

Monday 19 August 2013

Cerebral Palsy Alliance is delighted to bring you this free weekly bulletin of the latest published research into cerebral palsy.

Our organisation is committed to supporting cerebral palsy research worldwide - through information, education, collaboration and funding. This free weekly bulletin is just one of our activities. Please find out more at www.cpresearch.org.au

Professor Nadia Badawi

Macquarie Group Foundation Chair of Cerebral Palsy
PO Box 560, Darlinghurst, New South Wales 2010 Australia

Interventions and Management

1. Dev Med Child Neurol. 2013 Aug 13. doi: 10.1111/dmcn.12226. [Epub ahead of print]

A systematic review of activities of daily living measures for children and adolescents with cerebral palsy.

James S, Ziviani J, Boyd R.

Queensland Cerebral Palsy and Rehabilitation Research Centre, The University of Queensland, Royal Children's Hospital, Brisbane, Qld, Australia.

AIM: This study aimed to systematically review the psychometric properties and clinical utility of measures of activities of daily living (ADL) for children with cerebral palsy (CP) aged 5 to 18 years. **METHOD:** Five electronic databases were searched to identify available ADL measures with published psychometric data for school-aged children with CP. Measures were included if at least 60% of the items addressed ADL in the full assessment or in an independent domain. A modified CanChild Outcome Rating Form was used to report the validity, reliability, responsiveness, and clinical utility of the measures. **RESULTS:** Twenty-six measures were identified and eight met inclusion criteria. The Pediatric Evaluation of Disability Inventory (PEDI) had the strongest psychometric properties but was limited by its age range. The Assessment of Motor and Process Skills (AMPS) was the most comprehensive evaluation of underlying motor and cognitive abilities yet further psychometric testing is required for children with CP. **INTERPRETATION:** The PEDI should be used to measure ADL capability in elementary school aged children. The AMPS is the best measure to evaluate ADL performance or capacity and is suitable for all ages. Future research should examine the reliability of the AMPS to determine its stability in children and adolescents with CP.

© 2013 Mac Keith Press.

[PMID: 23937056](#) [PubMed - as supplied by publisher]

2. Child Care Health Dev. 2013 Aug 13. doi: 10.1111/cch.12097. [Epub ahead of print]

Parents' experiences with physical and occupational therapy for their young child with cerebral palsy: a mixed studies review.

Kruijsen-Terpstra AJ, Ketelaar M, Boeije H, Jongmans MJ, Gorter JW, Verheijden J, Lindeman E, Verschuren O.

Brain Center Rudolf Magnus and Center of Excellence for Rehabilitation Medicine, University Medical Center

Utrecht and De Hoogstraat Rehabilitation, Utrecht, the Netherlands; Partner of NetChild, Network for Childhood Disability Research in the Netherlands, Utrecht, the Netherlands.

Understanding the experiences of parents with their child's intervention might help meet the needs of parents and, subsequently get them engaged in their child's intervention. As parents' early beliefs regarding their child's intervention has consequences for treatment participation, it is important to understand these parental perspectives. The aim of this mixed studies review was to give an overview of the experiences and related factors of parents of young children (0-5 years of age) with cerebral palsy in relation to the physical and/or occupational therapy of their child in a rehabilitation setting. The literature was searched systematically for qualitative and quantitative studies published between January 1990 and July 2011. Inclusion criteria were (1) the study population consisted of parents of children with cerebral palsy, with at least 25% of children under the age of five; (2) children had received physical and/or occupational therapy in a rehabilitation setting; and (3) the experiences of the parents with their child's therapy were addressed. Data were synthesized with the framework synthesis method resulting in a conceptual framework describing the factors that are related to the parents' experiences with their child's interventions. A total of 13 studies (eight qualitative and five quantitative) were included and evaluated. Parents expressed various aspects in context, process and outcomes when asked about their experiences with their child's intervention. They had different needs over time and needed time to build a collaborative relationship with their child's therapists. The proposed framework acknowledges the various aspects in context, process and outcomes that parents reported when asked about their experiences. Knowing this, the importance of the broader context of the child in a family should be acknowledged; realizing the impact that the demands of daily life, supports and resources provided to parents, attitudes in the community and culture have on parental experiences.

© 2013 John Wiley & Sons Ltd.

