

## SUBJECT INDEX TO VOLUME 102

Entries from JOURNAL departments are identified as follows: Case Reports—(CR); Classic Papers Revisited—(CPR); Clinical Investigations—(CI); Clinical Concepts and Commentary—(CCC); Correspondence—(CO); Economics—(EC); Editorial Views—(EV); Educational Material—(EM); Journal Symposium—(JS); Laboratory Investigations—(LI); Laboratory Reports—(LR); Pain and Regional Anesthesia—(PRA); Practical Guidelines—(PG); Report of Scientific Meeting—(RSM); Review Article—(RA); Special Article—(SA); Special Section—(SS); Web Site—(WS).

### A

#### Acceleromyography

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#### Acetaminophen

- efficacy and safety of single and repeated administration of 1 gram intravenous acetaminophen injection (paracetamol) for pain management after major orthopedic surgery (PRA) [Sinatra et al.], 822

#### Acetylcholine

- $\alpha_2$ -adrenoceptor activation by clonidine enhances stimulation-evoked acetylcholine release from spinal cord tissue after nerve ligation in rats (PRA) [Obata et al.], 657
- effect of propofol on carotid body chemosensitivity and cholinergic chemotransduction (LI) [Jonsson et al.], 110
- isoflurane modulation of neuronal nicotinic acetylcholine receptors expressed in human embryonic kidney cells (LI) [Yamashita et al.], 76
- ketamine attenuates acetylcholine-induced contraction by decreasing myofilament  $\text{Ca}^{2+}$  sensitivity in pulmonary veins (LI) [Ding et al.], 588
- rapacuronium preferentially antagonizes the function of M2 *vs.* M3 muscarinic receptors in guinea pig airway smooth muscle (LI) [Jooste et al.], 115
- sevoflurane blocks cholinergic synaptic transmission postsynaptically but does not affect short-term potentiation (LI) [Naruo et al.], 920

#### Acupuncture

- perioperative acupuncture and related techniques (RA) [Chernyak et al.], 1031

#### Acute respiratory distress syndrome

- brain cell damage and S-100B increase after acute lung injury (EV) [Raabe et al.], 713
- increased pulmonary venous resistance contributes to increased pulmonary artery diastolic-pulmonary wedge pressure gradient in acute respiratory distress syndrome (CI) [Her et al.], 574
- S-100 protein and neurohistopathologic changes in porcine model of acute lung injury (LI) [Fries et al.], 761

#### Adenosine and adenosine receptors

- effect of sleep deprivation on righting reflex in rat is partially reversed by adenosine A1 and A2 receptor antagonists (LI) [Tung et al.], 1158
- intrathecal morphine reduces allodynia after peripheral nerve injury in rats *via* activation of a spinal A1 adenosine receptor (PRA) [Zhang et al.], 416
- involvement of adenosine in antiinflammatory action of ketamine (LI) [Mazar et al.], 1174

#### Adenosine triphosphate

- molecular mechanisms underlying ketamine-mediated inhibition of sarcolemmal adenosine triphosphate-sensitive potassium channels (LI) [Kawano et al.], 93

#### Adrenergic agents and receptors

- $\alpha_2$ -adrenoceptor activation by clonidine enhances stimulation-evoked acetylcholine release from spinal cord tissue after nerve ligation in rats (PRA) [Obata et al.], 657
- effect of  $\alpha_{2B}$ -adrenoceptor polymorphism on peripheral vasoconstriction in healthy volunteers (JS) [Talke et al.], 536
- genetic modulation of adrenergic activity in the heart and vasculature: implications for perioperative medicine (RA) [Zaugg et al.], 429

#### Adverse events. See also Complications; Drug toxicity

- air embolism during intraoperative endoscopic localization and surgical resection for blue rubber bleb nevus syndrome (CR) [Holzman et al.], 1279
- anaphylaxis during anesthesia in Norway: 6-year single-center follow-up study (CI) [Harboe et al.], 897
- bupivacaine spinal block cauda equina syndrome (CO) [Lambert], 1285
- diaphragmatic paralysis after endovascular stent grafting of a thoracoabdominal aortic aneurysm (CR) [Lecamwasam et al.], 690
- endotracheal tube damage during head and neck surgeries as a result of Harmonic Scalpel® use (CO) [Balakrishnan et al.], 870
- extramedullary intrathecal catheter granuloma adherent to the conus medullaris presenting as cauda equina syndrome (CR) [Shields et al.], 1059
- interference between Extraneal® peritoneal dialysis and the Accu-Chek® blood glucose monitor (CO) [Hoftman], 871
- is recall during sedation being confused with recall during general anesthesia? (CO) [Collier], 1070
- learning from incidents and near-misses reports (CO) [Haller et al.], 1287
- potentially dangerous fracture of the needleless Interlink Vial Access Cannula (CO) [Kohli et al.], 703
- why do orthopedic patients have a higher incidence of serious complications after central neuraxial blockade? (CO) [Heller et al.], 1286

#### Air embolism

- during intraoperative endoscopic localization and surgical resection for blue rubber bleb nevus syndrome (CR) [Holzman et al.], 1279

#### Airway management

- CobraPLA® is the perilaryngeal airway (CO) [Alfery], 696
- cricoid pressure does not increase the rate of failed intubation by direct laryngoscopy in adults (CI) [Turgeon et al.], 315
- endoscopic study of mechanisms of failure of endotracheal tube advancement into the trachea during awake fiberoptic orotracheal intubation (CI) [Johnson et al.], 910
- endotracheal tube damage during head and neck surgeries as a result of Harmonic Scalpel® use (CO) [Balakrishnan et al.], 870
- evaluation of Seldinger technique emergency cricothyroidotomy *vs.* standard surgical cricothyroidotomy in 200 cadavers (CI) [Schaumann et al.], 7
- intubating laryngeal mask airway in morbidly obese and lean patients (CI) [Combes et al.], 1106
- laryngeal reflex before and after placement of airway interventions: endotracheal tube and Laryngeal Mask Airway® (CI) [Tanaka et al.], 20
- Macintosh laryngoscope blade (CO) [Zauder], 241
- Macintosh's laryngoscope (CO) [Unzueta et al.], 242
- rapacuronium preferentially antagonizes the function of M2 *vs.* M3 muscarinic receptors in guinea pig airway smooth muscle (LI) [Jooste et al.], 115
- retrograde intubation around an in situ Combitube (CR) [Harrison et al.], 1061
- use of the laryngeal tube-S® for airway management and prevention of aspiration after a failed tracheal intubation in a parturient (CO) [Zand et al.], 481
- using the Bonfils intubation fiberoptic with a double-lumen tracheal tube (CO) [Bein et al.], 1290

#### Alfentanil

- pharmacogenetic determinants of human liver microsomal alfentanil metabolism and role of cytochrome P450 3A5 (JS) [Klees et al.], 550

**Allergy**

- anaphylaxis during anesthesia in Norway: 6-year single-center follow-up study (CI) [Harboe et al.], 897
- genetic predisposition to latex allergy (JS) [Brown et al.], 496
- management of anaphylactic shock (CO) [Mahajan et al.], 1284

**Ambulatory surgery**

- anesthesia for outpatient surgery: how fast is fast? (CO) [Norris], 694
- influence of obesity on surgical regional anesthesia in the ambulatory setting: analysis of 9,038 blocks (PRA) [Nielsen et al.], 181

**Amitriptyline**

- neurotoxicity (CO) [Sawynok], 240

**Anaphylaxis**

- anaphylaxis during anesthesia in Norway: 6-year single-center follow-up study (CI) [Harboe et al.], 897
- management of anaphylactic shock (CO) [Mahajan et al.], 1284

**Anatomy**

- cervical spine considerations when anesthetizing patients with Down syndrome (CCC) [Hata et al.], 680
- Ellis, Feldman, Harrop-Griffiths, Lawson, *Anatomy for Anaesthetists, 8th edition* (EM) [Rorie], 875

**Anesthesia machines and circuits**

- optoacoustic, noninvasive, real-time, continuous monitoring of cerebral blood oxygenation: an *in vivo* study in sheep (LI) [Petrov et al.], 69

**Anesthesia management**

- impact of anesthesia management characteristics on severe morbidity and mortality (CI) [Arbous et al.], 257
- perioperative mortality: intraoperative anesthetic management matters (EV) [Warner], 251

**Anesthesia mechanisms**

- anesthetic cascade: a theory of how anesthesia suppresses consciousness (SA) [John et al.], 447
- volatile anesthetics enhance flash-induced  $\gamma$  oscillations in rat visual cortex (LI) [Imas et al.], 937

**Anesthesiology**

- journal-sponsored activities at the 2005 annual meeting, 256
- new continuing medical education program [Todd], 6
- special issue on pharmacogenomics and anesthesia: work presented at the 2004 journal symposium (EV) [Kharasch], 493

**Aneurysm**

- diaphragmatic paralysis after endovascular stent grafting of a thoracoabdominal aortic aneurysm (CR) [Lecamwasam et al.], 690

**Angioplasty**

- does preoperative coronary angioplasty improve perioperative cardiac outcome? (CI) [Godet et al.], 739

**Animal models. See Models and modeling****Anticoagulation**

- hemodynamic changes after protamine administration: association with mortality after coronary artery bypass surgery (CI) [Welsby et al.], 308
- Phase III, double-blind, placebo-controlled, multicenter study on the efficacy of recombinant human antithrombin in heparin-resistant patients scheduled to undergo cardiac surgery necessitating cardiopulmonary bypass (CI) [Avidan et al.], 276

**Antiemetics**

- droperidol inhibits intracellular  $\text{Ca}^{2+}$ , myofilament  $\text{Ca}^{2+}$  sensitivity, and contraction in rat ventricular myocytes (LI) [Shiga et al.], 1165
- effect of low-dose droperidol on QT interval during and after general anesthesia (CI) [White et al.], 1101
- impact of pharmacogenomics on postoperative nausea and vomiting (JS) [Candiotti et al.], 543
- prolongation of QTc interval after postoperative nausea and vomiting treatment by droperidol or ondansetron (CI) [Charbit et al.], 1094
- you (still) can't disprove the existence of dragons (EV) [Scuderi], 1081

**Antimicrobials**

- intravenous *vs.* nebulized ceftazidime in ventilated piglets with and without experimental bronchopneumonia: comparative effects of helium and nitrogen (LI) [Tonnellier et al.], 995

**Antioxidants**

- antioxidants reverse reduction of the human hypoxic ventilatory response by subanesthetic isoflurane (CI) [Teppema et al.], 747

**Antithrombin**

- Phase III, double-blind, placebo-controlled, multicenter study on the efficacy of recombinant human antithrombin in heparin-resistant patients scheduled to undergo cardiac surgery necessitating cardiopulmonary bypass (CI) [Avidan et al.], 276

**Aorta**

- diaphragmatic paralysis after endovascular stent grafting of a thoracoabdominal aortic aneurysm (CR) [Lecamwasam et al.], 690
- early and delayed myocardial infarction after abdominal aortic surgery (CI) [Le Manach et al.], 885

**Apgar score**

- surviving the test of time (CPR) [Finster et al.], 855

**Apnea**

- succinylcholine dosage and apnea-induced hemoglobin desaturation in patients (CI) [Naguib et al.], 35

**Apoptosis**

- endotoxemia-induced lymphocyte apoptosis is augmented by a hyperinsulinemic-euglycemic clamp (LI) [Nielsen et al.], 768
- volatile anesthetics induce caspase-dependent, mitochondria-mediated apoptosis in human T lymphocytes *in vitro* (LI) [Loop et al.], 1147

**Arrhythmias**

- anesthesia for patients with congenital long QT syndrome (RA) [Kies et al.], 204
- effect of low-dose droperidol on QT interval during and after general anesthesia (CI) [White et al.], 1101
- prolongation of QTc interval after postoperative nausea and vomiting treatment by droperidol or ondansetron (CI) [Charbit et al.], 1094
- you (still) can't disprove the existence of dragons (EV) [Scuderi], 1081

**Aspiration**

- adequate preoperative fasting and aspiration: factors affecting regurgitation (CO) [Salem et al.], 237
- proponents of liberalized fasting guidelines (CO) [Cook-Sather et al.], 236
- use of the laryngeal tube-S<sup>®</sup> for airway management and prevention of aspiration after a failed tracheal intubation in a parturient (CO) [Zand et al.], 481

**B****Benzodiazepines**

- classic benzodiazepines modulate the open-close equilibrium in  $\alpha_1\beta_2\gamma_{2L}$   $\gamma$ -aminobutyric acid type A receptors (LI) [Rüsch et al.], 783
- clinically relevant concentrations of propofol but not midazolam alter *in vitro* dendritic development of isolated  $\gamma$ -aminobutyric acid-positive interneurons (LI) [Vutsits et al.], 970
- modulation of  $\gamma$ -aminobutyric acid type A receptor-mediated spontaneous inhibitory postsynaptic currents in auditory cortex by midazolam and isoflurane (LI) [Verbny et al.], 962

**Bispectral Index<sup>®</sup>**

- depth of anesthesia monitors and shock (CO) [Lichtor], 1068
- effects of Bispectral Index monitoring on recovery from surgical anesthesia in 1,580 inpatients from an academic medical center (CI) [Pavlin et al.], 566

**Bleeding**

- influence of hypovolemia on the electroencephalographic effect of isoflurane in a swine model (LI) [Kurita et al.], 948
- pharmacodynamics of propofol during hemorrhagic shock (CO) [Takizawa et al.], 1068
- recombinant coagulation Factor VIIa in major liver resection (CI) [Lodge et al.], 269
- tranexamic acid reduces intraoperative blood loss in pediatric patients undergoing scoliosis surgery (CI) [Sethna et al.], 727
- transcutaneous fluorescence dilution cardiac output and circulating blood volume during hemorrhagic hypovolemia (LI) [Maarek et al.], 774
- traumatic brain injury and hemorrhagic hypotension suppress neuroprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806
- volume turnover kinetics of fluid shifts after hemorrhage, fluid infusion, and the combination of hemorrhage and fluid infusion in sheep (LI) [Norberg et al.], 985

**$\beta$ -Blockers**

effect of esmolol on cerebral blood flow, cerebral vasoreactivity, and cognitive performance: functional MRI study (CI) [Heinke et al.], 41

**Blood coagulation. See also Anticoagulation**

recombinant coagulation Factor VIIa in major liver resection (CI) [Lodge et al.], 269

