



Anesthesiology



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Society for Obstetric Anesthesia and Perinatology



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- ◇ **Spinal Anesthesia with an Indwelling Catheter Reduces the Stress Response in Pediatric Open Heart Surgery** **1113**
Nigel Humphreys, Simon M. Bays, Andrew J. Parry, Ashwinikumar Pawade, Robert S. Heyderman, and Andrew R. Wolf
 Stress responses to open heart surgery in infants and children aged up to 2 yr are reduced by high spinal anesthesia administered *via* an indwelling catheter.
- **Validity of Unplanned Admission to an Intensive Care Unit as a Measure of Patient Safety in Surgical Patients** **1121**
Guy Haller, Paul S. Myles, Rory Wolfe, Anthony M. Weeks, Johannes Stoelwinder, and John McNeil
 This prospective cohort study of 44,130 patients validated the use of unplanned admission to the intensive care unit as an indicator of patient safety in surgical patients.

- ◇ Refers to This Month in Anesthesiology
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Behavioral Interactions in the Perioperative Environment: A New Conceptual Framework and the Development of the Perioperative Child-Adult Medical Procedure Interaction Scale 1130

*Alison A. Caldwell-Andrews, Ronald L. Blount, Linda C. Mayes, and
Zeev N. Kain*

The authors developed and validated a scale that measures child and adult interactions in the operating rooms. This is the first step for developing an empirically based preparation program for parents who want to enter the operating room during their child's induction of anesthesia.

Optimal Puncture Site of the Right Internal Jugular Vein after Laryngeal Mask Airway Placement 1136

Kazuhide Takeyama, Hiroyuki Kobayashi, and Toshiyasu Suzuki

This article describes the overlapping of the right common carotid artery and internal jugular vein after placement of an LMA-Classic™ (Laryngeal Mask Company, Henley-on-Thames, United Kingdom).

◇ Respiratory Reflex Responses of the Larynx Differ between Sevoflurane and Propofol in Pediatric Patients 1142

*Christine Oberer, Britta S. von Ungern-Sternberg, Franz J. Frei, and
Thomas O. Erb*

The defensive reflex responses of the larynx in anesthetized children differ between propofol and sevoflurane.

■ LABORATORY INVESTIGATIONS

🌐 Intercellular Adhesion Molecule-1 Inhibition Attenuates Neurologic and Hepatic Damage after Resuscitation in Mice 1149

*Jan Larmann, Christoph Schmidt, Harald Gammelin, Hugo K. Van Aken,
Tim Frenzel, Christian Lanckohr, Marleen Lox, Nadine Boese, Kerstin Jurk,
and Gregor Theilmeier*

Cardiopulmonary arrest with resuscitation leads to a generalized inflammatory response and multiorgan dysfunction. Inhibition of intercellular adhesion molecule-1 in resuscitated mice attenuates neurologic and hepatic damage in resuscitated mice.

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Halothane Inhibition of Recombinant Cardiac L-type Ca^{2+} Channels Expressed in HEK-293 Cells 1156

Kevin J. Gingrich, Son Tran, Igor M. Nikonorov, and Thomas J. Blanck

Coexpression of α_2/δ_1 with $\alpha_{1C}\beta_{2a}$ increased voltage-dependent inactivation as well as potentiated halothane inhibition of peak current and enhancement of current inactivation. Peak current inhibition by halothane is the primary determinant of depressed transmembrane charge transfer and not enhancement of current inactivation. The findings point to the importance of halothane interactions with channel states present at resting membrane potential.

Memory Enhancing Effect of Low-dose Sevoflurane Does Not Occur in Basolateral Amygdala-lesioned Rats 1167

Michael T. Alkire, Sheila V. Nathan, and Jayme R. McReynolds

Low-dose sevoflurane (0.1%) enhanced 24-h memory for a foot shock experience in the rat. This memory-enhancing effect was not seen in rats that were previously given bilateral neurotoxic lesions of the basolateral amygdala.

Effects of Nitrous Oxide on the Rat Heart *In Vivo*: Another Inhalational Anesthetic That Preconditions the Heart? 1174

Nina C. Weber, Octavian Toma, Saqib Awan, Jan Fräßdorf, Benedikt Preckel, and Wolfgang Schlack

Nitrous oxide is the first inhalation anesthetic that has no preconditioning effect on the heart. However, isoflurane-induced preconditioning and protein kinase C ϵ activation after isoflurane are not influenced by nitrous oxide.

Influence of Sevoflurane on the Metabolism and Renal Effects of Compound A in Rats 1183

Evan D. Kharasch, Jesara L. Schroeder, Pam Sheffels, and H. Denny Liggitt

Compound A causes renal toxicity in rats but not in humans during sevoflurane anesthesia. To test the hypothesis that sevoflurane might suppress compound A metabolism and toxicity, rats were given compound A alone and during sevoflurane anesthesia. Sevoflurane did not decrease compound A toxicity. Results are consistent with inherent differences between rats and humans in compound A nephrotoxicity.

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Influence of Hemorrhagic Shock and Subsequent Fluid Resuscitation on the Electroencephalographic Effect of Isoflurane in a Swine Model 1189

Tadayoshi Kurita, Koji Morita, Kazushige Fukuda, Masahiro Uraoka, Kotaro Takata, Yoshimitsu Sanjo, and Shigehito Sato

Decompensated hemorrhagic shock slightly increases end-organ sensitivity to isoflurane, and this alteration is not reversed by fluid resuscitation.

