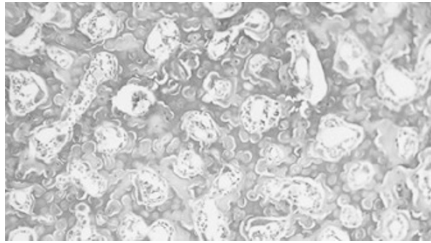


doi:10.1038/pr.2015.200

Effect of alendronate on growth



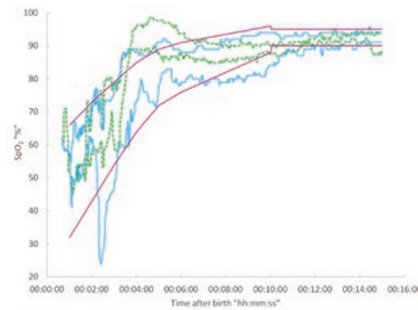
Oyhanart and coinvestigators evaluated the effect of alendronate on growing animals. Healthy male Wistar rats, aged 1 month, received alendronate or vehicle for 8 weeks, and morphometric and histomorphometric parameters were assessed. Alendronate caused significant alterations in growth, decreasing femur and tibia length, tibial cartilage thickness, and longitudinal growth of hemimandibles. [See page 618](#)

Gene expression after ventilation

Dénervaud *et al.* analyzed gene expression profiles in a newborn rat model 48 h after mechanical ventilation. In treated animals versus controls, 271 genes changed expression significantly. These experiments identified mainly tissue modeling/wound repair and immune response pathways as being modified after respiratory support. [See page 641](#)

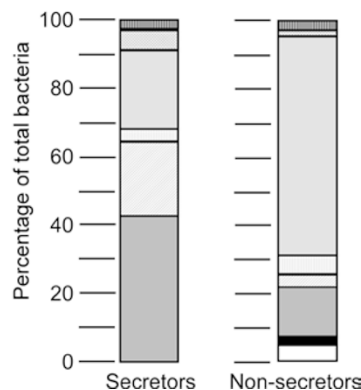
Automated oxygen control in lambs

Automated closed-loop control of the fraction of inspired oxygen (FiO₂) has been shown to facilitate oxygen supplementation in the neonatal intensive-care unit but has not yet been tested during preterm resuscitation. Hütten and coauthors intubated 22 preterm lambs



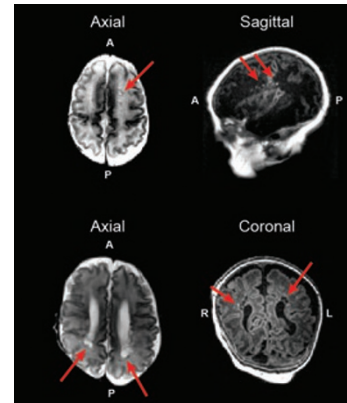
and randomized them to receive standardized resuscitation with either automated or manual FiO₂ control. In this model, fully automated FiO₂ control was feasible and prevented hyperoxia under rapidly changing physiologic conditions during postnatal resuscitation. [See page 657](#)

Effects of human milk oligosaccharides



Human milk oligosaccharides (HMOs) shape the intestinal microbiota in term infants. Using mass spectrometry, Underwood and colleagues investigated milk, urine, and stool specimens from 14 mother-premature infant dyads for HMO composition. They found that certain HMOs might decrease pathogens associated with sepsis and necrotizing enterocolitis and other HMOs may increase dysbiosis. [See page 670](#)

Neonatal neuroimaging and development



Rose and coinvestigators hypothesized that near-term macrostructural brain abnormalities identified using conventional magnetic resonance imaging (MRI) and white matter microstructure detected using diffusion tensor imaging would be associated with lower cognitive and motor development at 18–22 months of age. A total of 102 very-low-birth-weight preterm infants were recruited prior to routine near-term brain MRI and assessed. Among other results, the investigators found that cerebellar macrostructure abnormalities do indeed correlate with early neurodevelopment and gait. [See page 700](#)

Z-scores for central adiposity

To provide anthropometric measures of central adiposity for North American children, Sharma *et al.* created smoothed centile charts and tables for waist-to-height ratio and waist circumference based on data from the US National Health and Nutrition Survey. Z-scores for both measures of central adiposity were significantly more strongly associated with cardiometabolic comorbidities than BMI-Z scores. [See page 723](#)