

# REFERENCES

- Accardo PJ. (1997) Common sense. *J Pediatr* 130: 704–711.
- Akbarian S. (2002) Rett's Syndrome, Part II. *Am J Psychiatr* 159: 1294. (Short communication.)
- Albers S, Jorch G. (1994) Prognostic significance of spontaneous motility in very immature preterm infants under intensive care treatment. *Biol Neonat* 66: 182–187.
- Alford S, Williams TL. (1989) Endogenous activation of glycine and NMDA receptors in lamprey spinal cord during fictive locomotion. *J Neurosci* 9: 2792–2800.
- Allen MC. (1984) Developmental outcome and follow-up of the small for gestational age infant. *Sem Perinat* 8: 123–156.
- Amiel-Tison C, Grenier A. (1983) *Neurologic Evaluation of the Newborn and the Infant*. New York: Masson.
- Amir RE, van den Veyver IB, Wan M, Tran CQ, Francke U, Zoghbi HY. (1999) Rett syndrome is caused by mutations in X-linked MECP2, encoding methyl-CpG-binding protein 2. *Nature Gen* 23: 185–188.
- Antri M, Orsal D, Barthe JY. (2002) Locomotor recovery in the chronic spinal rat: effects of long-term treatment with a 5-HT2 agonist. *Eur J Neurosci* 16: 467–476.
- Armstrong D. (1992) The neuropathology of the Rett syndrome. *Brain Dev* 14: 89–98.
- Armstrong D, Dunn JK, Antalffy B, Trivedi R. (1995) Selective dendritic alterations in the cortex of Rett syndrome. *J Neuropathol Exp Neurol* 54: 195–201.
- Atkinson J. (1984a) How does infant vision change in the first three months of life? In: Prechtl HFR, editor. *Continuity of Neural Functions from Prenatal to Postnatal Life*. Clin Dev Med 94. Oxford: Blackwell, pp 159–178.
- Atkinson J. (1984b) Human visual development over the first 6 months of life. A review and a hypothesis. *Hum Neurobiol* 3: 61–74.
- Baarsma R, Laurini RN, Baerts W, Okken A. (1987) Reliability of sonography in non-haemorrhagic periventricular leukomalacia. *Pediatr Radiol* 17: 189–191.
- Baldi I. (2002) The preterm infant with prolonged periventricular hyperechogenicity: prognostic role of neurological assessment and the effects of neonatal care (in Italian). Medical doctoral thesis, University of Pisa.
- Bauman ML, Kemper TL, Arin DM. (1995) Microscopic observations of the brain in Rett syndrome. *Neuropediatrics* 26: 105–108.
- Bax M. (2002) Clinical assessment still matters. *Dev Med Child Neurol* 44: 147. (Editorial.)
- Bayley N. (1969) *Bayley Scales of Infant Development*. Berkeley: The Psychological Corporation.
- Bekedam DJ, Visser GHA, de Vries JIP, Prechtl HFR. (1985) Motor behaviour in the growth retarded fetus. *Early Hum Dev* 12: 173–182.
- Bekedam DJ, Visser GHA, Mulder EJH, Poelmann-Weesjes G. (1987) Heart rate variation and movement incidence in growth-retarded fetuses: the significance of antenatal late heart rate decelerations. *Am J Obstet Gynecol* 157: 126–133.
- Birnholz JC. (1981) The development of human fetal eye movement patterns. *Science* 213: 679–681.
- Bland M. (1996) *An Introduction to Medical Statistics*. Oxford: Medical Publications.
- Bobath B. (1971) *Abnormal Postural Reflex Activity Caused by Brain Lesions*. London: Heinemann.
- Bos AF. (1993) Differential effects of brain lesions and systemic disease on the quality of general movements: a preliminary report. *Early Hum Dev* 34: 39–45.
- Bos AF. (1998) Analysis of movement quality in preterm infants. *Eur J Obstet Gynecol Reprod Biol* 76: 117–119.

- Bos AF, van Asperen RM, de Leeuw DM, Prechtl HFR. (1997a) The influence of septicaemia on spontaneous motility in preterm infants. *Early Hum Dev* 50: 61–70.
- Bos AF, van Loon AJ, Hadders-Algra M, Martijn A, Okken A, Prechtl HFR. (1997b) Spontaneous motility in preterm, small for gestational age infants. II. Qualitative aspects. *Early Hum Dev* 50: 131–147.
- Bos AF, van Loon AJ, Martijn A, van Asperen RM, Okken A, Prechtl HFR. (1997c) Spontaneous motility in preterm, small-for-gestational age infants. I. Quantitative aspects. *Early Hum Dev* 50: 115–130.
- Bos AF, Martijn A, Okken A, Prechtl HFR. (1998a) Quality of general movements in preterm infants with transient periventricular echodensities. *Acta Paediatr* 87: 328–335.
- Bos AF, Martijn A, van Asperen RM, Hadders-Algra M, Okken A, Prechtl HFR. (1998b) Qualitative assessment of general movements in high risk preterm infants with chronic lung disease requiring dexamethasone therapy. *J Pediatr* 132: 300–306.
- Bos AF, Einspieler C, Prechtl HFR, Touwen B, Okken-Beukens M, Stremmelar F. (1999) The quality of spontaneous motor activity in preterm infants as early predictive signs for minor neurological abnormalities at two years. *Newsletter Neonat Neurol* 8: 4–5.
- Bos AF, Venema IMJ, Bergervoet M, Zweens MJ, Pratl B, van Eykern LA. (2000) Spontaneous motility in preterm infants treated with indomethacin. *Biol Neonat* 78: 174–180.
- Bos AF, Einspieler C, Prechtl HFR. (2001) Intrauterine growth retardation, general movements and neurodevelopmental outcome: a review. *Dev Med Child Neurol* 43: 61–68.
- Bos AF, Dibiasi J, Tiessen AH, Bergmann KA. (2002a) Treating preterm infants at risk for chronic lung disease with dexamethasone leads to an impaired quality of general movements. *Biol Neonat* 82: 155–158.
