Evidence-based Resource in Anaesthesia and Analgesia

Second edition
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Edited by

Martin R Tramèr
Division of Anaesthesiology, Geneva University Hospitals, University of Geneva, Geneva, Switzerland
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Contributors

Peter T-L Choi
Assistant Professor, Departments of Anesthesia and Clinical Epidemiology and Biostatistics, McMaster University, Hamilton, Ontario, Canada

Mehrengise K Cooper
Fellow in Paediatric Intensive Care, Paediatric Intensive Care Unit Office, The Hospital for Sick Children, Great Ormond Street, London, UK

Jørgen B Dahl
Chairman, Department of Anaesthesia, Glostrup University Hospital, Glostrup, Denmark

Tony Gin
Professor and Chairman, Department of Anaesthesia and Intensive Care, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, NT, Hong Kong, China

Neville W Goodman
Consultant Anaesthetist, Department of Anaesthesia, Southmead Hospital, Bristol, UK

Kathrine Holte
Research Fellow, Department of Surgical Gastroenterology, Hvidovre University Hospital, Hvidovre, Denmark

Stephen Halpern
Departments of Anaesthesiology and Obstetrics and Gynaecology, University of Toronto, Ontario, Canada

Henrik Kehlet
Professor of Surgery, Department of Surgical Gastroenterology, Hvidovre University Hospital, Hvidovre, Denmark

Anna Lee
Assistant Professor, Department of Anaesthesia and Intensive Care, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, NT, Hong Kong, China

Barbara Leighton
Professor of Anesthesiology, Professor of Obstetrics and Gynecology, Chief, Section of Obstetric Anesthesiology, Washington University School of Medicine, St Louis, Missouri, USA
Henry J McQuay
Professor for Pain Relief, Pain Research, Nuffield Department of Anaesthetics, University of Oxford, The Churchill, Oxford Radcliffe Hospital, Headington, Oxford, UK

Steen Møiniche
Staff Anaesthetist, Department of Anaesthesia, Glostrup University Hospital, Glostrup, Denmark

R Andrew Moore

Paul S Myles
Head of Research and Associate Professor, Department of Anaesthesia and Pain Management, Alfred Hospital, Melbourne, Departments of Anaesthesia, and Epidemiology and Preventive Medicine, Monash University, Melbourne and National Health and Medical Research Practitioner Fellow, Canberra, Australia

Tom Pedersen
Chairman, Department of Anaesthesiology, and Co-ordinating Editor of the Cochrane Anaesthesia Review Group, Bispebjerg University Hospital, Copenhagen, Denmark

Ceri J Phillips
Reader in Health Economics, Centre for Health Economics and Policy Studies, School of Health Science, University of Wales Swansea, Singleton Park, Swansea, UK

Adrienne G Randolph
Multidisciplinary Intensive Care Unit, Department of Anesthesia, Children’s Hospital, Boston and Harvard Medical School, Boston, Massachusetts, USA

Martin R Tramèr
Staff Anaesthetist, Division of Anaesthesiology, Department of Anaesthesiology, Pharmacology and Surgical Intensive Care, Geneva University Hospitals, Privat-Docent at the Faculty of Medicine, University of Geneva, Geneva, Switzerland

Bernhard Walder
Staff Anaesthetist, Division of Anaesthesiology, Department of Anaesthesiology, Pharmacology and Surgical Intensive Care, Geneva University Hospitals, Privat-Docent at the Faculty of Medicine, University of Geneva, Geneva, Switzerland
Introduction

This is the second edition of the first book on evidence-based anaesthesia and analgesia. Those who have read the first edition know that this is not a conventional textbook. And those who are looking for authoritative opinion, eminence-based doctrine, and cookbook medicine will definitely be disappointed. This book is about best-evidence data in anaesthesia, pain treatment, and critical care, about dissemination of these data, and about implementation of data into daily clinical practice. We tried hard to provide both methodological and clinical messages, and to formulate valid guidelines whenever feasible.

This second edition is both an update and a further development of the first. Obviously, the volume of the book has increased, as many more high-quality systematic reviews that critically appraise and summarise the relevant and valid literature have been published in the past few years. Authors from Australia, Canada, Denmark, Hong Kong, the United Kingdom, the United States, and Switzerland have participated in writing this book. Little attempt was made to standardise the composition and the style of the chapters, and so each chapter reflects the author's personal style.

