Clippings

❑ With the meningococcal scare still fresh in everyone's mind, this epidemiological study from Amsterdam has thrown up an interesting correlate. Apparently, having a pregnant mother may dramatically increase a child's risk of meningococcal disease. The cases with meningococcal disease were significantly more likely to have a mother who was pregnant at the time of the child's hospitalization (17 children, or 19%) than were the controls (2 children, or 2%). The authors are unclear why having a pregnant mother so markedly increases the risk of meningococcal disease in her child, though they suspect alterations in the mucosal barrier of the nasopharynx during pregnancy may play a role. Pediatrics 2005; 115: e590-e593.

❑ Hi-tech way to reduce need for Blood Transfusions in ELBW infants! The authors prospectively studied 83 ELBW infants (birth weight 500 to 1,000 g). Half were randomly assigned to receive usual care at birth, while the other half were monitored with an in-line, ex-vivo monitor for 2 weeks. At the operator's command, the monitor withdrew 1.5 mL of blood through an umbilical artery catheter; analyzed the sample for blood gases and sodium, potassium, and hematocrit levels; then returned all but 25 µL of blood to the child. During the first week of life, the RBC transfusion volume was significantly lower, by 33%, in the monitor group than in the controls. Furthermore, throughout the 2-week study, cumulative phlebotomy loss was 25% lower in the monitor group compared with the controls. Other neonatal parameters and neurodevelopmental outcomes at 18 to 24 months did not differ significantly between the two groups. Pediatrics 2005; 115: 1299-1306.

❑ Developmental coordination disorder (DCD), which affects about 5% of school-aged children, is associated with deficits in motor function and with educational and behavioral problems. Three months of supplementation with omega-3 and omega-6 fatty acids can significantly improve the educational and behavioral symptoms of patients with DCD, according to a new study. The authors studied 117 children 5 to 12 years old with DCD. Half the patients were randomly assigned to receive placebo for 3 months, while the others received omega-3 and omega-6 fatty acids supplementation (in a 4:1 ratio). Age-standardized motor skills did not improve significantly with active treatment compared with placebo. However, reading and spelling scores improved significantly during the first 3 months of treatment in the active group compared with the controls. Behavioral symptoms (*e.g.*, opposition, hyperactivity) also improved significantly with active treatment. Patients who started on placebo had similar benefits after they switched to the fatty acid capsules for 3 months. Supplementation was not associated with adverse events and was well tolerated, with a compliance rate of 89%. Pediatrics 2005; 115: 1360-1366.

❑ Antiretroviral therapy (ART) for pediatric human immunodeficiency virus (HIV) infection has evolved from simple nucleoside reverse transcriptase inhibitor (NRTI) regimens to complex combination therapies based largely on evidence from clinical trials. To assess concordance of initial regimens with US pediatric guidelines, and to identify predictors of the first regimen switch, the authors studied 766 perinatally HIV-infected children. In multivariate regression, the risk of switching decreased with age at ART initiation and increased with year of initiation. The risk of switching was higher in children who started with 1 NRTI, 2 NRTIs or an unconventional regimen vs children who started with a protease inhibitor-containing regimen; and in children who initiated ART at CD4 T lymphocyte percentages less than 15 vs 15 or greater. There was a short lag between the identification of novel ART and its adoption in the pediatric community. JAMA 2005; 293: 2213-2220.