[PMID: 23937711](#) [PubMed - as supplied by publisher]

3. Occup Ther Health Care. 1995;9(2-3):133-44. doi: 10.1080/J003v09n02_09.

Comparison of parental attitudes towards their children as measured by the parent as a teacher inventory.

O'Brien J, Carrasco C, Cruz J, Derrick L, Jones J, Martin J, Opiel I, Ranson T.
Source

Medical University of South Carolina.

Occupational therapists work with children and their families to help children achieve their maximum potential. Therapists believe that parents' attitudes and beliefs have a significant impact upon a child's ability to succeed and that negative attitudes and beliefs can disrupt the success of treatment. This study examines the attitudes and beliefs of 30 parents whose children have cerebral palsy and compares them with 30 parents of children with no deficits. Parents completed the Parent as a Teacher Inventory which measures attitudes and beliefs of parents toward their children. The results of this study assist occupational therapists in more effectively designing and directing treatment for parents and children.

[PMID: 23931609](#) [PubMed]

4. Occup Ther Health Care. 1989;6(2-3):27-40. doi: 10.1080/J003v06n02_04.

Going to the source.

Kibele A, Llorens LA.

Director of Occupational Therapy, Children's Hospital at Sanford, Palo Alto, CA, 94304.

A small but growing body of occupational therapy literature identifies the value of qualitative research methodology, which is useful with relatively unstudied or complex phenomena. This paper describes the use of qualitative research to obtain insight into the world of adults with significantly limiting cerebral palsy, as seen from their own perspective. The first author conducted extended, guided interviews with five adults who live independently with attendant care. The resulting data, synthesized into recurring themes, suggested guidelines for occupational

therapy practice. In this paper, the study methodology is described in depth, and directions for further qualitative and quantitative research are presented.

[PMID: 23941479](#) [PubMed]

5. Oper Orthop Traumatol. 2013 Aug 11. [Epub ahead of print]

Brachioradialis rerouting for restoration of forearm supination or pronation [Article in German]

Gugger Y, Kalb KH, Prommersberger KJ, van Schoonhoven J.

Klinik für Handchirurgie, Herz- und Gefäß-Klinik GmbH, Salzburger Leite 1, 97616, Bad Neustadt/Saale, Deutschland, yoko.gugger@handchirurgie.de.

OBJECTIVE: Improvement of active forearm supination or pronation. Reduction of paralytic pronation or supination posture. **INDICATIONS:** Disability or impairment of active supination or pronation due to cerebral palsy, obstetric palsy or traumatic brachial plexus palsy, quadriplegia or paralysis from other causes. **CONTRAINDICATIONS:** Inadequate passive range of motion of forearm supination or pronation. Insufficient power of brachioradialis muscle < M4. Insufficient rehabilitation after conservative treatment or neurosurgical intervention with possible improvement of supination or pronation. Lack of patient's cooperation and compliance. **SURGICAL TECHNIQUE:** Exposure and mobilisation of brachioradialis muscle. Division of brachioradialis tendon distally with Z-plasty. Passing distal tendon through the interosseus space in dorsal to palmar direction for restoration of supination respectively in palmar to dorsal direction for restoration of pronation. Suturing both tendon ends. **POSTOPERATIVE MANAGEMENT:** Management includes an above elbow cast with the elbow in 70° flexion for 4 weeks. Then active physiotherapy to learn new brachioradialis muscle function for supination or pronation over 1-1.5 years. If needed dynamic orthosis. **RESULTS:** Özkan et al. performed brachioradialis rerouting to restore supination in 5 children between 4 and 14 years with pronation deformity and to restore pronation in 4 children aged 5-9 years with supination deformity. Mean active gain for supination was 81° (40-140°). Active pronation improved from 28 to 49° (30-75°; Özkan et al., J Hand Surg Br 29:263-268, 2004; Özkan et al., J Hand Surg Am 29:22-27, 2004). Between April 2006 and January 2011 we used this technique in 4 patients aged 7-26 years (mean 14 years). Three patients could be followed up. One patient had preoperative a fixed pronation deformity of the forearm in 80° pronation. In this case active range of motion could be improved to 80/30/0° pronation/supination. One patient improved from preoperative 0/0/90° pronation/supination to 30/0/90° postoperatively. In one case no functional improvement of forearm rotation could be achieved in long-term follow-up. No functional loss in forearm rotation to the opposite direction or of the elbow function was observed. Mean follow-up time was 51 months (21-77 months).

