

Postoperative Analgesia After Spinal Blockade in Infants and Children Undergoing Cardiac Surgery

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The aim of this prospective, randomized, controlled clinical trial was to define the opioid analgesic requirement after a remifentanyl (REMI)-based anesthetic with spinal anesthetic blockade (SAB+REMI) or without (REMI) spinal blockade for open-heart surgery in children. We enrolled 45 patients who were candidates for tracheal extubation in the operating room after cardiac surgery. Exclusion criteria included age <3 mo and >6 yr, pulmonary hypertension, congestive heart failure, contraindication to SAB, and failure to obtain informed consent. All patients had an inhaled induction with sevoflurane and maintenance of anesthesia with REMI and isoflurane (0.3% end-tidal). In addition, patients assigned to the SAB+REMI group received SAB with tetracaine (0.5–2.0 mg/kg) and morphine (7 µg/kg). After

tracheal extubation in the operating room, patients received fentanyl 0.3 µg/kg IV every 10 min by patient-controlled analgesia for pain score = 4. Pain scores and fentanyl doses were recorded every hour for 24 h or until the patient was ready for discharge from the intensive care unit. Patients in the SAB+REMI group had significantly lower pain scores ($P = 0.046$ for the first 8 h; $P = 0.05$ for 24 h) and received less IV fentanyl ($P = 0.003$ for the first 8 h; $P = 0.004$ for 24 h) than those in the REMI group. There were no intergroup differences in adverse effects, including hypotension, bradycardia, highest PaCO₂, lowest pH, episodes of oxygen desaturation, pruritus, and vomiting.

(Anesth Analg 2005;100:1283–8)

Early tracheal extubation after cardiac surgery (fast-track anesthesia) is becoming common practice in adult patients and has also been described in infants and children (1–4). Tracheal extubation in the operating room (OR) after the completion of surgery obviates the need for postoperative mechanical ventilation, avoiding associated costs and potential complications such as malpositioning of the endotracheal tube, excessive tracheobronchial secretions, and pulmonary hypertensive response to tracheal suctioning. Because of its very short duration of action, remifentanyl (REMI) has been used during cardiac surgery to provide the benefits of a large-dose opioid anesthetic (e.g., minimal sympathetic response to tracheal intubation and sternotomy) while allowing tracheal extubation in the OR. However, because of its

short duration of action, REMI does not provide postoperative analgesia. Strategies for postoperative analgesia include use of longer-acting IV opioids before or shortly after emergence from general anesthesia or regional anesthesia.

The use of regional anesthesia in combination with general anesthesia for adult patients undergoing cardiac surgery is well documented. A multinational survey (1) reported that approximately 8% of practicing cardiac anesthesiologists use spinal anesthetic techniques routinely in adult patients undergoing open-heart surgery to facilitate early tracheal extubation. IV REMI anesthesia and intrathecal (IT) morphine have been used for fast-track anesthesia because these drugs provide the benefits of rapid emergence as well as postoperative analgesia (2,3). There have been no published reports comparing the postoperative opioid analgesic requirements after the use of REMI with or without spinal anesthesia blockade (SAB). We performed this prospective, randomized, controlled clinical trial to evaluate the effects on postoperative analgesia of IT tetracaine and morphine in children undergoing open-heart surgery with a REMI-based anesthetic technique and scheduled tracheal extubation in the OR after surgery (fast-track anesthesia).

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Conduction Blockade For Postoperative Analgesia

Danilo Jankovic, Philip Peng



Conduction Blockade For Postoperative Analgesia:

Conduction Blockade for Postoperative Analgesia J. H. McClure, J. A. W. Wildsmith, 1991-01-01 Bridging the gap between research and clinical treatment of pain this book indicates how drugs may be used to provide post operative analgesia at the level of the spinal cord or the peripheral nerve area It covers all aspects from the basic physiology of impulse transmission through the psychology of pain to the general principles of patient management used in clinical practice

