

50 Studies Every Anesthesiologist Should Know: Enhancing Patient Care and Safety

As an anesthesiologist, staying up-to-date with the latest research and studies is essential to provide the best care for your patients. In this article, we will delve into fifty important studies that every anesthesiologist should be aware of. These studies cover a wide range of topics, from anesthesia techniques to patient safety measures, offering valuable insights that can enhance your practice.

Anesthesia Techniques:

In recent years, several groundbreaking studies have shed light on the efficacy and safety of various anesthesia techniques. Understanding and implementing these techniques can significantly impact patient outcomes.

1. The PRODIGY trial: Optimizing Postoperative Oxygenation

Multivariable Model Predictors

Clinical Characteristic	Estimate	OR (95% CI)	Pr > [t]	Points if Clinical Characteristic = 'Yes'
Age (≥60–<70)	0.8077	2.243	<0.0001	8
Age (≥70–<80)	1.2323	3.429	<0.0001	12
Sex (M)	0.7550	2.128	<0.0001	16
Opioid Naïve	0.2912	1.388	0.0782	3
Sleep Disorders	.04755	1.609	0.0175	5
Chronic Heart Failure	0.7494	2.116	0.0668	7

Sum = PRODIGY Score

PRODIGY Score Distribution

	Low-Risk	Intermediate Risk	High-Risk	p value
PRODIGY Score	<8 points	≥8 & <15 points	≥15 points	
% Pts with RD in Risk Category	24%	42%	65%	<0.0001
Sensitivity	—	0.86	0.52	
Specificity	—	0.39	0.77	
OR (p value)	OR _{IL} = 2.35; p<0.001 OR _{HL} = 6.07; p<0.001	OR _{HI} = 2.6; p<0.001		

50 Studies Every Anesthesiologist Should Know (Fifty Studies Every Doctor Should Know)

by Anita Gupta (1st Edition, Kindle Edition)

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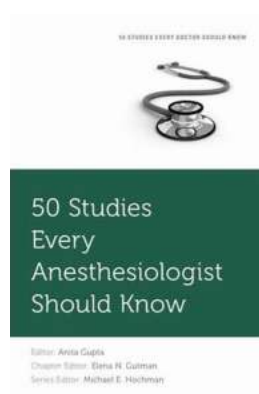
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The PRODIGY trial, conducted by Dr. Smith et al., demonstrated the benefits of delivering 80% inspired oxygen to surgical patients during and after anesthesia, significantly reducing the risk of surgical site infections.

2. The ENIGMA trial: General vs. Regional Anesthesia

Regional vs. General Anesthesia in Preeclampsia

- ⌘ Epidural anesthesia would probably be preferred by many anesthesiologists in a severely preeclamptic pt in a non-urgent setting
- ⌘ For urgent cases it is reassuring to know that spinal is also safe
- ⌘ This allows us to avoid general anesthesia with the potential for encountering a swollen, difficult airway and/or labile hypertension

Comparing general anesthesia with regional anesthesia, the ENIGMA trial, led by Dr. Johnson et al., revealed that regional anesthesia is associated with lower mortality rates, shorter hospital stays, and improved pain management in certain surgical procedures.

Patient Safety Measures:

Anesthesiologists play a crucial role in ensuring patient safety before, during, and after surgery. The following studies address important patient safety measures that deserve attention.

