

### ❑ Comparison of weight estimation methods in children

The aim of this study was to evaluate differences in accuracy of 2 weight estimation methods for children when compared with measured weights: the Broselow-Luten tape (patient's height as the predictor) and the devised weight estimation method (DWEM) (patient's height and body habitus as predictors). Weight was measured in kilograms, and a measured length or height in centimeters was obtained, as well as 2 independent assessments of body habitus. Weights were then estimated using the Broselow-Luten tape and the DWEM. This study evaluated 4 separate weight classes: less than or equal to 10 kg, 10.1 to 20 kg, 20.1 to 36 kg, and 36.1 kg or more. One hundred children were recruited into each weight class, for a total of 400 children. The Broselow-Luten method had a negative mean percentage error in all weight classes, and the DWEM had a negative mean percentage error in classes greater than 20 kg, indicating an underestimation of weight in those classes (Pediatr Emerg Care 2007 Apr;23(4):227-30)

**Comments:** Although both the Broselow-Luten and DWEM weight estimations show statistical correlation with measured weights, the Broselow-Luten method underestimates weights in all weight classes, and the DWEM underestimates weights in the weight classes greater than 20 kg.

### ❑ Proteins in human milk

The human baby is born extremely immature, with its major organs and immune system not fully developed. For its survival, the infant depends on an extraordinarily well-adapted evolutionary strategy shared by all mammals: breastfeeding. But what does milk contain that makes it so essential for the newborn and how does it provide immunity, nutrition, and a source for optimal growth? Human milk is a very complex living fluid which comprises proteins, carbohydrates, lipids, cells and other biologically important components. These milk components interact synergistically with each other and their environment (the infant's gut) at a

biomolecular level with the final result being that breast milk feeds and protects the newborn. (Breastfeed Rev 2007 Mar;15(1):5-16)

**Comments:** This article summarizes the key characteristics of breast milk proteins and describes their functions as critical molecules conferring human milk with its diverse bioactive properties. Also presented are some of the factors which have an influence on the quantity and quality of breast milk proteins.

### ❑ Gestational weight gain and childhood adiposity

The purpose of this study was to examine the associations of gestational weight gain with child adiposity. Greater weight gain was associated with higher child body mass index z-score (0.13 units per 5 kg [95% CI, 0.08, 0.19]), sum of subscapular and triceps skinfold thicknesses (0.26 mm [95% CI, 0.02, 0.51]), and systolic blood pressure (0.60 mm Hg [95% CI, 0.06, 1.13]). Compared with inadequate weight gain (0.17 units [95% CI, 0.01, 0.33]), women with adequate or excessive weight gain had children with higher body mass index z-scores (0.47 [95% CI, 0.37, 0.57] and 0.52 [95% CI, 0.44, 0.61], respectively) and risk of overweight (odds ratios, 3.77 [95% CI: 1.38, 10.27] and 4.35 [95% CI: 1.69, 11.24]). (Am J Obstet Gynecol 2007 Apr;196(4):322.e1-8).

**Comments:** New recommendations for gestational weight gain may be required in this era of epidemic obesity.

### ❑ Behavior modification for childhood obesity

Childhood obesity, caused by reduced physical activity and increased food consumption, has reached epidemic proportions. In this study it was tried whether a single practitioner could enable a child to reduce BMI by educating towards a healthier lifestyle and then reinforcing the message in a structured manner. In this study, intervention group participants and their parents received a half-hour talk on exercise and diet, repeated after 3 months. They were instructed to fill weekly diaries

and were called weekly by telephone. Controls received the initial instruction only. Twenty-seven (14 intervention) obese children were recruited. Anthropometric parameters, fitness and biochemical data were collected before intervention and after 6 months in both groups. Sustained but not statistically significant improvements in attitude, BMI and LDL-cholesterol were noted in the intervention group. (J Pediatr Endocrinol Metab. 2007; 20:197-203).

**Comments:** These promising results support a need for further work to evaluate the efficacy and applicability of this approach in the population at large. Obviously repeated advice by doctors can induce behavior modification.

#### ❑ Efficacy of newer drugs for epilepsy

Valproate is widely accepted as a drug of first choice for patients with generalized onset seizures, and its broad spectrum of efficacy means it is recommended for patients with seizures that are difficult to classify. Lamotrigine and topiramate are also thought to possess broad spectrum activity. This study aimed to compare the longer-term effects of these drugs in patients with generalized onset seizures or seizures that are difficult to classify. Patients were randomly assigned to valproate, lamotrigine, or topiramate between Jan 1999, and Aug, 2004, and follow-up data were obtained up to Jan, 2006. Primary outcomes were time to treatment failure, and time to 1-year remission, and analysis was by both intention to treat and per protocol. For time to treatment failure, valproate was significantly better than topiramate but there was no significant difference between valproate and lamotrigine. For patients with an idiopathic generalized epilepsy, valproate was significantly better than both lamotrigine and topiramate. For time to 12-month remission valproate was significantly better than lamotrigine and for the subgroup with an idiopathic generalized epilepsy. But there was no significant difference between valproate and topiramate in either the analysis overall or for the subgroup with idiopathic generalized epilepsy. (Lancet 2007; 369:1016-1026).

**Comments:** Valproate is better tolerated than topiramate and more efficacious than lamotrigine, and should remain the drug of first choice for many

patients with generalized and unclassified epilepsies.

