard therapy care reported “We were so pleased with the therapy our son received and the therapist was fantastic at individualising all the activities to suit our son’s needs”.

We would like to thank all the families and therapists who have participated in the study and everyone who has been involved to help make this study a success.
Stepping Stones Triple P for Cerebral Palsy

Dr Koa Whittingham, A/Prof Kate Sofronoff, Dr Lynne McKinlay, Prof Roslyn Boyd, Prof Matt Sanders

The Stepping Stones CP project is a trial of the parenting intervention Stepping Stones Triple P along with an Acceptance and Commitment Therapy based stress management intervention. We began recruiting in 2010 and we have finally run our last group in November/December 2012. Our final follow up assessments have been conducted in June. Our NHMRC Postdoctoral Research Fellow Dr Koa Whittingham is analysing the final data ready to present at the American AACPDM. We will be in touch with all families who participated to let you know the outcome of this project. Thank-you to all families who participated.

Stepping Stones Triple P for Children with Acquired Brain Injury

Felicity Brown, A/Prof Kate Sofronoff, Dr Koa Whittingham, Prof Roslyn Boyd, Dr Lynne McKinlay

The Stepping Stones Triple P for ABI project has now wrapped up recruitment and data analysis is complete. A total of 59 families took part in the study, from Brisbane, Sunshine Coast, Gold Coast, and Ipswich. Many parents told us that they were highly satisfied with the program, and especially enjoyed meeting other parents! The results indicated that compared to parents who did not receive the program, those who completed the program had greater improvements in child behaviour and emotional difficulties, parenting style, parent confidence, parent stress, disagreements between parents, and family functioning. Most of these improvements were maintained over a 6-month period. This study has indicated the usefulness of parenting programs for ABI, and we have some exciting ideas for future research in the area.

Our QCPRRC parenting researcher, Dr Koa Whittingham, has started a blog about parenting called Parenting from the Heart. In her blog, Koa draws upon her knowledge and experiences as a parenting researcher, a clinical and developmental psychologist and as a mum. You can read her latest blog post at www.koawhittingham.com/blog/ or follow her on twitter @WhittinghamKoa.

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Prem Baby Triple P – Supporting Parents of Preterm Infants

Prof Paul Colditz, Prof Matthew Sanders, Prof Roslyn Boyd, Dr Margo Pritchard, A/Prof Peter Gray, A/Prof Michael O’Callaghan, Prof Virginia Slaughter, Dr Koa Whittingham. Study Coordinators: Dr Leanne Winter (RBWH), Ms Kylee Forrest (Mater). Clinical Supervisor: Dr Koa Whittingham. Research Nurses: Ms Karen Taylor (RBWH) and Ms Judy Macey (Mater). PhD students: Ms Tracey Evans, Mr Michael Herd, Ms Jessica Ahern. Psychology extern: Charlotte Von Schruckmann.

Having a very preterm infant (born <32 weeks) can be a stressful experience for parents. Not only do the parents have the emotional challenge of seeing their baby very sick, but the challenges can persist for these families as their infants are at greater risk than full-term infants of behaviour difficulties, learning difficulties, cerebral palsy and neurodevelopmental delays.

The Prem Baby Triple P Program is a parenting program to support the parents of these infants and is currently being trialed at the Royal Brisbane and Women’s Hospital (RBWH) and the Mater Mother’s Hospital (MMH). The project began recruitment in March 2012 and currently we have 62 participants from the Royal Brisbane and Women’s Hospital and 29 from the Mater Mother’s Hospital.

The Prem Baby Triple P teams at the RBWH and MMH are pictured below and we would like to welcome our newest member, Charlotte Von Schuckmann. Charlotte is a psychology extern from the Queensland University of Technology and has begun conducting the PBTP intervention across the RBWH and MMH.

If you would like to find out more about this project please visit our website or contact us.
Dr Leanne Winter (Study Coordinator)
Ph 07 3646 2349
Email prembabytriplep@psy.uq.edu.au
Website: http://exp.psy.uq.edu.au/prembaby

Funded by the National Health and Medical Research Council
NHMRC 1024345
Some babies that are born prematurely can have problems later in life with learning, movement or behaviour. Approximately 10% of very premature babies develop cerebral palsy. It is difficult to know which babies will have problems and which babies won’t, delaying diagnosis and links to early intervention services such as the Better Start program.