- Bos AF, Einspieler C, Prechtl HFR. (2002b) Motor repertoire at early age for prediction of neurological deficits at 2 y. *Pediatr Res* 52: 796. (Abstract.)
- Bots RSG, Nijhuis JG, Martin CB jr, Prechtl HFR. (1981) Human fetal eye movements: detection in utero by ultrasonography. *Early Hum Dev* 5: 87–94.
- Bracci E, Ballerini L, Nistri A. (1996) Spontaneous rhythmic bursts induced by pharmacological block of inhibition in lumbar motoneurons of the neonatal rat spinal cord. *J Neurophysiol* 75: 640–647.
- Braddick OJ, Atkinson J. (1983) Some recent findings on the development of human binocularity: a review. *Behav Brain Res* 10: 141–150.
- Brandt I. (1983) *Griffiths Entwicklungsskalen (GES) zur Beurteilung der Entwicklung in den ersten beiden Lebensjahren*. Weinheim, Basel: Beltz.
- Bregman J, Farrell EE. (1992) Neurodevelopmental outcome in infants with bronchopulmonary dysplasia. *Clin Perinat* 19: 673–694.
- Brown LD, Heermann J. (1997) The effect of developmental care on preterm infant outcome. *Appl Nurs Res* 10: 190–197.
- Bruininks RH. (1978) *Bruininks Oseretsky Test of Motor Proficiency: Examiner's Manual*. Circle Pines, MN: American Guidance Service.
- Brunet O, Lézine I. (1967) *Scala di Sviluppo Psicomotorio della Prima Infanzia*. Firenze: Organizzazioni Special (O.S.)
- Buchanan JT. (1982) Identification of interneurons with contralateral, caudal axons in the lamprey spinal cord: synaptic interactions and morphology. *J Neurophysiol* 47: 961–975.
- Buchanan JT, Grillner S. (1987) Newly identified 'glutamate interneurons' and their role in locomotion in the lamprey spinal cord. *Science* 236: 312–314.
- Cazalets JR, Borde M, Clarac F. (1995) Localization and organization of the central pattern generator for hindlimb locomotion in newborn rat. *J Neurosci* 15: 4943–4951.
- Champagnat J, Fortin G. (1997) Primordial respiratory-like rhythm generation in the vertebrate embryo. *TINS* 20: 119–124.
- Cheng J, Jovanovic K, Aoyagi Y, Bennett DJ, Han Y, Stein RB. (2002) Differential distribution of interneurons in the neural networks that control walking in the mudpuppy (*Necturus maculaus*) spinal cord. *Exp Brain Res* 145: 190–198.
- Chugani HT, Phelps ME. (1986) Maturational changes in cerebral function in infants determined by 18FDG positron emission tomography. *Science* 231: 840–843.
- Chugani HT, Phelps ME, Mazziotta JC. (1987) 18FDG positron emission tomography in human brain functional development. *Ann Neurol* 22: 487–497.
- Cioni G, Prechtl HFR. (1990) Preterm and early postterm motor behaviour in low-risk premature infants. *Early Hum Dev* 23: 159–193.

- Cioni G, Favilla M, Ghelarducci B, La Noca A. (1984) Development of the dynamic characteristics of the horizontal vestibulo-ocular reflex in infancy. *Neuropediatrics* 15: 125–130.
- Cioni G, Ferrari F, Prechtl HFR. (1989) Posture and spontaneous motility in fullterm infants. *Early Hum Dev* 7: 247–262.
- Cioni G, Ferrari F, Einspieler C, Paolicelli PB, Barbani MT, Prechtl HFR. (1997a) Comparison between observation of spontaneous movements and neurological examination in preterm infants. *J Pediatr* 130: 704–711.
- Cioni G, Paolicelli PB, Rapisardi G, Castellacci AM, Ferrari A. (1997b) Early natural history of spastic diplegia and tetraplegia. *Eur J Pediatr Neurol* 1: 33. (Abstract.)
- Cioni G, Prechtl HFR, Ferrari F, Paolicelli PB, Einspieler C, Roversi MF. (1997c) Which better predicts later outcome in fullterm infants: quality of general movements or neurological examination? *Early Hum Dev* 50: 71–85.
- Cioni G, Bos AF, Einspieler C, Ferrari F, Martijn A, Paolicelli PB, Rapisardi G, Roversi MF, Prechtl HFR. (2000) Early neurological signs in preterm infants with unilateral intraparenchymal echodensity. *Neuropediatrics* 31: 240–251.
- Clyman RI. (1996) Recommendations for the postnatal use of indomethacin: an analysis of four separate treatment strategies. *J Pediatr* 128: 601–607.
- Cohen J. (1960) A coefficient of agreement for nominal scales. *Ed Psychol Meas* 20: 37–46.
- Coluccini M, Maini S, Sabatini A, Prechtl HFR, Cioni G. (2002) Kinematic analysis of general movements in early infancy. *Dev Med Child Neurol* 44: 14. (Abstract.)
- Constantinou JC, Adamson-Macedo EN, Stevenson DK, Mirmiran M, Fleisher BE. (1999) Effects of skin-to-skin holding on general movements of preterm infants. *Clin Pediatr* 38: 467–471.
- Cooke RWI, Lucas A, Yudkin PLN, Pryse-Davis J. (1977) Head circumference as an index of brain weight in the fetus and newborn. *Early Hum Dev* 1: 145–149.
- Coons S, Guilleminault C. (1985) Motility and arousal in near miss sudden infant death syndrome. *J Pediatr* 107: 728–732.
- Cote MP, Gossard JP. (2003) Task-dependent presynaptic inhibition. *J Neurosci* 23: 1886–1893.
- Counsell SJ, Allsop JM, Harrison MC, Larkman DJ, Kennea NL, Kapellou O, Cowen FM, Hajnal JV, Edwards AD, Rutherford MA. (2003) Diffusion-weighted imaging of the brain in preterm infants with focal and diffuse white matter abnormality. *Pediatrics* 112: 1–7.
- Cummings JJ, D'Eugenio DB, Gross SJ. (1989) A controlled trial of dexamethasone in preterm infants at high risk for bronchopulmonary dysplasia. *NEJM* 320: 1505–1510.
