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## Phlebotomy-induced anemia neurochemistry

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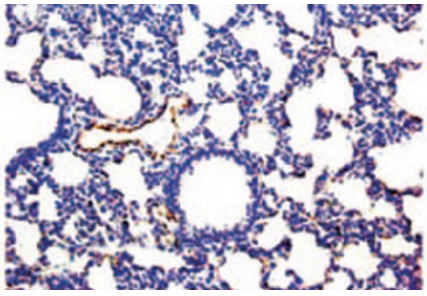
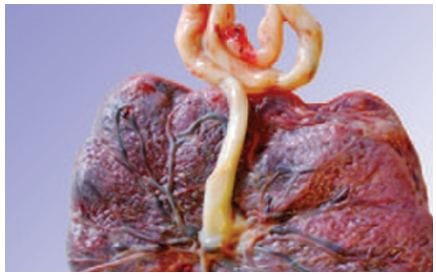
Phlebotomy-induced anemia (PIA), common in preterm infants, poses major risks to the development and function of the hippocampus in preterm neonates. Wallin and colleagues induced PIA in neonatal mice and measured concentrations of particular neurochemicals in the hippocampus. Compared with controls, the anemic animals exhibited altered hippocampal energy, phospholipid metabolism, and gene expression. **See page 765**

## Lung structure after hyperoxia



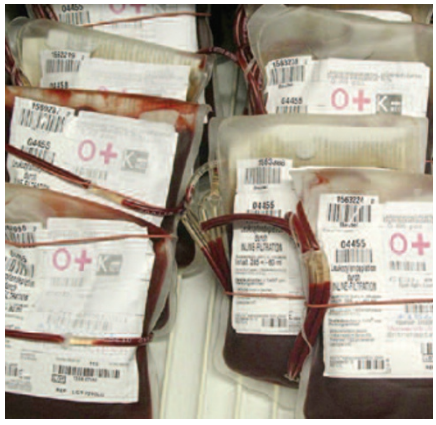
Therapy with stem cells or inhaled nitric oxide (iNO) is reported to improve lung structure in bronchopulmonary dysplasia models. Lu *et al*. hypothesized that a combination of iNO and transplanted endothelial progenitor cells (EPCs) might restore lung structure in rats after neonatal hyperoxia. Litters were separated into eight groups, each receiving different levels of oxygen, iNO, and EPCs. The results indicate that EPCs combined with iNO improved lung structure after neonatal hyperoxia. **See page 784**

## Human placenta transcriptome in IUGR



Madeleneau and coinvestigators aimed to increase the understanding of the pathophysiology of intrauterine growth restriction (IUGR) using a genome-wide method of expression analysis. They analyzed differentially expressed genes in pooled placental tissues from vascular IUGR and normal pregnancies using a long-nucleotide microarray platform. A total of 636 modified genes, of which 206 were upregulated, were identified. **See page 799**

## Transfusions and lead levels

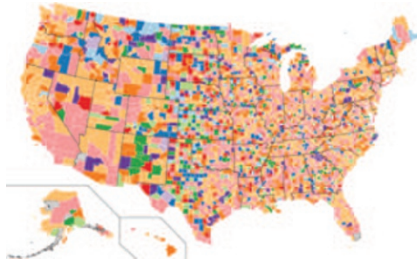


Preterm infants may be exposed to lead via transfusions of packed red blood cells (pRBCs), but very limited relevant data are available. Zubairi *et al*. quantified this exposure in 75 preterm infants of ≤30 weeks gestational age. Blood lead levels (BLLs) were obtained at birth, before and after each transfusion, and at discharge. The infants' posttransfusion BLLs correlated significantly with the levels of lead in the transfused pRBCs. **See page 814**

## Probiotic protection?

Recent experimental evidence suggesting that gut microbiota may alter function within the nervous system is providing new insight into the mechanism of neuropsychiatric disorders. Seventy-five infants randomized to receive *Lactobacillus rhamnosus* GG or placebo during the first 6 months of life were followed for 13 years. At that age, they were tested for attention-deficit hyperactivity disorder and Asperger's syndrome. Pärtty and coinvestigators found that probiotic supplementation early in life may reduce the risk of neuropsychiatric disorders later in childhood. **See page 823**

## Patterns in preterm birth



To help generate new research hypotheses, Byrnes and coauthors explored spatial and temporal patterns of preterm birth in a large, total-population data set. They examined data for 145 million US births in 3,000 counties from the Natality Files of the National Center for Health Statistics for 1971–2011 and compared state trends in early and late preterm birth rates. The observed geographic and temporal patterns suggest periodicity and complex shared influences among preterm birth rates in the United States. **See page 836**