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# ANESTHESIOLOGY

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*E. C. Sun* .....841

Spending a year as a senior economist at the Council of Economic Advisers yielded many insights into the policymaking process and how anesthesiologists can influence policy.

## Perioperative Medicine

### CLINICAL SCIENCE

◆ ◆ **Ultrasound Evaluation of Gastric Emptying Time in Healthy Term Neonates after Formula Feeding**  
*J. J. Lee, J. C. Price, A. Duren, A. Shertzer, R. Hannum III, F. A. Akita, S. Wang, J. H. Squires, O. Panzer, J. Herrera, L. S. Sun, N. A. Davis* .....845

Serial ultrasound imaging of the gastric antrum in healthy term neonates after formula feeding reveals gastric emptying times ranging from 45 to 150 min. These observations suggest that preanesthesia fasting of healthy term neonates could be substantially shorter than is currently recommended.

◆ ◆ **Availability of Inpatient Pediatric Surgery in the United States**  
*M. L. McManus, U. L. França* .....852

Before the start of the American College of Surgeons Children’s Surgery Verification Program, pediatric surgical care was highly concentrated, with less than 7% of hospitals responsible for more than 80% of procedures. Nearly half of all pediatric procedures undertaken outside of these centers involved teenagers. **SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT**

◆ ◆ **Postoperative Pulmonary Complications’ Association with Sugammadex versus Neostigmine: A Retrospective Registry Analysis**  
*G. Li, R. E. Freundlich, R. K. Gupta, C. J. Hayhurst, C. H. Le, B. J. Martin, M. S. Shotwell, J. P. Wanderer* .....862

At a medical center that implemented a complete switch from neostigmine to sugammadex, a statistically significant difference in pulmonary complication rates was not observed between 7,800 general surgery patients receiving neostigmine versus 2,691 general surgery patients receiving sugammadex. Although rates of pulmonary complication after general surgery are decreasing, some of this change may be attributable to temporal trends in practice unrelated to the use of neostigmine versus sugammadex. **SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT**

◇ Refers to This Month in ANESTHESIOLOGY

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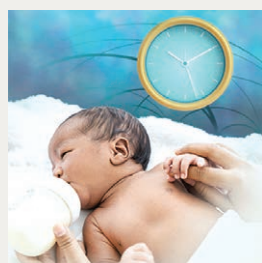
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 Part of the Letheon writing competition



 This article has a Visual Abstract

 This article is Open Access





**ON THE COVER:** Current American Society of Anesthesiologists fasting guidelines for formula-fed infants in the perioperative setting is 6 h, but actual gastric emptying in infants has been poorly studied. In this issue of ANESTHESIOLOGY, Lee *et al.* determined the time to gastric emptying in healthy neonates after formula feeding by serially evaluating the gastric antrum with ultrasound. In an accompanying editorial, Vutskits discusses the origins of the current fasting recommendations and calls for a re-evaluation of our current practice based on these new data. Cover Illustration: A. Johnson, Vivo Visuals.

- Lee *et al.*: Ultrasound Evaluation of Gastric Emptying Time in Healthy Term Neonates after Formula Feeding, p. 845
- Vutskits: Neonatal Preoperative Fasting: Time for a Change? p. 823



-   **Association of Gestational Age with Postpartum Hemorrhage: An International Cohort Study**  
*A. J. Butwick, C. Liu, N. Guo, J. Bentley, E. K. Main, J. A. Mayo, G. M. Shaw, O. Stephansson*.....874

In a retrospective analysis of childbirth registries in California and Sweden, the incidence of postpartum hemorrhage varied from 3.2 to 7.1%. Compared to delivery at a gestational age of 37 to 38 weeks, delivery at 41 to 42 weeks was associated with a doubling of risk among parturients in California and a 62% increase in Swedish women. *SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT*

