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CP Research News

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1: *Semin Perinatol.* 2008 Aug;32(4):232-8.

Epidemiology of stillbirth and fetal central nervous system injury.

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The epidemiology of stillbirth and fetal central nervous system (CNS) injury is described with some emphasis on maternal and feto-placental risk factors. To maximize utility of the discussion and because it also represents the classical manifestation of fetal CNS injury, we have selected cerebral palsy (CP) to illustrate the epidemiologic aspects of injury to the fetal CNS in general. While trends in stillbirth rates have modestly decreased over time, those of CP seem to be increasing. Interestingly, both stillbirth and CP share traditional as well as emerging risk factors lending credence to the hypothesis that fetuses that would previously have been stillborn are increasingly surviving albeit with some form of morbidity. The existence of shared risk factors also suggests that in some cases of stillbirth fetal CNS injury precedes the in utero fetal demise. Pregnant women bearing these risk indicators represent potential candidates for appropriate and tailored protocols for antenatal fetal testing.

PMID: 18652919 [PubMed - in process]

2: *J Dent Child (Chic).* 2008 May-Aug;75(2):117-20.

Dental erosion in cerebral palsy patients.

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PURPOSE: The objective of this study was to evaluate the presence and severity of dental erosion in cerebral palsy (CP) patients. **METHODS:** A group of 48 noninstitutionalized individuals with CP, 2 to 18 years old (8.8+/-3.9 years), has been diagnosed with the disorder. Dental erosion was evaluated according to O'Brien. Results were compared to a control group composed by 26 patients with no neurological damage aged 4 to 18 years (11.3+/-3.5 years). **RESULTS:** Presence of deep dental erosion was significantly higher in CP individuals when compared to the control group. Concerning motor disorder, no statistical difference has been observed between the types of CP. Most of the affected teeth observed in the study group were the upper and lower molars and upper incisors. **CONCLUSIONS:** Cerebral palsy patients have a higher risk of dental erosion development.

PMID: 18647505 [PubMed - in process]

3: Assist Technol. 2008 Summer;20(2):111-24.

SweepSticks: an adaptive virtual mouse for people with neuromotor disorders.

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SweepSticks has been developed primarily to provide alternative mouse access to people with neuromotor disorders, especially those suffering from cerebral palsy. This tool enables the user to perform both mouse movements and clicks emulated by a software interface, which is controlled by some special hardware switches. It is also capable of adapting itself to the behavior of the user, which it does by tracing and recording the sequence of her or his mouse actions and subsequently providing relevant suggestions to her or him in the future. The field experiments carried out with real users suggest that the tool may be quite effective in serving most of the computer access needs of the user.

PMID: 18646434 [PubMed - in process]

4: Dev Disabil Res Rev. 2008 Jul 21;14(2):165-173. [Epub ahead of print]

Interventions and outcomes for children with dysphagia.

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Feeding problems are common even in typically developing infants and children. However, they are more frequent and persistent in children with developmental disabilities. This article will provide an overview of current literature and a rationale underlying the interventions used for children with cerebral palsy (CP) who have eating impairments (dysphagia). The review is not intended to be exhaustive, but papers were selected that highlight some of the issues and challenges of the field. Normal oral-motor development is briefly discussed to show how it may inform clinical practice in the understanding of feeding problems. Description of the risk factors and the nature and extent of eating impairments will show how interventions need to be specific to the severity of eating impairments. Examination of sensorimotor therapies, using oral stimulation exercises or an intra-oral appliance, will highlight the range of their effectiveness, as well as their limitations. Similarly, an examination of tube feeding, used for nutritional rehabilitation of the most severely affected children, will address the benefits, controversies as well as moral issues encountered by caregivers and professionals. Multi-center studies will be needed to obtain more homogeneous samples, large enough to address questions of early interventions and their subsequent effect on later development. (c) 2008 Wiley-Liss, Inc. Dev Disabil Res Rev 2008;14:165-173.

PMID: 18646023 [PubMed - as supplied by publisher]

5: Dev Disabil Res Rev. 2008 Jul 21;14(2):137-146. [Epub ahead of print]

Growth and nutrition disorders in children with cerebral palsy.