- Cunningham JN jr, Carter NW, Rector FZ jr, Seldin DW. (1971) Resting transmembrane potential difference of skeletal muscle in normal subjects and severely ill patients. *J Clin Invest* 50: 49–59.
- de Vries JIP, Visser GHA, Prechtl HFR. (1982) The emergence of fetal behaviour. I. Qualitative aspects. *Early Hum Dev* 7: 301–322.
- de Vries JIP, Visser GHA, Prechtl HFR. (1984) Fetal motility in the first half of pregnancy. In: Prechtl HFR, editor. *Continuity of Neural Functions from Prenatal to Postnatal Life*. Clin Dev Med 94. Oxford: Blackwell, pp 46–64.
- de Vries JIP, Visser GHA, Prechtl HFR. (1985) The emergence of fetal behaviour. II. Quantitative aspects. *Early Hum Dev* 12: 99–120.
- de Vries JIP, Visser GHA, Mulder EJH, Prechtl HFR. (1987) Diurnal and other variations in fetal movement and heart rate patterns at 20 to 22 weeks. *Early Hum Dev* 15: 333–348.
- de Vries JIP, Visser GHA, Prechtl HFR. (1988) The emergence of fetal behaviour. III. Individual differences and consistencies. *Early Hum Dev* 16: 85–103.
- de Vries LS, Regev R, Pennock JM, Wigglesworth JS, Dubowitz LMS. (1988) Ultrasound evolution and later outcome of infants with periventricular densities. *Early Hum Dev* 16: 225–233.
- de Vries LS, Dubowitz LMS, Dubowitz V, Pennock JM. (1990) *A Colour Atlas of Brain Disorders in the Newborn*. London: Wolfe.
- de Vries LS, Eken P, Dubowitz LMS. (1992) The spectrum of leucomalacia using cranial ultrasound. *Behav Brain Res* 49: 1–6.
- de Vries LS, Groenendaal F, Eken P, van Haastert IC, Rademaker KJ, Meiners LC. (1997) Infarcts in the vascular distribution of the middle cerebral artery in preterm and fullterm infants. *Neuropediatrics* 28: 88–96.
- Deykin E, Bauman ML, Kelly DH, Hsieh C, Shannon D. (1984) Apnea of infancy and subsequent neurologic, cognitive, and behavioural status. *Pediatrics* 73: 638–645.

- Dibiasi J, Einspieler C. (2002) Can spontaneous movements be modulated by visual and acoustic stimulation in 3-month-old infants? *Early Hum Dev* 68: 27–37.
- Dibiasi J, Einspieler C. (2004) Load perturbation does not influence spontaneous movements in 3-month-old infants. *Early Hum Dev* 77: 37–46.
- DiPietro MA, Broday BA, Teele RL. (1986) Peritrigonal echogenic ‘blush’ on cranial sonography: pathological correlates. *Am J Roentgenol* 146: 1067–1072.
- Doyle LW, Davis PG. (2000) Postnatal corticosteroids in preterm infant: systematic review of effects on mortality and motor function. *J Paediatr Child Health* 36: 101–107.
- Dubowitz LMS. (1988) Clinical assessment of infant nervous system. In: Levene MI, Bennett MJ, Punt J, editors. *Fetal and Neonatal Neurology and Neurosurgery*. Edinburgh: Churchill Livingstone, pp 33–40.
- Dubowitz LMS, Dubowitz V. (1981) *The Neurological Assessment of the Preterm and Fullterm Newborn Infant*. Clin Dev Med 79. London: Heinemann.
- Dubowitz L, Dubowitz V, Palmer P, Miller G, Fawer C, Levene M. (1984) Correlation of neurological assessment in the premature newborn infant with outcome at 1 year. *J Pediatr* 105: 452–456.
- Dubowitz LMS, Dubowitz V, Mercuri E. (1999) *The Neurological Assessment of the Preterm and Full-Term Newborn Infant*, 2nd edition. Clin Dev Med 148. Cambridge: Cambridge University Press.
- Einspieler C. (1994) Abnormal spontaneous movements in infants with repeated sleep apnoeas. *Early Hum Dev* 36: 31–48.
- Einspieler C. (1995) Are repeated sleep apnoeas harmful to the infant’s brain? In: Rognum TO, editor. *Sudden Infant Death Syndrome: New Trends in the Nineties*. Oslo: Scandinavian University Press, pp 226–229.
- Einspieler C, Prechtl HFR, van Eykern L, de Roos B. (1994) Observation of movements during sleep in ALTE and apnoeic infants. *Early Hum Dev* 40: 39–50.
- Einspieler C, Prechtl HFR, Ferrari F, Cioni G, Bos AF. (1997) The qualitative assessment of general movements in preterm, term and young infants – review of the methodology. *Early Hum Dev* 50: 47–60.
- Einspieler C, Cioni G, Paolicelli PB, Bos AF, Dressler A, Ferrari F, Roversi MF, Prechtl HFR. (2002) The early markers for later dyskinetic cerebral palsy are different from those for spastic cerebral palsy. *Neuropediatrics* 33: 73–78.
- Einspieler C, Kerr AM, Prechtl HFR. (2004) Is the early development of girls with Rett disorder really normal? *Ped Res*.
- Eken P, Toet MC, Groenendaal F, de Vries LS. (1995) Predictive value of early neuroimaging, pulsed Doppler, and neurophysiology in fullterm infants with hypoxic-ischaemic encephalopathy. *Arch Dis Child* 73: F75–F80.
- Erkinjuntti M. (1988) Body movements during sleep in healthy and neurologically damaged infants. *Early Hum Dev* 16: 283–292.
- Estan J, Hope P. (1997) Unilateral neonatal cerebral infarction in fullterm infants. *Arch Dis Child* 76: F88–F93.
- Farrell PA, Weiner GM, Lemons JA. (2002) SIDS, ALTE, apnea, and the use of home monitors. *Pediatr Rev* 23: 3–9.