[PMID: 23934299](#) [PubMed - as supplied by publisher]

6. Occup Ther Health Care. 1988;5(2-3):67-70. doi: 10.1080/J003v05n02_07.

Wheelchair clinics work.

Brant JA.

Certified occupational therapy assistant, United Cerebral Palsy Association of Western New York, Inc., Buffalo, NY, 14225.

The positioning problems and needs of severely disabled adults greatly influence their ability to function independently. This paper will describe an interdisciplinary approach in a wheelchair clinic, the functions of a wheelchair clinic, and the role of a Certified Occupational Therapy Assistant as part of the wheelchair clinic team.

[PMID: 23944882](#) [PubMed]

7. Occup Ther Health Care. 1989;6(1):45-56. doi: 10.1080/J003v06n01_05.

Occupational Therapists' Involvement in Safe Transportation for the Handicapped.

Stout JD.

Assistant Professor, Indiana University School of Medicine.

The rapidly expanding demand for occupational therapy services encompasses the area of safe transportation for children with physical handicaps. Federal and state legislation, as well as societal trends, mandate changes in the quality of vehicular restraints for those who cannot be safely transported using conventional car seats because of conditions such as cerebral palsy, orthopedic surgery and casting, ventilator dependency, or low birth weight. Potential for and barriers to occupational therapy involvement will be discussed in this paper as well as the potential impacts that involvement in safe transportation will have on the traditional role and education of occupational therapists. Occupational therapist involvement in the growing area of safe transportation will be analyzed using the system approach. The Automotive Safety for Children Program at James Whitcomb Riley Hospital for Children will be described.

[PMID: 23931079](#) [PubMed]

8. Phys Occup Ther Pediatr. 2013 Aug 12. [Epub ahead of print]

Stability of Parent Report on Mobility and Self-Care Item Scores of the Pediatric Evaluation of Disability Inventory.

Worth M, Darrah J, Magill-Evans J, Wiart L, Law M.

Alberta Health Services , Edmonton, Alberta , Canada.

Secondary analysis using data from a clinical trial was performed to evaluate the stability of individual items of the Mobility and Self-Care functional skills scales of the Pediatric Evaluation of Disability Inventory (PEDI). Parents of 113 children aged 1-6 years old with cerebral palsy completed the PEDI twice by questionnaire 6 months apart. An item was classified "unstable" if the score changed from capable to unable. The number of children with more than five unstable items and the number of items with more than five children having unstable scoring patterns were calculated. Nineteen children (17%) and 13 items had unstable scoring patterns. The majority of PEDI items demonstrated stability of parent scoring. Examination of unstable items suggests that parents may need assistance in understanding the difference between "usual" and "best" performance, interpreting descriptors such as "thoroughly," and maintaining the same context reference for outdoor mobility items.

[PMID: 23931334](#) [PubMed - as supplied by publisher]

9. Comput Methods Biomech Biomed Engin. 2013 Jul;16 Suppl 1:155-7. doi: 10.1080/10255842.2013.815897.

Musculoskeletal modelling of cerebral palsy children: sensitivity analysis of musculoskeletal model parameter's values for gait analysis.

Rezgui T, Megrot F, Marin F.

a Laboratoire de Systèmes et de mécanique appliquée, Ecole Polytechnique de Tunisie , La Marsa , 2078 , Tunisia.

[PMID: 23923890](#) [PubMed - in process]

10. Dev Med Child Neurol. 2013 Jul;55(7):586. doi: 10.1111/dmcn.12146. Epub 2013 Apr 28.

Long-term effect of selective dorsal rhizotomy.

Steinbok P.

Division of Neurosurgery, BC Children's Hospital and University of British Columbia, Vancouver, BC, Canada.

Comment on: Passive muscle properties are altered in children with cerebral palsy before the age of 3 years and are difficult to distinguish clinically from spasticity. [Dev Med Child Neurol. 2013]

[PMID: 23621820](#) [PubMed - indexed for MEDLINE]

11. Dev Med Child Neurol. 2013 Jul;55(7):586-7. doi: 10.1111/dmcn.12141. Epub 2013 Apr 28.

Challenges of instrumented spasticity assessment.

