

### Generic and diabetes-specific parent-child behaviors and quality of life among youth with type 1 diabetes

Weissberg-Benchell J, et al. for the Steering Committee of the Family Management of Diabetes Study  
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**OBJECTIVE:** To evaluate associations among parent-child behaviors and generic and diabetes-specific health-related quality of life (HRQOL) in a multi-site sample of youth with type 1 diabetes. **METHODS:** One hundred and twenty-one youth and their primary caregivers completed measures of parent-child behaviors, child HRQOL, and participated in an observed family interaction task. **RESULTS:** Diabetes-specific parent-child variables were associated significantly with both generic and diabetes-specific HRQOL above and beyond the contributions of demographic and generic parent-child variables, accounting for between 13% and 31% of the variance in HRQOL. Diabetes-specific family conflict and negative diabetes-specific family communication were associated with lower HRQOL. Collaborative parent involvement in diabetes care was associated with higher levels of HRQOL. **CONCLUSIONS:** Interventions that target diabetes-specific family interactions will be beneficial to the quality of life of children with type 1 diabetes.

### Chronic fatigue syndrome after infectious mononucleosis in adolescents

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**OBJECTIVE:** The goal was to characterize prospectively the course and outcome of chronic fatigue syndrome in adolescents during a 2-year period after infectious mononucleosis. **METHODS:** A total of 301 adolescents (12–18 years of age) with infectious mononucleosis were identified and screened for nonrecovery 6 months after infectious mononucleosis by using a telephone screening interview. Nonrecovered adolescents underwent a medical evaluation, with follow-up screening 12 and 24 months after infectious mononucleosis. After blind review, final diagnoses of chronic fatigue syndrome at 6, 12, and 24 months were made by using established pediatric criteria. **RESULTS:** Six, 12, and 24 months after infectious mononucleosis, 13%, 7%, and 4% of adolescents, respectively, met the criteria for chronic fatigue syndrome. Most individuals recovered with time; only 2 adolescents with chronic fatigue syndrome at 24 months seemed to have recovered or had an explanation for chronic fatigue at 12 months but then were reclassified as having chronic fatigue syndrome at 24 months. All 13 adolescents with chronic fatigue syndrome 24 months after infectious mononucleosis were

female and, on average, they reported greater fatigue severity at 12 months. Reported use of steroid therapy during the acute phase of infectious mononucleosis did not increase the risk of developing chronic fatigue syndrome. **CONCLUSIONS:** Infectious mononucleosis may be a risk factor for chronic fatigue syndrome in adolescents. Female gender and greater fatigue severity, but not reported steroid use during the acute illness, were associated with the development of chronic fatigue syndrome in adolescents. Additional research is needed to determine other predictors of persistent fatigue after infectious mononucleosis.

### Tethered cord release: A long-term study in 114 patients

Bowman RM, Mohan A, Ito J, Seibly JM, McLone DG  
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**OBJECTIVE:** All children born with a myelomeningocele at the authors' institution undergo aggressive treatment to maintain or improve functional outcome. Consequently, when any neurological, orthopedic, and/or urological changes are noted, a search for the cause is initiated. The most common cause of decline in a child born with a myelomeningocele is shunt malfunction. The second most common cause is tethering of the distal spinal cord at the site of the original back closure. In this report, the authors review the indicators of symptomatic spinal cord tethering and discuss the surgical interventions and outcomes in the children with myelomeningocele who underwent treatment at Children's Memorial Hospital from 1975 to 2008. **METHODS:** Among the 502 children who underwent original closure at Children's Memorial Hospital, a symptomatic tethered spinal cord developed in 114 (23%). Eighty-one patients (71%) have undergone 1 untethering procedure, and 33 patients (29%) have undergone multiple untetherings, for a total of 163 total surgeries. The indicators of symptomatic spinal cord tethering include scoliosis, decline in lower-extremity (LE) motor strength, LE contractures, LE spasticity, gait change, urinary changes, and pain. **RESULTS:** Pain has shown the best response to surgical untethering, with 100% of children experiencing postoperative improvement. The results of long-term follow-up (average 12 years, range 1 month-23.3 years) in this cohort demonstrated scoliosis progression after surgical untethering in 52% of patients, with 28% requiring spinal fusion. On the 3-month postoperative manual muscle test, 70% of patients showed improved LE muscle strength compared to preoperatively. Gait was also similarly improved after untethering as evaluated by an orthopedic surgeon. Spasticity improved in two-thirds of the cohort, and as expected, LE contractures were stable (78%) postoperatively, as assessed by orthopedic and rehabilitation medicine specialists.