**Blood flow**

effect of esmolol on cerebral blood flow, cerebral vasoreactivity, and cognitive performance: functional MRI study (CI) [Heinke et al.], 41

propofol and thiopental do not interfere with regional cerebral blood flow response at sedative concentrations (CI) [Veselis et al.], 26

xenon attenuates cerebral damage after ischemia in pigs (LI) [Schmidt et al.], 929

**Blood pressure**

heart rate variability predicts severe hypotension after spinal anesthesia for elective cesarean delivery (CI) [Hanss et al.], 1086

predicting hypotension during spinal anesthesia (EV) [Smiley], 1079

terlipressin *vs.* norepinephrine to counteract anesthesia-induced hypotension in patients treated with renin-angiotensin system inhibitors (CI) [Morelli et al.], 12

traumatic brain injury and hemorrhagic hypotension suppress neuroprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806

**Blood salvage**

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**Blood volume**

influence of hypovolemia on the electroencephalographic effect of isoflurane in a swine model (LI) [Kurita et al.], 948

transcutaneous fluorescence dilution cardiac output and circulating blood volume during hemorrhagic hypovolemia (LI) [Maarek et al.], 774

volume turnover kinetics of fluid shifts after hemorrhage, fluid infusion, and the combination of hemorrhage and fluid infusion in sheep (LI) [Norberg et al.], 985

**Blue rubber bleb nevus syndrome**

air embolism during intraoperative endoscopic localization and surgical resection for (CR) [Holzman et al.], 1279

**Brain function and disease**

anesthesia, amnesia, and the amygdala (EV) [Antognini et al.], 711

brain cell damage and S-100B increase after acute lung injury (EV) [Raabe et al.], 713

does the amygdala mediate anesthetic-induced amnesia? (LI) [Alkire et al.], 754

effect of esmolol on cerebral blood flow, cerebral vasoreactivity, and cognitive performance: functional MRI study (CI) [Heinke et al.], 41

isoflurane neuroprotection in hypoxic hippocampal slice cultures involves increases in intracellular  $Ca^{2+}$  and mitogen-activated protein kinases (LI) [Gray et al.], 606

modulation of  $\gamma$ -aminobutyric acid type A receptor-mediated spontaneous inhibitory postsynaptic currents in auditory cortex by midazolam and isoflurane (LI) [Verbny et al.], 962

nitrous oxide facilitates excitability in rat hippocampal slices through  $\gamma$ -aminobutyric acid A receptor-mediated disinhibition (LR) [Nagashima et al.], 230

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optoacoustic, noninvasive, real-time, continuous monitoring of cerebral blood oxygenation: an *in vivo* study in sheep (LI) [Petrov et al.], 69

propofol and thiopental do not interfere with regional cerebral blood flow response at sedative concentrations (CI) [Veselis et al.], 26

S-100 protein and neurohistopathologic changes in porcine model of acute lung injury (LI) [Fries et al.], 761

sevoflurane blocks cholinergic synaptic transmission postsynaptically but does not affect short-term potentiation (LI) [Naruo et al.], 920

traumatic brain injury and hemorrhagic hypotension suppress neu-

roprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806

volatile anesthetics enhance flash-induced  $\gamma$  oscillations in rat visual cortex (LI) [Imas et al.], 937

xenon attenuates cerebral damage after ischemia in pigs (LI) [Schmidt et al.], 929

**Bupivacaine**

differential effects of bupivacaine and ropivacaine enantiomers on intracellular  $Ca^{2+}$  regulation in murine skeletal muscle fibers (LI) [Zink et al.], 793

effect of bupivacaine and levobupivacaine on exocytotic norepinephrine release from rat atria (LI) [Joseph et al.], 977

long-term exposure to local but not inhalation anesthetics affects neurite regeneration and synapse formation between identified *Lymnaea* neurons (LI) [Onizuka et al.], 353

minimum local analgesic doses of ropivacaine, levobupivacaine, and bupivacaine for intrathecal labor analgesia (PRA) [Camorcia et al.], 646

spinal block cauda equina syndrome (CO) [Lambert], 1285

**Butorphanol**

intravenous butorphanol, meperidine, and their combination relieve pain and distress in women in labor (PRA) [Nelson et al.], 1008

**Butyrylcholinesterase**

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response to mivacurium in patients carrying the K variant in the butyrylcholinesterase gene (JS) [Gätke et al.], 503

**C****Calcium and calcium channels**

differential effects of bupivacaine and ropivacaine enantiomers on intracellular  $Ca^{2+}$  regulation in murine skeletal muscle fibers (LI) [Zink et al.], 793

droperidol inhibits intracellular  $Ca^{2+}$ , myofilament  $Ca^{2+}$  sensitivity, and contraction in rat ventricular myocytes (LI) [Shiga et al.], 1165

isoflurane neuroprotection in hypoxic hippocampal slice cultures involves increases in intracellular  $Ca^{2+}$  and mitogen-activated protein kinases (LI) [Gray et al.], 606

ketamine attenuates acetylcholine-induced contraction by decreasing myofilament  $Ca^{2+}$  sensitivity in pulmonary veins (LI) [Ding et al.], 588

painful nerve injury decreases resting cytosolic calcium concentrations in sensory neurons of rats (PRA) [Fuchs et al.], 1217

**Cardioprotection**

cardioprotective properties of sevoflurane in patients undergoing coronary surgery with cardiopulmonary bypass are related to the modalities of its administration (CO) [Djalali et al.], 699

isoflurane protects against myocardial infarction during early reperfusion by activation of phosphatidylinositol-3-kinase signal transduction: evidence for anesthetic-induced postconditioning in rabbits (LI) [Chiari et al.], 102

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**Cardiopulmonary bypass**

cardioprotective properties of sevoflurane in patients undergoing coronary surgery with cardiopulmonary bypass are related to the modalities of its administration (CO) [Djalali et al.], 699

does off-pump coronary artery bypass reduce mortality, morbidity, and resource utilization when compared with conventional coronary artery bypass? meta-analysis of randomized trials (RA) [Cheng et al.], 188

hemodynamic changes after protamine administration: association with mortality after coronary artery bypass surgery (CI) [Welsby et al.], 308

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Phase III, double-blind, placebo-controlled, multicenter study on the efficacy of recombinant human antithrombin in heparin-resistant patients scheduled to undergo cardiac surgery necessitating cardiopulmonary bypass (CI) [Avidan et al.], 276



**Cardiovascular surgery**

- cardioprotective properties of sevoflurane in patients undergoing coronary surgery with cardiopulmonary bypass are related to the modalities of its administration (CO) [Djalali et al.], 699
- diaphragmatic paralysis after endovascular stent grafting of a thoracoabdominal aortic aneurysm (CR) [Lecamwasam et al.], 690
- does off-pump coronary artery bypass reduce mortality, morbidity, and resource utilization when compared with conventional coronary artery bypass? meta-analysis of randomized trials (RA) [Cheng et al.], 188
- does preoperative coronary angioplasty improve perioperative cardiac outcome? (CI) [Godet et al.], 739
- early and delayed myocardial infarction after abdominal aortic surgery (CI) [Le Manach et al.], 885
- hemodynamic changes after protamine administration: association with mortality after coronary artery bypass surgery (CI) [Welsby et al.], 308
- Leung, *Cardiac and Vascular Anesthesia: The Requisites in Anesthesiology* (EM) [Stone], 1293
- off-pump coronary artery bypass and the hypothesis from which it grew (EV) [Floyd et al.], 3
- Phase III, double-blind, placebo-controlled, multicenter study on the efficacy of recombinant human antithrombin in heparin-resistant patients scheduled to undergo cardiac surgery necessitating cardiopulmonary bypass (CI) [Avidan et al.], 276

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- effect of propofol on carotid body chemosensitivity and cholinergic chemotransduction (LI) [Jonsson et al.], 110

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- double epidural catheter with ropivacaine *vs.* intravenous morphine: comparison for postoperative analgesia after scoliosis correction surgery (PRA) [Blumenthal et al.], 175
- extramedullary intrathecal catheter granuloma adherent to the conus medullaris presenting as cauda equina syndrome (CR) [Shields et al.], 1059
- intrathecal catheter tip inflammatory mass: failure of clonidine to protect (CR) [Toombs et al.], 687

**Cauda equina syndrome**

- bupivacaine spinal block and (CO) [Lambert], 1285

**Ceftazidime**

- intravenous *vs.* nebulized ceftazidime in ventilated piglets with and without experimental bronchopneumonia: comparative effects of helium and nitrogen (LI) [Tonnellier et al.], 995

**Cell and tissue culture**

- clinically relevant concentrations of propofol but not midazolam alter *in vitro* dendritic development of isolated  $\gamma$ -aminobutyric acid-positive interneurons (LI) [Vutsits et al.], 970
- isoflurane neuroprotection in hypoxic hippocampal slice cultures involves increases in intracellular  $\text{Ca}^{2+}$  and mitogen-activated protein kinases (LI) [Gray et al.], 606

**Cerebral blood flow**

- effect of esmolol on cerebral blood flow, cerebral vasoreactivity, and cognitive performance: functional MRI study (CI) [Heinke et al.], 41
- propofol and thiopental do not interfere with regional cerebral blood flow response at sedative concentrations (CI) [Veselis et al.], 26

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- central nervous system concentrations of cyclooxygenase-2 inhibitors in humans (PRA) [Dembo et al.], 409
- continuous monitoring of cerebrospinal fluid oxygen tension in relation to motor evoked potentials during spinal cord ischemia in pigs (LI) [Lips et al.], 340
- effects of epidural saline injection on cerebrospinal fluid volume and velocity waveform: MRI study (CI) [Higuchi et al.], 285

**Cervical spine**

- avoid excessive sedation during cervical injections (CO) [Gajraj], 869
- cervical spine considerations when anesthetizing patients with Down syndrome (CCC) [Hata et al.], 680

**Cholinesterase**

- pharmacokinetics and pharmacodynamics of mivacurium in patients phenotypically homozygous for the atypical plasma cholinesterase variant (CI) [Østergaard et al.], 1124

**Clinical trials**

- cricoid pressure does not increase the rate of failed intubation by direct laryngoscopy in adults (CI) [Turgeon et al.], 315
- does off-pump coronary artery bypass reduce mortality, morbidity, and resource utilization when compared with conventional coronary artery bypass? meta-analysis of randomized trials (RA) [Cheng et al.], 188
- effect of low-dose droperidol on QT interval during and after general anesthesia (CI) [White et al.], 1101
- effect of postoperative epidural analgesia on rehabilitation and pain after hip fracture surgery (PRA) [Foss et al.], 1197
- Phase III, double-blind, placebo-controlled, multicenter study on the efficacy of recombinant human antithrombin in heparin-resistant patients scheduled to undergo cardiac surgery necessitating cardiopulmonary bypass (CI) [Avidan et al.], 276
- preoxygenation is more effective in 25° head-up position than in supine position in severely obese patients (CI) [Dixon et al.], 1110
- prolongation of QTc interval after postoperative nausea and vomiting treatment by droperidol or ondansetron (CI) [Charbit et al.], 1094
- randomized, double-blind study of the analgesic efficacy of morphine-6-glucuronide *vs.* morphine sulfate for postoperative pain in major surgery (PRA) [Hanna et al.], 815
- randomized controlled trial to evaluate S-Caine Patch® for reducing pain associated with vascular access in children (PRA) [Sethna et al.], 403
- recombinant coagulation Factor VIIa in major liver resection (CI) [Lodge et al.], 269
- sevoflurane *vs.* halothane: postoperative maladaptive behavioral changes (CI) [Kain et al.], 720

**Clonidine**

- $\alpha_2$ -adrenoceptor activation by clonidine enhances stimulation-evoked acetylcholine release from spinal cord tissue after nerve ligation in rats (PRA) [Obata et al.], 657
- epidural administration of neostigmine and clonidine to induce labor analgesia (PRA) [Roelants et al.], 1205
- intrathecal catheter tip inflammatory mass: failure of clonidine to protect (CR) [Toombs et al.], 687

**Cognitive function**

- anesthesia, amnesia, and the amygdala (EV) [Antognini et al.], 711
- does the amygdala mediate anesthetic-induced amnesia? (LI) [Alkire et al.], 754
- effect of esmolol on cerebral blood flow, cerebral vasoreactivity, and cognitive performance: functional MRI study (CI) [Heinke et al.], 41
- no evidence of memory function during anesthesia with propofol or isoflurane with close control of hypnotic state (CI) [Kerssens et al.], 57
- sevoflurane *vs.* halothane: postoperative maladaptive behavioral changes (CI) [Kain et al.], 720

**Colorectal surgery**

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**Complex regional pain syndrome**

- in children and adolescents (EV) [Berde et al.], 251
- continuous peripheral nerve blocks at home for treatment of recurrent complex regional pain syndrome I in children (PRA) [Dadure et al.], 387
- stellate ganglion blockade for acute postoperative upper extremity pain (CO) [Kakazu et al.], 1286

**Complications**

- air embolism during intraoperative endoscopic localization and surgical resection for blue rubber bleb nevus syndrome (CR) [Holzman et al.], 1279
- anaphylaxis during anesthesia in Norway: 6-year single-center follow-up study (CI) [Harboe et al.], 897
- bupivacaine spinal block cauda equina syndrome (CO) [Lambert], 1285
- diaphragmatic paralysis after endovascular stent grafting of a thoracoabdominal aortic aneurysm (CR) [Lecamwasam et al.], 690
- endotracheal tube damage during head and neck surgeries as a result of Harmonic Scalpel® use (CO) [Balakrishnan et al.], 870

