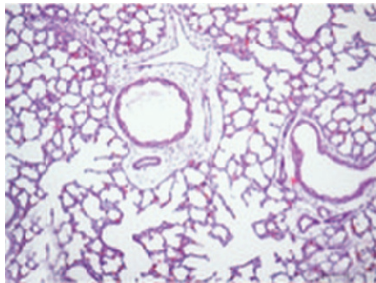


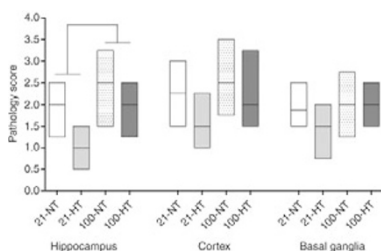
doi:10.1038/pr.2011.81

## Esophageal atresia and lung development



Esophageal atresia and tracheo-esophageal fistula (EA-TEF) are due to abnormal emergence of the trachea from the foregut. Using a rat model, Xiaomei and colleagues tested the hypothesis that primary lung maldevelopment might be a downstream consequence of this defect. Lungs were hypoplastic in rats with experimental EA-TEF as a result of defective embryonal airway branching; however, the arteriolar wall and respiratory epithelial patterns remained normal. These findings suggest that abnormal development may contribute to chronic respiratory disease in patients with EA-TEF. [See page 235](#)

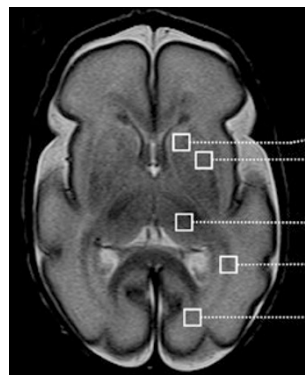
## Avoid hyperoxia before hypothermia?



Mild therapeutic hypothermia reduces brain injury after perinatal asphyxia. It is not known whether supplemental oxygen during resuscitation affects the protection offered by subsequent hypothermia. The investigation by Dalen and colleagues confirms

an ~50% neuroprotective effect of therapeutic hypothermia in the neonatal rat. However, reoxygenation in 100% O<sub>2</sub> increased injury and worsened reflex performance. Given that no net protection was seen with hypothermia after hyperoxia, avoiding hyperoxia before hypothermia might be beneficial. [See page 247](#)

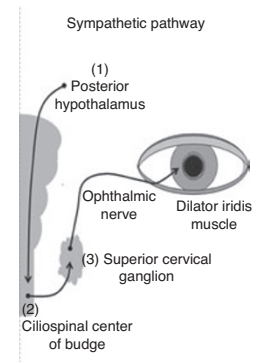
## Infection and brain abnormalities



Chau and colleagues aimed to characterize the association of postnatal infection with adverse microstructural and metabolic brain development in premature newborns. A total of 117 preterm newborns (24–32 weeks' gestation) were studied prospectively soon after birth and at term-equivalent age. Widespread brain abnormalities were found in newborns with positive-culture infection as well as in those with clinical infection. These findings suggest that postnatal infection, even without a positive culture, is an important risk factor for widespread abnormalities in the neonatal brain. [See page 274](#)

## Ophthalmologic abnormalities in CCHS

Autonomic nervous system dysregulation (ANS) in congenital central hypoventilation syndrome (CCHS) includes ophthalmologic abnormalities. Patwari *et al.* hypothesized that quantitative pupil measurements obtained using



pupillometry would vary between CCHS cases and controls and within CCHS by *PHOX2B* genotype. The results confirm the central hypotheses while offering the first objective measures of pupillary dysfunction and eye-related ANSD in CCHS. [See page 280](#)

## Improving reliability and outcomes



At the 2011 annual meeting of the Society for Pediatric Research, Maria T. Britto's presidential address underscored the importance of reliability in health-care processes. Her speech focused on improving reliability through collaboration, networking, and identification and elimination of system failures. She also noted the importance of involving patients and their families in the system. These approaches have dramatically improved care for cystic fibrosis patients, and they can do the same for patients in all areas of pediatrics. [See page 311](#)