Atoms

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Cloudy diagnoses

Having recently been on the take for 4 of the last 6 weeks at our hospital, I was discussing with our paediatric trainees why the treatment of children with a diagnosis of bronchiolitis, also known as wheezy bronchitis, is so frustrating, and largely unsuccessful. Most of us know the data, B-2 agonists do not work, steroids alone are not effective, 3% normal saline maybe helpful, although the data are limited, and racemic epinephrine, with or without steroids, appears effective. We are good at providing oxygen for the hypoxic child, although there is little agreement what level of hypoxia should be tolerated, and certainly for the very ill child, high-flow oxygen or even intubation, are options. Nevertheless virtually every time a child with bronchiolitis is admitted to hospital and does poorly, we try many of these treatments. Why? It is quite clear that the number of variables associated with the diagnosis—age, etiology, history of atopy or previous wheeze, family history of atopy—creates complexity that renders good decision making very difficult. In this issue, May and colleagues from Bristol, attempt to define the various phenotypes of chronic fatigue syndrome in children. Using factor analysis, they found that there are three potential phenotypic presentations of CFS, and have labeled them musculoskeletal, sore throat, and migraine. This is the first step in designing interventions that are more precise. I suspect that treatment for diagnoses which are cloudy—that is there is not a single or group of diagnostic tests that are definitive—are varied and often unsuccessful. ***See page 245***

Improving care

The care unit of children can be extensive and certainly includes parents and clinicians. However, representatives from social service agencies, nurses, and pharmacists may be involved. In general the quality revolution has focused on inpatient care, usually addressing what can be done to reduce medical errors and adverse drug reactions, and improve adherence with evidence-based information. In a very creative approach to quality improvement, investigators from the Netherlands enlisted the help of pharmacists. In a quasi-experimental trial, children with asthma who received their drugs from the participating pharmacies (n=9) were compared to children with asthma who received their drugs from pharmacies which did not participate (n=36). Pharmacists were encouraged to discuss important aspects of therapy for asthma with the general practitioners with whom they normally work. Compared to children in the control group, children in the intervention group were significantly less likely not to have a short-acting betamimetic and fewer children had no inhaled corticosteroids despite being on a long-acting betamimetic. Although this study assessed processes of care and not true outcome measures (asthma symptoms, hospitalisations), these investigators are to be congratulated for trying a relatively new approach to improving quality. ***See page 302***

Medication reconciliation

The national governing body of hospitals in the US now requires that all inpatient facilities undertake medication reconciliation every time a patient is admitted to the hospital—that is, all sources of information need to be reviewed so that there is only one official medical record that includes patient medications. This has created a great deal of work for admitting physicians, and it is not yet clear that it is worth the effort. In this issue, investigators from Utah compare various sources of information about medication for 23 children with medically complex conditions. They reviewed the most recent discharge summary, pharmacy data, last admission electronic medical record, admitting history, and parent report. Their findings—all are poor sources of information, with inadequate sensitivity and specificity. Many of the records were unavailable. This is sobering news. It is hard to improve quality of care if we can't be certain what drugs patients are prescribed, much less taking. ***See page 250***

Losing weight

Losing weight is difficult, and the worldwide epidemic of obesity has led to interest in what represents optimal weight loss. Obviously more weight loss is almost always better than less, but that is a rather nebulous statement. Given the stiff competition among the various commercial and academic weight loss programs, defining the minimal weight loss that leads to improved physiologic measures is of substantial scientific interest. In general, adult weight loss of 5-10% is considered the minimum required. In this issue, Ford *et al* report that a weight loss of BMI SDS $\geq$ .5 achieved a significant improvement in numerous measures of body composition that reflect obesity. They studied a group of 88 adolescents with a median age of 12.4 years and mean BMI SDS of 3.23 who were enrolled in a hospital outpatient weight management program. Unfortunately, few parents, adolescents, or most clinicians understand what a weight loss of .5 SDS BMI really means. I have asked our senior biostatistician Tim Cole for some help. He calculated that for a 14 year old male with a BMI of 28 (weight of 73.85 kg, height of 162.4 cms), a weight loss of .5 SDS (from 2.5 SDS to 2.0 SDS) is equivalent to 7.5 kilograms (BMI change from 28 to 25.2). This weight loss is ~10% of the original weight. I believe this information is helpful in counselling families—yes, more is better than less, but an important goal for an obese child should be ~10% of their body weight. ***See page 256***

Understanding sudden unexpected death in infants

For decades Peter Sidebotham and Peter Fleming have studied sudden unexpected death in infancy. They are among a handful of international experts in this field. Both have consulted to governments around the world. In this issue of ADC, along with their colleagues from Warwick, they report on changes following the 2006 governmental mandate that all infant deaths be investigated more thoroughly. Their findings are quite encouraging. Between 2003 and 2006, they were notified of 155 of 157 SUDI. Multi-agency discussions took place in more than 90% of the cases, and most importantly a home visit by police officers occurred in 117 cases. This increased steadily from 2003 (50%) through 2006 (83.9%). ***See page 291***