Desloovere K, Bar-On L.

Clinical Motion Analysis Laboratory, University Hospital Pellenberg, Pellenberg, Belgium.

Comment on: Long-term effect of selective dorsal rhizotomy on gross motor function in ambulant children with spastic bilateral cerebral palsy, compared with reference centiles. [Dev Med Child Neurol. 2013]

[PMID: 23621785](#) [PubMed - indexed for MEDLINE]

12. J Neuroeng Rehabil. 2013 Aug 12;10(1):94. [Epub ahead of print]

Chronic muscle stimulation improves muscle function and reverts the abnormal surface EMG pattern in Myotonic Dystrophy: a pilot study.

Chisari C, Bertolucci F, Dalise S, Rossi B.

BACKGROUND: To date, in Myotonic Dystrophy type 1 (DM1) the rehabilitative interventions have always been aimed at muscle strengthening, increasing of fatigue resistance and improving of aerobic metabolism efficiency whereas the electrical membrane fault has always been addressed pharmacologically. Neuromuscular electrical stimulation (NMES) is a useful therapeutic tool in sport medicine and in the rehabilitation of many clinical conditions characterized by motor impairment such as stroke, cerebral palsy and spinal cord injury. The aim of our pilot study was to evaluate the effects of chronic electrical stimulation both on functional and electrical properties of muscle in a small group of DM1 patients. **METHODS:** Five DM1 patients and one patient with Congenital Myotonia (CM) performed a home electrical stimulation of the tibialis anterior muscle lasting 15 days with a frequency of two daily sessions of 60 minutes each. Muscle strength was assessed according to the MRC scale (Medical Research Council) and functional tests (10 Meter Walking Test, 6 Minutes Walking Test and Timed Up and Go Test) were performed. We analyzed the average rectified value of sEMG signal amplitude (ARV) to characterize the sarcolemmal excitability. **RESULTS:** After the treatment an increase of muscle strength in those DM1 patients with a mild strength deficit was observed. In all subjects an improvement of 10MWT was recorded. Five patients improved their performance in the 6MWT. In TUG test 4 out of 6 patients showed a slight reduction in execution time. All patients reported a subjective improvement when walking. A complete recovery of the normal increasing ARV curve was observed in 4 out of 5 DM1 patients; the CM patient didn't show modification of the ARV pattern. **CONCLUSIONS:** NMES determined a clear-cut improvement of both the muscular weakness and the sarcolemmal excitability alteration in our small group of DM1 patients. Therefore this rehabilitative approach, if confirmed by further extensive studies, could be considered early in the management of muscular impairment in these patients. An attractive hypothesis to explain our encouraging result could be represented by a functional inhibition of SK3 channels expressed in muscle of DM1 subjects.

[PMID: 23938156](#) [PubMed - as supplied by publisher] [Free full text](#)

13. BMJ. 2013 Aug 12;347:f4836. doi: 10.1136/bmj.f4836.**Predictors of severe H1N1 infection in children presenting within Pediatric Emergency Research Networks (PERN): retrospective case-control study.**

Dalziel SR, Thompson JM, Macias CG, Fernandes RM, Johnson DW, Waisman Y, Cheng N, Acworth J, Chamberlain JM, Osmond MH, Plint A, Valerio P, Black KJ, Fitzpatrick E, Newton AS, Kuppermann N, Klassen TP; Pediatric Emergency Research Networks (PERN) H1N1 working group.

Starship Children's Hospital, Auckland, New Zealand.