- epidural hematoma after epidural steroid injection in a patient with holding enoxaparin per guidelines (CO) [Ain et al.], 701
- extramedullary intrathecal catheter granuloma adherent to the conus medullaris presenting as cauda equina syndrome (CR) [Shields et al.], 1059
- intrathecal catheter tip inflammatory mass: failure of clonidine to protect (CR) [Toombs et al.], 687
- learning from incidents and near-misses reports (CO) [Haller et al.], 1287
- metabolic acidosis due to propofol infusion (CO) [Farag et al.], 697
- potentially dangerous fracture of the needleless Interlink Vial Access Cannula (CO) [Kohli et al.], 703
- respiratory distress after a deep cervical plexus block (CO) [D'Honneur et al.], 1070
- severe bronchospasm after parenteral parecoxib (CR) [Looney et al.], 473
- tramadol and vocal cord closure (CR) [Fodale et al.], 227
- why do orthopedic patients have a higher incidence of serious complications after central neuraxial blockade? (CO) [Heller et al.], 1286
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- effect of carbon dioxide pneumoperitoneum on development of atelectasis during anesthesia, examined by spiral CT (CI) [Andersson et al.], 293
- Continuing medical education (CME)**
- Anesthesiology's* new program for [Todd], 6
- does off-pump coronary artery bypass reduce mortality, morbidity, and resource utilization when compared with conventional coronary artery bypass? meta-analysis of randomized trials (RA) [Cheng et al.], 188
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- perioperative acupuncture and related techniques (RA) [Chernyak et al.], 1031
- prolongation of QTc interval after postoperative nausea and vomiting treatment by droperidol or ondansetron (CI) [Charbit et al.], 1094
- pulmonary atelectasis (RA) [Duggan et al.], 838
- Coronary circulation and myocardial ischemia**
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- early and delayed myocardial infarction after abdominal aortic surgery (CI) [Le Manach et al.], 885
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- Corticosteroids**
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- spinal glucocorticoid receptors contribute to the development of morphine tolerance in rats (PRA) [Lim et al.], 832
- Cricothyroidotomy**
- evaluation of Seldinger technique emergency cricothyroidotomy vs. standard surgical cricothyroidotomy in 200 cadavers (CI) [Schaumann et al.], 7
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- Dunn, *Simulators in Critical Care and Beyond* (EM) [Manser], 1072
- Hillman, Bishop, *Clinical Intensive Care and Acute Medicine, 2nd edition* (EM) [Nemergut], 705
- remifentanyl in ICU: tolerance and acute withdrawal syndrome after prolonged sedation (CR) [Delvaux et al.], 1281
- Society of Neurosurgical Anesthesia and Critical Care Scientific Meeting, 2004 (RSM) [de Lange], 1074
- Cyclooxygenase-2 inhibitors**
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- Dexmedetomidine**
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- Diabetes mellitus**
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- low-dose, effect on QT interval during and after general anesthesia (CI) [White et al.], 1101
- prolongation of QTc interval after postoperative nausea and vomiting treatment by droperidol or ondansetron (CI) [Charbit et al.], 1094
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- prolongation of QTc interval after postoperative nausea and vomiting treatment by droperidol or ondansetron (CI) [Charbit et al.], 1094
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- effects of metoclopramide on gastric fluid volumes in diabetic patients who have fasted before elective surgery (CI) [Jellish et al.], 904

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- effect of  $\alpha_{2B}$ -adrenoceptor polymorphism on peripheral vasoconstriction in healthy volunteers (JS) [Talke et al.], 536
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- genetic modulation of adrenergic activity in the heart and vasculature: implications for perioperative medicine (RA) [Zaugg et al.], 429
- genetic predisposition to latex allergy (JS) [Brown et al.], 496
- genotyping the butyrylcholinesterase in patients with prolonged neuromuscular block after succinylcholine (JS) [Levano et al.], 531
- immediate early genes after pulsed radiofrequency treatment (EV) [Richebé et al.], 1
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- traumatic brain injury and hemorrhagic hypotension suppress neuroprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806

**Glucose**

- endotoxemia-induced lymphocyte apoptosis is augmented by a hyperinsulinemic-euglycemic clamp (LI) [Nielsen et al.], 768
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**Glutamate and glutamate receptors**

- in clinical practice, coadministration of sevoflurane or propofol could antagonize remifentanyl stimulation of *N*-methyl-D-aspartate receptors (CO) [Fodale et al.], 695
- effect of *N*-methyl-D-aspartate receptor  $\epsilon_1$  subunit gene disruption on the action of general anesthetic drugs in mice (JS) [Sato et al.], 557
- effects of remifentanyl on *N*-methyl-D-aspartate receptor: electrophysiological study in rat spinal cord (PRA) [Guntz et al.], 1235

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- traumatic brain injury and hemorrhagic hypotension suppress neuroprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806

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- comparative cardiac effects of terlipressin, vasopressin, and norepinephrine on an isolated perfused rabbit heart (LI) [Ouattara et al.], 85
- droperidol inhibits intracellular  $Ca^{2+}$ , myofilament  $Ca^{2+}$  sensitivity, and contraction in rat ventricular myocytes (LI) [Shiga et al.], 1165
- early and delayed myocardial infarction after abdominal aortic surgery (CI) [Le Manach et al.], 885
- effect of bupivacaine and levobupivacaine on exocytotic norepinephrine release from rat atria (LI) [Joseph et al.], 977
- genetic modulation of adrenergic activity in the heart and vasculature: implications for perioperative medicine (RA) [Zaugg et al.], 429
- halothane and isoflurane do not directly interact with cardiac cross-bridge function (LI) [Vivien et al.], 364
- heart rate variability predicts severe hypotension after spinal anesthesia for elective cesarean delivery (CI) [Hanss et al.], 1086
- isoflurane protects against myocardial infarction during early reperfusion by activation of phosphatidylinositol-3-kinase signal transduction: evidence for anesthetic-induced postconditioning in rabbits (LI) [Chiari et al.], 102
- ketamine preconditions isolated human right atrial myocardium (LI) [Hanouz et al.], 1190
- pacemaker and ECG monitor pseudomalfuction during extracardiac radiofrequency ablation (CO) [Rozner], 239
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- remifentanyl preconditioning confers cardioprotection *via* cardiac  $\kappa$ - and  $\delta$ -opioid receptors (LI) [Zhang et al.], 371
- selective thromboxane A<sub>2</sub> synthase inhibition by OKY-046 prevents cardiopulmonary dysfunction after ovine smoke inhalation injury (LI) [Westphal et al.], 954
- strategies to reduce cardiac risk in noncardiac surgery (EV) [Fleisher], 881
- transcutaneous fluorescence dilution cardiac output and circulating blood volume during hemorrhagic hypovolemia (LI) [Maarek et al.], 774
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- epidural hematoma after epidural steroid injection in a patient with holding enoxaparin per guidelines (CO) [Ain et al.], 701
- Hemodynamics**
- hemodynamic changes after protamine administration: association with mortality after coronary artery bypass surgery (CI) [Welsby et al.], 308
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- transcutaneous fluorescence dilution cardiac output and circulating blood volume during hemorrhagic hypovolemia (LI) [Maarek et al.], 774
- Hemoglobin**
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- Hip surgery**
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- predicting during spinal anesthesia (EV) [Smiley], 1079
- terlipressin *vs.* norepinephrine to counteract anesthesia-induced hypotension in patients treated with renin-angiotensin system inhibitors (CI) [Morelli et al.], 12
- traumatic brain injury and hemorrhagic hypotension suppress neuroprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806
- Hypoxia**
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- effect of carbon dioxide pneumoperitoneum on development of atelectasis during anesthesia, examined by spiral CT (CI) [Andersson et al.], 293
- effect of esmolol on cerebral blood flow, cerebral vasoreactivity, and cognitive performance: functional MRI study (CI) [Heinke et al.], 41
- effects of epidural saline injection on cerebrospinal fluid volume and velocity waveform: MRI study (CI) [Higuchi et al.], 285
- sonographic localization of an implanted infusion pump injection port (CO) [Greher et al.], 243
- ultrasound-guided caudal epidural injection (CO) [Edward], 693
- Immunology and inflammation**
- developmental age influences effect of epidural dexmedetomidine on inflammatory hyperalgesia in rat pups (PRA) [Walker et al.], 1226
- endotoxemia-induced lymphocyte apoptosis is augmented by a hyperinsulinemic-euglycemic clamp (LI) [Nielsen et al.], 768
- involvement of adenosine in antiinflammatory action of ketamine (LI) [Mazar et al.], 1174
- volatile anesthetics induce caspase-dependent, mitochondria-mediated apoptosis in human T lymphocytes in vitro (LI) [Loop et al.], 1147
- Infection**
- electronic nose prediction of a clinical pneumonia score: biosensors and microbes (CI) [Hanson et al.], 63
- intravenous *vs.* nebulized ceftazidime in ventilated piglets with and without experimental bronchopneumonia: comparative effects of helium and nitrogen (LI) [Tonnellier et al.], 995
- Inhalation anesthesia and anesthetics**
- action of isoflurane on substantia gelatinosa neurons of adult rat spinal cord (LI) [Wakai et al.], 379
- antioxidants reverse reduction of the human hypoxic ventilatory response by subanesthetic isoflurane (CI) [Teppema et al.], 747
- awakening concentration of desflurane is decreased in patients with obstructive jaundice (CI) [Song et al.], 562
- cardioprotective properties of sevoflurane in patients undergoing coronary surgery with cardiopulmonary bypass are related to the modalities of its administration (CO) [Djalali et al.], 699
- in clinical practice, coadministration of sevoflurane or propofol could antagonize remifentanyl stimulation of N-methyl-D-aspartate receptors (CO) [Fodale et al.], 695
- does the amygdala mediate anesthetic-induced amnesia? (LI) [Alkire et al.], 754
- drastic increase in isoflurane minimum alveolar concentration and limb movement forces after thoracic spinal cooling and chronic spinal transection in rats (LI) [Jinks et al.], 624
- effects of halothane and isoflurane on hyperexcitability of spinal dorsal horn neurons after incision in the rat (PRA) [Kawamata et al.], 165
- halothane and isoflurane do not directly interact with cardiac cross-bridge function (LI) [Vivien et al.], 364
- influence of hypovolemia on the electroencephalographic effect of isoflurane in a swine model (LI) [Kurita et al.], 948
- isoflurane modulation of neuronal nicotinic acetylcholine receptors expressed in human embryonic kidney cells (LI) [Yamashita et al.], 76
- isoflurane neuroprotection in hypoxic hippocampal slice cultures involves increases in intracellular Ca<sup>2+</sup> and mitogen-activated protein kinases (LI) [Gray et al.], 606
- isoflurane protects against myocardial infarction during early reperfusion by activation of phosphatidylinositol-3-kinase signal transduction: evidence for anesthetic-induced postconditioning in rabbits (LI) [Chiari et al.], 102
- modulation of  $\gamma$ -aminobutyric acid type A receptor-mediated spontaneous inhibitory postsynaptic currents in auditory cortex by midazolam and isoflurane (LI) [Verbny et al.], 962
- no evidence of memory function during anesthesia with propofol or isoflurane with close control of hypnotic state (CI) [Kerssens et al.], 57
- opposing effects of isoflurane and sevoflurane on neurogenic pulmonary edema development in rat (LI) [Kandatsu et al.], 1182



- sevoflurane blocks cholinergic synaptic transmission postsynaptically but does not affect short-term potentiation (LI) [Naruo et al.], 920
- sevoflurane *vs.* halothane: postoperative maladaptive behavioral changes (CI) [Kain et al.], 720
- volatile anesthetics enhance flash-induced  $\gamma$  oscillations in rat visual cortex (LI) [Imas et al.], 937
- volatile anesthetics induce caspase-dependent, mitochondria-mediated apoptosis in human T lymphocytes in vitro (LI) [Loop et al.], 1147
- weak polar interactions confer albumin binding site selectivity for haloether anesthetics (LI) [Liu et al.], 799
- Insulin**
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- Interleukins**
- genetic predisposition to latex allergy: role of *IL13* and *IL18* (JS) [Brown et al.], 496
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- in clinical practice, coadministration of sevoflurane or propofol could antagonize remifentanyl stimulation of *N*-methyl-D-aspartate receptors (CO) [Fodale et al.], 695
- clinically relevant concentrations of propofol but not midazolam alter *in vitro* dendritic development of isolated  $\gamma$ -aminobutyric acid-positive interneurons (LI) [Vutsits et al.], 970
- effect of propofol on carotid body chemosensitivity and cholinergic chemotransduction (LI) [Jonsson et al.], 110
- facilitation of serotonergic activity and amnesia in rats caused by intravenous anesthetics (LI) [Semba et al.], 616
- human kidneys play an important role in the elimination of propofol (CI) [Takizawa et al.], 327
- intravenous butorphanol, meperidine, and their combination relieve pain and distress in women in labor (PRA) [Nelson et al.], 1008
- intravenous lidocaine relieves spinal cord injury pain (PRA) [Finnerup et al.], 1023
- intravenous *vs.* nebulized ceftazidime in ventilated piglets with and without experimental bronchopneumonia: comparative effects of helium and nitrogen (LI) [Tonnellier et al.], 995
- metabolic acidosis due to propofol infusion (CO) [Farg et al.], 697
- no evidence of memory function during anesthesia with propofol or isoflurane with close control of hypnotic state (CI) [Kerssens et al.], 57
- propofol and sleep (CO) [Ward], 481
- propofol and thiopental do not interfere with regional cerebral blood flow response at sedative concentrations (CI) [Veselis et al.], 26
- variability of target-controlled infusion is less than the variability after bolus injection (PRA) [Hu et al.], 639
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- endoscopic study of mechanisms of failure of endotracheal tube advancement into the trachea during awake fiberoptic orotracheal intubation (CI) [Johnson et al.], 910
- endotracheal tube damage during head and neck surgeries as a result of Harmonic Scalpel<sup>®</sup> use (CO) [Balakrishnan et al.], 870
- intubating laryngeal mask airway in morbidly obese and lean patients (CI) [Combes et al.], 1106
- laryngeal reflex before and after placement of airway interventions: endotracheal tube and Laryngeal Mask Airway<sup>®</sup> (CI) [Tanaka et al.], 20
- novel system for complete removal of secretions within the endotracheal tube: Mucus Shaver (LR) [Kolobow et al.], 1063
- postextubation laryngospasm in a patient with spasmodic dysphonia (CR) [Capacchione et al.], 859
- retrograde intubation around an *in situ* Combitube (CR) [Harrison et al.], 1061
- use of the laryngeal tube-S<sup>®</sup> for airway management and prevention of aspiration after a failed tracheal intubation in a parturient (CO) [Zand et al.], 481
- using the Bonfils intubation fiberscope with a double-lumen tracheal tube (CO) [Bein et al.], 1290
- Ions and ion channels**
- differential effects of bupivacaine and ropivacaine enantiomers on intracellular  $\text{Ca}^{2+}$  regulation in murine skeletal muscle fibers (LI) [Zink et al.], 793
- droperidol inhibits intracellular  $\text{Ca}^{2+}$ , myofilament  $\text{Ca}^{2+}$  sensitivity, and contraction in rat ventricular myocytes (LI) [Shiga et al.], 1165
- inhibitory effects of lidocaine and mexiletine on vasorelaxation mediated by adenosine triphosphate-sensitive  $\text{K}^{+}$  channels and the role of kinases in the porcine coronary artery (LI) [Kimoto et al.], 581
- isoflurane neuroprotection in hypoxic hippocampal slice cultures involves increases in intracellular  $\text{Ca}^{2+}$  and mitogen-activated protein kinases (LI) [Gray et al.], 606
- ketamine attenuates acetylcholine-induced contraction by decreasing myofilament  $\text{Ca}^{2+}$  sensitivity in pulmonary veins (LI) [Ding et al.], 588
- molecular mechanisms underlying ketamine-mediated inhibition of sarcolemmal adenosine triphosphate-sensitive potassium channels (LI) [Kawano et al.], 93
- Ischemia and reperfusion**
- continuous monitoring of cerebrospinal fluid oxygen tension in relation to motor evoked potentials during spinal cord ischemia in pigs (LI) [Lips et al.], 340
- isoflurane protects against myocardial infarction during early reperfusion by activation of phosphatidylinositol-3-kinase signal transduction: evidence for anesthetic-induced postconditioning in rabbits (LI) [Chiari et al.], 102
- myocardial (See **Coronary circulation and myocardial ischemia**)
- xenon attenuates cerebral damage after ischemia in pigs (LI) [Schmidt et al.], 929
- Isoflurane**
- action of isoflurane on substantia gelatinosa neurons of adult rat spinal cord (LI) [Wakai et al.], 379
- antioxidants reverse reduction of the human hypoxic ventilatory response by subanesthetic isoflurane (CI) [Teppeema et al.], 747
- drastic increase in isoflurane minimum alveolar concentration and limb movement forces after thoracic spinal cooling and chronic spinal transection in rats (LI) [Jinks et al.], 624
- effects of halothane and isoflurane on hyperexcitability of spinal dorsal horn neurons after incision in the rat (PRA) [Kawamata et al.], 165
- halothane and isoflurane do not directly interact with cardiac cross-bridge function (LI) [Vivien et al.], 364
- influence of hypovolemia on the electroencephalographic effect of isoflurane in a swine model (LI) [Kurita et al.], 948
- isoflurane modulation of neuronal nicotinic acetylcholine receptors expressed in human embryonic kidney cells (LI) [Yamashita et al.], 76
- isoflurane neuroprotection in hypoxic hippocampal slice cultures involves increases in intracellular  $\text{Ca}^{2+}$  and mitogen-activated protein kinases (LI) [Gray et al.], 606
- isoflurane protects against myocardial infarction during early reperfusion by activation of phosphatidylinositol-3-kinase signal transduction: evidence for anesthetic-induced postconditioning in rabbits (LI) [Chiari et al.], 102
- modulation of  $\gamma$ -aminobutyric acid type A receptor-mediated spontaneous inhibitory postsynaptic currents in auditory cortex by midazolam and isoflurane (LI) [Verbny et al.], 962
- no evidence of memory function during anesthesia with propofol or isoflurane with close control of hypnotic state (CI) [Kerssens et al.], 57
- opposing effects of isoflurane and sevoflurane on neurogenic pulmonary edema development in rat (LI) [Kandatsu et al.], 1182
- volatile anesthetics induce caspase-dependent, mitochondria-mediated apoptosis in human T lymphocytes in vitro (LI) [Loop et al.], 1147
- weak polar interactions confer albumin binding site selectivity for haloether anesthetics (LI) [Liu et al.], 799