❑ How Significant Are Asymptomatic Gross and Microscopic Hematuria? To evaluate its clinical significance and determine when diagnostic evaluation is necessary, investigators at Indiana University prospectively evaluated 570 children who were referred for evaluation of asymptomatic hematuria. Diagnostic evaluation consisted of personal history (to exclude symptoms), physical exam, blood pressure measurement, and laboratory studies (including complete blood count, urinalysis, serum creatinine and C3 levels, creatinine clearance, protein and calcium excretion, and ultrasonography or intravenous pyelography). Streptozyme titers were measured when hematuria was of less than 6 months' duration, antinuclear antibody assays were conducted in teenagers, and black children underwent hemoglobin electrophoresis. Urine cultures and renal biopsies were performed selectively (e.g., for persistent hematuria, hypertension, proteinuria, and decreased renal function). Of 342 children with microscopic hematuria, no cause was discovered in 80%. The most common cause was hypercalciuria (16% of all patients). Four children had poststreptococcal glomerulonephritis, and 4 had structural abnormalities of the urinary tract. Gross hematuria was a different story: Of 228 children, a cause was detected in 62%, including one Wilms tumor. Hypercalciuria without a history of stone disease was the most common cause (22% of patients), followed by IgA nephropathy (16%) and poststreptococcal nephritis (9%). Twelve patients were hypertensive, and 10 had structural abnormalities. Because of the low incidence of significant findings in children with asymptomatic microscopic hematuria (without proteinuria), it seems rational and safe to simply follow such children and to evaluate them further only if hypertension, proteinuria, or other symptoms emerge. Gross hematuria, on the other hand, should always prompt a thorough investigation. Arch Pediatr Adolesc Med 2005; 159: 353-355.

❑ Although guidelines recommend daily therapy for patients with mild persistent asthma, prescription patterns suggest that most such patients use these so-called controller therapies intermittently. The authors evaluated the efficacy of intermittent short-course corticosteroid treatment guided by a symptom-based action plan alone or in addition to daily treatment with either inhaled budesonide or oral zafirlukast over a one-year period. In a double-blind trial, 225 adults underwent randomization. The three treatments produced similar increases in morning PEF and similar rates of asthma exacerbations (P = 0.24), even though the intermittent-treatment group took budesonide, on average, for only 0.5 week of the year. As compared with intermittent therapy or daily zafirlukast therapy, daily budesonide therapy produced greater improvements in prebronchodilator FEV1, bronchial reactivity, the percentage of eosinophils in sputum, exhaled nitric oxide levels, scores for asthma control, and the number of symptom-free days, but not in postbronchodilator FEV1 or in the quality of life. Daily zafirlukast therapy did not differ significantly from intermittent treatment in any outcome measured. It may be possible to treat mild persistent asthma with short, intermittent courses of inhaled or oral corticosteroids taken when symptoms worsen. Further studies are required to determine whether this novel approach to treatment should be recommended. NEJM 2005; 352: 1519-1528.

❑ Can asking about suicide (during a school mental heath screening program) itself lead to suicidal ideas? Participants were 2342 students in 6 high schools in New York State in 2002-2004. Classes were randomized to an experimental group, which received the first survey with suicide questions, or to a control group, which did not receive suicide questions. Students exposed to suicide questions were no more likely to report suicidal ideation after the survey than unexposed students. High-risk students (defined as those with depression symptoms, substance use problems, or any previous suicide attempt) in the experimental group were neither more suicidal nor distressed than high-risk youth in the control

group. No evidence of iatrogenic effects of suicide screening emerged. Screening in high schools is a safe component of youth suicide prevention efforts. JAMA 2005; 293: 1635-1643.

❑ A variety of pharmacologic agents used for procedural sedation in children to reduce pain and anxiety may produce respiratory depression and hypotension. Although standard monitoring guidelines include oxygen saturation, this measurement is limited as a guide to respiratory function. This review discusses two new monitoring techniques recently introduced to the pediatric emergency department that facilitate procedural sedation and reduce potential adverse effects of the medications administered. Capnography via an end-tidal carbon dioxide monitor measures carbon dioxide concentrations during ventilation. This measurement is independent of oxygen saturation and thereby aids the clinician in identifying hypoventilation and apnea in the sedated patient at an earlier stage than conventional monitoring. The bispectral index monitor objectively measures the depth of sedation by analyzing electroencephalogram signals from a cutaneous probe. This tool enables the physician to titrate sedative medications to a desired effect and thereby reduce the risks associated with oversedation. These modalities will facilitate the efficacy of procedural sedation in children and improve safety by enabling early recognition of hypoventilation and by reducing the risk of oversedation in children undergoing procedural sedation. Curr Opin Pediatr 2005; 17: 351.

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