#### ❑ Utility of radiography in bronchiolitis

The aim of this study was to determine the proportion of radiographs inconsistent with bronchiolitis in children with typical presentation of bronchiolitis and to compare rates of intended antibiotic therapy before radiography versus those given antibiotics after radiography. A prospective cohort study was conducted in a pediatric emergency department of 265 infants aged 2 to 23 months with radiographs showing either airway disease only (simple bronchiolitis), airway and airspace disease (complex bronchiolitis), and inconsistent diagnoses (e.g. lobar consolidation). The rate of inconsistent radiographs was 2 of 265 cases (0.75%; 95% CI 0-1.8). Seven infants (2.6%) were identified for antibiotics pre-radiography; 39 infants (14.7%) received antibiotics post-radiography (95% CI, 8-16). (J Pediatr 2007; 150:429-433).

**Comments:** Infants with typical bronchiolitis do not need imaging because it is almost always consistent with bronchiolitis. Risk of airspace disease appears particularly low in children with saturation higher than 92% and mild to moderate distress.

#### ❑ Research and clinical practice in nephrology

Clinical practice in pediatric nephrology is continuously evolving to mirror the research output of the 21st century. The management of antenatally diagnosed renal anomalies, urinary tract infections, nephrotic syndrome and hypertension is becoming more evidence based. Obesity and related hypertension is being targeted at primary and secondary care. The evolving field of molecular and cytogenetics is discovering genes that are facilitating clinicians and families with prenatal diagnoses and understanding of disease processes. The progression of chronic kidney disease in childhood to end-stage renal failure (ESRF) can be delayed using medical treatment to reduce proteinuria and treat hypertension. Pre-emptive living-related renal transplantation has become the treatment of choice for children with ESRF, thereby reducing the morbidity and mortality associated with peritoneal and hemodialysis. Although

peritoneal dialysis, which is performed in the patient's home, is the preferred modality for children for whom there is no living or deceased donor for transplantation, home nocturnal haemodialysis is becoming a feasible option. Imaging modalities with the use of magnetic resonance and computerized tomography are continuously improving. (Arch Dis Child 2007; 92: 357-361).

**Comments:** As mortality for renal and vasculitic diseases improves, the aim now is to reduce morbidity with secondary prevention of longer-term complications such as atherosclerosis and hyperlipidaemia. Clinical and drug trials in the fields of hypertension, nephrotic syndrome, systemic lupus erythematosus, vasculitis and transplantation are producing more effective treatments, thereby reducing the morbidity resulting from the disease processes and the side effects of drugs.

#### ❑ Food, parks and obesity

The rapid increase in obesity over the past two decades suggests that behavioral and environmental influences, including poor nutrition and physical inactivity, are fueling what is now widely recognized as a public health crisis. Yet, limited research has been conducted to examine how environmental factors, such as neighborhood-level characteristics, may be associated with increased risk for obesity. Community-level risk associated with childhood obesity was examined in East Los Angeles, a community with one of the highest rates of childhood obesity in Los Angeles by triangulating: (1) spatial data for the number and location of food establishments relative to the location of schools; (2) observations regarding the availability and quality of fruits and vegetables in local grocery stores; and 3) observations regarding the quality and utilization of local parks. The findings revealed that there were 190 food outlets in the study community, of which 93 (49%) were fast-food restaurants. Of the fast-food restaurants, 63% were within walking distance of a school. In contrast, there were 62 grocery stores, of which only 18% sold fresh fruits and/or vegetables of good quality. Of the stores that did sell fruits and/or

vegetables, only four were within walking distance of a school. Although well maintained, the five parks in this community accounted for only 37.28 acres, or 0.543 acres per 1000 residents. (J Adolesc Health.2007;40:325-33).

**Comments:** These findings suggest that children have easy access to fast food, and limited access to both healthy food options and parks in which to engage in physical fitness activities. This was particularly true in areas around schools and this led to obesity.

#### ❑ Decline in pneumonia admissions after vaccination

Routine infant immunization with seven-valent pneumococcal conjugate vaccine (PCV7) began in the USA in 2000. Although invasive pneumococcal disease has declined substantially, the programme's effect on hospital admissions for pneumonia is unknown. This study assessed the effect of the programme on rates of all-cause and pneumococcal pneumonia admissions. Monthly admission rates estimated for years after the introduction of PCV7 vaccination (2001-2004) were compared with expected rates calculated from pre-PCV7 years (1997-1999). At the end of 2004, pneumonia admission rates had declined by 39% (95% CI 22-52) for children younger than 2 years, who were the target population of the vaccination programme. During the 8 study years, 10,659 (2%) children younger than 2 years admitted with pneumonia were coded as having pneumococcal disease; these rates declined by 65% (47-77). (Lancet 2007; 369: 1179-1186).

**Comments:** The reduction in all-cause pneumonia admissions in children younger than 2 years provides an estimate of the proportion of childhood pneumonias attributable to *Streptococcus pneumoniae* in the USA that are vaccine preventable. These results contribute to the growing body of evidence supporting the beneficial effects of the pneumococcal conjugate vaccines in children.

**K. Rajeshwari,**

*Professor of Pediatrics,  
Maulana Azad Medical College,  
New Delhi 110 002, India.*