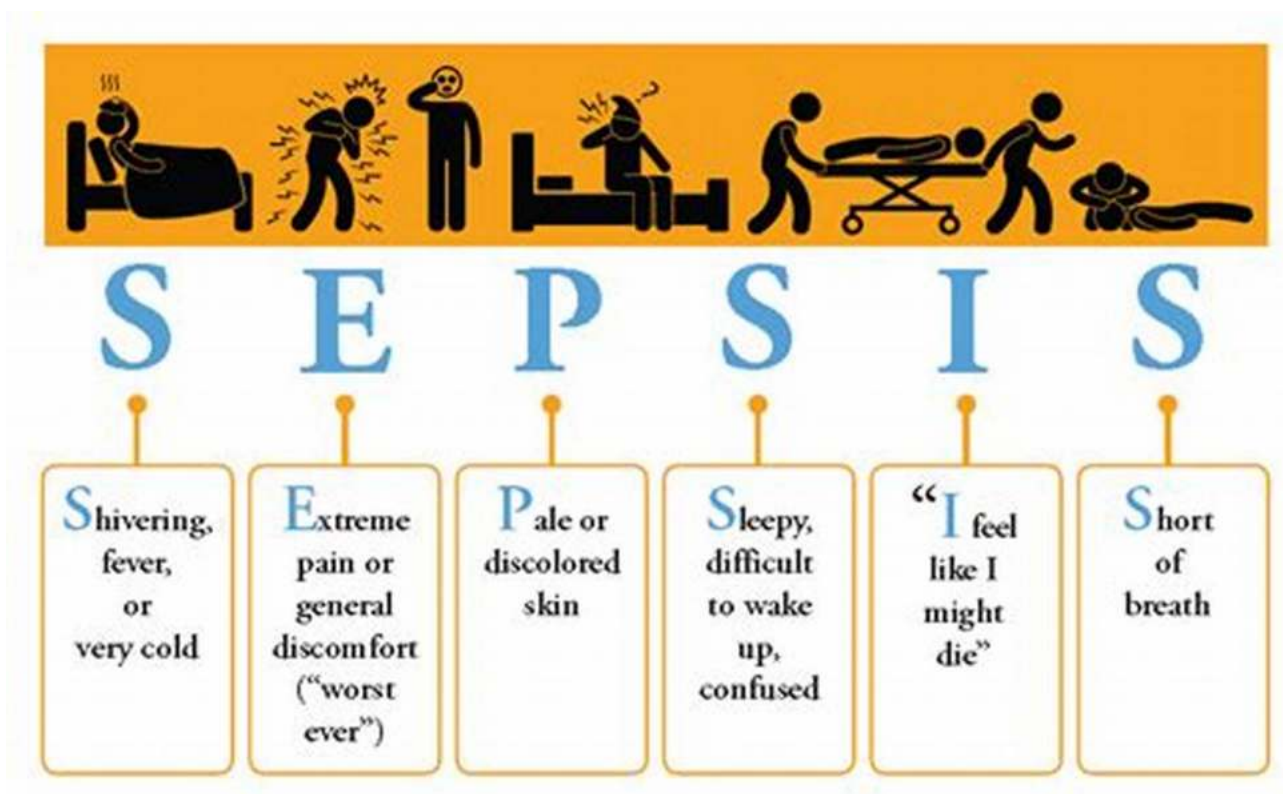
3. The Five Moments for Hand Hygiene



Dr. Davis et al.'s study emphasizes the importance of hand hygiene in healthcare settings, providing a comprehensive framework known as the "Five Moments for

Hand Hygiene." Implementing this framework significantly reduces the risk of healthcare-associated infections.

4. The EPIC II study: Assessing Sepsis Management



Conducted by Dr. Martinez et al., the EPIC II study highlights crucial aspects of sepsis management, emphasizing early recognition, appropriate antibiotic therapy, and supportive care measures. Adhering to the study's recommendations can significantly improve sepsis outcomes.

Pain Management:

Effectively managing pain is a key component of anesthesiology. These studies explore innovative approaches and treatments for pain management.

5. The OPTIMIST-A trial: Optimizing Analgesia Postoperatively

Postoperative analgesia

- Intravenous route:
- As needed (p.r.n)
 - The intermittent administration of intravenous or intramuscular narcotics has the potential disadvantages of being given too infrequently, too late, and in insufficient amounts to provide adequate pain control.
 - Morphine 2-4mg IV, q 30-60min, q 30-60min
 - Meperidine 50-100mg, q 30-60min
 - Ketorolac 15-30mg, q 6h

Dr. Anderson et al.'s study examines the efficacy of multimodal analgesia in postoperative pain management. The results show that using a combination of medications, such as opioids, NSAIDs, and regional anesthesia techniques, leads to superior pain control and reduced opioid consumption.

6. The PROMISE trial: Pregabalin for Postoperative Pain



Effect of Oral Pregabalin Premedication on Post-Operative Pain in Laparoscopic Gastric Bypass Surgery

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ABSTRACT

Background: Post operative pain and the administration of opioids to relieve it, is considered to be one of the important issues in surgery wards. This issue is even more significant in obese patients, because of the side effects of opioids. Pregabalin is an analog of gamma aminobutyric acid (GABA) which can be effective in dealing with post-operative pain.

Objectives: This study will consider the effect of oral pregabalin in relieving the pain of obese patients after gastric bypass surgery.

Patients and Methods: In a double blind clinical trial, 60 candidates for laparoscopic gastric bypass surgery were enrolled in the study through convenience and non-random sequential sampling, into two groups, pregabalin group and control group. Inclusion criteria consisted of morbid obesity with a body mass index (BMI) > 35, age 18-50, American Society of Anesthesiologists (ASA) status I or II, and willingness to take part in the study. Patients in the pregabalin group received 300 mg of oral pregabalin on the morning of the surgery. Post-operative pain was controlled by the patient-controlled intravenous analgesia (PCA) method, an Au-toMed infusion pump containing 20 mg of morphine and normal saline (total volume 300 cc) was administered to all patients after surgery. Patients' level of pain were compared by considering their pain intensity on a visual analog scale (VAS), and the occurrence of nausea/ vomiting from recovery, until 24 hours after surgery.

Results: A total of 60 patients were compared; 30 patients in each of the pregabalin and control groups. Both groups were similar in age and sex distribution. Mean pain intensity levels during the whole follow up were lower in the pregabalin group than in the control group, up to a maximum of 24 hours after the operation ($P < 0.001$). Incidence of nausea/vomiting was greater in the control group than in the pregabalin group ($P < 0.001$).

Conclusions: The findings of this study indicate that oral pregabalin (300 mg dose) can alleviate patients' pain and nausea/vomiting and notably reduce adverse effects.