OBJECTIVE: To identify historical and clinical findings at emergency department presentation associated with severe H1N1 outcome in children presenting with influenza-like illness. **DESIGN:** Multicentre retrospective case-control study. **SETTING:** 79 emergency departments of hospitals associated with the Pediatric Emergency Research Networks in 12 countries. **PARTICIPANTS:** 265 children (<16 years), presenting between 16 April and 31 December 2009, who fulfilled Centers for Disease Control and Prevention criteria for influenza-like illness and developed severe outcomes from laboratory confirmed H1N1 infection. For each case, two controls presenting with influenza-like illness but without severe outcomes were included: one random control and one age matched control. **MAIN OUTCOME MEASURES:** Severe outcomes included death or admission to intensive care for assisted ventilation, inotropic support, or both. Multivariable conditional logistic regression was used to compare cases and controls, with effect sizes measured as adjusted odds ratios. **RESULTS:** 151 (57%) of the 265 cases were male, the median age was 6 (interquartile range 2.3-10.0) years, and 27 (10%) died. Six factors were associated with severe outcomes in children presenting with influenza-like illness: history of chronic lung disease (odds ratio 10.3, 95% confidence interval 1.5 to 69.8), history of cerebral palsy/developmental delay (10.2, 2.0 to 51.4), signs of chest retractions (9.6, 3.2 to 29.0), signs of dehydration (8.8, 1.6 to 49.3), requirement for oxygen (5.8, 2.0 to 16.2), and tachycardia relative to age). **CONCLUSION:** These independent risk factors may alert clinicians to children at risk of severe outcomes when presenting with influenza-like illness during future pandemics.

[PMID: 23940290](#) [PubMed - in process] [PMCID: PMC3741086](#) Free PMC Article

14. J Pediatr Urol. 2013 Aug 8. pii: S1477-5131(13)00182-4. doi: 10.1016/j.jpurol.2013.07.004. [Epub ahead of print]**Uroflowmetry in the management of lower urinary tract symptoms of children and adolescents with cerebral palsy.**

Fernandes Silva JA, Borges Carrerette F, Damião R.

Division of Urology, Pedro Ernesto Memorial Hospital, State University of Rio de Janeiro, Boulevard Vinte e Oito de Setembro, 77 - Vila Isabel, Rio de Janeiro 55-20551-030, Brazil. Electronic address: urocentre@hotmail.com.

OBJECTIVE: To evaluate uroflow measurements in the initial management of lower urinary tract dysfunction in children and adolescents with cerebral palsy. **MATERIALS AND METHODS:** A total of 54 patients was enrolled in this study. All patients reported their urinary symptoms and underwent a physical examination, renal and urinary tract ultrasonography, and uroflow assessment. **RESULTS:** Twenty-three patients were female. Mean age was 9 years and 6 months (SD: 2 years and 10 months), with a range of 5-18 years. Twenty-eight of the patients (51.8%) were symptomatic. Urgency (42.6%), urge incontinence (40.7%), and enuresis (16.7%) were the most frequently observed symptoms. No association was found between gender, ambulatory status, or distribution of the paralysis and uroflow parameters. Symptomatic patients presented a statistically lower maximum flow (Q_{max}) than asymptomatic patients (17.2 ± 7.8 ml/s vs 22.6 ± 7.5 ml/s, p = 0.013, respectively). Normal bell-shaped curves were observed more frequently in asymptomatic patients, while abnormal curves were observed more frequently in symptomatic patients (p = 0.022). **CONCLUSIONS:** Gender, ambulatory status, and the distribution of the paralysis do not affect Q_{max} rate or flow pattern. Symptomatic patients present lower Q_{max} and may also have an abnormal uroflow curve. Uroflowmetry may be useful in the initial urological evaluation.

Copyright © 2013 Journal of Pediatric Urology Company. Published by Elsevier Ltd. All rights reserved.

[PMID: 23933106](#) [PubMed - as supplied by publisher]

15. Am Fam Physician. 2013 Aug 15;88(4):241-8.**Childhood eye examination.**

Bell AL, Rodes ME, Collier Kellar L.

Wright State University Boonshoft School of Medicine, Dayton, OH, USA.

Vision screening in children is an ongoing process, with components that should occur at each well-child visit. The purpose is to detect risk factors and visual abnormalities that necessitate treatment and to identify those patients who require referral to an ophthalmologist skilled in examining children. Screening can reveal conditions commonly treated in primary care and can aid in discussion of visual concerns with parents or caregivers. Vision screening begins with a review of family and personal vision history to identify risk factors requiring referral, including premature birth, Down syndrome, cerebral palsy, and a family history of strabismus, amblyopia, retinoblastoma, childhood glaucoma, childhood cataracts, or ocular or genetic systemic disease. Visual acuity measurement and external ocular examination are performed to recognize refractive error, childhood glaucoma, and various ocular conditions. Evaluation of fixation and alignment can identify amblyopia or strabismus. Red reflex examination is used to diagnose retinoblastoma, childhood cataracts, and other ocular abnormalities.