Urologically, 64% of patients showed improvements on postoperative bladder evaluation. **CONCLUSIONS:** Although this is a clinical outcome study with no control group, the authors' experience has been that tethered cord release is beneficial in maintaining neurological, urological, and orthopedic functioning in children born with a myelomeningocele.

### Comparison of surgeon and physiotherapist-directed Ponseti treatment of idiopathic clubfoot

Janicki JA, Narayanan UG, Harvey BJ, Roy A, Weir S, Wright JG. *Journal of Bone & Joint Surgery - American Volume* 2009 May;91(5):1101-1108.

**BACKGROUND:** Increasingly, the Ponseti method has been adopted worldwide as the preferred method of managing idiopathic clubfoot deformity. Following the successful implementation of the Ponseti method by orthopaedic surgeons in our institution, a clubfoot clinic was established in 2003. This clinic is directed by a physiotherapist who, using the Ponseti protocol, performs the serial cast treatment and supervises the brace management of all children with idiopathic clubfoot deformity. The purpose of this study was to compare the outcomes of physiotherapist-directed with surgeon-directed Ponseti cast treatment of idiopathic clubfeet. **METHODS:** We performed a retrospective cohort study of all patients with idiopathic clubfoot deformity treated from 2002 to 2006 and followed for a minimum of two years. Twenty-five children (thirty-four clubfeet) treated by surgeons were compared with ninety-five children (137 clubfeet) treated by a physiotherapist. The outcomes that were evaluated included the number of casts required, the rate of percutaneous Achilles tenotomy, the rate of recurrence, the failure rate, and the need for additional surgical procedures. **RESULTS:** At the time of presentation, the patients in the two groups were similar in terms of age, sex distribution, laterality of the clubfoot, and history of treatment. The mean duration of follow-up was thirty-four months in the physiotherapist-directed group and forty-eight months in the surgeon-directed group. No significant difference was found between the two groups with regard to the mean number of initial casts, the Achilles tenotomy rate, or the failure rate. Recurrence requiring additional treatment occurred in 14% of the feet in the physiotherapist-directed group and in 26% of the feet in the surgeon-directed group ( $p = 0.075$ ). Additional procedures, including repeat Achilles tenotomy or a limited posterior or posteromedial release, were required in 6% of the feet in the physiotherapist-directed group and in 18% of those in the surgeon-directed group ( $p = 0.025$ ). **CONCLUSIONS:** In our institution, the Ponseti method of cast treatment of idiopathic

clubfeet was as effective when it was directed by a physiotherapist as it was when it was directed by a surgeon, with fewer recurrences and a less frequent need for additional procedures in the physiotherapist-directed group. The introduction of the physiotherapist-supervised clubfoot clinic at our institution has been effective without compromising the quality of care of children with clubfoot deformity.

### Cord blood biomarkers of the fetal inflammatory response

Mestan K, Yu Y, Thorsen P, et al. *Journal of Maternal-Fetal & Neonatal Medicine* 2009 May;22(5):379-387.

**OBJECTIVE:** In current, neonatal practice, clinical signs of intrauterine infection (IUI) are often non-specific. From a large panel of immune biomarkers, we seek to identify cord blood markers that are most strongly associated with the fetal inflammatory response (FIR), a specific placental lesion associated with serious neonatal complications. **METHODS:** We used multiplex immunoassay to measure 27 biomarkers, selected as part of an NIH-funded study of preterm birth, according to gestational age (GA) and extent of placental inflammation: involvement of chorion, amnion, decidua (maternal inflammatory response, MIR); extension to umbilical cord or chorionic plate (FIR). We used false-discovery rate (FDR < 5%,  $P < 0.001$ ) to account for multiple comparisons. **RESULTS:** Among 506 births (GA 23-42 weeks), IL-1 beta increased with FIR among preterm subgroups ( $P = 0.0001$  for <32 weeks;  $P = 0.0009$  for 33-36 weeks). IL-6 and IL-8 increased with FIR among preterm and full-term infants ( $P < 0.0001$ ). P-trend for IL-6 and IL-8 with MIR versus FIR was <0.0001. Comparison with respect to clinical IUI yielded persistent elevation with FIR even when clinical signs were absent. The remaining 24 markers were not significantly associated. **CONCLUSIONS:** We conclude that among 27 cord blood biomarkers, IL-1 beta, IL-6 and IL-8 are selectively associated with FIR. These markers may be clinically useful indicators of extensive IUI associated with poor neonatal outcome.