

# Atoms



Howard Bauchner, *Editor in Chief*

## THE GATES FOUNDATION INVESTS IN THE FUTURE HEALTH OF CHILDREN

In late June the Bill and Melinda Gates Foundation announced \$436 million in funding for global health (<http://www.gatesfoundation.org/GlobalHealth/Announcements/Announce-050627.htm>). Among the 43 projects, a number involve vaccines, including novel delivery systems (heat stable vaccines and delivery via the oral or nasal mucosa), single versus multiple dose vaccines, neonatal vaccination, and new immunisations. Other projects include the development of crops, such as bananas, cassava, and rice, which would be enriched in vitamins A and E, zinc, and iron, and developing new ways of preventing insects from transmitting diseases, such as malaria. I have been amazed at the world dominance of Word and Microsoft, particularly as a former fan of WordPerfect. That said, every time I buy a computer at work, I feel like I have invested just a tiny bit in the future health of children.

## FAILURE TO THRIVE

Failure to thrive (FTT) is a perplexing disorder. The diagnosis is often in the eye of the beholder, laboratory tests are usually unrevealing, and the effectiveness of treatment is uncertain. Rudolf and Logan have completed a systematic review, analysing 13 studies, two of which were randomised clinical trials, and eight that included comparison groups. They conclude that at the time of follow-up, these children have a slight decrement in IQ—3 points. Their height and weight is more significantly affected. Having worked in an FTT clinic for almost 20 years, I am not surprised by these findings. The context of FTT is often social deprivation, and the impact of poverty can be unremitting. The question that is unanswered by this review is whether

clinicians can use the diagnosis of FTT as a marker of a high risk family who could use help. In our clinic we continue to believe that our multidisciplinary team, which includes physicians, nutritionists, social workers, developmentalists, and out reach workers, not only helps children grow and develop, but also improves the general family milieu. In many regards, the growth of these children is less important than their social, behavioural, and cognitive development.

See page 925

## ASTHMA AND REFLUX

Gastro-oesophageal reflux is always on the short list of problems to consider in children with asthma who are doing poorly. In an elegant randomised clinical trial from Norway, 38 children (age range 7.2 to 16.8 years) with asthma and gastro-oesophageal reflux disease (GORD), as defined by a reflux index  $\geq 5$ , were assigned to omeprazole 20 mg daily or placebo. In order to ensure that GORD therapy was effective, 7 of 8 children in the treatment group underwent repeat pH probe and had a significant reduction in their RI score. After 12 weeks, no differences in the various outcomes, including symptom score, FEV1, or need for rescue medications were found. No differences were found in various subgroup analyses, including children with more severe reflux or those with more severe asthma. This is a well done and informative study. Unfortunately, the investigators did not categorize children according the severity of their disease and the number with severe persistent asthma appears to be small.

See page 956

## THIS MONTH IN FETAL AND NEONATAL EDITION

- Renewed interest and concerns about kernicterus, particularly in the US, has led to a reexamination of phototherapy. Hart and Cameron have tested the amount of irradiance produced by commercially available phototherapy systems. They found a 10-fold difference between systems. Clinicians and purchasers need to be aware of this extensive variation.
- Neonatal resuscitation is likely to change in the coming years – evidence that 100% oxygen may be harmful – continues to be reported. Two articles from Harling and colleagues from Liverpool, examine this issue. In the first study no differences were found in inflammatory markers (interleukin and tumour necrosis factors) in 52 premature infants who were resuscitated with either 50% or 100% oxygen. In the second report, using the same outcomes, they examine the impact of sustained (5 seconds) versus conventional (2 seconds) lung inflation on inflammatory response. Again, no significant differences in any of the cytokines were observed. Both of these reports involve small numbers and should be considered preliminary. However, given the concern about oxygen and the continued prevalence of bronchopulmonary dysplasia, trying to understand how best to resuscitate premature infants will be an important focus for future research.
- I remember the first time my children had their heels lanced for newborn blood. Ouch! They cried, I flinched. Drs Ogawa and colleagues from Japan, in a nicely done randomised, double blind, placebo controlled trial of 100 healthy, full term newborn infants, using neonatal facial coding as well as crying as the outcome, report that venepuncture is less painful than heel lance, and that oral sucrose is not necessary if venepuncture is used. I always suspected as such.