[PMID: 23944727](#) [PubMed - in process]

16. Dev Med Child Neurol. 2013 Aug 13. doi: 10.1111/dmcn.12241. [Epub ahead of print]**Employment outcomes for adults with cerebral palsy: an issue that needs to be addressed.**

Vogtle LK.

University of Alabama at Birmingham - Occupational Therapy, Birmingham, USA.

[PMID: 23937205](#) [PubMed - as supplied by publisher]

Prevention and Cure

17. Dev Med Child Neurol. 2013 Aug 13. doi: 10.1111/dmcn.12228. [Epub ahead of print]**Population-based studies of brain imaging patterns in cerebral palsy.**

Reid SM, Dagia CD, Ditchfield MR, Carlin JB, Reddihough DS.

Developmental Disability & Rehabilitation Research, Murdoch Childrens Research Institute, Parkville, Vic., Australia.

AIM: The aim of this study was to review the distribution of neuroimaging findings from a contemporary population cohort of individuals with cerebral palsy (CP) and to facilitate standardization of imaging classification. **METHOD:** Publications from 1995 to 2012 reporting imaging findings in population cohorts were selected through a literature search, and review of the titles, abstracts, and content of studies. Relevant data were extracted, including unpublished data from Victoria, Australia. The proportions for each imaging pattern were tabulated, and heterogeneity was assessed for all individuals with CP, and for subgroups based on gestational age, CP subtype, and Gross Motor Function Classification System level. **RESULTS:** Studies from three geographic regions met the inclusion criteria for individuals with CP, and two additional studies reported on specific CP subtypes. Brain abnormalities were observed in 86% of scans, but were observed least often in children with ataxia (24-57%). White matter injury was the most common imaging pattern (19-45%), although the proportions showed high heterogeneity. Additional patterns were grey matter injury (21%), focal vascular insults (10%), malformations (11%), and miscellaneous findings (4-22%). **INTERPRETATION:** This review suggests areas where further dialogue will facilitate progress towards standardization of neuroimaging classification. Standardization will enable future

collaborations aimed at exploring the relationships among magnetic resonance imaging patterns, risk factors, and clinical outcomes, and, ultimately, lead to better understanding of causal pathways and opportunities for prevention.

© 2013 Mac Keith Press.

[PMID: 23937113](#) [PubMed - as supplied by publisher]

18. Aust Nurs J. 2013 Jul;21(1):34-7.

Magnesium sulphate for the prevention of cerebral palsy in Australia and New Zealand.

Bain E, Goodchild L, Lontis R, McIntyre S, Ashwood P, Bubner T, Middleton P, Crowther C.

Australian Research Centre for Health of Women and Babies, Robinson Institute, The University of Adelaide.

[PMID: 23930314](#) [PubMed - in process]

19. J Med Microbiol. 2013 Aug 14. [Epub ahead of print]

Pathophysiology of neonatal acute bacterial meningitis.

Barichello T, Fagundes GD, Generoso JS, Elias SG, Simões LR, Teixeira AL.

Neonatal meningitis is a severe acute infectious disease of the central nervous system (CNS) and an important cause of morbidity and mortality worldwide. The inflammatory reaction involves the meninges, the subarachnoid space and the brain parenchymal vessels and contributes to neuronal injury. It may lead to deafness, blindness, cerebral palsy, seizures, hydrocephalus or cognitive impairment in approximately 25% to 50% of survivors. Bacterial pathogens may reach the blood-brain barrier and be recognised by antigen-presenting cells through the binding of Toll-like receptors. They induce the activation of factor nuclear kappa B or mitogen-activated protein kinas pathways and subsequently up-regulate the leukocyte populations and express numerous proteins involved in inflammation and the immune response. Many brain cells can produce cytokines, chemokines and other pro-inflammatory molecules in response to bacterial stimuli, and polymorphonuclear leukocyte are attracted, activated and released in large amounts of superoxide anion and nitric oxide, leading to the peroxynitrite formation and generating oxidative stress. This cascade leads to lipid peroxidation, mitochondrial damage and blood-brain barrier breakdown, thus contributing to cell injury during neonatal meningitis. This review summarises the information on the pathophysiology and adjuvant treatment of acute bacterial meningitis in neonates.