We are investigating whether early brain scans (magnetic resonance imaging, MRI) combined with movement and behavioural assessments can help us accurately identify which babies are at risk of problems later in life, allowing those babies and their families to be provided with the help they need as early as possible. We have the opportunity to use an MRI compatible incubator which means we can safely scan preterm babies brains earlier than has been possible before. We aim to recruit 80 preterm babies from the Royal Brisbane and Women’s Hospital Neonatal Intensive Care Unit. Participating babies will have a brain scan shortly after birth, and again when they reach term equivalent age. Assessments of their movement and development will be conducted at these times, and again at 3 and 12 months corrected age.

20 healthy full term babies will be recruited to act as a reference group, from the postnatal ward at the Royal Brisbane and Women’s Hospital, and by word of mouth. Term babies will have a brain scan at approximately 41 weeks, followed by assessments of their movements and visual skills.

Recruitment began earlier this year and to date 11 pre-term and 4 term participants have been recruited. It is anticipated to take approximately 18 months to recruit the numbers required for the study.

If you have any questions regarding the study, or know of anyone having a term baby who may be interested in participating, please contact us:
Ms Joanne George
Ph 07 3646 9609
j.george2@uq.edu.au

**Trial ID:** ACTRN12613000280707

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Research Foundation of Cerebral Palsy Alliance, Qld Health HP Practitioner Grants.
It has been a busy six months for the UPBEAT team with most participants completing their 12 month assessments. We are now also linked with Gold Coast Hospital to expand our recruitment scope for babies with unilateral (one-sided) or asymmetric (more involved on one side) brain injury. We continue to seek families to take part whose babies were born healthy at term; and families of babies who were born with a unilateral or asymmetric brain injury. All babies need to be younger than 9 weeks post-term age at commencement. Participating in this study may enhance the baby’s reaching and grasping skills. At the end of the study, parents will receive a summary report on their child’s development.

We have also been busy developing and testing a new measure to evaluate the early development of reaching and grasping behaviours, and to detect asymmetries between hands during reaching and grasping in babies with unilateral or asymmetric brain injury. This measure is called the ‘Grasping and Reaching Assessment of Brisbane’ or the ‘GRAB’. We predict that asymmetries detected on the GRAB at 18 weeks post-term age can predict a fine motor delay at 6 and 12 months. Early detection of reaching and grasping asymmetries between hands can allow for prompt and early intervention that may help these babies to develop more complex upper limb motor skills that they will need later in life.

If you have any questions regarding the study, or know of anyone having a term baby who may be interested in participating, please contact us: Prof Roslyn Boyd Ph 07 3365 5315 r.boyd@uq.edu.au Ms Micah Perez Ph 07 3646 5372 m.perez1@uq.edu.au

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We farewell our study coordinator, Kerry Provan, who has contributed immensely to this study and has worked tirelessly to make this research possible. She will be missed and we wish her all the best.

Taking the next step from UP-BEAT...

As a follow-on from this UPBEAT study, the QCPRRC has applied to the NHMRC for funding to support REACH, a randomised trial of Rehabilitation EARly in Congenital Hemiplegia. Thirty-six per cent of children diagnosed with cerebral palsy in Australia have congenital hemiplegia, which limits their capacity to use their impaired upper limb to complete activities necessary for participation in the home, school and community. The REACH study will investigate whether a one handed approach to training the impaired hand will be more effective in terms of improving upper limb function than two handed bimanual training. A total of 150 participants with asymmetric or unilateral brain injury will be recruited by 6 months corrected age to the study across 4 states of Australia.
Upcoming Events 2013-2014

Prechtl’s Method of Qualitative Assessment of General Movements: Basic and Advanced Training
18 – 21 August 2013, Brisbane, QLD
A few places still available at: www.som.uq.edu.au/cerebralpalsy
(through conferences & workshop tab)

Paediatric Rehabilitation Conference:
Living Life to the Fullest: Current Directions in Children’s Rehabilitation
22 – 23 August 2013, Brisbane, QLD
For more information email: rehabconference@health.qld.gov.au