Cousins and Bridenbaugh's Neural Blockade in Clinical Anesthesia and Pain Medicine Michael J. Cousins, 2012-03-29 This comprehensive authoritative text presents the scientific foundations and clinical practice of neural blockade in both regional anesthesia and the management of pain The descriptions and illustrations of pain mechanisms are considered classic examples The Fourth Edition has been refined for clarity and flows logically from principles and pharmacology to techniques for each anatomic region to applications This edition has two new co editors and several new chapters on topics including neurologic complications neural blockade for surgery treatment of pain in older people and complications in pain medicine A companion Website will offer the fully searchable text and an image bank

Principles and Practice of Regional Anaesthesia J. A. W. Wildsmith, Edward N. Armitage, John H. McClure, 2003 This book is aimed at anaesthetists in training and those studying for the FFARCS examination as well as at those senior anaesthetists whose training was completed before the revival of interest in regional anaesthesia Those already using regional techniques will find the book useful for extending and updating their knowledge Key features include clear views on often misunderstood subjects such as the pharmacokinetics and systemic toxicity of local anaesthetic drugs and the use of test doses a comprehensive chapter on the management of patients undergoing regional anaesthesia an assessment of the present place of spinal anaesthesia and an account of the features of some of the newer spinal agents

Regional Nerve Blocks in Anesthesia and Pain Therapy Danilo Jankovic, Philip Peng, 2022-05-31 This comprehensive atlas which includes a wealth of illustrations and anatomic pictures created by the editors covers a broad range of both regional anesthesia and pain intervention techniques including neuromodulation The book is unique in that it covers ultrasound and fluoroscopic guided techniques as well as traditional landmark guided techniques The authors and editors are internationally renowned experts and share extensive theoretic and practical insights into regional anesthesia pain therapy and anatomic sciences for everyday practice The book addresses the application of ultrasound and fluoroscopic guidance for pain interventions and provides detailed coverage of ultrasound guided and landmark guided regional anesthesia The book represents a detailed guide to the application of regional anesthesia and pain medicine furthermore examples of medico legal documentation are also included in this edition The 5th edition of Regional Nerve Blocks in Anesthesia and Pain Medicine is practically oriented and provides essential guidelines for the clinical application of regional anesthesia It is intended for anesthesiologists and all professionals engaged in the field of pain therapy such as pain specialists surgeons orthopedists neurosurgeons neurologists general

practitioners and nurse anesthetists **Cumulated Index Medicus** ,1969 *Ambulatory Anesthesia and Perioperative Analgesia* Susan M. Steele,Karen C. Nielsen,Stephen M. Klein,2005 Complete Clinical and Practice Management Guidance in one handy reference 5 STAR DOODY S REVIEW Using an evidence based approach the authors provide a balanced and novel view of anesthesia techniques applied to the ambulatory setting Their ultimate goal is to impart to others the knowledge of numerous experts thereby improving ambulatory anesthesia outcomes It succeeds in outstanding fashion Although the book is aimed at anesthesiologists medical students and other students of anesthesia will find many of the historical references interesting It works on many levels including current accepted practice a historical perspective and a glimpse of the future The contributor list reads like a Who s Who in ambulatory anesthesia Doody s Review Service This hands on guide provides anesthesiology practitioners with essential clinical information on the increasingly utilized and important subject of ambulatory anesthesia What s more it also provides practical guidance for clinicians and institutions that are establishing or expanding an ambulatory surgical clinic Gain clinical expertise Clinical content addresses all subjects a clinician needs to know from how to assess the ambulatory patient for anesthesia care to pharmacological principles to the procedures and techniques used in specific disease conditions and much more Includes expert guidance on timely issues such as advanced regional anesthesia including peripheral nerve blocks multimodal analgesia postoperative pain management anesthesia for laparoscopic surgery anesthesia for cosmetic procedures and more Also includes practical pearls regarding anesthesia in the pediatric patient anesthesia in special situations such as patients with morbid obesity or pacemakers adverse event recognition and treatment prevention and treatment of postoperative nausea and much more Includes practice management strategies on Structure and function of the ideal ambulatory surgery center Regulatory and accreditation requirements Business management strategies Quality improvement in ambulatory anesthesia Cost containment in ambulatory surgery centers Much more *Clinical Calculations - E-Book* Joyce LeFever Kee,Sally M. Marshall,Mary Catherine Forrester,Kathryn Woods,2020-06-12 NEW Updated information on Antidiabetic Agents orals and injectables has been added throughout the text where appropriate NEW Updated content on Anticoagulant Agents is housed in an all new chapter NEW Colorized abbreviations for the four methods of calculation BF RP FE and DA appear in the Example Problems sections NEW Updated content and patient safety guidelines throughout the text reflects the latest practices and procedures NEW Updated practice problems across the text incorporate the latest drugs and dosages **Psychology, Pain and Anaesthesia** Hamilton Bertie Gibson,1994 This book aims to bring together current research on the interrelationship between psychological factors pain and anaesthesia It is one of the first to integrate the perspectives of cognitive psychology behavioural medicine and anaesthesia *Handbook of Pain Management* Ronald Melzack,Patrick David Wall,2003 A concise overview of the most important information about every clinical aspect of pain It is for health care professionals in practice and in training involved in the diagnosis and treatment of patients with a wide variety of acute and chronic pain problems

