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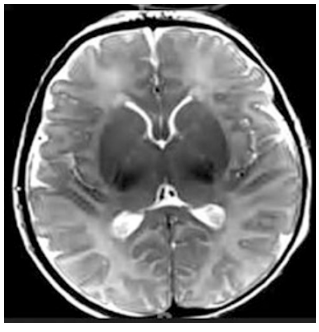
Anthropomorphic infant DXA phantom

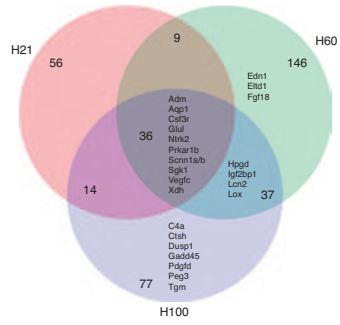
Dual-energy X-ray absorptiometry (DXA) requires phantoms for quality control and cross-calibration, but commercially available phantoms are not designed specifically for whole-body scanning of infants. Shypailo and Ellis fabricated a phantom of a 7-kg human infant that emulates bone, lean tissue, and fat and exhibits good reproducibility. **See page 486**

Autoregulation and neonatal encephalopathy



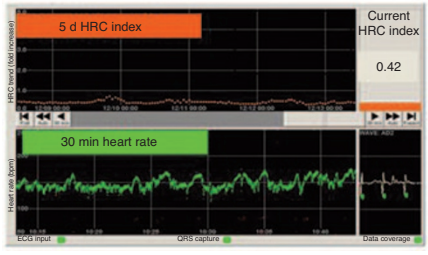
Howlett and colleagues looked at mean arterial blood pressure (MAP) in order to better describe the relationship between autoregulation and neurologic injury in neonatal encephalopathy. The autoregulation of newborns was monitored during therapeutic hypothermia, rewarming, and the first six hours of normothermia. It appears that maintaining MAP within a certain range might reduce the risk of neurologic injuries in neonatal encephalopathy. **See page 525**

Genes and the newborn lung



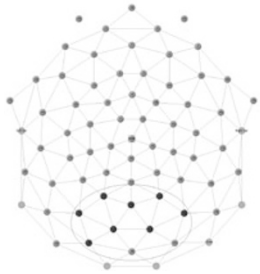
Wollen and coinvestigators used a mouse model to investigate how hyperoxic reoxygenation after hypoxia affects transcriptional changes in the newborn lung. Their results suggest that hyperoxic reoxygenation affects pathways regulating cell growth and survival, and that the response of DNA-damage-related genes is restricted to reoxygenation with 100% oxygen. **See page 536**

Mortality reduction in neonatal sepsis



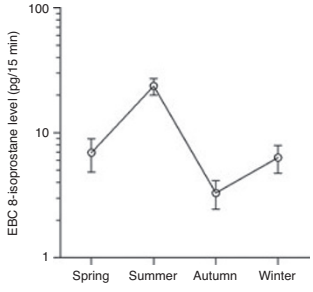
Continuously monitoring a heart rate characteristics (HRC) index leads to a reduction in mortality among very low birth weight (VLBW) infants. Fairchild *et al*. hypothesized that the reduction in mortality is due to a decrease in septicemia-associated mortality. They analyzed clinical and HRC data from 2,989 VLBW infants and found that, indeed, septicemia-associated mortality was reduced, possibly as a result of diagnosis earlier in the course of illness. **See page 570**

Fat-free mass and brain processing speed



The relationship between postnatal body composition and speed of brain processing was explored via air-displacement plethysmography in 16 appropriate-for-gestational-age preterm infants at term and at 4 months corrected gestational age. The results show that higher fat-free mass appears to be associated with shorter visual evoked potential latency, which reflects faster neuronal processing. **See page 576**

Allergic respiratory disease



Wan and coinvestigators evaluated the concentrations of cysteinyl leukotriene and 8-isoprostane in the exhaled breath condensates (EBCs) from 34 children with allergic respiratory diseases and 24 healthy children. Cysteinyl leukotriene and 8-isoprostane concentrations varied significantly by time of year as well as between cases and controls. **See page 584**