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Growth and nutrition disorders are common secondary health conditions in children with cerebral palsy (CP). Poor growth and malnutrition in CP merit study because of their impact on health, including psychological and physiological function, healthcare utilization, societal participation, motor function, and survival. Understanding the etiology of poor growth has led to a variety of interventions to improve growth. One of the major causes of poor growth, malnutrition, is the best-studied contributor to poor growth; scientific evidence regarding malnutrition has contributed to improvements in clinical management and, in turn, survival over the last 20 years. Increased recognition and understanding of neurological, endocrinological, and environmental factors have begun to shape care for children with CP, as well. The investigation of these factors relies on advances made in the assessment methods available to address the challenges inherent in measuring growth in children with CP. Descriptive growth charts and norms of body composition provide information that may help clinicians to interpret growth and intervene to improve growth and nutrition in children with CP. Linking growth to measures of health will be necessary to develop growth standards for children with CP in order to optimize health and well-being. (c) 2008 Wiley-Liss, Inc. Dev Disabil Res Rev 2008;14:137-146.

PMID: 18646022 [PubMed - as supplied by publisher]

6: Dev Disabil Res Rev. 2008 Jul 21;14(2):128-136. [Epub ahead of print]

Gastrointestinal disorders in children with neurodevelopmental disabilities.

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Children with neurodevelopmental disabilities such as cerebral palsy (CP), spina bifida, or inborn errors of metabolism frequently have associated gastrointestinal problems. These include oral motor dysfunction leading to feeding difficulties, risk of aspiration, prolonged feeding times, and malnutrition with its attendant physical compromise. Gastrostomy tube feeding is increasingly being used in these children to circumvent oral motor dysfunction and prevent malnutrition. Foregut dysmotility causes several problems such as dysphagia from oesophageal dysmotility, gastro-oesophageal reflux disease, and delayed gastric emptying. Gastro-oesophageal reflux disease is common in these children but often fails to respond to medical management and may require surgical treatment. Finally, constipation is often a problem that may be overlooked in this population. This article focuses on these associated gastrointestinal manifestations and discusses the current diagnostic and therapeutic options available. (c) 2008 Wiley-Liss, Inc. Dev Disabil Res Rev 2008;14:128-136.

PMID: 18646021 [PubMed - as supplied by publisher]

7: Neurorehabil Neural Repair. 2008 Jul 21. [Epub ahead of print]

Psychometric Properties of Functional Balance Assessment in Children With Cerebral Palsy.

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BACKGROUND: . Children with cerebral palsy often suffer from a lack of balance compared with typically developing children. Because balance capacity is relevant to functional activities, reliable and valid functional balance measures are crucial for the pediatric clinical setting. **OBJECTIVE:** . This study examined the reliability and validity of 3 functional balance measures. **METHODS:** . Thirty children aged 60 to 142 months with Gross Motor Function Classification System (GMFCS) levels of I to IV were recruited. For test-retest reliability, the same physical therapist administered the Functional Reach Test (FRT), Berg Balance Scale (BBS), and Timed Up and Go (TUG) twice. For interrater reliability, the testing processes were video recorded and later scored by another therapist. For convergent validity, children with cerebral palsy received the Gross Motor Function MEASURES: (GMFM), walking speed, and 10-second sit-to-stand test within 1 week and the results evaluated. **RESULTS:** . The 3 functional balance measures had excellent test-retest reliability (intraclass correlation coefficient [ICC] >0.95) and interrater reliability (ICC = 0.98-1.00). With regard to convergent validity, the BBS and the TUG were highly correlated with GMFM total score, walking speed, and the 10-second sit-to-stand test. The discriminate validity indicates that the FRT can distinguish children with cerebral palsy with different GMFCS levels, whereas the BBS total score and TUG failed to distinguish between children with cerebral palsy with GMFCS levels of I and II. **CONCLUSION:** . The 3 functional balance measures are simple, valid, and reliable for examining children with cerebral palsy and are thus suitable for clinical practice.

PMID: 18645187 [PubMed - as supplied by publisher]

8: J Pediatr. 2008 Jul 17. [Epub ahead of print]

Self-Esteem, Self-Concept, and Quality of Life in Children with Hemiplegic Cerebral Palsy.

Russo RN, Goodwin EJ, Miller MD, Haan EA, Connell TM, Crotty M.