- Fazzi E, Orcesi S, Caffi L, Ometto A, Rondini G, Telesca C, Lanzi G. (1994) Neurodevelopmental outcome at 5–7 years in preterm infants with periventricular leukomalacia. *Neuropediatrics* 25: 134–139.
- Ferrari F, Cioni C, Prechtl HFR. (1990) Qualitative changes of general movements in preterm infants with brain lesions. *Early Hum Dev* 23: 193–233.
- Ferrari F, Prechtl HFR, Cioni G, Roversi MF, Einspieler C, Gallo C, Paolicelli PB, Cavazutti GB. (1997) Behavioural states, posture and spontaneous movements in infants affected by brain malformation. *Early Hum Dev* 50: 87–113.
- Ferrari F, Cioni G, Einspieler C, Roversi MF, Bos AF, Paolicelli PB, Ranzi A, Prechtl HFR. (2002) Cramped synchronised general movements in preterm infants as an early marker for cerebral palsy. *Arch Pediatr Adolesc Med* 156: 460–467.
- Fok M, Stein RB. (2002) Effects of cholinergic and noradrenergic agents on locomotion in the mudpuppy (*Necturus maculatus*). *Exp Brain Res* 145: 498–504.
- Forssberg H. (1999) Neural control of human motor development. *Curr Opin Neurobiol* 9: 676–682.
- Geerdink JJ, Hopkins B. (1993a) Qualitative changes in general movements and their prognostic values in preterm infants. *Eur J Paediatr* 152: 362–367.
- Geerdink JJ, Hopkins B. (1993b) Effects of birth weight status and gestational age on the quality of general movements in preterm newborns. *Biol Neonat* 63: 215–224.
- Gesell A. (1945) *Embryology of Behavior*. New York: Harper and Brothers. (Reprinted 1988. Cambridge: Cambridge University Press.)

- Graham-Brown T. (1913) On the nature of fundamental activity of the nervous centre; together with an analysis of the conditioning of rhythmic activity in progression, and a theory of the evolution of function in the nervous system. *J Physiol* 47: 18–45.
- Gray C, Davies F, Molyneux E. (1999) Apparent life-threatening events presenting to a pediatric emergency department. *Pediatr Emerg Care* 15: 195–199.
- Griffiths R. (1954) *The Ability of Babies*. London: London University Press.
- Grillner S. (1999) Bridging the gap – from ion channels to networks and behaviour. *Curr Opin Neurobiol* 9: 663–669.
- Guzzetta A, Mercuri E, Rapisardi G, Ferrari F, Roversi F, Cowan F, Rutherford M, Paolicelli PB, Einspieler C, Boldrini A, Dubowitz L, Prechtl HFR, Cioni G. (2003) General movements detect early signs of hemiplegia in term infants with neonatal cerebral infarction. *Neuropediatrics* 34: 61–66.
- Hadders-Algra M. (1993) General movements in early infancy: what do they tell us about the nervous system? *Early Hum Dev* 34: 29–37.
- Hadders-Algra M, Groothuis AM. (1999) Quality of general movements in infancy is related to neurological dysfunction, ADHD, and aggressive behaviour. *Dev Med Child Neurol* 41: 381–391.
- Hadders-Algra M, Prechtl HFR. (1992) Developmental course of general movements in early infancy. I. Descriptive analysis of change in form. *Early Hum Dev* 28: 201–213.
- Hadders-Algra M, Prechtl HFR. (1993) EMG correlates of general movements in healthy preterm infants. *J Physiol* 459: 330. (Abstract.)
- Hadders-Algra M, Huisjes HJ, Touwen BCL. (1988) Preterm or small-for-gestational-age infants. Neurological and behavioural development at the age of 6 years. *Eur J Pediatr* 147: 460–467.
- Hadders-Algra M, van Eykern LA, Klip-van den Nieuwendijk AW, Prechtl HFR. (1992) Developmental course of general movements in early infancy. II. EMG correlates. *Early Hum Dev* 28: 231–251.
- Hadders-Algra M, Nakae Y, van Eykern LA, Klip-van den Nieuwendijk AW, Prechtl HFR. (1993) The effect of behavioural state on general movements in healthy term newborns. A polymyographic study. *Early Hum Dev* 35: 63–79.
- Hadders-Algra M, Bos AF, Martijn A, Prechtl HFR. (1994) Infantile chorea in an infant with severe bronchopulmonary dysplasia: an EMG study. *Dev Med Child Neurol* 36: 177–182.
- Hadders-Algra M, Klip-van den Nieuwendijk AW, Martijn A, van Eykern LA. (1997) Assessment of general movements: towards a better understanding of a sensitive method to evaluate brain function in young infants. *Dev Med Child Neurol* 39: 88–98.
- Hagberg B, Hagberg G. (1993) The origins of cerebral palsy. In: David TJ, editor. *Recent Advances in Paediatrics*. Edinburgh and London: Churchill Livingstone, pp 67–83.
- Hagberg B, Aicardi J, Dias K, Ramos O. (1983) A progressive syndrome of autism, dementia, ataxia, and loss of purposeful hand use in girls: Rett's syndrome: report on 35 cases. *Ann Neurol* 14: 471–479.
- Hagberg B, Hagberg G, Olow I, van Wendt L. (1996) The changing panorama of cerebral palsy in Sweden. VII. Prevalence and origin in the birth year period 1987–90. *Acta Paediatr* 85: 954–960.
- Hasselgren PO, Pedersen P, Sax HC, Warner BW, Fischer JE. (1988) Current concepts of protein turnover and amino acid transport in liver and skeletal muscle during sepsis. *Arch Surg* 123: 992–999.
- Hines RB, Minde K, Marton P. (1980) Behavioral development of premature infants: an ethological approach. *Dev Med Child Neurol* 22: 623–632.
- Hooker D. (1952) *The Prenatal Origin of Behavior*. Lawrence: University of Kansas Press.
- Hopkins B, Prechtl HFR. (1984) A qualitative approach to the development of movements during early infancy. In: Prechtl HFR, editor. *Continuity of Neural Functions from Prenatal to Postnatal Life*. Clin Dev Med 94. Oxford: Blackwell, pp 179–197.