## K

**Ketamine**

- involvement of adenosine in antiinflammatory action of (LI) [Mazar et al.], 1174
- ketamine attenuates acetylcholine-induced contraction by decreasing myofilament  $\text{Ca}^{2+}$  sensitivity in pulmonary veins (LI) [Ding et al.], 588
- ketamine for perioperative pain management (CCC) [Himmelseher et al.], 211
- ketamine improves the management of exaggerated postoperative pain observed in perioperative fentanyl-treated rats (PRA) [Richebé et al.], 421
- ketamine preconditions isolated human right atrial myocardium (LI) [Hanouz et al.], 1190
- molecular mechanisms underlying ketamine-mediated inhibition of sarcolemmal adenosine triphosphate-sensitive potassium channels (LI) [Kawano et al.], 93

**Ketoprofen**

- median effective dose of nefopam and ketoprofen in postoperative patients (PRA) [Delage et al.], 1211

**Kidney function and disease**

- human kidneys play an important role in the elimination of propofol (CI) [Takizawa et al.], 327
- isoflurane modulation of neuronal nicotinic acetylcholine receptors expressed in human embryonic kidney cells (LI) [Yamashita et al.], 76

## L

**Labor and delivery**

- the Apgar score has survived the test of time (CPR) [Finster et al.], 855
- Chestnut, *Obstetric Anesthesia: Principles and Practice, 3rd edition* (EM) [Bocquet-Lecinq et al.], 875
- comparison of median effective doses of intrathecal levobupivacaine and ropivacaine for labor analgesia (PRA) [Sia et al.], 651
- epidural administration of neostigmine and clonidine to induce labor analgesia (PRA) [Roelants et al.], 1205
- Gerard W. Ostheimer "What's New in Obstetric Anesthesia" lecture (SA) [Tsen], 672
- heart rate variability predicts severe hypotension after spinal anesthesia for elective cesarean delivery (CI) [Hanss et al.], 1086
- intravenous butorphanol, meperidine, and their combination relieve pain and distress in women in labor (PRA) [Nelson et al.], 1008
- minimum local analgesic doses of ropivacaine, levobupivacaine, and bupivacaine for intrathecal labor analgesia (PRA) [Camorcia et al.], 646
- nitroglycerin to facilitate insertion of a labor epidural (CO) [Carvalho], 872
- predicting hypotension during spinal anesthesia (EV) [Smiley], 1079

**Laryngeal function**

- laryngeal reflex before and after placement of airway interventions: endotracheal tube and Laryngeal Mask Airway<sup>®</sup> (CI) [Tanaka et al.], 20
- postextubation laryngospasm in a patient with spasmodic dysphonia (CR) [Capacchione et al.], 859

**Laryngeal Mask Airway<sup>®</sup>**

- intubating laryngeal mask airway in morbidly obese and lean patients (CI) [Combes et al.], 1106
- laryngeal reflex before and after placement of airway interventions: endotracheal tube and Laryngeal Mask Airway<sup>®</sup> (CI) [Tanaka et al.], 20

**Laryngoscopy**

- cricoid pressure does not increase the rate of failed intubation by direct laryngoscopy in adults (CI) [Turgeon et al.], 315
- Macintosh laryngoscope blade (CO) [Zauder], 241
- Macintosh's laryngoscope (CO) [Unzueta et al.], 242

**Latex allergy**

- genetic predisposition to (JS) [Brown et al.], 496

**Levobupivacaine**

- comparison of median effective doses of intrathecal levobupivacaine and ropivacaine for labor analgesia (PRA) [Sia et al.], 651
- effect of bupivacaine and levobupivacaine on exocytotic norepinephrine release from rat atria (LI) [Joseph et al.], 977
- minimum local analgesic doses of ropivacaine, levobupivacaine, and bupivacaine for intrathecal labor analgesia (PRA) [Camorcia et al.], 646

**Lidocaine**

- increased sensitivity to thermal pain and reduced subcutaneous lidocaine efficacy in redheads (JS) [Liem et al.], 509
- inhibitory effects of lidocaine and mexiletine on vasorelaxation mediated by adenosine triphosphate-sensitive  $\text{K}^{+}$  channels and the role of kinases in the porcine coronary artery (LI) [Kimoto et al.], 581
- intravenous lidocaine relieves spinal cord injury pain (PRA) [Finne-rup et al.], 1023
- long-term exposure to local but not inhalation anesthetics affects neurite regeneration and synapse formation between identified *Lymnaea* neurons (LI) [Onizuka et al.], 353
- randomized controlled trial to evaluation S-Caine Patch<sup>®</sup> for reducing pain associated with vascular access in children (PRA) [Sethna et al.], 403

**Liver function and disease**

- awakening concentration of desflurane is decreased in patients with obstructive jaundice (CI) [Song et al.], 562
- pharmacogenetic determinants of human liver microsomal alfentanil metabolism and role of cytochrome P450 3A5 (JS) [Klees et al.], 550
- recombinant coagulation Factor VIIa in major liver resection (CI) [Lodge et al.], 269

**Local anesthesia and anesthetics. See also Regional anesthesia and anesthetics**

- continuous infusion of ropivacaine for pain relief after iliac crest bone grafting for shoulder surgery (PRA) [Blumenthal et al.], 392
- differential effects of bupivacaine and ropivacaine enantiomers on intracellular  $\text{Ca}^{2+}$  regulation in murine skeletal muscle fibers (LI) [Zink et al.], 793
- effect of bupivacaine and levobupivacaine on exocytotic norepinephrine release from rat atria (LI) [Joseph et al.], 977
- increased sensitivity to thermal pain and reduced subcutaneous lidocaine efficacy in redheads (JS) [Liem et al.], 509
- long-term exposure to local but not inhalation anesthetics affects neurite regeneration and synapse formation between identified *Lymnaea* neurons (LI) [Onizuka et al.], 353
- randomized controlled trial to evaluation S-Caine Patch<sup>®</sup> for reducing pain associated with vascular access in children (PRA) [Sethna et al.], 403

**Lung function and disease**

- antioxidants reverse reduction of the human hypoxic ventilatory response by subanesthetic isoflurane (CI) [Teppema et al.], 747
- brain cell damage and S-100B increase after acute lung injury (EV) [Raabe et al.], 713
- effect of carbon dioxide pneumoperitoneum on development of atelectasis during anesthesia, examined by spiral CT (CI) [Andersson et al.], 293
- electronic nose prediction of a clinical pneumonia score: biosensors and microbes (CI) [Hanson et al.], 63
- increased pulmonary venous resistance contributes to increased pulmonary artery diastolic-pulmonary wedge pressure gradient in acute respiratory distress syndrome (CI) [Her et al.], 574
- intravenous *vs.* nebulized ceftazidime in ventilated piglets with and without experimental bronchopneumonia: comparative effects of helium and nitrogen (LI) [Tonnellier et al.], 995
- ketamine attenuates acetylcholine-induced contraction by decreasing myofilament  $\text{Ca}^{2+}$  sensitivity in pulmonary veins (LI) [Ding et al.], 588
- mechanical ventilation affects lung function and cytokine production in experimental model of endotoxemia (LI) [Bréreon et al.], 331
- opposing effects of isoflurane and sevoflurane on neurogenic pulmonary edema development in rat (LI) [Kandatsu et al.], 1182

- pulmonary atelectasis (RA) [Duggan et al.], 838  
 respiratory distress after a deep cervical plexus block (CO) [D'Honneur et al.], 1070  
 S-100 protein and neurohistopathologic changes in porcine model of acute lung injury (LI) [Fries et al.], 761  
 selective thromboxane A<sub>2</sub> synthase inhibition by OKY-046 prevents cardiopulmonary dysfunction after ovine smoke inhalation injury (LI) [Westphal et al.], 954  
 severe bronchospasm after parenteral parecoxib (CR) [Looney et al.], 473  
 severe pulmonary hypertension during pregnancy (CI) [Bonnin et al.], 1133  
 vaporized perfluorohexane attenuates ventilator-induced lung injury in isolated, perfused rabbit lungs (LI) [Gama de Abreu et al.], 597

### Lymphocytes

- endotoxemia-induced lymphocyte apoptosis is augmented by a hyperinsulinemic-euglycemic clamp (LI) [Nielsen et al.], 768  
 volatile anesthetics induce caspase-dependent, mitochondria-mediated apoptosis in human T lymphocytes in vitro (LI) [Loop et al.], 1147

## M

### Magnetic resonance imaging (MRI)

- anesthesia-compatible MRI (CO) [Miyasaka et al.], 235  
 effect of esmolol on cerebral blood flow, cerebral vasoreactivity, and cognitive performance: functional MRI study (CI) [Heinke et al.], 41  
 effects of epidural saline injection on cerebrospinal fluid volume and velocity waveform: MRI study (CI) [Higuchi et al.], 285

### Malignant hyperthermia

- screening of the entire ryanodine receptor type 1 coding region for sequence variants associated with malignant hyperthermia susceptibility in North American population (JS) [Sambughin et al.], 515

### Mechanical ventilation

- mechanical ventilation affects lung function and cytokine production in experimental model of endotoxemia (LI) [Bréneon et al.], 331  
 vaporized perfluorohexane attenuates ventilator-induced lung injury in isolated, perfused rabbit lungs (LI) [Gama de Abreu et al.], 597

### Medical education. *See also Continuing medical education*

- Anesthesiology's* new program for [Todd], 6

### Meeting reports

- Society of Neurosurgical Anesthesia and Critical Care Scientific Meeting, 2004 (RSM) [de Lange], 1074

### Memory

- anesthesia, amnesia, and the amygdala (EV) [Antognini et al.], 711  
 does the amygdala mediate anesthetic-induced amnesia? (LI) [Alkire et al.], 754  
 facilitation of serotonergic activity and amnesia in rats caused by intravenous anesthetics (LI) [Semba et al.], 616

### Meperidine

- intravenous butorphanol, meperidine, and their combination relieve pain and distress in women in labor (PRA) [Nelson et al.], 1008

### Metabolic acidosis

- metabolic acidosis due to propofol infusion (CO) [Farag et al.], 697

### Metoclopramide

- effects of metoclopramide on gastric fluid volumes in diabetic patients who have fasted before elective surgery (CI) [Jellish et al.], 904

### Mexiletine

- inhibitory effects of lidocaine and mexiletine on vasorelaxation mediated by adenosine triphosphate-sensitive K<sup>+</sup> channels and the role of kinases in the porcine coronary artery (LI) [Kimoto et al.], 581

### Midazolam

- clinically relevant concentrations of propofol but not midazolam alter *in vitro* dendritic development of isolated  $\gamma$ -aminobutyric acid-positive interneurons (LI) [Vutsits et al.], 970

- facilitation of serotonergic activity and amnesia in rats caused by intravenous anesthetics (LI) [Semba et al.], 616  
 modulation of  $\gamma$ -aminobutyric acid type A receptor-mediated spontaneous inhibitory postsynaptic currents in auditory cortex by midazolam and isoflurane (LI) [Verbny et al.], 962

### Minimum alveolar concentration

- drastic increase in isoflurane minimum alveolar concentration and limb movement forces after thoracic spinal cooling and chronic spinal transection in rats (LI) [Jinks et al.], 624

### Miosis

- tolerance to miotic effects of opioids (CO) [Kollars et al.], 701

### Mitogen-activated protein kinases

- isoflurane neuroprotection in hypoxic hippocampal slice cultures involves increases in intracellular Ca<sup>2+</sup> and mitogen-activated protein kinases (LI) [Gray et al.], 606