◇ Rapacuronium Augments Acetylcholine-induced Bronchoconstriction *via* Positive Allosteric Interactions at the M3 Muscarinic Receptor 1195

Edmund H. Jooste, Amit Sharma, Yi Zhang, and Charles W. Emala

Rapacuronium at clinically used concentrations has a positive cooperative allosteric effect with acetylcholine at the M3 muscarinic receptor, which would functionally promote bronchoconstriction.

Surfactants Reduce Platelet-Bubble and Platelet-Platelet Binding Induced by *In Vitro* Air Embolism 1204

David M. Eckmann, Stephen C. Armstead, and Feras Mardini

Platelet aggregation was assessed in platelet-rich plasma with and without microbubble gas embolism and with and without one of three surfactants present. The surfactants significantly attenuated platelet-platelet binding and platelet-bubble binding in all conditions of gas embolism.

■ PAIN AND REGIONAL ANESTHESIA

◇ Effect of Labor Epidural Analgesia with and without Fentanyl on Infant Breast-feeding: A Prospective, Randomized, Double-blind Study 1211

Yaakov Beilin, Carol A. Bodian, Jane Weiser, Sabera Hossain, Ittamar Arnold, Dennis E. Feierman, Gregory Martin, and Ian Holzman

Women who were randomly assigned to receive more than 150 μ g epidural fentanyl during labor had a decreased rate of breast-feeding success at 6 weeks postpartum as compared with women who were randomly assigned to receive less or no epidural fentanyl.

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Frontal Slab Composite Magnetic Resonance Neurography of the Brachial Plexus: Implications for Infraclavicular Block Approaches 1218

David T. Raphael, Diane McIntee, Jay S. Tsuruda, Patrick Colletti, and Ray Tatevossian

Magnetic resonance neurography is a method by which nerves can be selectively highlighted. A frontally projected slab composite allows the creation of a single three-dimensional volume-rendered magnetic resonance image of the brachial plexus relevant to infraclavicular brachial plexus blockade.

◇ Comparison of Morphine, Ketorolac, and Their Combination for Postoperative Pain: Results from a Large, Randomized, Double-blind Trial 1225

Maria Soledad Cepeda, Daniel B. Carr, Nelcy Miranda, Adriana Diaz, Claudia Silva, and Olga Morales

Morphine is a more efficacious analgesic than ketorolac although historic data for these medications yield similar numbers needed to treat. Adding ketorolac to morphine reduces morphine requirements and opioid-related side effects.

Minimum Local Analgesic Dose: Effect of Different Volumes of Intrathecal Levobupivacaine in Early Labor 1233

Raffaella Parpaglioni, Maria Grazia Frigo, Anna Lemma, Massimo Sebastiani, Giulia Barbati, and Danilo Celleno

The volume of levobupivacaine solution produces a different requirement for intrathecal labor analgesia.

🌐 A New Inguinal Approach for the Obturator Nerve Block: Anatomical and Randomized Clinical Studies 1238

Olivier Choquet, Xavier Capdevila, Khaled Bennourine, Jean-Louis Feugeas, Sophie Bringuier-Branchereau, and Jean-Claude Manelli

The new inguinal approach for obturator nerve blockade was less painful and more comfortable than the traditional pubic approach.

Ephedrine Blocks Rat Sciatic Nerve *In Vivo* and Sodium Channels *In Vitro* 1246

Yu-Chun Hung, Yi-Chuan Kau, Anthony M. Zizza, Thomas Edrich, David Zurakowski, Robert R. Myers, Ging Kuo Wang, and Peter Gerner

Ephedrine displays local anesthetic properties in rat sciatic nerve block model and Na⁺ channel blockade in cultured cells.

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Spinal Muscarinic and Nicotinic Subtypes Activated by Clonidine in Postincisional Pain

1253

Frédéric Duflo, Emmanuel Boselli, Philippe Ryvlin, and Dominique Chassard

These data in animals suggest that neither spinal M2-type muscarinic receptors nor α_7 -type nicotinic receptors are activated by clonidine for postincisional pain relief.

■ ECONOMICS

Bayesian Prediction Bounds and Comparisons of Operating Room Times Even for Procedures with Few or No Historic Data

1259

Franklin Dexter and Johannes Ledolter

Using Bayesian methods, lower prediction bounds (e.g., for fasting), upper prediction bounds (e.g., to schedule delays between sequential surgeons), comparisons of operating room times (e.g., when sequencing cases among operating rooms), and quantification of case uncertainty (e.g., for sequencing a surgeon's list of cases) can be estimated for all procedures, even those with few or no historic data.

■ REVIEW ARTICLES

Sleep, Anesthesiology, and the Neurobiology of Arousal State Control

1268

Ralph Lydic and Helen A. Baghdoyan

The neurobiology of arousal state control is a crosscutting research theme directly relevant for sleep disorders medicine and anesthesiology.

🌐 Does Multimodal Analgesia with Acetaminophen, Nonsteroidal Antiinflammatory Drugs, or Selective Cyclooxygenase-2 Inhibitors and Patient-controlled Analgesia Morphine Offer Advantages over Morphine Alone? Meta-analyses of Randomized Trials

1296

Nadia Elia, Christopher Lysakowski, and Martin R. Tramèr

When patients need large amounts of postoperative morphine, the benefit of combining a single nonopioid analgesic to morphine patient-controlled analgesia offers no (acetaminophen), unclear (cyclooxygenase-2 inhibitors), or only little (nonsteroidal antiinflammatory drugs) advantage over morphine alone.

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■ SPECIAL ARTICLE

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David B. Waisel

Operating room communities should focus on creating social capital through identifying and implementing functional operational guidelines.

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