- Illingworth RS. (1966) The diagnosis of cerebral palsy in the first year of life. *Dev Med Child Neurol* 8: 178–194.
- Irwin CO. (1932) The amount of motility of 73 newborn infants. *J Comp Psychol* 14: 415–428.
- Iwayama K, Eishima M. (1997) Neonatal sucking behavior and its development until 14 months. *Early Hum Dev* 47: 1–9.
- Jovanovic L, Druzin M, Peterson CM. (1981) Effect of euglycemia on the outcome of pregnancy in insulin-dependent diabetic women as compared with normal control subjects. *Am J Med* 71: 921–930.
- Kahn A, Dan B, Groswasser J, Franco P, Sottiaux M. (1996) Normal sleep architecture in infants and children. *J Clin Neurophysiol* 13: 184–197.
- Kainer F, Prechtl HFR, Engele H, Einspieler C. (1997) Prenatal and postnatal assessment of the quality of general movements in infants of women with type-I diabetes mellitus. *Early Hum Dev* 50: 13–25.

- Kakebeeke TH, von Siebenthal K, Largo RH. (1997) Differences in movement quality at term among preterm and term infants. *Biol Neonat* 71: 367–378.
- Kakebeeke TH, von Siebenthal K, Largo RH. (1998) Movement quality in preterm infants prior to term. *Biol Neonat* 73: 145–154.
- Kerr AM. (1995) Early clinical signs in Rett disorder. *Neuropediatrics* 26: 67–71.
- Largo RH. (1993) *Babyjahre. Die fröhliche Entwicklung aus biologischer Sicht*. Hamburg: Carlsen.
- Largo RH, Graf S, Kundu S, Hunziker U, Molinari L. (1990) Predicting developmental outcome at school age from infant tests of normal, at-risk and retarded infants. *Dev Med Child Neurol* 32: 30–45.
- Laurini RN, Visser GH, van Ballegooie E. (1984) Morphological fetoplacental abnormalities despite well-controlled diabetic pregnancy. *Lancet* 7: 800. (Letter.)
- Levene MI. (1990) Cerebral ultrasound and neurological impairment: telling the future. *Arch Dis Child* 65: 469–471.
- Levene MI, Fawer CL, Lamont RF. (1982) Risk factors in the development of intraventricular haemorrhage in the preterm neonate. *Arch Dis Child* 57: 410–417.
- Leviton A, Paneth N. (1990) White matter damage in preterm newborns – an epidemiologic perspective. *Early Hum Dev* 24: 1–22.
- Lorenz K. (1971) Gestalt perception as a source of scientific knowledge. (English translation from a German paper in 1959.) In: Lorenz K, editor. *Studies in Animal and Human Behaviour*. Vol II. London: Methuen, pp 281–322.
- Löscher WN, Einspieler C, Klug EM, Haidmayer R, Gallasch E, Kurz R, Kenner T. (1990) Neurological status, sleep apnoea frequency and blood oxygenation in 6-week-old infants. *Early Hum Dev* 24: 119–130.
- MacFarlane CM, Tsakalakos N. (1985) Evidence of hyperinsulinaemia and hypoxaemia in the cord blood of neonates born to mothers with gestational diabetes. *S Afr Med J* 67: 81–84.
- McGraw MB. (1943) *The Neuromuscular Maturation of the Human Infant*. New York: Columbia University Press.
- Ment LR, Oh W, Ehrenkranz RA, Philip AGS, Vohr B, Allan W, Duncan CC, Scott DT, Taylor KJW, Katz KH, Schneider KC, Makuch RW. (1994) Low-dose indomethacin and prevention of intraventricular haemorrhage: a multicenter randomized trial. *Pediatrics* 93: 543–550.
- Mercuri E, Dubowitz L. (1996) The prognosis of neonatal neurological abnormalities. *Baillieres Clin Paediatr* 4: 394–409.
- Metz CE. (1978) Basic principles of ROC analysis. *Semin Nucl Med* 8: 283–298.
- Minkowski M. (1928) Neurobiologische Studien am menschlichen Fötus. *Handbuch der biologischen Arbeitsmethoden* 5: 511–618.
- Mizrahi EM, Kellaway P. (1987) Characterization and classification of neonatal seizures. *Neurology* 37: 1837–1884.
- Mizrahi EM, Kellaway P. (1998) *Diagnosis and Management of Neonatal Seizures*. Philadelphia: Lippincott Raven.
- Molteno C, Grosz P, Wallace P, Jones M. (1995) Neurological examination of the preterm and full-term infant at risk for developmental disabilities using the Dubowitz neurological assessment. *Early Hum Dev* 41: 167–176.
- Mulder EJH. (1992) Diabetic pregnancy. In: Nijhuis JG, editor. *Fetal Behaviour: Development and Perinatal Aspects*. Oxford: Medical Publications, pp 193–200.
- Naidu S, Hyman S, Harris EL, Narayanan V, Johns D, Castora F. (1995) Rett syndrome studies of natural history and search for a genetic marker. *Neuropediatrics* 26: 63–66.
- Navarrete R, Slawinska U, Vrbova G. (2002) Electromyographic activity patterns of ankle flexor and extensor muscles during spontaneous and L-DOPA-induced locomotion in freely moving neonatal rats. *Exp Neurol* 173: 256–265.
- Nelson CA, Wewerka S, Thomas KM, Tribby-Walbridge S, deRegnier R, Georgieff M. (2000) Neurocognitive sequelae of infants of diabetic mothers. *Behav Neurosci* 114: 950–956.
- Nijhuis JG, Prechtl HFR, Martin CB jr, Bots RSGM. (1982) Are there behavioural states in the human fetus? *Early Hum Dev* 6: 177–195.
- Nishimaru H, Izuka M, Ozaki S, Kudo N. (1996) Spontaneous motoneuronal activity mediated by glycine and GABA in the spinal cord of rat fetuses in vitro. *J Physiol* 497: 131–143.