European Academy of Childhood Disability
25th EACD Annual Meeting
10 – 12 October 2013
Newcastle, UK.
More info at: www.eacd2013.org

American Academy of Cerebral Palsy and Developmental Medicine
AACPDM 67th Annual Meeting
16 – 19 October 2013
Milwaukee, Wisconsin USA
More info at: www.aacpdm.org

Australasian Academy of Cerebral Palsy and Developmental Medicine
7th Biennial AusACPDM Conference
11 – 14 March 2014
Hunter Valley, NSW

GO GREEN
Register to receive our newsletter via email: QCPRRC@uq.edu.au
Qld CPchild: Bone Health of Young Children with Cerebral Palsy
The class of 2006-2009

Can you help us?
This research study is being conducted in conjunction with the QLD CP Child: Growth, Nutrition and Physical Activity Study. You are being invited to participate in this new project as you and your child are already participating in the Growth, Nutrition and Physical Activity Study.

The Bone Health study will measure your child’s bone mineral density. Information from the study will help many children with Cerebral Palsy and their families in the future. The results will provide valuable information that will help us to identify how bone health differs between children with cerebral palsy. It will also assist us to determine which children need help to improve their bone health and body composition at this young age.

Benefits: Your child’s bone mineral density will be measured and you will be provided with the results of this assessment.

The study involves one visit to the Royal Children’s Hospital for your child’s bone mineral density to be measured. This will take approximately 30 minutes in total. The assessment will be organised to coincide with appointments you may already have (such as your final QLD CPchild: Growth, Nutrition and Physical Activity study appointment) to minimise any additional visits to the RCH.
Participation in this assessment is entirely voluntary. Should you not wish to participate in this additional assessment you and your child may still continue in the Growth, Nutrition and Physical Activity study. Non-participation will not impact on the care your child receives from the RCH or University of Queensland in any way.

If you would like to find out more about this study please contact either:
Dr Denise Brookes, Bone Health Study Coordinator, (07) 3646 5537, d.brookes@uq.edu.au
Dr Kristie Bell, Paediatric Dietitian & GNPA Study Coordinator, (07) 3646 5537, k.bell@uq.edu.au
Camilla (Milly) Davenport, Research Dietitian, (07) 3646 5540, camilla.davenport@uq.edu.au
Prof Roslyn Boyd, Study Chief Investigator, (07) 3646 5542, r.boyd@uq.edu.au
Prof Peter Davies, Study Chief Investigator, (07) 3365 5308, ps.davies@uq.edu.au

Queensland Cerebral Palsy & Rehabilitation Research Centre
Royal Children’s Hospital
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MiYoga: Mindful Movement through Yoga

For children with diplegia and their caregiver

Does a 6 week mindfulness yoga program, “MiYoga”, enhance cognitive function such as attention, physical strength and fitness, behavior and emotional control in children with diplegia? MiYoga incorporates a family centered approach to therapy by inviting a caregiver to participate alongside their child. We will also want to see if MiYoga can relieve caregiver stress and improve parent child relationship.

PARTICIPANTS: Children with diplegia, aged 8-12 years who walk independently or with a gait aid (GMFCS I-III) and one of their caregivers.

Exclusions: Participants (child and caregiver) must not have:
- Uncontrolled seizure disorder
- Spinal instability of other spinal problems that cause pain or preclude exercise
- Participating caregivers must not be pregnant

Potential participants should have sufficient cognitive understanding and cooperation to follow instructions and perform tasks

Participation Commitment:
- 3-4 assessment sessions in Brisbane over a 7-9 month period
- 6x90 minute sessions of MiYoga, once a week for six weeks and daily home practice along with MiYoga DVD for a minimum of 20 minutes a day during the six week period (between weekly sessions).

FOR MORE INFORMATION

Catherine Mak
(Psychologist and Children’s Yoga Teacher)
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• Ph: 3646 5539 or 3646 5361

Koa Whittingham
(Registered Clinical Psychologist and Developmental Psychologist)
• Email: koawhittingham@uq.edu.au
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Queensland cerebral palsy & rehabilitation research centre