### Mivacurium

- pharmacokinetics and pharmacodynamics in patients phenotypically homozygous for the atypical plasma cholinesterase variant (CI) [Østergaard et al.], 1124  
 response to mivacurium in patients carrying the K variant in the butyrylcholinesterase gene (JS) [Gätke et al.], 503

### Models and modeling

- action of isoflurane on substantia gelatinosa neurons of adult rat spinal cord (LI) [Wakai et al.], 379  
 $\alpha_2$ -adrenoceptor activation by clonidine enhances stimulation-evoked acetylcholine release from spinal cord tissue after nerve ligation in rats (PRA) [Obata et al.], 657  
 changes in properties of spinal dorsal horn neurons and their sensitivity to morphine after spinal cord injury in the rat (PRA) [Wang et al.], 152  
 changes in response properties and receptive fields of spinal dorsal horn neurons in rats after surgical incision in hairy skin (PRA) [Kawamata et al.], 141  
 comparative cardiac effects of terlipressin, vasopressin, and norepinephrine on an isolated perfused rabbit heart (LI) [Ouattara et al.], 85  
 continuous monitoring of cerebrospinal fluid oxygen tension in relation to motor evoked potentials during spinal cord ischemia in pigs (LI) [Lips et al.], 340  
 depth of anesthesia monitors and shock (CO) [Lichter], 1068  
 developmental age influences effect of epidural dexmedetomidine on inflammatory hyperalgesia in rat pups (PRA) [Walker et al.], 1226  
 differential effects of bupivacaine and ropivacaine enantiomers on intracellular Ca<sup>2+</sup> regulation in murine skeletal muscle fibers (LI) [Zink et al.], 793  
 does the amygdala mediate anesthetic-induced amnesia? (LI) [Alkire et al.], 754  
 drastic increase in isoflurane minimum alveolar concentration and limb movement forces after thoracic spinal cooling and chronic spinal transection in rats (LI) [Jinks et al.], 624  
 droperidol inhibits intracellular Ca<sup>2+</sup>, myofilament Ca<sup>2+</sup> sensitivity, and contraction in rat ventricular myocytes (LI) [Shiga et al.], 1165  
 effect of bupivacaine and levobupivacaine on exocytotic norepinephrine release from rat atria (LI) [Joseph et al.], 977  
 effect of *N*-methyl-D-aspartate receptor  $\epsilon_1$  subunit gene disruption on the action of general anesthetic drugs in mice (JS) [Sato et al.], 557  
 effect of sleep deprivation on righting reflex in rat is partially reversed by adenosine A1 and A2 receptor antagonists (LI) [Tung et al.], 1158  
 effects of halothane and isoflurane on hyperexcitability of spinal dorsal horn neurons after incision in the rat (PRA) [Kawamata et al.], 165  
 effects of remifentanyl on *N*-methyl-D-aspartate receptor: electrophysiological study in rat spinal cord (PRA) [Guntz et al.], 1235  
 endotoxemia-induced lymphocyte apoptosis is augmented by a hyperinsulinemic-euglycemic clamp (LI) [Nielsen et al.], 768  
 facilitation of serotonergic activity and amnesia in rats caused by intravenous anesthetics (LI) [Semba et al.], 616  
 gabapentin normalizes spinal neuronal responses that correlate with



- behavior in a rat model of cancer-induced bone pain (PRA) [Donovan-Rodriguez et al.], 132
- halothane and isoflurane do not directly interact with cardiac cross-bridge function (LI) [Vivien et al.], 364
- influence of hypovolemia on the electroencephalographic effect of isoflurane in a swine model (LI) [Kurita et al.], 948
- inhibitory effects of lidocaine and mexiletine on vasorelaxation mediated by adenosine triphosphate-sensitive  $K^+$  channels and the role of kinases in the porcine coronary artery (LI) [Kimoto et al.], 581
- intravenous *vs.* nebulized ceftazidime in ventilated piglets with and without experimental bronchopneumonia: comparative effects of helium and nitrogen (LI) [Tonnellier et al.], 995
- isoflurane protects against myocardial infarction during early reperfusion by activation of phosphatidylinositol-3-kinase signal transduction: evidence for anesthetic-induced postconditioning in rabbits (LI) [Chiari et al.], 102
- ketamine improves the management of exaggerated postoperative pain observed in perioperative fentanyl-treated rats (PRA) [Richebé et al.], 421
- long-term exposure to local but not inhalation anesthetics affects neurite regeneration and synapse formation between identified *Lymnaea* neurons (LI) [Onizuka et al.], 353
- mechanical ventilation affects lung function and cytokine production in experimental model of endotoxemia (LI) [Bréon et al.], 331
- nitrous oxide facilitates excitability in rat hippocampal slices through  $\gamma$ -aminobutyric acid A receptor-mediated disinhibition (LR) [Nagashima et al.], 230
- opposing actions of etomidate on cortical theta oscillations are mediated by different GABA type A receptor subtypes (LI) [Drexler et al.], 346
- opposing effects of isoflurane and sevoflurane on neurogenic pulmonary edema development in rat (LI) [Kandatsu et al.], 1182
- optoacoustic, noninvasive, real-time, continuous monitoring of cerebral blood oxygenation: an *in vivo* study in sheep (LI) [Petrov et al.], 69
- painful nerve injury decreases resting cytosolic calcium concentrations in sensory neurons of rats (PRA) [Fuchs et al.], 1217
- pulsed and continuous radiofrequency current adjacent to the cervical dorsal root ganglion of the rat induces late cellular activity in the dorsal horn (PRA) [Van Zundert et al.], 1125
- rapacuronium preferentially antagonizes the function of M2 *vs.* M3 muscarinic receptors in guinea pig airway smooth muscle (LI) [Jooste et al.], 115
- remifentanyl preconditioning confers cardioprotection *via* cardiac  $\kappa$ - and  $\delta$ -opioid receptors (LI) [Zhang et al.], 371
- S-100 protein and neurohistopathologic changes in porcine model of acute lung injury (LI) [Fries et al.], 761
- selective thromboxane  $A_2$  synthase inhibition by OKY-046 prevents cardiopulmonary dysfunction after ovine smoke inhalation injury (LI) [Westphal et al.], 954
- should we extrapolate rodent experimental data to the care of human neonates? (CO) [Soriano et al.], 866
- spinal glucocorticoid receptors contribute to the development of morphine tolerance in rats (PRA) [Lim et al.], 832
- transcutaneous fluorescence dilution cardiac output and circulating blood volume during hemorrhagic hypovolemia (LI) [Maarek et al.], 774
- traumatic brain injury and hemorrhagic hypotension suppress neuroprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806
- vaporized perfluorohexane attenuates ventilator-induced lung injury in isolated, perfused rabbit lungs (LI) [Gama de Abreu et al.], 597
- volatile anesthetics enhance flash-induced  $\gamma$  oscillations in rat visual cortex (LI) [Imas et al.], 937
- volume turnover kinetics of fluid shifts after hemorrhage, fluid infusion, and the combination of hemorrhage and fluid infusion in sheep (LI) [Norberg et al.], 985
- xenon attenuates cerebral damage after ischemia in pigs (LI) [Schmidt et al.], 929
- Monitoring**
- continuous monitoring of cerebrospinal fluid oxygen tension in relation to motor evoked potentials during spinal cord ischemia in pigs (LI) [Lips et al.], 340
- depth of anesthesia monitors and shock (CO) [Lichter], 1068
- effects of Bispectral Index monitoring on recovery from surgical anesthesia in 1,580 inpatients from an academic medical center (CI) [Pavlin et al.], 566
- optoacoustic, noninvasive, real-time, continuous monitoring of cerebral blood oxygenation: an *in vivo* study in sheep (LI) [Petrov et al.], 69
- pacemaker and ECG monitor pseudomalfuction during extracardiac radiofrequency ablation (CO) [Rozner], 239
- Morphine**
- changes in properties of spinal dorsal horn neurons and their sensitivity to morphine after spinal cord injury in the rat (PRA) [Wang et al.], 152
- double epidural catheter with ropivacaine *vs.* intravenous morphine: comparison for postoperative analgesia after scoliosis correction surgery (PRA) [Blumenthal et al.], 175
- effects of NSAIDs on patient-controlled analgesia morphine side effects (RA) [Marret et al.], 1249
- extramedullary intrathecal catheter granuloma adherent to the conus medullaris presenting as cauda equina syndrome (CR) [Shields et al.], 1059
- forty-eight hours of postoperative pain relief after total hip arthroplasty with a novel, extended-release epidural morphine formulation (PRA) [Viscusi et al.], 1014
- intrathecal morphine reduces allodynia after peripheral nerve injury in rats *via* activation of a spinal A1 adenosine receptor (PRA) [Zhang et al.], 416
- randomized, double-blind study of the analgesic efficacy of morphine-6-glucuronide *vs.* morphine sulfate for postoperative pain in major surgery (PRA) [Hanna et al.], 815
- spinal glucocorticoid receptors contribute to the development of morphine tolerance in rats (PRA) [Lim et al.], 832
- Mortality**
- hemodynamic changes after protamine administration: association with mortality after coronary artery bypass surgery (CI) [Welsby et al.], 308
- impact of anesthesia management characteristics on severe morbidity and mortality (CI) [Arbous et al.], 257
- perioperative: intraoperative anesthetic management matters (EV) [Warner], 251
- Muscular dystrophy**
- onset and duration of rocuronium-induced neuromuscular blockade in patients with Duchenne muscular dystrophy (CI) [Wick et al.], 915
- Myocardial infarction**
- early and delayed, after abdominal aortic surgery (CI) [Le Manach et al.], 885
- Myocardial ischemia.** *See* Coronary circulation and myocardial ischemia
- N**
- Nausea and vomiting**
- droperidol inhibits intracellular  $Ca^{2+}$ , myofilament  $Ca^{2+}$  sensitivity, and contraction in rat ventricular myocytes (LI) [Shiga et al.], 1165
- effect of low-dose droperidol on QT interval during and after general anesthesia (CI) [White et al.], 1101
- impact of pharmacogenomics on postoperative nausea and vomiting (JS) [Candiotti et al.], 543
- prolongation of QTc interval after postoperative nausea and vomiting treatment by droperidol or ondansetron (CI) [Charbit et al.], 1094
- you (still) can't disprove the existence of dragons (EV) [Scuderi], 1081
- Nefopam**
- median effective dose of nefopam and ketoprofen in postoperative patients (PRA) [Delage et al.], 1211
- Neostigmine**
- epidural administration of neostigmine and clonidine to induce labor analgesia (PRA) [Roelants et al.], 1205

**Nerve blocks**

- “bayonet artifact” during ultrasound-guided transarterial axillary block (CO) [Gray et al.], 1291
- bupivacaine spinal block cauda equina syndrome (CO) [Lambert], 1285
- comparison of different approaches to saphenous nerve block (PRA) [Benzon et al.], 633
- continuous peripheral nerve blocks at home for treatment of recurrent complex regional pain syndrome I in children (PRA) [Dadure et al.], 387
- influence of obesity on surgical regional anesthesia in the ambulatory setting: analysis of 9,038 blocks (PRA) [Nielsen et al.], 181
- intraurethral injection during anterior approach for sciatic nerve block (CO) [Blumenthal et al.], 1283
- lumbar plexus block in children (CO) [Jöhr], 865
- for outpatient rotator cuff surgery, nerve block anesthesia provides superior same-day recovery over general anesthesia (PRA) [Hadzic et al.], 1001
- respiratory distress after a deep cervical plexus block (CO) [D’Honneur et al.], 1070
- stellate ganglion blockade for acute postoperative upper extremity pain (CO) [Kakazu et al.], 1286
- why do orthopedic patients have a higher incidence of serious complications after central neuraxial blockade? (CO) [Heller et al.], 1286

**Nerve injury**

- intraurethral injection during anterior approach for sciatic nerve block (CO) [Blumenthal et al.], 1283
- painful nerve injury decreases resting cytosolic calcium concentrations in sensory neurons of rats (PRA) [Fuchs et al.], 1217

**Neuromuscular transmission and blockade**

- anaphylaxis during anesthesia in Norway: 6-year single-center follow-up study (CI) [Harboe et al.], 897
- genotyping the butyrylcholinesterase in patients with prolonged neuromuscular block after succinylcholine (JS) [Levano et al.], 531
- GW280430A: pharmacodynamics and potential adverse effects (CO) [Lien et al.], 861
- GW280430A (CO) [Geldner et al.], 861
- onset and duration of rocuronium-induced neuromuscular blockade in patients with Duchenne muscular dystrophy (CI) [Wick et al.], 915
- pharmacokinetics and pharmacodynamics of mivacurium in patients phenotypically homozygous for the atypical plasma cholinesterase variant (CI) [Østergaard et al.], 1124
- rapacuronium preferentially antagonizes the function of M2 *vs.* M3 muscarinic receptors in guinea pig airway smooth muscle (LI) [Jooste et al.], 115
- response to mivacurium in patients carrying the K variant in the butyrylcholinesterase gene (JS) [Gätke et al.], 503
- single acceleromyographic train-of-four, 100-Hertz tetanus or double-burst stimulation: which test performs better to detect residual paralysis? (CI) [Samet et al.], 51
- succinylcholine dosage and apnea-induced hemoglobin desaturation in patients (CI) [Naguib et al.], 35
- tetanic stimulation of peripheral nerve before transcranial electrical stimulation can enlarge amplitudes of myogenic motor evoked potentials during general anesthesia with neuromuscular blockade (CI) [Kakimoto et al.], 733

**Neuronal cells**

- action of isoflurane on substantia gelatinosa neurons of adult rat spinal cord (LI) [Wakai et al.], 379
- changes in response properties and receptive fields of spinal dorsal horn neurons in rats after surgical incision in hairy skin (PRA) [Kawamata et al.], 141
- clinically relevant concentrations of propofol but not midazolam alter *in vitro* dendritic development of isolated  $\gamma$ -aminobutyric acid-positive interneurons (LI) [Vutsits et al.], 970
- gabapentin normalizes spinal neuronal responses that correlate with behavior in a rat model of cancer-induced bone pain (PRA) [Donovan-Rodriguez et al.], 132
- long-term exposure to local but not inhalation anesthetics affects

- neurite regeneration and synapse formation between identified *Lymanaea* neurons (LI) [Onizuka et al.], 353
- traumatic brain injury and hemorrhagic hypotension suppress neuroprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806

