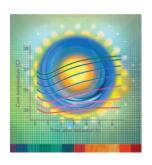
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ANESTHESIOLOGY





ON THE COVER:

Forced-air warming during surgery is now routine, yet we know little about core temperature patterns in patients warmed with forced air. The effects of transient and mild intraoperative hypothermia on patient outcomes are unknown. In this issue of ANESTHESIOLOGY, Sun and colleagues analyzed data from almost 59,000 adults having surgery lasting more than an hour, and demonstrated that core temperatures decreased during the first hour of surgery, rising thereafter to an average final temperature of 36.3°C. Hypothermia significantly increased transfusion requirements and duration of hospitalization. In an accompanying Editorial View, Hopf discusses the evolution of our understanding of the physiology of intraoperative hypothermia and its consequences and calls for new standards for prevention and identification of hypothermia in the operating room.

- Sun et al.: Intraoperative Core Temperature Patterns, Transfusion Requirement, and Hospital Duration in Patients Warmed with Forced Air, p. 276
- Hopf: Perioperative Temperature Management: Time for a New Standard of Care?, p. 229

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Refers to Editorial Views



This article is from the Harvard Medical System



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■ PRACTICE PARAMETERS

Omega Practice Guidelines for Perioperative Blood Management: An Updated Report by the American Society of Anesthesiologists Task Force on Perioperative Blood Management

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The American Society of Anesthesiologists Committee on Standards and Practice Parameters and the Task Force on Perioperative Blood Management presents an updated report of the Practice Guidelines for Perioperative Blood Management.

■ PERIOPERATIVE MEDICINE

CLINICAL SCIENCE

Intraoperative Core Temperature Patterns, Transfusion Requirement, and Hospital Duration in Patients Warmed with Forced Air

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Z. Sun, H. Honar, D.I. Sessler, J.E. Dalton, D. Yang, K. Panjasawatwong, A.F. Deroee, V. Salmasi, L. Saager, and A. Kurz

In almost 59,000 adults having surgery lasting more than an hour, core temperatures decreased during the first hour of surgery, thereafter rising to an average final temperature of 36.3°C. Hypothermia significantly increased both transfusion requirements and duration of hospitalization, but only the increase in transfusions was clinically important.

◆ Effect of Lateral Tilt Angle on the Volume of the Abdominal Aorta and Inferior Vena Cava in Pregnant and Nonpregnant Women Determined by Magnetic Resonance Imaging H. Higuchi, S. Takagi, K. Zhang, I. Furui, and M. Ozaki

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In 10 singleton parturients at term without anesthesia, the aorta at the mid- to upper lumbar disk levels was not compressed, although the inferior vena cava was. Tilt of 30°, but not 15°, partially relieved the inferior vena caval compression.

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Sodium Bicarbonate and Renal Function after Cardiac Surgery: A Prospectively Planned Individual Patient Meta-analysis

M. Bailey, S. McGuinness, M. Haase, A. Haase-Fielitz, R. Parke, C.L. Hodgson, A. Forbes, S.M. Bagshaw, and R. Bellomo

The authors have performed a novel, prospectively planned individual patient data meta-analysis of the double-blind randomized trials in this important field. Urinary alkalinization with sodium bicarbonate infusion is not associated with a significant reduction in the overall risk of acute kidney injury in cardiac surgery patients. However, urinary alkalinization was associated with significant renal protection in the subgroup of patients undergoing elective coronary artery bypass graft surgery suggesting that further investigation in these patients is warranted.

Neurophysiological Correlates of Sevoflurane-induced Unconsciousness
S. Blain-Moraes, V. Tarnal, G. Vanini, A. Alexander, D. Rosen, B. Shortal, E. Janke, and G.A. Mashour

In human volunteers, sevoflurane-induced unconsciousness was not consistently correlated with anteriorization of alpha rhythms or frontal cross-frequency coupling patterns, but rather disrupted phase relationships between frontal and posterior brain structures. Since other agents induce disrupted phase relationships, network fragmentation may be a common correlate or cause of anesthetic-induced unconsciousness.

Factors Associated with Improved Survival after Resection of Pancreatic Adenocarcinoma: A Multivariable Model

T.R. Call, N.L. Pace, D.B. Thorup, D. Maxfield, B. Chortkoff, J. Christensen, and S.J. Mulvihill

A model based on retrospective analysis of the records of 144 patients who underwent resection of pancreatic adenocarcinoma between 2001 and 2011 predicted median survival of patients to whom dexamethasone is administered and who have epidural analgesia would be increased from 370 days to 651 days compared to similar patients receiving neither dexamethasone nor epidural analgesia.

BASIC SCIENCE

| > | Discovery of a Novel General Anesthetic Chemotype Using High-throughput Screening A.R. McKinstry-Wu, W. Bu, G. Rai, W.A. Lea, B.P. Weiser, D.F. Liang, A. Simeonov, A. Jadhav, D.J. Maloney, and R.G. Eckenhoff | 325 |
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| | A high-throughput assay based on competitive binding to a soluble protein model was used to screen a library of more than 350,000 compounds for anesthetic-like binding activity. A novel chemotype, the 6-phenylpyridazin-3(2H)-ones, exhibited general anesthetic activity in secondary assays and ultimately in mice. | |
| | Overexpression of Cyclic Adenosine Monophosphate Effluent Protein MRP4 Induces an Altered Response to β-Adrenergic Stimulation in the Senescent Rat Heart A. Carillion, S. Feldman, C. Jiang, F. Atassi, N. Na, N. Mougenot, S. Besse, JS. Hulot, B. Riou, and J. Amour | 334 |
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| | Therapeutic Efficacy of Human Mesenchymal Stromal Cells in the Repair of Established Ventilator-induced Lung Injury in the Rat M. Hayes, C. Masterson, J. Devaney, F. Barry, S. Elliman, T. O'Brien, D. O' Toole, G.F. Curley, and J.G. Laffey | 363 |
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| | Effective Reversal of Edoxaban-associated Bleeding with Four-factor Prothrombin Complex Concentrate in a Rabbit Model of Acute Hemorrhage E. Herzog, F. Kaspereit, W. Krege, B. Doerr, J. Mueller-Cohrs, I. Pragst, Y. Morishima, and G. Dickneite | 387 |

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■ PAIN MEDICINE

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| ¢ | Effect of Minocycline on Lumbar Radicular Neuropathic Pain: A Randomized, Placebocontrolled, Double-blind Clinical Trial with Amitriptyline as a Comparator P. Vanelderen, J. Van Zundert, T. Kozicz, M. Puylaert, P. De Vooght, R. Mestrum, R. Heylen, E. Roubos, and K. Vissers | 399 |
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