- Okado N, Kojima T. (1984) Ontogeny of the central nervous system: neurogenesis, fibre connection, synaptogenesis and myelination in the spinal cord. In: Prechtl HFR, editor. *Continuity of Neural Functions from Prenatal to Postnatal Life*. Clin Dev Med 94. Oxford: Blackwell, pp 31–46.

- Onimaru H. (1995) Studies of the respiratory center using isolated brainstem-spinal cord preparations. *Neurosci Res* 21: 183–190.
- Oppenheim RW (1984) Ontogenetic adaptations in neural and behavioural development, towards a more ‘ecological’ developmental psychobiology. In: Prechtl HFR, editor. *Continuity of Neural Functions from Prenatal to Postnatal Life*. Clin Dev Med 94. Oxford: Blackwell, pp 16–30.
- Ornoy A, Cohen E. (1996) Outcome of children born to epileptic mothers treated with carbamazepine during pregnancy. *Arch Dis Child* 75: 517–520.
- Palisano R, Rosenbaum P, Walter S, Russel S, Wood E, Galuppi B. (1997) Development and reliability of a system to classify gross motor function in children with cerebral palsy. *Dev Med Child Neurol* 39: 214–223.
- Parisi P, Francia A, Vanacore N, Fiore S, Giallonardo AT, Manfredi M. (2003) Psychomotor development and general movements in offspring of women with epilepsy and anticonvulsant therapy. *Early Hum Dev* 74: 97–108.
- Penney GC, Mair G, Pearson DW; Scottish Diabetes in Pregnancy Group. (2003) Outcomes of pregnancies in women with type 1 diabetes in Scotland: a national population-based study. *Br J Obstet Gynaecol* 110: 315–318.
- Percy AK. (1995) Rett syndrome. *Curr Opin Neurol* 8: 156–160.
- Perlman JM. (1998) White matter injury in the preterm infant: an important determination of abnormal neurodevelopmental outcome. *Early Hum Dev* 53: 99–120.
- Persson B, Hanson U. (1996) Fetal size at birth in relation to quality of blood glucose control in pregnancies complicated by pregestational diabetes mellitus. *Br J Obstet Gynaecol* 103: 427–433.
- Petry CD, Wobken JD, McKay H, Eaton MA, Seybold VS, Johnson DE, Georgieff MK. (1994) Placental transferrin receptor in diabetic pregnancies with increased fetal iron demand. *Am J Physiol* 267: E507–E514.
- Prechtl HFR. (1958) The directed head turning response and allied movements of the human body. *Behavior* 8: 212–242.
- Prechtl HFR. (1974) The behavioural state of the newborn (a review). Duivenvoorde Lecture. *Brain Res* 76: 185–212.
- Prechtl HFR. (1977) *The Neurological Examination of the Full-term Newborn Infant*, 2nd edition. Clin Dev Med 63. London: Heinemann.
- Prechtl HFR. (1980) The optimality concept. *Early Hum Dev* 4: 201–205.
- Prechtl HFR. (1984a) *Continuity of Neural Functions from Prenatal to Postnatal Life*. Clin Dev Med 94. Oxford: Blackwell.
- Prechtl HFR. (1984b) Continuity and change in early neural development. In: Prechtl HFR, editor. *Continuity of Neural Functions from Prenatal to Postnatal Life*. Clin Dev Med 94. Oxford: Blackwell, pp 1–15.
- Prechtl HFR. (1986) New perspectives in early human development. *Eur J Obstet Gynecol Reprod Biol* 21: 347–355.
- Prechtl HFR. (1989a) Development of postural control in infancy. In: von Euler C, Forssberg H, Lagercrantz H, editors. *Neurobiology of Early Infant Behaviour*. Wenner-Gren Intern Symp Series Vol 55. London: Macmillan, pp 59–68.
- Prechtl HFR. (1989b) Fetal behaviour. In: Hill A, Volpe J, editors. *Fetal Neurology*. New York: Raven Press, pp 1–16.
- Prechtl HFR. (1990) Qualitative changes of spontaneous movements in fetus and preterm infant are a marker of neurological dysfunction. *Early Hum Dev* 23: 151–158.
- Prechtl HFR. (1992) Some remarks on the neonate. In: Nijhuis JG, editor. *Fetal Behaviour: Developmental and Perinatal Aspects*. Oxford: Medical Publications, pp 65–72.
- Prechtl HFR. (1997a) State of the art of a new functional assessment of the young nervous system. An early predictor of cerebral palsy. *Early Hum Dev* 50: 1–11.
- Prechtl HFR. (1997b) The importance of fetal movements. In: Connolly KJ, Forssberg H, editors. *Neurophysiology and Psychology of Motor Development*. Clin Dev Med 143/144. Cambridge: Cambridge University Press, pp 42–53.
- Prechtl HFR. (1999) How can we assess the integrity of the fetal nervous system? In: Arbeille P, Manlik D, Laurini RN, editors. *Fetal Hypoxia*. New York and London: Parthenon, pp 109–115.
- Prechtl HFR. (2001a) General movement assessment as a method of developmental neurology: new paradigms and their consequences. The 1999 Ronnie MacKeith Lecture. *Dev Med Child Neurol* 43: 836–842.
- Prechtl HFR. (2001b) Prenatal and early postnatal development of human motor behaviour. In: Kalverboer

- AF, Gramsbergen A, editors. *Handbook of Brain and Behaviour in Human Development*. Amsterdam: Kluwer, pp 415–427.
- Prechtl HFR, Beintema DJ. (1964) *The Neurological Examination of the Fullterm Newborn Infant*. London: Heinemann.
- Prechtl HFR, Einspieler C. (1997) Is neurological assessment of the fetus possible? *Eur J Obstet Gynecol Rep Biol* 75: 81–84.
- Prechtl HFR, Hopkins B. (1986) Developmental transformations of spontaneous movements in early infancy. *Early Hum Dev* 14: 233–238.
- Prechtl HFR, Lenard HG. (1968) Verhaltensphysiologie des Neugeborenen. In: Linneweh F, editor. *Fortschritte der Pädologie*. Vol II. Berlin: Springer, pp 88–122.