**Neuroprotection**

- isoflurane neuroprotection in hypoxic hippocampal slice cultures involves increases in intracellular  $\text{Ca}^{2+}$  and mitogen-activated protein kinases (LI) [Gray et al.], 606
- traumatic brain injury and hemorrhagic hypotension suppress neuroprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806

**Neurosurgery**

- Society of Neurosurgical Anesthesia and Critical Care Scientific Meeting, 2004 (RSM) [de Lange], 1074

**Nicotine replacement therapy**

- effect on stress and smoking behavior in surgical patients (CI) [Warner et al.], 1138

**Nitroglycerin**

- nitroglycerin to facilitate insertion of a labor epidural (CO) [Carvalho], 872

**Nitrous oxide**

- intraoperative remifentanyl infusion does not increase postoperative opioid consumption compared with 70% nitrous oxide (PRA) [Lee et al.], 398
- nitrous oxide facilitates excitability in rat hippocampal slices through  $\gamma$ -aminobutyric acid A receptor-mediated disinhibition (LR) [Nagashima et al.], 230

**Nonsteroidal antiinflammatory drugs (NSAIDs)**

- effects on patient-controlled analgesia morphine side effects (RA) [Marret et al.], 1249
- median effective dose of nefopam and ketoprofen in postoperative patients (PRA) [Delage et al.], 1211

**Norepinephrine**

- comparative cardiac effects of terlipressin, vasopressin, and norepinephrine on an isolated perfused rabbit heart (LI) [Ouattara et al.], 85
- effect of bupivacaine and levobupivacaine on exocytotic norepinephrine release from rat atria (LI) [Joseph et al.], 977
- terlipressin *vs.* norepinephrine to counteract anesthesia-induced hypotension in patients treated with renin-angiotensin system inhibitors (CI) [Morelli et al.], 12

**O****Obesity**

- influence of obesity on surgical regional anesthesia in the ambulatory setting: analysis of 9,038 blocks (PRA) [Nielsen et al.], 181
- intubating laryngeal mask airway in morbidly obese and lean patients (CI) [Combes et al.], 1106
- preoxygenation is more effective in 25° head-up position than in supine position in severely obese patients (CI) [Dixon et al.], 1110

**Obstetric patients**

- the Apgar score has survived the test of time (CPR) [Finster et al.], 855
- Chestnut, *Obstetric Anesthesia: Principles and Practice, 3rd edition* (EM) [Bocquet-Lecinq et al.], 875
- comparison of median effective doses of intrathecal levobupivacaine and ropivacaine for labor analgesia (PRA) [Sia et al.], 651
- epidural administration of neostigmine and clonidine to induce labor analgesia (PRA) [Roelants et al.], 1205
- Gerard W. Ostheimer “What’s New in Obstetric Anesthesia” lecture (SA) [Tsen], 672
- heart rate variability predicts severe hypotension after spinal anesthesia for elective cesarean delivery (CI) [Hanss et al.], 1086
- intravenous butorphanol, meperidine, and their combination relieve pain and distress in women in labor (PRA) [Nelson et al.], 1008
- minimum local analgesic doses of ropivacaine, levobupivacaine, and bupivacaine for intrathecal labor analgesia (PRA) [Camorcia et al.], 646

- nitroglycerin to facilitate insertion of a labor epidural (CO) [Carvalho], 872
- predicting hypotension during spinal anesthesia (EV) [Smiley], 1079
- severe pulmonary hypertension during pregnancy (CI) [Bonnin et al.], 1133
- use of the laryngeal tube-S<sup>®</sup> for airway management and prevention of aspiration after a failed tracheal intubation in a parturient (CO) [Zand et al.], 481
- OKY-046**
- selective thromboxane A<sub>2</sub> synthase inhibition by OKY-046 prevents cardiopulmonary dysfunction after ovine smoke inhalation injury (LI) [Westphal et al.], 954
- Ondansetron**
- impact of pharmacogenomics on postoperative nausea and vomiting (JS) [Candiotti et al.], 543
- prolongation of QTc interval after postoperative nausea and vomiting treatment by droperidol or ondansetron (CI) [Charbit et al.], 1094
- you (still) can't disprove the existence of dragons (EV) [Scuderi], 1081
- Operating room management**
- estimating incidence of prolonged turnover times and delays by time of day (EC) [Dexter et al.], 1242
- Opioids**
- changes in properties of spinal dorsal horn neurons and their sensitivity to morphine after spinal cord injury in the rat (PRA) [Wang et al.], 152
- effects of NSAIDs on patient-controlled analgesia morphine side effects (RA) [Marret et al.], 1249
- effects of remifentanyl on *N*-methyl-D-aspartate receptor: electrophysiological study in rat spinal cord (PRA) [Guntz et al.], 1235
- efficacy and safety of epidural opioids for postoperative analgesia (CPR) [Chestnut], 221
- forty-eight hours of postoperative pain relief after total hip arthroplasty with a novel, extended-release epidural morphine formulation (PRA) [Viscusi et al.], 1014
- intraoperative remifentanyl infusion does not increase postoperative opioid consumption compared with 70% nitrous oxide (PRA) [Lee et al.], 398
- intrathecal morphine reduces allodynia after peripheral nerve injury in rats *via* activation of a spinal A1 adenosine receptor (PRA) [Zhang et al.], 416
- intravenous butorphanol, meperidine, and their combination relieve pain and distress in women in labor (PRA) [Nelson et al.], 1008
- ketamine improves the management of exaggerated postoperative pain observed in perioperative fentanyl-treated rats (PRA) [Richebé et al.], 421
- polymorphism of  $\mu$ -opioid receptor gene does not protect against opioid-induced respiratory depression despite reduced analgesic response (JS) [Romberg et al.], 522
- postoperative opioid sparing to hasten recovery (EV) [Kehlet], 1083
- randomized, double-blind study of the analgesic efficacy of morphine-6-glucuronide *vs.* morphine sulfate for postoperative pain in major surgery (PRA) [Hanna et al.], 815
- remifentanyl preconditioning confers cardioprotection *via* cardiac  $\kappa$ - and  $\delta$ -opioid receptors (LI) [Zhang et al.], 371
- spinal glucocorticoid receptors contribute to the development of morphine tolerance in rats (PRA) [Lim et al.], 832
- tolerance to miotic effects of opioids (CO) [Kollars et al.], 701
- tramadol and vocal cord closure (CR) [Fodale et al.], 227
- Orthopedic surgery**
- continuous infusion of ropivacaine for pain relief after iliac crest bone grafting for shoulder surgery (PRA) [Blumenthal et al.], 392
- double epidural catheter with ropivacaine *vs.* intravenous morphine: comparison for postoperative analgesia after scoliosis correction surgery (PRA) [Blumenthal et al.], 175
- effect of postoperative epidural analgesia on rehabilitation and pain after hip fracture surgery (PRA) [Foss et al.], 1197
- efficacy and safety of single and repeated administration of 1 gram intravenous acetaminophen injection (paracetamol) for pain management after major orthopedic surgery (PRA) [Sinatra et al.], 822
- forty-eight hours of postoperative pain relief after total hip arthroplasty with a novel, extended-release epidural morphine formulation (PRA) [Viscusi et al.], 1014
- for outpatient rotator cuff surgery, nerve block anesthesia provides superior same-day recovery over general anesthesia (PRA) [Hadzic et al.], 1001
- tranexamic acid reduces intraoperative blood loss in pediatric patients undergoing scoliosis surgery (CI) [Sethna et al.], 727
- why do orthopedic patients have a higher incidence of serious complications after central neuraxial blockade? (CO) [Heller et al.], 1286
- Oxygenation**
- continuous monitoring of cerebrospinal fluid oxygen tension in relation to motor evoked potentials during spinal cord ischemia in pigs (LI) [Lips et al.], 340
- effects of skin pigmentation on pulse oximeter accuracy at low saturation (CI) [Bickler et al.], 715
- optoacoustic, noninvasive, real-time, continuous monitoring of cerebral blood oxygenation: an *in vivo* study in sheep (LI) [Petrov et al.], 69
- preoxygenation is more effective in 25° head-up position than in supine position in severely obese patients (CI) [Dixon et al.], 1110
- simple and effective technique to increase oxygenation for patients with nasal cannulae during upper endoscopy (CO) [Tse et al.], 484
- succinylcholine dosage and apnea-induced hemoglobin desaturation in patients (CI) [Naguib et al.], 35
- P**
- Pain, cancer**
- gabapentin normalizes spinal neuronal responses that correlate with behavior in a rat model of cancer-induced bone pain (PRA) [Donovan-Rodriguez et al.], 132
- Pain, neuropathic**
- intrathecal morphine reduces allodynia after peripheral nerve injury in rats *via* activation of a spinal A1 adenosine receptor (PRA) [Zhang et al.], 416
- intravenous lidocaine relieves spinal cord injury pain (PRA) [Finnerup et al.], 1023
- safer and more effective intervention for radiculopathic pain (CO) [Willis et al.], 869
- Pain, postoperative**
- double epidural catheter with ropivacaine *vs.* intravenous morphine: comparison for postoperative analgesia after scoliosis correction surgery (PRA) [Blumenthal et al.], 175
- effect of postoperative epidural analgesia on rehabilitation and pain after hip fracture surgery (PRA) [Foss et al.], 1197
- efficacy and safety of epidural opioids for postoperative analgesia (CPR) [Chestnut], 221
- efficacy and safety of single and repeated administration of 1 gram intravenous acetaminophen injection (paracetamol) for pain management after major orthopedic surgery (PRA) [Sinatra et al.], 822
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- ketamine improves the management of exaggerated postoperative pain observed in perioperative fentanyl-treated rats (PRA) [Richebé et al.], 421
- median effective dose of nefopam and ketoprofen in postoperative patients (PRA) [Delage et al.], 1211
- postoperative opioid sparing to hasten recovery (EV) [Kehlet], 1083
- randomized, double-blind study of the analgesic efficacy of morphine-6-glucuronide *vs.* morphine sulfate for postoperative pain in major surgery (PRA) [Hanna et al.], 815
- stellate ganglion blockade for acute postoperative upper extremity pain (CO) [Kakazu et al.], 1286



**Pain, procedural**

randomized controlled trial to evaluation S-Caine Patch® for reducing pain associated with vascular access in children (PRA) [Sethna et al.], 403

**Pain, radicular**

pulsed and continuous radiofrequency current adjacent to the cervical dorsal root ganglion of the rat induces late cellular activity in the dorsal horn (PRA) [Van Zundert et al.], 1125

**Pain management**

central nervous system concentrations of cyclooxygenase-2 inhibitors in humans (PRA) [Dembo et al.], 409

complex regional pain syndromes in children and adolescents (EV) [Berde et al.], 251

continuous infusion of ropivacaine for pain relief after iliac crest bone grafting for shoulder surgery (PRA) [Blumenthal et al.], 392

continuous peripheral nerve blocks at home for treatment of recurrent complex regional pain syndrome I in children (PRA) [Dadure et al.], 387

effects of NSAIDs on patient-controlled analgesia morphine side effects (RA) [Marret et al.], 1249

efficacy and safety of epidural opioids for postoperative analgesia (CPR) [Chestnut], 221

efficacy and safety of single and repeated administration of 1 gram intravenous acetaminophen injection (paracetamol) for pain management after major orthopedic surgery (PRA) [Sinatra et al.], 822

immediate early genes after pulsed radiofrequency treatment (EV) [Richebé et al.], 1

ketamine for perioperative pain management (CCC) [Himmelseher et al.], 211

ketamine improves the management of exaggerated postoperative pain observed in perioperative fentanyl-treated rats (PRA) [Richebé et al.], 421

perioperative acupuncture and related techniques (RA) [Chernyak et al.], 1031

randomized, double-blind study of the analgesic efficacy of morphine-6-glucuronide *vs.* morphine sulfate for postoperative pain in major surgery (PRA) [Hanna et al.], 815

sonographic localization of an implanted infusion pump injection port (CO) [Greher et al.], 243

successful use of spinal cord stimulation in the treatment of severe Raynaud's disease of the hands (CR) [Sibell et al.], 225

Warfield, Bajwa, *Principles & Practice of Pain Medicine, 2nd edition* (EM) [Wu], 1073

**Pain mechanisms**

changes in properties of spinal dorsal horn neurons and their sensitivity to morphine after spinal cord injury in the rat (PRA) [Wang et al.], 152

changes in response properties and receptive fields of spinal dorsal horn neurons in rats after surgical incision in hairy skin (PRA) [Kawamata et al.], 141

developmental age influences effect of epidural dexmedetomidine on inflammatory hyperalgesia in rat pups (PRA) [Walker et al.], 1226

effects of halothane and isoflurane on hyperexcitability of spinal dorsal horn neurons after incision in the rat (PRA) [Kawamata et al.], 165

effects of remifentanyl on *N*-methyl-D-aspartate receptor: electrophysiological study in rat spinal cord (PRA) [Guntz et al.], 1235

increased sensitivity to thermal pain and reduced subcutaneous lidocaine efficacy in redheads (JS) [Liem et al.], 509

painful nerve injury decreases resting cytosolic calcium concentrations in sensory neurons of rats (PRA) [Fuchs et al.], 1217

**Paralysis**

single acceleromyographic train-of-four, 100-Hertz tetanus or double-burst stimulation: which test performs better to detect residual paralysis? (CI) [Samet et al.], 51

**Patient-controlled analgesia**

effects of NSAIDs on patient-controlled analgesia morphine side effects (RA) [Marret et al.], 1249

**Patient positioning**

preoxygenation is more effective in 25° head-up position than in

supine position in severely obese patients (CI) [Dixon et al.], 1110

**Patient satisfaction**

development and validation of a perioperative satisfaction questionnaire (CI) [Auquier et al.], 1116

**Pediatric patients**

air venting and in-line intravenous fluid warming for pediatrics (CO) [Avula et al.], 1290

the Appgar score has survived the test of time (CPR) [Finster et al.], 855

complex regional pain syndromes in children and adolescents (EV) [Berde et al.], 251

continuous peripheral nerve blocks at home for treatment of recurrent complex regional pain syndrome I in children (PRA) [Dadure et al.], 387

Litman, *Pediatric Anesthesia: The Requisites in Anesthesiology* (EM) [Bonasera], 1293

lumbar plexus block in children (CO) [Jöhr], 865

randomized controlled trial to evaluation S-Caine Patch® for reducing pain associated with vascular access in children (PRA) [Sethna et al.], 403

sevoflurane *vs.* halothane: postoperative maladaptive behavioral changes (CI) [Kain et al.], 720

should we extrapolate rodent experimental data to the care of human neonates? (CO) [Soriano et al.], 866

tranexamic acid reduces intraoperative blood loss in pediatric patients undergoing scoliosis surgery (CI) [Sethna et al.], 727

