THIS MONTH IN

# ANESTHESIOLOGY

### Anesthesia for *In Utero* Repair of Myelomeningocele (Review Article) 1211

Open fetal repair includes elements from anesthetic management of cesarean delivery, *ex utero* intrapartum therapy, nonobstetric surgery during pregnancy, and pediatric surgery. Physiologic changes of pregnancy and how they affect perioperative management of both the mother and the fetus are reviewed. *See the accompanying Editorial View on* page 1016

### Magnetic Resonance Imaging Analysis of the Spread of Local Anesthetic Solution after Ultrasound-guided Lateral Thoracic Paravertebral Blockade: A Volunteer Study 1106

Ultrasound-guided single-shot paravertebral blocks were performed at the thoracic 6 level on both sides on consecutive days in 10 volunteers. Although approximately four vertebral levels were covered by 20 ml mepivacaine 1%, the somatic distribution of the block was unpredictable.

### Patterns of Preoperative Consultation and Surgical Specialty in an Integrated Healthcare System 1028

Twenty-two percent of 13,673 patients undergoing mostly low risk operations in an integrated healthcare system had preoperative consultations. Ophthalmologic surgery referred the highest proportion of patients. Patients with the lowest predicted cardiac risk were more likely to have consultations. *See the accompanying Editorial View on* page 1005

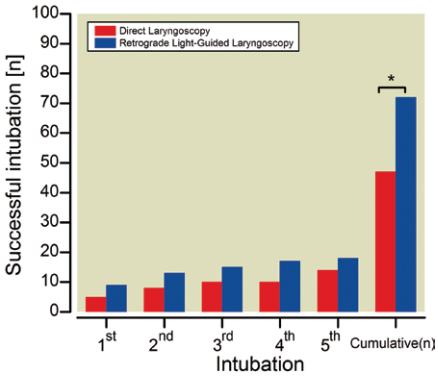
### Global Health Implications of Preanesthesia Medical Examination for Ophthalmic Surgery 1038

Detailed review of ophthalmic preanesthesia examination results identified new or unstable existing medical conditions in 40% of 530 patients. Although these infrequently affected conduct of perioperative procedures or outcomes, they may be relevant to long-term patient health. *See the accompanying Editorial View on* page 1005

### Compartment Syndrome of the Forearm in a Patient with an Infraclavicular Catheter: Breakthrough Pain as Indicator (Case Scenario) 1198

A case of a patient receiving regional anesthesia through an infraclavicular catheter who developed acute compartment syndrome is presented. The pathophysiology, diagnosis, treatment, outcomes, and implications of regional anesthesia use in the diagnosis of acute compartment syndrome are reviewed.

### Retrograde Light-guided Laryngoscopy for Tracheal Intubation: Clinical Practice and Comparison with Conventional Direct Laryngoscopy 1059




Retrograde light-guided laryngoscopy for tracheal intubation uses transtracheal light transmission from a source attached to the skin to illuminate the glottis. Nine residents, six medical students, and five nurses who had never intubated a patient each attempted to intubate 10 patients, using direct laryngoscopy in five of them and retrograde light-guided laryngoscopy in five in a randomly assigned order. The overall success rate using direct laryngoscopy was 47% while that with retrograde light-guided laryngoscopy was 72%. The median cumulative times to glottis exposure and to tracheal intubation were decreased and glottic exposure was improved when retrograde light-guided laryngoscopy was used. *See the accompanying Editorial View on* page 1011

### Perioperative Comparative Effectiveness of Anesthetic Technique in Orthopedic Patients 1046

The effect of anesthetic technique on perioperative outcome is still unclear. Neuraxial anesthetic techniques are particularly suitable for patients undergoing primary hip or knee arthroplasty. Therefore, data on almost 400,000 patients undergoing primary hip or knee arthroplasty at approximately 400 acute care hospitals located across the United States between 2006 and 2010 were accessed to determine the effect of choice of anesthetic technique on outcomes. The proportional use of neuraxial anesthesia, with or without general anesthesia, was approximately 24%. Patients having primary joint arthroplasties under neuraxial anesthesia had lower 30-day mortality and a lower incidence of prolonged hospital stay, in-hospital complications, and increased costs than did patients undergoing the same operative procedures under general anesthesia. *See the accompanying Editorial View on* page 1008

### Impact of the Prone Position in an Animal Model of Unilateral Bacterial Pneumonia Undergoing Mechanical Ventilation 1150

Mechanical ventilation can be harmful to the lungs of critically ill patients with respiratory failure. Reducing tidal volumes and applying positive end-expiratory pressure can protect the lung. The effects of the prone position or the supine position with "adverse" mechanical ventilation settings and with "protective" mechanical ventilation on the severity of unilateral pneumonia and ventilator-induced lung injury were determined in male New Zealand white rabbits. In this lobar lung injury model, the prone position improved lung bacterial clearance, reduced pulmonary-to-systemic bacteria translocation, and lessened the host inflammatory response. In addition, the prone position diminished the damage to the noninfected lung caused by mechanical ventilation and modulated inflammation. Although pneumonia was less severe when using clinically relevant ventilator settings, turning the animals to the prone position could produce further improvements.