- Prechtl HFR, Nolte R (1984) Motor behaviour of preterm infants. In: Prechtl HFR, editor. *Continuity of Neural Functions from Prenatal to Postnatal Life*. Clin Dev Med 94. Oxford: Blackwell, pp 79–92.
- Prechtl HFR, Fargel JW, Weinmann HM, Bakker HH. (1979) Postures, motility and respiration of low-risk preterm infants. *Dev Med Child Neurol* 21: 3–27.
- Prechtl HFR, Ferrari F, Cioni G. (1993) Predictive value of general movements in asphyxiated fullterm infants. *Early Hum Dev* 35: 91–120.
- Prechtl HFR, Bos AF, Cioni G, Einspieler C, Ferrari F. (1997a) *Spontaneous Motor Activity as a Diagnostic Tool*. Demonstration Video. London and Graz: The GM Trust.
- Prechtl HFR, Einspieler C, Cioni G, Bos AF, Ferrari F, Sontheimer D. (1997b) An early marker for neurological deficits after perinatal brain lesions. *Lancet* 349: 1361–1363.
- Prechtl HFR, Cioni G, Einspieler C, Bos AF, Ferrari F. (2001) Role of vision on early motor development: lessons from the blind. *Dev Med Child Neurol* 43: 198–201.
- Preyer W. (1885) *Die spezielle Physiologie des Embryo*. Leipzig: Grießen.
- Rademaker KJ, Groenendaal F, Jansen GH, Ekken P, de Vries LS. (1994) Unilateral haemorrhagic parenchymal lesions in the preterm infant: shape, site, and prognosis. *Acta Paediatr* 83: 602–608.
- Rapisardi G, Cappellini M, Luce Cioni M, Ernst C, Fonda C. (2002) Prognostic value of combined use of general movement assessment and proton magnetic resonance spectroscopy in term infants affected by hypoxic-ischemic encephalopathy. *Brain Dev* 24: 395. (Abstract.)
- Reuwer PJH, Sijmons EA, Rietman GW, van Tiel MWM, Bruinse HW. (1987) Intrauterine growth retardation: prediction of perinatal distress by Doppler ultrasound. *Lancet* 22: 415–418.
- Ribbert LSM, Visser GHA, Mulder EJH, Zonneveld MF, Morssink LP. (1993) Changes with time in fetal heart rate variation, movement incidences and haemodynamics in intrauterine growth retarded fetuses: a longitudinal approach to the assessment of fetal well being. *Early Hum Dev* 31: 195–208.
- Rizzo T, Ogata ES, Dooley SL, Metzger BE, Cho NH. (1994) Perinatal complications and cognitive development in two- to five-year-old children of diabetic mothers. *Am J Obstet Gynecol* 171: 706–713.
- Roberts A, Perrins R. (1995) Positive feedback as a general mechanism for sustaining rhythmic and non-rhythmic activity. *J Physiol* 89: 241–248.
- Roodenburg PJ, Wladimiroff JW, van Es A, Prechtl HFR. (1991) Classification and quantitative aspects of fetal movements during the second half of normal pregnancy. *Early Hum Dev* 25: 19–35.
- Sackett DL, Straus SE, Richardson WS, Rosenberg W, Haynes RB. (2000) *Evidence-Based Medicine. How Do You Practice and Teach EBM*, 2nd edition. Edinburgh: Churchill Livingstone, pp 67–93.
- Sadreyev RI, Panchin YV. (2002) Effects of glutamate agonists on the isolated neurons from the locomotor network of the mollusc Clione limacina. *Neuroreport* 13: 2235–2239.
- Sarnat HB, Sarnat MS. (1976) Neonatal encephalopathy following fetal distress. A clinical and electroencephalographic study. *Arch Neurol* 33: 696–705.
- Schechtman VL, Harper RM, Wilson AJ, Southall DP. (1992) Sleep state organization in normal infants and victims of the sudden infant death syndrome. *Pediatrics* 89: 865–870.
- Scolnik D, Nulman I, Rovet J, Gladstone D, Czuchta D, Gardner HA, Gladstone R, Ashby P, Weksberg R, Einarson T. (1994) Neurodevelopment of children exposed in utero to phenytoin and carbamazepine monotherapy. *JAMA* 271: 767–770.
- Sherrington C. (1906) *The Integrative Action of the Central Nervous System*. New York: Scribners. (Reprinted 1961. New Haven: Yale University Press.)
- Shinwell ES, Karplus M, Reich D, Weintraub Z, Blazer S, Bader D, Yurman S, Dolfin T, Kogan A, Dollberg S, Arbel E, Goldberg M, Gur I, Naor N, Sirota L, Mogilner S, Zaritsky A, Barak M, Gottfried E. (2000) Early postnatal dexamethasone treatment and increased incidence of cerebral palsy. *Arch Dis Child* 83: F177–F181.

- Shiono S, Fantini GA, Roberts JP, Chiao J, Shires GT. (1989) Assessment of the early cellular membrane response to live Escherichia coli bacteraemia. *J Surg Res* 46: 9–15.
- Sival DA, Visser GHA, Prechtl HFR. (1992a) The effect of intrauterine growth retardation on the quality of general movements in the human fetus. *Early Hum Dev* 28: 119–132.
- Sival DA, Visser GHA, Prechtl HFR. (1992b) The relationship between the quantity and quality of prenatal movements in pregnancies complicated by intrauterine growth retardation and premature rupture of the membranes. *Early Hum Dev* 30: 193–209.
- Sival DA, Brouwer OF, Meiners LC, Sauer PJJ, Prechtl HFR, Bos AF. (2003) The influence of cerebral malformations on the quality of general movements in spina bifida aperta. *Eur J Pediatr Surg* 13: S29–S30.
- Spitzer NC. (1995) Spontaneous activity: functions of calcium transients in neuronal differentiation. *Perspect Dev Neurobiol* 2: 379–386.
- Staras K, Kemenes I, Benjamin PR, Kemenes G. (2003) Loss of self-inhibition is a cellular mechanism for episodic rhythmic behaviour. *Curr Biol* 13: 116–124.