**Perfluorohexane**

vaporized perfluorohexane attenuates ventilator-induced lung injury in isolated, perfused rabbit lungs (LI) [Gama de Abreu et al.], 597

**Pharmacogenomics. See also Genetics**

anesthesia and the Human Genome Project (EV) [Allen], 494

effect of  $\alpha_{2B}$ -adrenoceptor polymorphism on peripheral vasoconstriction in healthy volunteers (JS) [Talke et al.], 536

effect of *N*-methyl-D-aspartate receptor  $\epsilon_1$  subunit gene disruption on the action of general anesthetic drugs in mice (JS) [Sato et al.], 557

genetic predisposition to latex allergy (JS) [Brown et al.], 496

genotyping the butyrylcholinesterase in patients with prolonged neuromuscular block after succinylcholine (JS) [Levano et al.], 531

impact of pharmacogenomics on postoperative nausea and vomiting (JS) [Candiotti et al.], 543

increased sensitivity to thermal pain and reduced subcutaneous lidocaine efficacy in redheads (JS) [Liem et al.], 509

pharmacogenetic determinants of human liver microsomal alfentanil metabolism and role of cytochrome P450 3A5 (JS) [Klees et al.], 550

pharmacogenetics of anesthetic and analgesic agents (RA) [Palmer et al.], 663

pharmacokinetics and pharmacodynamics of mivacurium in patients phenotypically homozygous for the atypical plasma cholinesterase variant (CI) [Østergaard et al.], 1124

polymorphism of  $\mu$ -opioid receptor gene does not protect against opioid-induced respiratory depression despite reduced analgesic response (JS) [Romberg et al.], 522

response to mivacurium in patients carrying the K variant in the butyrylcholinesterase gene (JS) [Gätke et al.], 503

screening of the entire ryanodine receptor type 1 coding region for sequence variants associated with malignant hyperthermia susceptibility in North American population (JS) [Sambuughin et al.], 515

special issue on pharmacogenomics and anesthesia: work presented at the 2004 journal symposium (EV) [Kharasch], 493

**Pharmacokinetics and pharmacodynamics**

Evers, Maze (eds), *Anesthetic Pharmacology: Physiologic Principles and Clinical Practice* (EM) [Goldstein et al.], 485

GW280430A: pharmacodynamics and potential adverse effects (CO) [Lien et al.], 861

human kidneys play an important role in the elimination of propofol (CI) [Takizawa et al.], 327

influence of hypovolemia on the electroencephalographic effect of isoflurane in a swine model (LI) [Kurita et al.], 948

- of mivacurium in patients phenotypically homozygous for the atypical plasma cholinesterase variant (CI) [Østergaard et al.], 1124
- pharmacodynamics of propofol during hemorrhagic shock (CO) [Takizawa et al.], 1068
- pharmacogenetic determinants of human liver microsomal alfentanil metabolism and role of cytochrome P450 3A5 (JS) [Klees et al.], 550
- weak polar interactions confer albumin binding site selectivity for haloether anesthetics (LI) [Liu et al.], 799

**Pneumonia**

- electronic nose prediction of a clinical pneumonia score: biosensors and microbes (CI) [Hanson et al.], 63
- intravenous *vs.* nebulized ceftazidime in ventilated piglets with and without experimental bronchopneumonia: comparative effects of helium and nitrogen (LI) [Tonnelier et al.], 995

**Potassium and potassium channels**

- inhibitory effects of lidocaine and mexiletine on vasorelaxation mediated by adenosine triphosphate-sensitive  $K^+$  channels and the role of kinases in the porcine coronary artery (LI) [Kimoto et al.], 581
- molecular mechanisms underlying ketamine-mediated inhibition of sarcolemmal adenosine triphosphate-sensitive potassium channels (LI) [Kawano et al.], 93

**Preconditioning**

- ketamine preconditions isolated human right atrial myocardium (LI) [Hanouz et al.], 1190
- remifentanyl preconditioning confers cardioprotection *via* cardiac  $\kappa$ - and  $\delta$ -opioid receptors (LI) [Zhang et al.], 371

**Pregnancy. See also Obstetric patients**

- severe pulmonary hypertension during (CI) [Bonnin et al.], 1133

**Propofol**

- in clinical practice, coadministration of sevoflurane or propofol could antagonize remifentanyl stimulation of *N*-methyl-D-aspartate receptors (CO) [Fodale et al.], 695
- clinically relevant concentrations of propofol but not midazolam alter *in vitro* dendritic development of isolated  $\gamma$ -aminobutyric acid-positive interneurons (LI) [Vutsits et al.], 970
- depth of anesthesia monitors and shock (CO) [Lichter], 1068
- effect of propofol on carotid body chemosensitivity and cholinergic chemotransduction (LI) [Jonsson et al.], 110
- facilitation of serotonergic activity and amnesia in rats caused by intravenous anesthetics (LI) [Semba et al.], 616
- human kidneys play an important role in the elimination of propofol (CI) [Takizawa et al.], 327
- metabolic acidosis due to propofol infusion (CO) [Farag et al.], 697
- no evidence of memory function during anesthesia with propofol or isoflurane with close control of hypnotic state (CI) [Kerssens et al.], 57
- pharmacodynamics of propofol during hemorrhagic shock (CO) [Takizawa et al.], 1068
- propofol and sleep (CO) [Ward], 481
- propofol and thiopental do not interfere with regional cerebral blood flow response at sedative concentrations (CI) [Veselis et al.], 26

**Pulmonary edema**

- opposing effects of isoflurane and sevoflurane on neurogenic pulmonary edema development in rat (LI) [Kandatsu et al.], 1182

**Pulmonary hypertension**

- severe, during pregnancy (CI) [Bonnin et al.], 1133

**Pulmonary venous resistance**

- increased pulmonary venous resistance contributes to increased pulmonary artery diastolic-pulmonary wedge pressure gradient in acute respiratory distress syndrome (CI) [Her et al.], 574
- ketamine attenuates acetylcholine-induced contraction by decreasing myofilament  $Ca^{2+}$  sensitivity in pulmonary veins (LI) [Ding et al.], 588

**Pulse oximetry**

- effects of skin pigmentation on pulse oximeter accuracy at low saturation (CI) [Bickler et al.], 715

**Q****QT interval prolongation**

- after postoperative nausea and vomiting treatment by droperidol or ondansetron (CI) [Charbit et al.], 1094
- anesthesia for patients with congenital long QT syndrome (RA) [Kies et al.], 204
- effect of low-dose droperidol on QT interval during and after general anesthesia (CI) [White et al.], 1101
- you (still) can't disprove the existence of dragons (EV) [Scuderi], 1081

**R****Radiofrequency treatment**

- immediate early genes after pulsed radiofrequency treatment (EV) [Richebé et al.], 1
- pacemaker and ECG monitor pseudomalfuction during extracardiac radiofrequency ablation (CO) [Rozner], 239
- pulsed and continuous radiofrequency current adjacent to the cervical dorsal root ganglion of the rat induces late cellular activity in the dorsal horn (PRA) [Van Zundert et al.], 1125
- safer and more effective intervention for radiculopathic pain (CO) [Willis et al.], 869

**Rapacuronium**

- rapacuronium preferentially antagonizes the function of M2 *vs.* M3 muscarinic receptors in guinea pig airway smooth muscle (LI) [Jooste et al.], 115

**Raynaud's disease**

- successful use of spinal cord stimulation in the treatment of severe Raynaud's disease of the hands (CR) [Sibell et al.], 225

**Recall**

- is recall during sedation being confused with recall during general anesthesia? (CO) [Collier], 1070

**Receptors and signal transduction**

- effect of  $\alpha_2B$ -adrenoceptor polymorphism on peripheral vasoconstriction in healthy volunteers (JS) [Talke et al.], 536
- effect of *N*-methyl-D-aspartate receptor  $\epsilon_1$  subunit gene disruption on the action of general anesthetic drugs in mice (JS) [Sato et al.], 557
- isoflurane modulation of neuronal nicotinic acetylcholine receptors expressed in human embryonic kidney cells (LI) [Yamashita et al.], 76
- isoflurane protects against myocardial infarction during early reperfusion by activation of phosphatidylinositol-3-kinase signal transduction: evidence for anesthetic-induced postconditioning in rabbits (LI) [Chiari et al.], 102
- rapacuronium preferentially antagonizes the function of M2 *vs.* M3 muscarinic receptors in guinea pig airway smooth muscle (LI) [Jooste et al.], 115
- remifentanyl preconditioning confers cardioprotection *via* cardiac  $\kappa$ - and  $\delta$ -opioid receptors (LI) [Zhang et al.], 371
- spinal glucocorticoid receptors contribute to the development of morphine tolerance in rats (PRA) [Lim et al.], 832

**Recovery from anesthesia**

- effects of Bispectral Index monitoring on recovery from surgical anesthesia in 1,580 inpatients from an academic medical center (CI) [Pavlin et al.], 566
- for outpatient rotator cuff surgery, nerve block anesthesia provides superior same-day recovery over general anesthesia (PRA) [Hadzic et al.], 1001
- postoperative opioid sparing to hasten recovery (EV) [Kehlet], 1083

**Regional anesthesia and anesthetics**

- "bayonet artifact" during ultrasound-guided transarterial axillary block (CO) [Gray et al.], 1291
- influence of obesity on surgical regional anesthesia in the ambulatory setting: analysis of 9,038 blocks (PRA) [Nielsen et al.], 181
- intraneural injection during anterior approach for sciatic nerve block (CO) [Blumenthal et al.], 1283
- lumbar plexus block in children (CO) [Jöhr], 865
- respiratory distress after a deep cervical plexus block (CO) [D'Honneur et al.], 1070

- stellate ganglion blockade for acute postoperative upper extremity pain (CO) [Kakazu et al.], 1286
- medwhy do orthopedic patients have a higher incidence of serious complications after central neuraxial blockade? (CO) [Heller et al.], 1286
- Rehabilitation**  
effect of postoperative epidural analgesia on rehabilitation and pain after hip fracture surgery (PRA) [Foss et al.], 1197
- Remifentanyl**  
in clinical practice, coadministration of sevoflurane or propofol could antagonize remifentanyl stimulation of *N*-methyl-D-aspartate receptors (CO) [Fodale et al.], 695  
effects on *N*-methyl-D-aspartate receptor: electrophysiological study in rat spinal cord (PRA) [Guntz et al.], 1235  
in ICU: tolerance and acute withdrawal syndrome after prolonged sedation (CR) [Delvaux et al.], 1281  
intraoperative remifentanyl infusion does not increase postoperative opioid consumption compared with 70% nitrous oxide (PRA) [Lee et al.], 398  
remifentanyl preconditioning confers cardioprotection *via* cardiac  $\kappa$ - and  $\delta$ -opioid receptors (LI) [Zhang et al.], 371
- Renin-angiotensin system inhibitors**  
terlipressin *vs.* norepinephrine to counteract anesthesia-induced hypotension in patients treated with renin-angiotensin system inhibitors (CI) [Morelli et al.], 12
- Respiratory depression**  
effect of propofol on carotid body chemosensitivity and cholinergic chemotransduction (LI) [Jonsson et al.], 110  
polymorphism of  $\mu$ -opioid receptor gene does not protect against opioid-induced respiratory depression despite reduced analgesic response (JS) [Romberg et al.], 522
- Respiratory distress**  
after deep cervical plexus block (CO) [D'Honneur et al.], 1070
- Review articles**  
anesthesia for patients with congenital long QT syndrome (RA) [Kies et al.], 204  
does off-pump coronary artery bypass reduce mortality, morbidity, and resource utilization when compared with conventional coronary artery bypass? meta-analysis of randomized trials (RA) [Cheng et al.], 188  
effects of NSAIDs on patient-controlled analgesia morphine side effects (RA) [Marret et al.], 1249  
genetic modulation of adrenergic activity in the heart and vasculature: implications for perioperative medicine (RA) [Zaugg et al.], 429  
perioperative acupuncture and related techniques (RA) [Chernyak et al.], 1031  
pharmacogenetics of anesthetic and analgesic agents (RA) [Palmer et al.], 663  
pulmonary atelectasis (RA) [Duggan et al.], 838
- Reviews of educational material**  
Chestnut, *Obstetric Anesthesia: Principles and Practice, 3rd edition* (EM) [Bocquet-Lecinq et al.], 875  
Cole, Schlunt (eds), *Adult Perioperative Anesthesia: The Requisites* (EM) [Guidry], 485  
Dunn, *Simulators in Critical Care and Beyond* (EM) [Manser], 1072  
Ellis, Feldman, Harrop-Griffiths, Lawson, *Anatomy for Anaesthetists, 8th edition* (EM) [Rorie], 875  
Evers, Maze, *Anesthetic Pharmacology: Physiologic Principles and Clinical Practice* (EM) [Goldstein et al.], 485  
Hadzic, Vloka, *Peripheral Nerve Blocks: Principles and Practice* (EM) [Ilfeld], 244  
Hillman, Bishop, *Clinical Intensive Care and Acute Medicine, 2nd edition* (EM) [Nemergut], 705  
Jaffe, Samuels, *The Anesthesiologist's Manual of Surgical Procedures* (EM) [Danielson], 244  
Leung, *Cardiac and Vascular Anesthesia: The Requisites in Anesthesiology* (EM) [Stone], 1293  
Litman, *Pediatric Anesthesia: The Requisites in Anesthesiology* (EM) [Bonasera], 1293  
Renfrew, *Atlas of Spine Injection* (EM) [Stanton-Hicks], 705  
Warfield, Bajwa, *Principles & Practice of Pain Medicine, 2nd edition* (EM) [Wu], 1073
- Rocuronium**  
onset and duration of rocuronium-induced neuromuscular blockade in patients with Duchenne muscular dystrophy (CI) [Wick et al.], 915
- Ropivacaine**  
comparison of median effective doses of intrathecal levobupivacaine and ropivacaine for labor analgesia (PRA) [Sia et al.], 651  
continuous infusion of ropivacaine for pain relief after iliac crest bone grafting for shoulder surgery (PRA) [Blumenthal et al.], 392  
differential effects of bupivacaine and ropivacaine enantiomers on intracellular  $\text{Ca}^{2+}$  regulation in murine skeletal muscle fibers (LI) [Zink et al.], 793  
double epidural catheter with ropivacaine *vs.* intravenous morphine: comparison for postoperative analgesia after scoliosis correction surgery (PRA) [Blumenthal et al.], 175  
minimum local analgesic doses of ropivacaine, levobupivacaine, and bupivacaine for intrathecal labor analgesia (PRA) [Camorcia et al.], 646
- Rovenstein Lecture**  
assessing the past and shaping the future of anesthesiology: the 43rd Rovenstein Lecture (SA) [Modell], 1050
- S**
- S-100 protein**  
brain cell damage and S-100B increase after acute lung injury (EV) [Raabe et al.], 713  
S-100 protein and neurohistopathologic changes in porcine model of acute lung injury (LI) [Fries et al.], 761
- Safety issues**  
adequate preoperative fasting and aspiration: factors affecting regurgitation (CO) [Salem et al.], 237  
avoid excessive sedation during cervical injections (CO) [Gajraj], 869  
efficacy and safety of epidural opioids for postoperative analgesia (CPR) [Chestnut], 221  
proponents of liberalized fasting guidelines (CO) [Cook-Sather et al.], 236  
safer and more effective intervention for radiculopathic pain (CO) [Willis et al.], 869  
transpharyngeal ultrasonography for cannulation of the internal jugular vein (CO) [Bevilacqua et al.], 873
- Saphenous nerve**  
comparison of different approaches to saphenous nerve block (PRA) [Benzon et al.], 633
- Sciatic nerve**  
intraaneural injection during anterior approach for sciatic nerve block (CO) [Blumenthal et al.], 1283
- Scoliosis**  
double epidural catheter with ropivacaine *vs.* intravenous morphine: comparison for postoperative analgesia after scoliosis correction surgery (PRA) [Blumenthal et al.], 175  
tranexamic acid reduces intraoperative blood loss in pediatric patients undergoing scoliosis surgery (CI) [Sethna et al.], 727
- Sedation**  
avoid excessive sedation during cervical injections (CO) [Gajraj], 869  
is recall during sedation being confused with recall during general anesthesia? (CO) [Collier], 1070  
propofol and thiopental do not interfere with regional cerebral blood flow response at sedative concentrations (CI) [Veselis et al.], 26  
remifentanyl in ICU: tolerance and acute withdrawal syndrome after prolonged sedation (CR) [Delvaux et al.], 1281
- Serotonin**  
facilitation of serotonergic activity and amnesia in rats caused by intravenous anesthetics (LI) [Semba et al.], 616
- Sevoflurane**  
cardioprotective properties of sevoflurane in patients undergoing coronary surgery with cardiopulmonary bypass are related to the modalities of its administration (CO) [Djalali et al.], 699  
in clinical practice, coadministration of sevoflurane or propofol could antagonize remifentanyl stimulation of *N*-methyl-D-aspartate receptors (CO) [Fodale et al.], 695



