

# Anesthesiology

*The Journal of the American Society of Anesthesiologists, Inc.*

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### 23A ■ HIGHLIGHTS

#### ■ EDITORIAL VIEWS

- 1001** New Frontiers in Anesthesia Research: Assessing the Impact of Practice Patterns on Outcome, Health Care Delivery, and Cost

*William L. Lanier and Mark A. Warner*

#### ■ CLINICAL INVESTIGATIONS

- 1005** A Prospective, Comparative Trial of Three Anesthetics for Elective Supratentorial Craniotomy: Propofol/Fentanyl, Isoflurane/Nitrous Oxide, and Fentanyl/Nitrous Oxide

*Michael M. Todd, David S. Warner, Martin D. Sokoll, Mazen A. Maktabi, Bradley J. Hindman, Franklin L. Scamman, and Jerry Kirschner*

The short-term outcome following elective supratentorial surgery was not influenced by the anesthetic selected.

- 1021** Epidural Clonidine Depresses Sympathetic Nerve Activity in Humans by a Supraspinal Mechanism

*Klaus Kirnö, Stefan Lundin, and Mikael Elam*

The epidural administration of clonidine was found to induce a supraspinally evoked decrease in sympathetic outflow.

- 1028** Inhaled Nitric Oxide: Selective Pulmonary Vasodilation in Cardiac Surgical Patients

*George F. Rich, Gerald D. Murphy, Jr., C. M. Roos, and Roger A. Johns*

The effectiveness of inhaled nitric oxide as a pulmonary vasodilator is demonstrated in cardiopulmonary bypass patients and in patients using a ventricular assist device.

- 1036** Pharmacodynamics of Alfentanil as a Supplement to Propofol or Nitrous Oxide for Lower Abdominal Surgery in Female Patients

*Jaap Vuyk, Toine Lim, Frank H. M. Engbers, Anton G. L. Burm, Arle A. Vletter, and James G. Bovill*

Alfentanil plus propofol (4 µg/ml) exerts a greater anesthetic effect than does alfentanil plus nitrous oxide (66%) in female patients undergoing lower abdominal surgery.

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**1046** Physiologic Responses to Hyperthermia during Epidural Anesthesia and Combined Epidural/Enflurane Anesthesia in Women

*Michael Lopez, Makoto Ozaki, Daniel I. Sessler, and Marcela Valdes*

Gain and maximum response intensity of the sweating threshold were well preserved when hyperthermia was induced during enflurane anesthesia.

**1055** Heat Loss during Surgical Skin Preparation

*Daniel I. Sessler, Andrew M. Sessler, Shannon Hudson, and Azita Moayeri*

Perioperative hypothermia during skin preparation is related to evaporative heat loss that is relatively small compared with total heat loss during typical surgical procedures.

**1065** Intramuscular Dexmedetomidine as Premedication for General Anesthesia: A Comparative Multicenter Study

*Harry Scheinin, Marja-Leena Jaakola, Sari Sjövall, Timo Ali-Melkkilä, Seppo Kaukinen, Jari Turunen, and Jussi Kanto*

Despite some perioperative benefits, dexmedetomidine should be used with caution as it increases the incidence of intraoperative hypotension and bradycardia.

**1076** Are All Preterm Infants Younger than 60 Weeks Postconceptual Age at Risk for Postanesthetic Apnea?

*S. Malviya, J. Swartz, and J. Lerman*

Ex-preterm infants younger than 44 weeks postconceptual age at the time of surgery appear to be at risk for postanesthetic apnea following general anesthesia.

**1082** Effect of Lung Volume on Lung Resistance and Elastance in Awake Subjects Measured during Sinusoidal Forcing

*George M. Barnas, Juraj Sprung, Timothy M. Craft, John E. Williams, Ian G. Ryder, J. Amy Yun, and Colin F. Mackenzie*

The mechanical properties of the lungs can be changed by varying mean lung volume and applying positive end-expiratory pressure.