The book has been divided into three parts. The first part starts with Nev Goodman's critical appraisal of evidence-based medicine. Then, Paul Myles presents the strengths of large randomised trials, and Andrew Moore does the same for systematic reviews and meta-analyses.

The second part of the book is on clinical application of best-evidence data. The topics fitted the criteria for inclusion if they were related to anaesthesia, pain treatment, or critical care, and had been discussed in several published systematic reviews. This does not mean that other subjects are less important; it only indicates either that other subjects have not (yet) been studied with the same systematic scientific rigour, or that we were unable to find an author to write a relevant chapter. In the first edition, there were five clinically oriented chapters, and three of those were on postoperative pain treatment. Now, the reader will find seven chapters in that part of the book, only two of which are on postoperative pain treatment. We had long discussions about whether or not we should change the title of the book to Evidence-based Resource in Perioperative Medicine. We eventually decided to stay with the original title, knowing that in many countries perioperative medicine is a subheading of anaesthesia, rather than vice versa.
The chapters on central venous catheters (by Mehrengise Cooper and Adrienne Randolph), intravenous fluids for resuscitation (by Peter Choi), and propofol for sedation and anaesthesia (by Bernhard Walder and Martin Tramèr) indicate that the book has widened its spectrum to include evidence-based critical care. Chapters relevant to postoperative pain treatment include an overview on the usefulness of peripheral analgesia (by Steen Møiniche and Jørgen Dahl) and Henry McQuay’s update on acute pain, with special reference to oral analgesics. Stephen Halpern and Barbara Leighton wrote the chapter on the role of epidurals for labour. Finally, Martin Tramèr updated the chapter on prevention and treatment of postoperative nausea and vomiting. Unfortunately, we were unable to motivate anybody to write an update on transfusions; interested readers are referred to the first edition of the book.1

The third part of the book is about dissemination, implementation, health economy, and research agenda. Dissemination and implementation of scientific data are becoming increasingly important. Great advances have been made in designing and conducting valid clinical trials and in performing powerful systematic reviews. Evidence-based medicine, however, is not only about creating new valid scientific knowledge or about systematically searching and appraising existing contemporaneous research findings; it is also about using these data as the basis for making clinical decisions.2 There is a need for innovation to make high-quality data comprehensible, to transfer the data to the clinician, and to motivate clinicians to accept a change in daily clinical practice towards improved and safer patient care. The Cochrane Collaboration plays a role in this process; Tom Pedersen, in his chapter, presents the Cochrane Anaesthesia Review Group.3 Anna Lee and Tony Gin present models to facilitate the application of the aggregate results of quantitative systematic reviews to the individual patient level.

Economic constraints are increasingly interacting with clinicians’ freedom to use their favourite interventions. However, what we like most is not necessarily the best for our patients. For each intervention – prophylactic, therapeutic, or diagnostic – the gold standard – the most efficacious, the least harmful, and the cheapest – needs to be identified.4 Ceri Phillips’ chapter is an easily understandable introduction into health economics and cost effectiveness.

Last, but not least, systematic reviews are important tools for defining rational, and thus ethical, research agendas. They tell us what we know and, as a consequence, what we don’t know. Thus, research protocols that are submitted to ethical committees should ideally be accompanied by a systematic review of the relevant literature, to strengthen the rationale behind the planned scientific project and to justify the design of the study. The chapter by Kathrine
Holte and Henrik Kehlet is a powerful example of this; on the basis of data from large randomised trials and from systematic reviews, the authors explain how future clinical research in the field of epidural analgesia should be designed, and what should be avoided.

We abstained from again including a comprehensive list of systematic reviews that are relevant to healthcare providers in anaesthesia, pain treatment, and critical care. In the first edition of the book, that list contained almost 100 titles.¹ Today, more than 300 relevant references can be accessed through the web page of the Geneva Evidence-based Perioperative Medicine Group;⁵ the group takes due care to update the list periodically.

Martin R Tramèr

References


For further information and a list of systematic reviews go to http://www.evidbasedanaesth.com
Part I

Evidence-based medicine, randomised trials, and systematic reviews