

Anesthesiology

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795 Surrogate End Points: Are They Meaningful?

Dennis M. Fisher

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797 ASA Award: Tony L. Yaksh

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■ CLINICAL INVESTIGATIONS

799 Prophylactic Antiemetic Treatment with Ondansetron in Children Undergoing Tonsillectomy

Sheldon R. Furst and Alexander Rodarte

Ondansetron is effective at reducing post-tonsillectomy emesis in children, whereas metoclopramide and droperidol appear to be no better than placebo for this indication.

804 Effects of Ondansetron in the Prevention of Postoperative Nausea and Vomiting in Children

Wolfgang Ummenhofer, Franz J. Frei, Albert Urwyler, Christian Kern, and Jürgen Drewe

Ondansetron is effective in the prevention of postoperative nausea and vomiting in pediatric patients.

811 Diuretic Effect of Clonidine during Isoflurane, Nitrous Oxide, and Oxygen Anesthesia

Yoshihiro Hamaya, Toshiaki Nishikawa, and Shuji Dohi

Preanesthetic medication with 5 µg/kg oral clonidine induces clinically significant diuresis during minor surgery in patients anesthetized with isoflurane and nitrous oxide.

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820 The Interaction of Fentanyl on the Cp_{50} of Propofol for Loss of Consciousness and Skin Incision

Chris Smith, Angus I. McEwan, Rajiv Jhaveri, Michael Wilkinson, David Goodman, L. Richard Smith, Andrew T. Canada, and Peter S. A. Glass

Increasing age and fentanyl concentrations moderately alter the propofol concentration required to induce loss of response to a verbal command, and increasing fentanyl concentrations markedly reduce the propofol concentrations required to prevent a somatic response to skin incision.

829 Decreased Minimum Alveolar Concentration of Isoflurane in Pregnant Humans

Tony Gin and Matthew T. V. Chan

The minimum alveolar concentration of isoflurane determined by transcutaneous tetanic electrical stimulation was 0.78% in pregnant women of 8–12 weeks' gestation.

833 Pharmacokinetic Parameters Relevant to Recovery from Opioids

Elizabeth J. Youngs and Steven L. Shafer

Computer simulations are used to determine how the value of each individual volume and clearance affects plasma concentrations after an opioid infusion.

843 Repetitive Rapid Increases in Desflurane Concentration Blunt Transient Cardiovascular Stimulation in Humans

Richard B. Weiskopf, Edmond I. Eger II, Mimi Noorani, and Malcolm Daniel

A second rapid increase (10, 32, or 75 min later) in end-tidal concentration of desflurane from 0.55 to 1.1 MAC in volunteers causes increases in heart rate, arterial blood pressure, and plasma epinephrine concentration that are less than 20% of those produced by the initial equivalent increase in desflurane concentration.

850 Influence of a Subanesthetic Concentration of Halothane on the Ventilatory Response to Step Changes into and out of Sustained Isocapnic Hypoxia in Healthy Volunteers

Albert Dahan, Maarten J. L. J. van den Elsen, Aad Berkenbosch, Jacob DeGoede, Ida C. W. Ollevier, Anton G. L. Burm, and Jack W. van Kleef

Halothane (0.15 MAC) causes ventilation less than control levels during acute and sustained hypoxia as well as when sustained hypoxia is replaced by normoxia.

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860 Does Subanesthetic Isoflurane Affect the Ventilatory Response to Acute Isocapnic Hypoxia in Healthy Volunteers?

Maarten J. L. J. van den Elsen, Albert Dahan, Aad Berkenbosch, Jacob DeGoede, Jack W. van Kleef, and Ida C. W. Olievier

The ventilatory response to 5 min isocapnic hypoxia was not depressed by 0.1 MAC isoflurane during auditory and visual stimulation, whereas the response without stimulation was depressed by 50%.

868 High Thoracic Epidural Anesthesia Does Not Alter Airway Resistance and Attenuates the Response to an Inhalational Provocation Test in Patients with Bronchial Hyperreactivity

Harald Groeben, Andreas Schwalen, Stefan Irsfeld, Jörg Tarnow, Peter Lipfert, and Hans-Bernd Hopf

Pulmonary sympathetic denervation by thoracic epidural anesthesia is of no importance for airway resistance in patients with bronchial hyperreactivity.

■ LABORATORY INVESTIGATIONS

875 Effects of Isoflurane on Regional Coronary Blood Flow and Myocardial Tissue Pressure in Chronically Instrumented Dogs

Young D. Kim, Kurt Heim, Yi-Ning Wang, David Lees, and Adam K. Myers

Isoflurane redistributes intramyocardial tissue pressure across the myocardial wall and shifts myocardial blood flow toward subendocardium when heart rate and blood pressure are controlled.