- does the amygdala mediate anesthetic-induced amnesia? (LI) [Alkire et al.], 754
- opposing effects of isoflurane and sevoflurane on neurogenic pulmonary edema development in rat (LI) [Kandatsu et al.], 1182
- sevoflurane blocks cholinergic synaptic transmission postsynaptically but does not affect short-term potentiation (LI) [Naruo et al.], 920
- sevoflurane *vs.* halothane: postoperative maladaptive behavioral changes (CI) [Kain et al.], 720
- volatile anesthetics induce caspase-dependent, mitochondria-mediated apoptosis in human T lymphocytes in vitro (LI) [Loop et al.], 1147
- Shock**
- depth of anesthesia monitors and shock (CO) [Lichtor], 1068
- management of anaphylactic shock (CO) [Mahajan et al.], 1284
- pharmacodynamics of propofol during hemorrhagic shock (CO) [Takizawa et al.], 1068
- Shoulder surgery**
- for outpatient rotator cuff surgery, nerve block anesthesia provides superior same-day recovery over general anesthesia (PRA) [Hadzic et al.], 1001
- Signal transduction. See Receptors and signal transduction**
- Skeletal muscle**
- differential effects of bupivacaine and ropivacaine enantiomers on intracellular  $\text{Ca}^{2+}$  regulation in murine skeletal muscle fibers (LI) [Zink et al.], 793
- Skin**
- effects of skin pigmentation on pulse oximeter accuracy at low saturation (CI) [Bickler et al.], 715
- Smoke inhalation**
- selective thromboxane  $\text{A}_2$  synthase inhibition by OKY-046 prevents cardiopulmonary dysfunction after ovine smoke inhalation injury (LI) [Westphal et al.], 954
- Smoking**
- determination of duration of preoperative smoking cessation to improve wound healing after head and neck surgery (CI) [Kuri et al.], 892
- effect of nicotine replacement therapy on stress and smoking behavior in surgical patients (CI) [Warner et al.], 1138
- preoperative smoking cessation (EV) [Warner], 883
- Smooth muscle, airway**
- rapacuronium preferentially antagonizes the function of M2 *vs.* M3 muscarinic receptors in guinea pig airway smooth muscle (LI) [Jooste et al.], 115
- Spasmodic dysphonia**
- postextubation laryngospasm in a patient with spasmodic dysphonia (CR) [Capacchione et al.], 859
- Special articles**
- the anesthetic cascade: a theory of how anesthesia suppresses consciousness (SA) [John et al.], 447
- assessing the past and shaping the future of anesthesiology: the 43rd Rovenstine Lecture (SA) [Modell], 1050
- Spinal anesthesia and analgesia**
- bupivacaine spinal block cauda equina syndrome (CO) [Lambert], 1285
- comparison of median effective doses of intrathecal levobupivacaine and ropivacaine for labor analgesia (PRA) [Sia et al.], 651
- double epidural catheter with ropivacaine *vs.* intravenous morphine: comparison for postoperative analgesia after scoliosis correction surgery (PRA) [Blumenthal et al.], 175
- extramedullary intrathecal catheter granuloma adherent to the conus medullaris presenting as cauda equina syndrome (CR) [Shields et al.], 1059
- heart rate variability predicts severe hypotension after spinal anesthesia for elective cesarean delivery (CI) [Hanss et al.], 1086
- intrathecal catheter tip inflammatory mass: failure of clonidine to protect (CR) [Toombs et al.], 687
- intrathecal morphine reduces allodynia after peripheral nerve injury in rats *via* activation of a spinal A1 adenosine receptor (PRA) [Zhang et al.], 416
- minimum local analgesic doses of ropivacaine, levobupivacaine, and bupivacaine for intrathecal labor analgesia (PRA) [Camorcia et al.], 646
- predicting hypotension during (EV) [Smiley], 1079
- Renfrew, *Atlas of Spine Injection* (EM) [Stanton-Hicks], 705
- Spinal cord function and disease**
- action of isoflurane on substantia gelatinosa neurons of adult rat spinal cord (LI) [Wakai et al.], 379
- $\alpha_2$ -adrenoceptor activation by clonidine enhances stimulation-evoked acetylcholine release from spinal cord tissue after nerve ligation in rats (PRA) [Obata et al.], 657
- changes in properties of spinal dorsal horn neurons and their sensitivity to morphine after spinal cord injury in the rat (PRA) [Wang et al.], 152
- changes in response properties and receptive fields of spinal dorsal horn neurons in rats after surgical incision in hairy skin (PRA) [Kawamata et al.], 141
- continuous monitoring of cerebrospinal fluid oxygen tension in relation to motor evoked potentials during spinal cord ischemia in pigs (LI) [Lips et al.], 340
- drastic increase in isoflurane minimum alveolar concentration and limb movement forces after thoracic spinal cooling and chronic spinal transection in rats (LI) [Jinks et al.], 624
- effects of halothane and isoflurane on hyperexcitability of spinal dorsal horn neurons after incision in the rat (PRA) [Kawamata et al.], 165
- effects of remifentanyl on *N*-methyl-D-aspartate receptor: electrophysiological study in rat spinal cord (PRA) [Guntz et al.], 1235
- extramedullary intrathecal catheter granuloma adherent to the conus medullaris presenting as cauda equina syndrome (CR) [Shields et al.], 1059
- intravenous lidocaine relieves spinal cord injury pain (PRA) [Finnerup et al.], 1023
- spinal glucocorticoid receptors contribute to the development of morphine tolerance in rats (PRA) [Lim et al.], 832
- Spinal cord stimulation**
- successful use of spinal cord stimulation in the treatment of severe Raynaud's disease of the hands (CR) [Sibell et al.], 225
- Statistics**
- improved statistical methods for quantal assay (CO) [Pace], 476
- Stellate ganglion blockade**
- for acute postoperative upper extremity pain (CO) [Kakazu et al.], 1286
- Substance use disorders**
- propofol and sleep (CO) [Ward], 481
- Succinylcholine**
- genotyping the butyrylcholinesterase in patients with prolonged neuromuscular block after succinylcholine (JS) [Levano et al.], 531
- succinylcholine dosage and apnea-induced hemoglobin desaturation in patients (CI) [Naguib et al.], 35
- Surgical technique**
- does off-pump coronary artery bypass reduce mortality, morbidity, and resource utilization when compared with conventional coronary artery bypass? meta-analysis of randomized trials (RA) [Cheng et al.], 188
- evaluation of Seldinger technique emergency cricothyroidotomy *vs.* standard surgical cricothyroidotomy in 200 cadavers (CI) [Schaumann et al.], 7
- off-pump coronary artery bypass and the hypothesis from which it grew (EV) [Floyd et al.], 3

## T

**Temperature control and thermoregulation**

- air venting and in-line intravenous fluid warming for pediatrics (CO) [Avula et al.], 1290
- water *vs.* air warmers (CO) [English], 479

**Terlipressin**

- comparative cardiac effects of terlipressin, vasopressin, and norepinephrine on an isolated perfused rabbit heart (LI) [Ouattara et al.], 85
- terlipressin *vs.* norepinephrine to counteract anesthesia-induced hypotension in patients treated with renin-angiotensin system inhibitors (CI) [Morelli et al.], 12

**Tetracaine**

- randomized controlled trial to evaluation S-Caine Patch<sup>®</sup> for reducing pain associated with vascular access in children (PRA) [Sethna et al.], 403

**Thiopental**

- propofol and thiopental do not interfere with regional cerebral blood flow response at sedative concentrations (CI) [Veselis et al.], 26

**Thromboxane A<sub>2</sub>**

- selective thromboxane A<sub>2</sub> synthase inhibition by OKY-046 prevents cardiopulmonary dysfunction after ovine smoke inhalation injury (LI) [Westphal et al.], 954

**Tramadol**

- tramadol and vocal cord closure (CR) [Fodale et al.], 227

**Tranexamic acid**

- tranexamic acid reduces intraoperative blood loss in pediatric patients undergoing scoliosis surgery (CI) [Sethna et al.], 727

**Transcranial electrical stimulation**

- tetanic stimulation of peripheral nerve before transcranial electrical stimulation can enlarge amplitudes of myogenic motor evoked potentials during general anesthesia with neuromuscular blockade (CI) [Kakimoto et al.], 733

**Trauma**

- evaluation of Seldinger technique emergency cricothyroidotomy *vs.* standard surgical cricothyroidotomy in 200 cadavers (CI) [Schaumann et al.], 7
- traumatic brain injury and hemorrhagic hypotension suppress neuroprotective gene expression in injured hippocampal neurons (LI) [Hellmich et al.], 806

**U****Ultrasonography**

- "bayonet artifact" during ultrasound-guided transarterial axillary block (CO) [Gray et al.], 1291
- disadvantages of ultrasound guidance in caudal epidural needle placement (CO) [Huang], 693
- sonographic localization of an implanted infusion pump injection port (CO) [Greher et al.], 243
- transpharyngeal ultrasonography for cannulation of the internal jugular vein (CO) [Bevilacqua et al.], 873
- ultrasound-guided caudal epidural injection (CO) [Edward], 693

**V****Vascular physiology and pharmacology**

- effect of  $\alpha_{2B}$ -adrenoceptor polymorphism on peripheral vasoconstriction in healthy volunteers (JS) [Talke et al.], 536
- effects of intraoperative blood salvage on leukocyte recruitment to the endothelium (CI) [Nohé et al.], 300
- endothelium-derived hyperpolarizing factor (RA) [Bryan et al.], 1261
- genetic modulation of adrenergic activity in the heart and vasculature: implications for perioperative medicine (RA) [Zaugg et al.], 429

- increased pulmonary venous resistance contributes to increased pulmonary artery diastolic–pulmonary wedge pressure gradient in acute respiratory distress syndrome (CI) [Her et al.], 574

- inhibitory effects of lidocaine and mexiletine on vasorelaxation mediated by adenosine triphosphate-sensitive K<sup>+</sup> channels and the role of kinases in the porcine coronary artery (LI) [Kimoto et al.], 581

- ketamine attenuates acetylcholine-induced contraction by decreasing myofilament Ca<sup>2+</sup> sensitivity in pulmonary veins (LI) [Ding et al.], 588

- Leung, *Cardiac and Vascular Anesthesia: The Requisites in Anesthesiology* (EM) [Stone], 1293

**Vasopressin**

- comparative cardiac effects of terlipressin, vasopressin, and norepinephrine on an isolated perfused rabbit heart (LI) [Ouattara et al.], 85

**Vasospasm**

- successful use of spinal cord stimulation in the treatment of severe Raynaud's disease of the hands (CR) [Sibell et al.], 225

**Venipuncture**

- randomized controlled trial to evaluation S-Caine Patch<sup>®</sup> for reducing pain associated with vascular access in children (PRA) [Sethna et al.], 403

**Ventilation**

- antioxidants reverse reduction of the human hypoxic ventilatory response by subanesthetic isoflurane (CI) [Teppema et al.], 747

- mechanical (See **Mechanical ventilation**)

- respiratory distress after a deep cervical plexus block (CO) [D'Honneur et al.], 1070

**Vocal cords**

- postextubation laryngospasm in a patient with spasmodic dysphonia (CR) [Capacchione et al.], 859

- tramadol and vocal cord closure (CR) [Fodale et al.], 227

**Volatile anesthetics. See also Inhalation anesthesia and anesthetics**

- caspase-dependent, mitochondria-mediated apoptosis in human T lymphocytes induced by (LI) [Loop et al.], 1147

- flash-induced  $\gamma$  oscillations in rat visual cortex enhanced by (LI) [Imas et al.], 937

**W****Wound healing**

- determination of duration of preoperative smoking cessation to improve wound healing after head and neck surgery (CI) [Kuri et al.], 892

- preoperative smoking cessation (EV) [Warner], 883

**X****Xenon**

- attenuation of cerebral damage after ischemia in pigs (LI) [Schmidt et al.], 929