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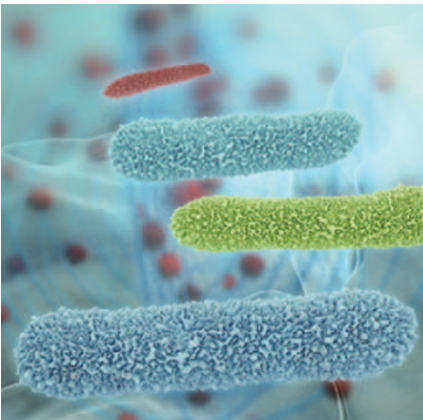
## Milk and surfactant protein A



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Gidvani and colleagues hypothesized that maternal surfactant protein A (SP-A) improves survival in newborn mice by optimizing milk immunoprotection. Immunologic responses to a novel antigen and to a nonhygienic environment were evaluated in wild-type and SP-A-null murine dams. The results appear to demonstrate that maternal SP-A attenuates a proinflammatory cytokine profile in milk. [See page 135](#)

## Antibiotics and the preterm microbiome



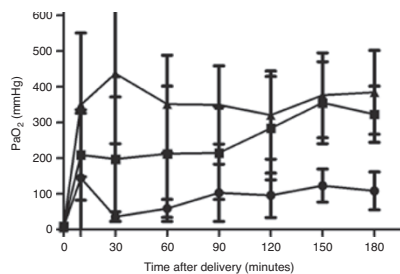
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Dardas *et al.* investigated whether duration of antibiotic administration

within the first 30 days after preterm birth affects the intestinal microbiome. Their study in 29 infants who received antibiotics for a minimum of two days suggests that the process of bacterial acquisition in the gastrointestinal tract is affected by antibiotics.

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## Less invasive surfactant administration



A proposed technique for administering surfactant to spontaneously breathing preterm infants involves placing a thin catheter into the trachea and past the vocal cords. Niemarkt and colleagues tested this method of less invasive surfactant administration (LISA) in a preterm lamb model. Lambs were treated with either continuous positive airway pressure (CPAP) only, CPAP plus LISA, or surfactant administration via intubation. The results show that LISA improved oxygenation despite lower levels of surfactant deposition and lung compliance. [See page 166](#)

## Vitamin D in lung development

Vitamin D and its receptor (VDR) have important roles in perinatal lung development. Koroglu and coauthors genotyped VDR gene polymorphisms

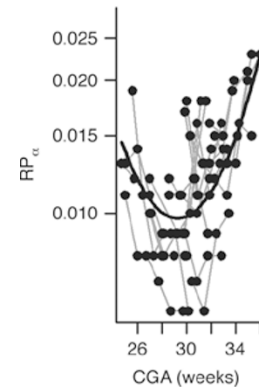


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in preterm infants with and without bronchopulmonary dysplasia (BPD). Their findings seem to show that polymorphism *Fok 1* is associated with a higher frequency of BPD.

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## Permissive hypercapnia and EEG



The effect of permissive hypercapnia on the preterm brain and brain electrical activity is unknown. Victor and coinvestigators aimed to determine the effect of chronic changes in partial pressure of blood carbon dioxide on brain electrical activity in preterm newborns. Digital electroencephalography (EEG) recordings were obtained from babies with a median gestational age of 29 weeks, and associations were found between blood pH, P<sub>CO<sub>2</sub></sub>, blood glucose, and EEG parameters. [See page 184](#)