888 Mutations Conferring New Patterns of Sensitivity to Volatile Anesthetics in *Caenorhabditis elegans*

Phil G. Morgan and Margaret M. Sedensky

Mutations have been isolated in the nematode *C. elegans* that alter genes controlling sensitivity to volatile anesthetics.

899 Spinal Delivery of Sufentanil, Alfentanil, and Morphine in Dogs: Physiologic and Toxicologic Investigations

Marc B. Sabbe, Marjorie R. Grafe, Erling Mjanger, Paul J. Tiseo, Harlan F. Hill, and Tony L. Yaksh

No abnormal morphologic or histologic effects were observed after chronic intrathecal or epidural administration of sufentanil, alfentanil, or morphine in dogs.

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921 **Effect of Interfacing between Spontaneous Breathing and Mechanical Cycles on the Ventilation-Perfusion Distribution in Canine Lung Injury**

Christian Putensen, Jukka Räsänen, Frank A. López, and John B. Downs

Spontaneous breathing superimposed on mechanical ventilation with airway pressure-release ventilation contributes to improved ventilation-perfusion matching and increased systemic blood flow.

931 **Halothane Inhibits Bradykinin-stimulated Prostacyclin Production in Endothelial Cells**

Alex L. Loeb, Debbie K. O'Brien, and David E. Longnecker

Halothane, but not isoflurane, inhibits endothelial cell prostacyclin production stimulated by bradykinin by a mechanism involving protein kinase C.

939 **Mechanism of Mesenteric Venodilatation after Epidural Lidocaine in Rabbits**

Quinn H. Hogan, Anna Stadnicka, Thomas A. Stekiel, Zeljko J. Bosnjak, and John P. Kampine

Splanchnic venodilatation observed during epidural anesthesia is due to decreased vein wall tension from blockade of sympathetic efferent nerve activity to the mesenteric vessels.

946 **Effect of Thiopental on Ca^{2+} Release from Sarcoplasmic Reticulum in Intact Myocardium**

Hirochika Komai and Ben F. Rusy

Effects of thiopental on the postrest contraction, the rapid cooling-induced contraction, and contractions in the presence of ryanodine suggest that thiopental inhibits Ca^{2+} release without decreasing the Ca^{2+} content of the sarcoplasmic reticulum in intact myocardium.

953 **Volatile Anesthetic Agents Inhibit Choline Uptake into Rat Synaptosomes**

R. Griffiths, J. M. C. Greiff, E. Boyle, D. J. Rowbotham, and R. I. Norman

Choline uptake into rat synaptosomes is sensitive to inhibition by the volatile anesthetic agents enflurane, halothane, and isoflurane.

959 **Cerebral Blood Flow during Low-flow Hypothermic Cardiopulmonary Bypass in Baboons**

Arthur E. Schwartz, Richard J. Kaplon, William L. Young, Joseph J. Sistino, Pawel Kwiatkowski, and Robert E. Michler

Although pump flow is reduced to 20% of full-flow during low-flow hypothermic cardiopulmonary bypass, cerebral blood flow is reduced by only about 50%, without a time-dependent change.

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- 965** **Ischemic Depolarization during Halothane-Nitrous Oxide and Isoflurane-Nitrous Oxide Anesthesia: An Examination of Cerebral Blood Flow Thresholds and Times to Depolarization**
Marleen Verhaegen, Michael M. Todd, and David S. Warner
 Despite differences in cerebral metabolism, there were no differences between the two anesthetics in terms of either the cerebral blood flow threshold for ischemic cortical depolarization or the time delay between the onset of ischemia and depolarization.
- 974** **Levosimendan (OR-1259), a Myofilament Calcium Sensitizer, Enhances Myocardial Contractility but Does Not Alter Isovolumic Relaxation in Conscious and Anesthetized Dogs**
Paul S. Pagel, Christopher P. Harkin, Douglas A. Hettrick, and David C. Warltier
 Levosimendan, a drug that increases the sensitivity of cardiac myofilaments to calcium, causes direct positive inotropic effects but does not alter indexes of isovolumic relaxation in dogs.
- 988** **Enhancement by Propofol of the γ -Aminobutyric Acid_A Response in Dissociated Hippocampal Pyramidal Neurons of the Rat**
Manami Hara, Yoshihisa Kai, and Yoshimi Ikemoto
 A patch-clamp study shows that propofol enhances the GABA_A response at clinically relevant concentrations in dissociated pyramidal neurons of the rat hippocampus.
- 995** **Perfusion of Ischemic Myocardium during Anesthesia with Sevoflurane**
Judy R. Kersten, Andrew P. Brayer, Paul S. Pagel, John P. Tessmer, and David C. Warltier
 Sevoflurane does not produce a "steal" of collateral blood flow in a chronically instrumented canine model of multivessel coronary artery obstruction.

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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.

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