-   **Individualized versus Fixed Positive End-expiratory Pressure for Intraoperative Mechanical Ventilation in Obese Patients: A Secondary Analysis**  
*P. Simon, F. Girschbach, D. Petroff, N. Schlieve, G. Hempel, M. Lange, T. Bluth, M. Gama de Abreu, A. Beda, M. J. Schultz, P. Pelosi, A. W. Reske, H. Wrigge, for the PROBESE Investigators of the Protective Ventilation Network and the Clinical Trial Network of the European Society of Anesthesiology*.....887

Individualized positive end-expiratory pressure (PEEP; median 18 cm H<sub>2</sub>O) was superior to either fixed low levels (4 to 5 cm H<sub>2</sub>O) or a higher level (12 cm H<sub>2</sub>O with recruitment) with regards to oxygenation, driving pressures, and indices of regional ventilation. Despite improvement in lung function, no differences in postoperative pulmonary complications were observed. However, this cohort was not adequately powered for clinical outcomes. *SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT*


## BASIC SCIENCE

-   **Mitochondrial Function and Anesthetic Sensitivity in the Mouse Spinal Cord**  
*C. B. Woods, K. A. Spencer, S. Jung, H. M. Worstman, J.-M. Ramirez, P. G. Morgan, M. M. Sedensky*.....901


In transgenic mice lacking a subunit of mitochondrial complex I, isoflurane increased an outwardly rectifying potassium current in the ventral horn of the spinal cord at a concentration much lower than in wild-type controls. The effects were mediated by noncholinergic neurons and were independent of presynaptic functions. These observations provide us with a functional link between sensitivity to volatile anesthetics, mitochondrial function, and postsynaptic potassium channel activity. *SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT*

## Pain Medicine

### CLINICAL SCIENCE

-   **Factors Contributing to Lingering Pain after Surgery: The Role of Patient Expectations**  
*M. D. Willingham, M. R. Vila, A. Ben Abdallah, M. S. Avidan, S. Haroutounian*.....915

In a single-center cohort of 3,628 patients undergoing a broad range of surgeries, 36% experienced lingering pain. Factors associated with lingering pain include negative expectations of pain, preoperative pain related to the surgery, recollection of severe acute postoperative pain, and undergoing a procedure typically performed to help alleviate pain. *SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT*

-  **Deep Spinal Infection after Outpatient Epidural Injections for Pain: A Retrospective Sample Cohort Study Using a Claims Database in South Korea**  
*C.-S. Lee, Y. J. Park, J. Y. Moon, Y.-C. Kim*.....925

A deep spinal infection was defined as an infection recorded in South Korea's national insurance database, occurring within 90 days of an outpatient epidural injection, and requiring 4 weeks of antibiotic therapy. In a randomly sampled population of adults between 2007 and 2015, 501,509 injections performed in 95,551 individuals were associated with 52 deep spinal infections (1.0 infections per 100,000 injections). Multivariable analysis demonstrated that age of 65 yr or more, living in a rural area, complicated diabetes, repeated epidural injections (three times or more) within 90 days, and recent use of immunosuppressants or systemic steroids were associated with the diagnosis of a deep spinal infection after epidural injection. *SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT*

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- Airway Obstruction Attributable to Head and Neck Cancers: Awake Fiberoptic Intubation versus Awake Tracheostomy**  
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- ◇ Perioperative Management of Patients for Whom Transfusion Is Not an Option  
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This article reviews the management of patients requesting or requiring surgery without transfusion, including patient identification and informed consent, determining preoperative target hemoglobin and anemia management, and intraoperative and postoperative blood conservation techniques.

**REVIEW ARTICLE**

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 S. Mongodi, D. De Luca, A. Colombo, A. Stella, E. Santangelo, F. Corradi, L. Gargani, S. Rovida, G. Volpicelli, B. Bouhemad, F. Mojoli .....949

Lung ultrasound permits reliable assessment and monitoring of lung aeration. Multiple scoring systems have been developed in recent years with specific technical aspects, and this article describes how to apply this technique in the appropriate clinical context.

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**INSTRUCTIONS FOR AUTHORS**

The most recently updated version of the Instructions for Authors is available at [www.anesthesiology.org](http://www.anesthesiology.org). Please refer to the Instructions for the preparation of any material for submission to ANESTHESIOLOGY.

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