

 **Long term sequelae of bacterial meningitis**  
(*Pediatr Infect Dis J.* 2011;30:3-6)

The authors present a comprehensive systematic literature review of the articles published between January 1970 and January 2010 for long-term ( $\geq 5$  years) sequelae of bacterial meningitis in children between the ages of 1 month and  $<18$  years. A total of 1433 survivors of childhood bacterial meningitis were evaluated; of which 705 (49.2%) were reported to have 1 or more long-term sequelae. A majority of reported sequelae were behavioral and/or intellectual disorders ( $n = 455$ , 45.0%). Hearing changes accounted for 6.7% ( $n = 68$ ) of sequelae and gross neurologic deficits accounted for 14.3% ( $n = 145$ ). A majority of childhood bacterial meningitis survivors with long-term sequelae that are documented in the literature have academic and behavioral limitations. While neurologic deficits may resolve over time, subtle behavioral deficits may not be appreciated initially and may continue to affect survivors for many years.

 **Protective factors in diet against asthma**  
(*J Allergy Clin Immunol.* 27 December 2010)

To investigate the evidence deficiencies of the nutrients selenium; zinc; vitamins A, C, D, and E; and low fruit and vegetable intake modifies the risk of children developing asthma or allergy, a systematic search of 11 databases was conducted, followed by meta-analyses. were undertaken. The authors identified 62 eligible reports including 21 cohort, 15 case-control, and 26 cross-sectional studies. Meta-analysis revealed that serum vitamin A was lower in children with asthma compared with controls (odds ratio [OR], 0.25; 95% CI, 0.10-0.40). Meta-analyses also showed that high maternal dietary vitamin D and E intakes during pregnancy were protective for the development of wheezing outcomes (OR, 0.56, 95% CI, 0.42-0.73; and OR, 0.68, 95% CI, 0.52-0.88, respectively). Adherence to a Mediterranean diet was protective for persistent wheeze (OR, 0.22; 95% CI, 0.08-0.58) and atopy (OR, 0.55; 95% CI, 0.31-0.97). Seventeen of 22

fruit and vegetable studies reported beneficial associations with asthma and allergic outcomes. Results were not supportive for other allergic outcomes for these vitamins or nutrients, or for any outcomes in relation to vitamin C and selenium.

 **Infertility, IVF and the risk of cerebral palsy**  
(*Human Reproduction.* 2010;25: 3142-5)

Children born after *in vitro* fertilization (IVF) or intracytoplasmic sperm injection (ICSI) have been reported to have a higher risk of cerebral palsy (CP), perhaps due to the higher frequency of preterm birth, multiple births or vanishing embryo in the pregnancies. However, it has been suggested that the underlying infertility may be part of the pathway. In this study, the authors examined whether untreated subfecundity (measured by time to pregnancy) or infertility treatment was associated with an increased risk of CP in the offspring. Using the Danish National Birth Cohort (1997–2003), the authors compared children born after 0–2 months of waiting time to pregnancy ( $n = 35\ 848$ ) with those born after a time to pregnancy of 3–5 months ( $n = 15\ 361$ ), 6-12 months ( $n = 11\ 528$ ) and  $>12$  months ( $n = 7387$ ), as well as those born after IVF/ICSI ( $n = 3617$ ), ovulation induction with or without intrauterine insemination ( $n = 3000$ ), and unplanned pregnancies ( $n = 13\ 462$ ). CP cases were identified through the Danish CP Register. In total, 165 (0.18%) children were diagnosed with CP in the entire cohort. The authors found no significant association between time to pregnancy and the risk of CP in children conceived spontaneously. Children born after IVF/ICSI had an increased risk of CP, even after adjustment for preterm birth and multiplicity (hazard ratio 2.30, 95% confidence interval 1.12-4.73). Subfecundity *per se* did not appear to be associated with the risk of CP in children, whereas being born after IVF/ICSI conferred an increased risk.

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