- Stevens B, Petryshen P, Hawkins J, Smith B, Taylor P. (1996) Developmental versus conventional care: a comparison of clinical outcomes for very low birth weight infants. *Can J Nurs Res* 28: 97–113.
- Suster ML, Bate M. (2002) Embryonic assembly of a central pattern generator without sensory input. *Nature* 416: 174–178.
- Suzue T. (1984) Respiratory rhythm generation in the vitro brain stem – spinal cord preparation of the neonatal rat. *J Physiol* 354: 173–183.
- Taft LT. (1995) Cerebral palsy. *Pediatr Rev* 16: 411–418.
- Takahashi M, Alford S. (2002) The requirement of presynaptic metabotropic glutamate receptors for the maintenance of locomotion. *J Neurosci* 22: 3692–3699.
- Teberg AJ, Walther FJ, Pena IC. (1988) Mortality, morbidity, and outcome of the small-for-gestational age infant. *Semin Perinatol* 12: 84–94.
- Thomas A, Saint-Anne Dargassies S. (1952) *Etudes Neurologiques sur le Nouveau-né et le Jeune Nourrisson*. Paris: Masson.
- Topp M, Langhoff-Roos J, Uldall P, Kristensen J. (1996) Intrauterine growth and gestational age in preterm infants with cerebral palsy. *Early Hum Dev* 44: 27–36.
- Touwen BCL. (1976) *Neurological Development in Infancy*. Clin Dev Med 58. London: Heinemann.
- Touwen BCL. (1979) *Examination of the Child with Minor Neurological Dysfunction*, 2nd edition. Clin Dev Med 71. London: Heinemann.
- Touwen BCL. (1990) Variability and stereotypy of spontaneous motility as a predictor of neurological development of preterm infants. *Dev Med Child Neurol* 32: 501–509.
- Trevarthen E, Moser HW. (1988) Diagnostic criteria for Rett syndrome. *Ann Neurol* 23: 425–428.
- Tsubokura H. (2002) Clinical significance of general movements. *No To Hattatsu* 34: 122–128.
- Tsubota S, Adachi N, Chen JF, Yorozuya T, Nagaro T, Arai T. (1999) Dexamethasone changes brain monoamine metabolism and aggravates ischemic neuronal damage in rats. *Anesthesiol* 90: 515–523.
- Tuor UI, Simone CS, Barks JD, Post M. (1993) Dexamethasone prevents cerebral infarction without affecting cerebral blood flow in neonatal rats. *Stroke* 24: 452–457.
- Uvebrant P, Hagberg G. (1992) Intrauterine growth in children with cerebral palsy. *Acta Paediatr* 81: 407–412.
- van der Heide JC, Paolicelli PB, Boldrini A, Cioni G. (1999) Kinematic and qualitative analysis of lower-extremity movements in preterm infants with brain lesions. *Phys Ther* 79: 546–557.
- van Kranen-Mastenbroek V, van Oostenbrugge R, Palmans L, Stevens A, Kingma H, Blanco C, Hasaart T, Vles J. (1992) Inter- and intra-observer agreement in the assessment of the quality of spontaneous movements in the newborn. *Brain Dev* 14: 289–293.
- van Kranen-Mastenbroek V, Kingma H, Caberg H, Ghys A, Blanco CE, Hasaart THM, Vles JSH. (1994) Quality of spontaneous general movements in full-term small for gestational age and appropriate for gestational age newborn infants. *Neuropediatrics* 25: 145–153.
- van Wulfften Palthe T, Hopkins B. (1984) Development of the infant's social competence during early face-to-face interaction: a longitudinal study. In: Prechtl HFR, editor. *Continuity of Neural Functions from Prenatal to Postnatal Life*. Clin Dev Med 94. Oxford: Blackwell, pp 198–219.
- Vining EPG, Accardo PJ, Rubenstein JE, Farrell SE, Roizen NJ. (1976) Cerebral palsy. A pediatric developmentalist's overview. *Am J Dis Child* 130: 643–649.
- Visser GHA, Laurini RN, de Vries JIP, Prechtl HFR. (1985) Abnormal motor behaviour in anencephalic fetuses. *Early Hum Dev* 11: 221–229.

- Volpe JJ. (1989) Intraventricular haemorrhage in the premature infant – current concepts. Part II. *Ann Neurol* 25: 109–116.
- Volpe JJ. (1995) *Neurology of the Newborn*, 3rd edition. Philadelphia: WB Saunders Company.
- Volpe JJ. (2000) *Neurology of the Newborn*, 4th edition. Philadelphia: WB Saunders Company.
- von Bernuth H, Prechtl HFR. (1969) Vestibular-ocular response and its state dependency in newborn infants. *Neuropädiatrie* 1: 11–24.
- von Holst E. (1939) Die relative Koordination als Phänomen und Methode zentralnervöser Funktionsanalyse. In: Asher L, Spiro K, editors. *Ergebnisse der Physiologie*. München: Bergmann, pp 228–306.
- Walther FJ. (1988) Growth and development of term disproportionate small-for-gestational age infants at the age of 7 years. *Early Hum Dev* 18: 1–11.
- Westfall MV, Sayeed MM. (1988) Basal and insulin-stimulated skeletal muscle sugar transport in endotoxic and bacteremic rats. *Am J Physiol* 254: R673–R679.
- Witt-Engerström I. (1987) Rett syndrome: a retrospective pilot study on potential early predictive symptomatology. *Brain Dev* 9: 481–486.
- Wulfeck BB, Trauner DA, Tallal PA. (1991) Neurological, cognitive and linguistic features of infants after early stroke. *Pediatr Neurol* 7: 266–269.
- Yuge M, Okano S, Tachibana K, Hojo M, Kawamoto M, Suzuki J. (2001) Assessment of general movement at routine medical examination of one-month-old infants. *No To Hattatsu* 33: 246–252.
- Zubrick SR, Kurinczuk JJ, McDermott BMC, McKelvey RS, Silburn SR, Davies LS. (2000) Fetal growth and subsequent mental health problems in children aged 4 to 13 years. *Dev Med Child Neurol* 42: 14–20.