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OBJECTIVES: To investigate self-esteem, self-concept and quality of life in children with hemiplegic cerebral palsy (HCP) compared with typically developing peers. **STUDY DESIGN:** Cross-sectional evaluation of 86 children (3-16 years; 54 boys; mean age 9.4 +/- 3.7 years) with HCP and age and sex-matched peers. Self-esteem/concept was measured with the Self-Perception Profile for Children (age 8-16; n = 55 pairs) and the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (age 3-7 years; n = 31 pairs). Quality of life was measured with the Pediatric Quality of Life Inventory, version 4. **RESULTS:** Significant differences in mean scores ([95%CI] P < .05) favoring the peer group were found for physical competence (HCP 2.8 [2.5, 3.0]; peer 3.2 [3.1, 3.3]), athletic competence (HCP 2.7 [2.5, 2.9]; peer 3.1 [3.0, 3.3]), and scholastic competence (HCP 2.8 [2.6, 3.0]; peer 3.1 [3.0, 3.3]), but favored children with HCP for maternal acceptance (HCP 3.1 [2.9, 3.3]; peer 2.7 [2.5, 3.0]). Quality of life was significantly higher for the peer group for both parent (HCP 54.5 [51.1, 58.0]; peer 80.6 [78.3, 82.9]) and child (HCP 67.6 [62.7, 72.6]; peer 80.6 [78.1, 83.1]) scales. **CONCLUSIONS:** Children with HCP experience reduced quality of life and self-concept compared with typically developing peers.

PMID: 18639890 [PubMed - as supplied by publisher]

9: Pediatr Neurol. 2008 Aug;39(2):108-12.

Assessment of general movements in relation to neurologic signs at age two years.

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Developmental Department, Health Center, Domzale, Slovenia.

Abnormal movement patterns during the fidgety period, as identified by Precht's method for qualitative assessment of general movements, and the presence of minor neurologic and cranial signs at age 2

years, as defined by Amiel-Tison, are related to minor developmental disorders. Our study analyzed the relationship between the two assessment methods in 45 preterm infants. Cerebral palsy was identified in 4, minimal cerebral palsy in 2, and the Amiel-Tison triad in 4 children; in all, continuously abnormal patterns of general movements were present. In the intermediate group with 2 signs of the triad, one child exhibited normal movements in the writhing period, and all were abnormal in the fidgety period. The intermediate group, with one sign of the triad, comprised 9 children: abnormal findings in the writhing period were present in 8, and in the fidgety period in 7. Among 16 children without neurologic signs, normal general movements were present in 7 children during the writhing period, and in 5 during the fidgety period. We confirmed good correlation between general movements and neurologic outcome at age 2 years (Pearson's R at term age, 0.51; at fidgety period, 0.62).

PMID: 18639754 [PubMed - in process]

10: J Pediatr. 2008 Aug;153(2):158-60.

Is cerebral palsy a health problem?

Murphy NA.

Publication Types:

Comment

Editorial

PMID: 18639726 [PubMed - in process]

11: Hemodial Int. 2008 Jul;12(3):313-5.

Dialysis Disequilibrium Syndrome presenting as a focal neurological deficit.

Attur RP, Kandavar R, Kadavigere R, Baig WW.

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We report a patient suffering from chronic kidney disease who presented to us with severe pulmonary edema. His clinical, laboratory, and sonological parameters were suggestive of end-stage renal disease. Hemodialysis was initiated, and after 48 hours (3 sessions of hemodialysis) he became drowsy and a neurological examination revealed left upper limb monoplegia with left facial palsy. Urgent computerized tomography scan of the brain revealed diffuse hypodensity in the cerebral white matter bilaterally, and brain magnetic resonance imaging showed diffuse hyperintensity in the cerebral white matter bilaterally, right internal capsule and external capsule on fluid attenuated inversion recovery and T2 sequences (hypointense on T1 sequence). He made a gradual but complete neurological recovery and was discharged 2 weeks later with normal neurological status. A repeat brain magnetic resonance imaging on follow-up 6 weeks later revealed complete resolution of the white matter abnormalities.

PMID: 18638084 [PubMed - in process]

12: Augment Altern Commun. 2008;24(2):123-38.

The morphology and syntax of individuals who use AAC: research review and implications for effective practice.

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A research review of 31 studies pertaining to the morphology and syntax of individuals who use augmentative and alternative communication (AAC) and who had severe speech and physical impairments (SSPI) was completed. Results suggest that, although many individuals who use AAC exhibit comprehension and expression of a wide range of grammatical structures, these individuals are at risk for experiencing grammar deficits. A wide range of individual differences was noted, both within and across many of the investigations. One of the more robust findings was that individuals tended to produce shorter utterances when they used graphic symbol-based AAC systems than would be expected, based on participant profiles; however, there appeared to be a developmental trend toward using longer utterances. There has been a dearth of research pertaining to the development and evaluation of appropriate assessment tools and intervention techniques to enhance grammar acquisition for individuals who use AAC. Considerations for developing such tools and techniques are discussed.

Publication Types:
Review

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