[PMID: 23946474](#) [PubMed - as supplied by publisher]

20. J Pediatr. 2013 Aug 6. pii: S0022-3476(13)00821-4. doi: 10.1016/j.jpeds.2013.06.062. [Epub ahead of print]

Maternal Diagnosis of Obesity and Risk of Cerebral Palsy in the Child.

Crisham Janik MD, Newman TB, Cheng YW, Xing G, Gilbert WM, Wu YW.

Department of Neurology, University of California, San Francisco, San Francisco, CA.

OBJECTIVE: To examine the association between maternal hospital diagnoses of obesity and risk of cerebral palsy (CP) in the child. **STUDY DESIGN:** For all California hospital births from 1991-2001, we linked infant and maternal hospitalization discharge abstracts to California Department of Developmental Services records of children receiving services for CP. We identified maternal hospital discharge diagnoses of obesity (International Classification of Diseases, 9th edition 646.1, 278.00, or 278.01) and morbid obesity (International Classification of Diseases, 9th edition 278.01), and performed logistic regression to explore the relationship between maternal obesity diagnoses and CP. **RESULTS:** Among 6.2 million births, 67 200 (1.1%) mothers were diagnosed with obesity, and 7878 (0.1%) with morbid obesity; 8798 (0.14%) children had CP. A maternal diagnosis of obesity (relative risk [RR] 1.30, 95% CI 1.09-1.55) or morbid obesity (RR 2.70, 95% CI 1.89-3.86) was associated with increased risk of CP. In multivariable analysis adjusting for maternal race, age, education, prenatal care, insurance

status, and infant sex, both obesity (OR 1.27, 95% CI 1.06-1.52) and morbid obesity (OR 2.56, 95% CI 1.79-3.66) remained independently associated with CP. On stratified analyses, the association of obesity (RR 1.72, 95% CI 1.25-2.35) or morbid obesity (RR 3.79, 95% CI 2.35-6.10) with CP was only significant among women who were hospitalized prior to the birth admission. Adjusting for potential comorbidities and complications of obesity did not eliminate this association. CONCLUSIONS: Maternal obesity may confer an increased risk of CP in some cases. Further studies are needed to confirm this finding.

Copyright © 2013 Mosby, Inc. All rights reserved.

[PMID: 23932316](#) [PubMed - as supplied by publisher]

21. J Pediatr Surg. 2013 Aug;48(8):1682-7. doi: 10.1016/j.jpedsurg.2013.01.021.

Early childhood outcomes of infants born with gastroschisis.

van Manen M, Hendson L, Wiley M, Evans M, Taghaddos S, Dinu I.

Division of Neonatal-Perinatal Medicine, Department of Pediatrics, University of Alberta, Edmonton, Alberta, Canada; Women and Children's Health Research Institute, University of Alberta, Edmonton, Alberta, Canada. Electronic address: michaelv@ualberta.ca.

PURPOSE: To describe neonatal and childhood outcomes of a contemporary cohort of infants with gastroschisis. **METHODS:** Observational, single center, inception cohort of children born with gastroschisis from January 2005 to December 2008. **RESULTS:** Of 63 infants, 61 survived to hospital discharge and 39 were seen for follow-up. Complications included sepsis (37%), necrotizing enterocolitis (10%), parenteral nutrition related cholestasis (25%), and short bowel syndrome (13%). Of survivors, 5% had visual impairment and 10% had hearing loss. No child tested had mental delay or cerebral palsy. Early gestational age predicted death or disability (OR 0.60, 95% CI 0.38, 0.96; $p=0.033$). There was a high incidence of prescription medications for presumed gastroesophageal reflux (90%). Some infants continued to require tube feeds (15%). There were improvements in longitudinal growth reflected in increasing z-scores. **CONCLUSIONS:** Although children with gastroschisis are at risk for disability, childhood outcomes are encouraging.

Copyright © 2013 Elsevier Inc. All rights reserved.

[PMID: 23932607](#) [PubMed - in process]

Subscribe to CP Research News

To subscribe to this research bulletin, please complete the online form at www.cpresearch.org/subscribe/researchnews You can bookmark this form on the home screen of your smart phone and also email the link to a friend.

To unsubscribe, please email researchnews@cerebralpalsy.org.au with 'Unsubscribe' in the subject line, and your name and email address in the body of the email.