ANESTHESIOLOGY





ON THE COVER:

Many modalities including peripheral nerve block, periarticular infiltration, and epidural analgesia have been used to provide analgesia after total knee arthroplasty, but their relative efficacy remains unknown. In this issue of Anesthesiology, Terkawi et al. conducted a network meta-analysis of 170 trials (12,530 patients) assessing 17 treatment modalities and concluded that blocking multiple nerves was preferable to blocking any single nerve, periarticular infiltration, or epidural analgesia. In an accompanying Editorial View, Ilfeld and McCartney discuss the importance of looking beyond pain scores and analgesic consumption to consider the priorities of all stakeholders when choosing among available options for providing analgesia after surgery.

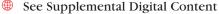
- Terkawi et al.: Pain Management Modalities after Total Knee Arthroplasty: A Network Metaanalysis of 170 Randomized Controlled Trials, p. 923
- Ilfeld and McCartney: Searching for the Optimal Pain Management Technique after Knee Arthroplasty: Analgesia Is Just the Tip of the Iceberg, p. 768

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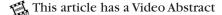
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This article has an Audio Podcast



CME Article





anesthetic effects on synaptic plasticity.

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	Remote ischemic preconditioning significantly reduced the 3-month incidence of a composite endpoint major adverse kidney event consisting of mortality, need for renal replacement therapy, and persistent renal dysfunction in high-risk patients undergoing cardiac surgery.	
\Diamond	Lack of Association between Preoperative Statin Use and Respiratory and Neurologic Complications after Cardiac Surgery R. Komatsu, H. O. Yilmaz, J. You, C. A. Bashour, S. Rajan, E. G. Soltesz, D. I. Sessler, and A. Tu	<mark>799</mark> uran
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	K-Cl Cotransporter 2–mediated Cl ⁻ Extrusion Determines Developmental Stage–dependent Impact of Propofol Anesthesia on Dendritic Spines M. Puskarjov, H. Fiumelli, A. Briner, T. Bodogan, K. Demeter, CM. Lacoh, M. Mavrovic, P. Blaesse, K. Kaila, and L. Vutskits	855
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Lidocaine Induces Apoptosis and Suppresses Tumor Growth in Human Hepatocellular Carcinoma Cells In Vitro and in a Xenograft Model In Vivo 868 W. Xing, D.-T. Chen, J.-H. Pan, Y.-H. Chen, Y. Yan, Q. Li, R.-F. Xue, Y.-F. Yuan, and W.-A. Zeng Either lidocaine (30 mg/kg intraperitoneally, twice a week) or cisplatin (3 mg/kg intraperitoneally, once a week) treatment alone markedly suppressed human hepatocellular carcinoma HepG2 xenograft tumor growth in male athymic nude mice compared with the control. The combination of lidocaine and cisplatin exerted a therapeutic effect that was significantly better than the effects in all the other experimental groups. **■ CRITICAL CARE MEDICINE CLINICAL SCIENCE** Causes and Characteristics of Death in Intensive Care Units: A Prospective Multicenter Study 882 J.-C. Orban, Y. Walrave, N. Mongardon, B. Allaouchiche, L. Argaud, F. Aubrun, G. Barjon, J.-M. Constantin, G. Dhonneur, J. Durand-Gasselin, H. Dupont, M. Genestal, C. Goguey, P. Goutorbe, B. Guidet, H. Hyvernat, S. Jaber, J.-Y. Lefrant, Y. Mallédant, J. Morel, A. Ouattara, N. Pichon, A.-M. G. Robardey, M. Sirodot, A. Theissen, S. Wiramus, L. Zieleskiewicz, M. Leone, and C. Ichai, for the AzuRéa Network In a general intensive care unit population, the majority of patients present with at least one organ failure at the time of death. Compared to its anticipated counterpart, unexpected death occurred earlier and had fewer organ failures. Nebulization of Antiinfective Agents in Invasively Mechanically Ventilated Adults: A Systematic Review and Meta-analysis 890 C. Solé-Lleonart, J.-J. Rouby, S. Blot, G. Poulakou, J. Chastre, L. B. Palmer, M. Bassetti, C.-E. Luyt, J. M. Pereira, J. Riera, T. Felton, J. Dhanani, T. Welte, J. M. Garcia-Alamino, J. A. Roberts, and J. Rello A systematic review reports that the data are sparse; however, nebulization may be more effective in cases of resistant organisms and less nephrotoxic (if replacing nephrotoxic systemic agents) but may compromise mechanical ventilation especially in hypoxemic patients. **BASIC SCIENCE** ♦ ⊕ One-hit Models of Ventilator-induced Lung Injury: Benign Inflammation *versus* Inflammation as a By-product 909 D. Lex and S. Uhlig Murine ventilator-induced lung injury (single "hit") is characterized by either mild inflammation with normal lung functions or—above a threshold plateau pressure—fulminant lung failure. In this latter condition, pretreatment with corticosteroid suggests that ventilator-induced inflammation may have a bystander rather than a pathogenic impact on lung injury. SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT PAIN MEDICINE **CLINICAL SCIENCE** ♦ ⊕ Pain Management Modalities after Total Knee Arthroplasty: A Network Meta-analysis of (170 Randomized Controlled Trials 923 A. S. Terkawi, D. Mavridis, D. I. Sessler, M. S. Nunemaker, K. S. Doais, R. S. Terkawi, Y. S. Terkawi, M. Petropoulou, and E. C. Nemergut Using a random-effects network meta-analysis technique, 170 trials were analyzed to identify the optimal analgesic modality that balances pain control, opioid use, and passive range of motion of the prosthetic joint. Although functional outcomes were suboptimally studied, the combination of femoral and sciatic nerve block was judged to be the overall best approach. SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT

In a study of 107 patients undergoing thoracotomy and thoracoscopy, the incidence and severity of pain 6 months after surgery were similar. Acute postoperative pain was the strongest predictor of pain at 6 months. SUPPLEMENTAL DIGITAL CONTENT IS AVAILABLE IN THE TEXT

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