The handbook is divided into three sections clinical pain states therapeutic approaches and special problems of assessment and management The emphasis throughout is on the diagnosis and treatment of clinical pain states and includes recent advances in all aspects of therapy A special section is devoted to assessing and managing the most challenging problems pain in children burn pain neuropathic pain cancer pain gender related pain AIDS related pain and pain in the elderly

Textbook of Obstetric Anesthesia David J. Birnbach, Sanjay Datta, Stephen P. Gatt, 2000 Featuring the work of more than 80 internationally respected contributors from around the world this reference comprehensively explores all of the issues and techniques that pertain to the practice of obstetric anesthesia In addition to anesthesia for labor and delivery it also addresses operative anesthesia obstetric and anesthetic complications and systemic disease during pregnancy A disease oriented approach guides readers step by step through preoperative evaluation intraoperative management and postpartum care for both healthy and high risk patients

Hadzic's Peripheral Nerve Blocks and Anatomy for Ultrasound-Guided Regional Anesthesia Admir Hadzic, 2011-12-28 Rev ed of Peripheral nerve blocks principles and practice c2004

Lee's Synopsis of Anaesthesia Richard Stuart Atkinson, Geoffrey B. Rushman, John Alfred Lee, N. J. H. Davies, 1993

Essentials of Pain Medicine and Regional Anesthesia Honorio T. Benzon, 2005 Concise text on the essential topics in pain medicine and regional anesthesia Eight sections include basic considerations clinical evaluation and diagnostic examinations pharmacology therapeutic interventions postoperative pain chronic pain syndromes and local anesthetics and nerve blockade For residents and practitioners

Handbook of Regional Anesthesia P. Prithvi Raj, 1985

Evidence-based Practice of Anesthesiology Lee A. Fleisher, 2004 A best selling book on evidence based practice of Anesthesiology this new title explores 72 important questions in perioperative management discussing the clinical options examining the relevant research and presenting expert recommendations From preoperative assessment through intraoperative anesthesia administration and monitoring to postoperative pain management leading authorities point the way to the most effective approaches The result is an outstanding source for best practices in anesthesiology as well as a valuable framework for translating evidence into practice Explores key topics such as preoperative preparation perioperative management regional anesthesia monitoring cardiovascular anesthesia neurosurgical anesthesia obstetrical anesthesia pediatric anesthesia and pain Uses a practical consistent format in each chapter providing an overview of the question under discussion an outline of the available management options a review of the relevant evidence identification of areas of uncertainty a summary of existing management guidelines and the author's recommendations Provides tables that summarize the available literature as well as the recommended clinical approaches at a glance Covers routine care as well as complicated and special situations Presents the latest information on clinical situations and reviews all clinical options based on the most recent clinical trials