### ■ LABORATORY INVESTIGATIONS

**1091** Use of Ultrasound to Enhance the Local Anesthetic Effect of Topically Applied Aqueous Lidocaine

*Katsuro Tachibana and Shunro Tachibana*

Ultrasound and topically applied lidocaine can be used together to induce an anesthetic effect.

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**1097 Comparison of Low Concentrations of Halothane and Isoflurane as Bronchodilators**

*Robert H. Brown, Elias A. Zerhouni, and Carol A. Hirshman*

At 0.7 and 1.1 MAC but not at 1.7 MAC, halothane dilates histamine-constricted airways more effectively than does isoflurane.

**1102 Factors Influencing the Direct Actions of Volatile Anesthetics on Airway Smooth Muscle**

*Kozo Yamamoto, Naoki Morimoto, David O. Warner, Kai Rehder, and Keith A. Jones*

Airway smooth muscle contractions are relaxed by halothane in amounts dependent on the contractile agonist used.

**1112 Effects of Nifedipine with Isoflurane, Halothane, or Enflurane on Automaticity, Conduction, and Contractility in Isolated Guinea Pig Hearts**

*Lori A. Gallenberg, David F. Stowe, John P. Kampine, and Zeljko J. Bosnjak*

Nifedipine combined with volatile anesthetics depresses atrial rate and contractility but does not prolong atrioventricular conduction.

**1120 Sympathetic Activity Enhances Glucose-related Ischemic Injury in the Rat**

*Ching Chung Shu, William E. Hoffman, Chinamma Thomas, and Ronald F. Albrecht*

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**1126 Flux of Morphine, Fentanyl, and Alfentanil through Rabbit Arteries *In Vivo*: Evidence Supporting a Vascular Route for Redistribution of Opioids between the Epidural Space and the Spinal Cord**

*Christopher M. Bernards*

Epidurally administered opioids may gain direct access to the spinal cord through the radicular arteries.

**1132 Acute Volume Regulation of Brain Cells in Response to Hypertonic Challenge**

*Michael L. McManus and Kevin Strange*

A new mechanism may be responsible for the synergistic effects of loop and osmotic diuretics in the reduction of brain volume.

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*Denise J. Wedel, Scott A. Gammel, James H. Milde, and Paul A. Iaizzo*

Malignant hyperthermia in susceptible swine is triggered more rapidly by halothane than by desflurane or isoflurane.

**1145** Surfactant Treatment of Respiratory Failure Induced by Hydrochloric Acid Aspiration in Rats

*E. P. Eijking, D. Gommers, K. L. So, M. Vergeer, and B. Lachmann*

Treatment of respiratory failure following hydrochloric acid aspiration is more effective when bronchoalveolar lavage with saline is added to intratracheal surfactant administration.

**1152** Hypothermia Eliminates Isoflurane Requirements at 20° C

*Joseph F. Antognini*

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**1157** Pulmonary Uptake of Propofol in Cats: Effect of Fentanyl and Halothane

*Idit Matot, Constance F. Neely, Ray Y. Katz, and Gordon R. Neufeld*

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**1166** Amrinone and the Pulmonary Vascular Pressure–Flow Relationship in Conscious Control Dogs and Following Left Lung Autotransplantation

*Daniel P. Nyhan, Charles G. Pribble, William P. Peterson, Kimitoshi Nishiwaki, Gregory A. Trempey, Pankaj M. Desai, Peter Rock, and Paul A. Murray*

Following precontraction with U46619, amrinone caused pulmonary vasodilation in dogs that had recently undergone left lung autotransplantation.

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*Maurice Lippmann, Wayne Foran, Richard Ginsburg, and Joan Lewis*

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**GUIDE FOR AUTHORS**

The Guide for Authors is published in the January and July issues. Please refer to the Guide for the preparation of any material for submission to ANESTHESIOLOGY.

*ANESAV is a code word ("coden") used by the Chemical Abstract Service to identify the journal.*