Regional Anesthesia; Its Technic and Clinical Application Gaston Labat, 1923

Katzung's Basic and Clinical Pharmacology, 16th Edition Todd W. Vanderah, 2023-12-01 The most comprehensive and authoritative pharmacology text

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Basic and Clinical Pharmacology 12/E Bertram G. Katzung, Susan Masters, Anthony Trevor, 2012-01-03 Looks at the essential concepts in the science of pharmacology and its application to clinical practice

Basic & Clinical Pharmacology, Thirteenth Edition, SMARTBOOK™ Bertram G. Katzung, Anthony J. Trevor, 2014-12-22 Gain a full understanding of the basic science and clinical use of drugs with the most up to date and comprehensive pharmacology text in the health sciences A Doody's Core Title for 2017 400 ILLUSTRATIONS MANY IN FULL COLOR Organized to reflect the course sequence in many pharmacology courses and in integrated curricula Basic Clinical Pharmacology covers the important concepts students need to know about the science of pharmacology and its application to clinical practice Selection of the subject matter and order of its presentation are based on the authors many years of experience in teaching this material to thousands of medical pharmacy dental podiatry nursing and other health science students Coverage that spans every aspect of medical pharmacology Encompasses every aspect of medical pharmacology including botanicals and over the counter drugs New chapter on pharmacogenomics with important examples Emphasis is placed on discussion of drug groups and prototypes Clinically relevant the book includes sections that specifically address the clinical choice and use of drugs in patients and the monitoring of their effects Full color presentation with more than 400 illustrations Case studies introduce clinical problems in most chapters Summary tables and diagrams encapsulate important information Includes many new drugs A Generic Name Trade Name Table appears at the end of most chapters for easy reference when writing a chart order or prescription

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Table of Contents Conduction Blockade For Postoperative Analgesia

1. Understanding the eBook Conduction Blockade For Postoperative Analgesia
 - The Rise of Digital Reading Conduction Blockade For Postoperative Analgesia
 - Advantages of eBooks Over Traditional Books
2. Identifying Conduction Blockade For Postoperative Analgesia
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Conduction Blockade For Postoperative Analgesia
 - User-Friendly Interface
4. Exploring eBook Recommendations from Conduction Blockade For Postoperative Analgesia
 - Personalized Recommendations
 - Conduction Blockade For Postoperative Analgesia User Reviews and Ratings
 - Conduction Blockade For Postoperative Analgesia and Bestseller Lists
5. Accessing Conduction Blockade For Postoperative Analgesia Free and Paid eBooks
 - Conduction Blockade For Postoperative Analgesia Public Domain eBooks
 - Conduction Blockade For Postoperative Analgesia eBook Subscription Services
 - Conduction Blockade For Postoperative Analgesia Budget-Friendly Options
6. Navigating Conduction Blockade For Postoperative Analgesia eBook Formats

- ePub, PDF, MOBI, and More
 - Conduction Blockade For Postoperative Analgesia Compatibility with Devices
 - Conduction Blockade For Postoperative Analgesia Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Conduction Blockade For Postoperative Analgesia
 - Highlighting and Note-Taking Conduction Blockade For Postoperative Analgesia
 - Interactive Elements Conduction Blockade For Postoperative Analgesia
 8. Staying Engaged with Conduction Blockade For Postoperative Analgesia
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Conduction Blockade For Postoperative Analgesia
 9. Balancing eBooks and Physical Books Conduction Blockade For Postoperative Analgesia
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Conduction Blockade For Postoperative Analgesia
 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
 11. Cultivating a Reading Routine Conduction Blockade For Postoperative Analgesia
 - Setting Reading Goals Conduction Blockade For Postoperative Analgesia
 - Carving Out Dedicated Reading Time
 12. Sourcing Reliable Information of Conduction Blockade For Postoperative Analgesia
 - Fact-Checking eBook Content of Conduction Blockade For Postoperative Analgesia
 - Distinguishing Credible Sources
 13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
 14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

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