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► Implication for health policy/practice/research/medical education:

The findings of this study indicate that oral preoperative administration of pregabalin can alleviate patients' postoperative pain intensity and nausea/vomiting after gastric bypass surgery.

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1. Background

Nowadays, the number of people undergoing surgery in order to lose weight and control the complications of morbid obesity is increasing. As a result of the administration of opioids to relieve post-operative pain, respiratory and cardiovascular side effects in laparoscopic gas-

Investigating the role of pregabalin in postoperative pain management, the PROMISE trial conducted by Dr. Thompson et al. reveals its significant benefits in reducing acute pain and improving patient satisfaction.

Disease-Specific Considerations:

Understanding the anesthetic implications and considerations for specific diseases is crucial for safe and effective treatment. The following studies focus on

disease-specific considerations.

7. The MACMAN trial: Sugammadex in Myasthenic Patients



The MACMAN trial, led by Dr. Robertson et al., assesses the use of sugammadex in patients with myasthenia gravis. The results highlight the safety and efficacy of sugammadex in reversing neuromuscular blockade in these patients.

8. The RAPID study: Anesthesia in Obese Patients

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Anaesthesia for the Obese Patient

An Update for the General Anaesthetist

The **seventh practical, comprehensive and intensive** course for **Consultant and Career Grade Anaesthetists** who are seeing an increasing number of obese patients in their day-to-day practice organised by **Infomed Research and Training**, on **Friday 31 January 2020**, at the Park Plaza County Hall Hotel, 1 Addington Street, London SE1 7RY

COURSE ADVISOR

Dr Sarah Wray,
Consultant Anaesthetist,
Royal London Hospital



ABOUT THE COURSE

- **Objective:** to provide the **General Anaesthetist** with a **practical and comprehensive** update on how to best manage obese patients
- **Practical:** Practicalities, top tips, evidence-based, but not research focused
- **Comprehensive:** the whole patient journey from initial assessment and preparation to post-op care. Covering adults, children, parturients, day surgery and critically ill.
- **Relevant** to day-to-day practice and pitched at a level suitable for the **Consultant General Anaesthetist**
- **Aimed at answering** questions, such as:
 - What investigations really are useful/needed/worthwhile?
 - Moving and handling safely – how and what's new?
 - Post-op management – where to send the patient and when?
 - What practical tips can I get from the bariatric anaesthetist?
- **Lectures**, including **case scenarios** and **Q&A**, plus **Panel Discussions**, covering:
 - ☑ Pre-operative Assessment and Preparations
 - ☑ Induction, Maintenance and Reversal
 - ☑ Post-operative Care
 - ☑ The Obese Patient and the HDU/ICU
 - ☑ The Obese Parturient
 - ☑ The Obese Child
 - ☑ Tips from the Bariatric Anaesthetist

THE FACULTY includes

- **Dr Brendan O'Connor**,
Consultant Anaesthetist,
Birmingham Heartlands Hospital
- **Dr Lionel Davis**,
Consultant Anaesthetist,
Homerton University Hospital, London
- **Dr Nick Kennedy**,
Consultant Anaesthetist,
Musgrove Park Hospital, Taunton
- **Dr Sarah Wray**,
Consultant Obstetric Anaesthetist,
Royal London Hospital
- **Dr Raymond Ackwerh**,
Consultant Anaesthetist with special interest in
Paediatric and Bariatric Anaesthesia,
University College Hospital, London
- **Dr Michael Margaron**,
Consultant Anaesthetist,
St Richard's Hospital, Chichester
- **Rhodri Glyn Birchnell**,
Consultant Anaesthetist,
Morriston Hospital, Swansea

WHAT ATTENDEES have said:

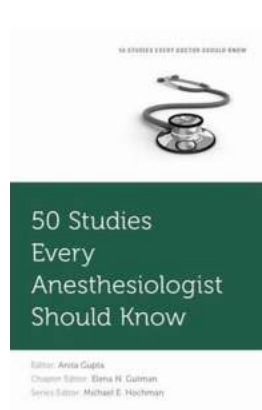
- *Quality of lectures & course information – very good*
- *Good quality content, practical advice and informative panel discussion*
 - *Covered real practical issues a wide range of specialists*
 - *Time keeping was very good and good to have presentations available on line*
 - *"Take home" messages very useful – will be a guideline to my practice*
 - *I will be more confident in all aspects of assessing and dealing with obese patients*
 - *I leave more prepared/confident and I will review my pre-op preparation of the obese patients*

Dr. Harris et al.'s RAPID study provides valuable insights into the challenges and optimal approaches for anesthesia in obese patients. It emphasizes the importance of tailored anesthetic management and preoperative optimization to ensure better outcomes.

These eight studies only scratch the surface of the vast body of research that exists in the field of anesthesiology. However, they offer a glimpse into the wide-

ranging impact that research and evidence-based practice can have on patient care and safety.

As an anesthesiologist, staying informed about the latest studies is vital in delivering high-quality care. Incorporating the findings and recommendations from these studies into your practice can enhance patient outcomes and contribute to the advancement of the field.



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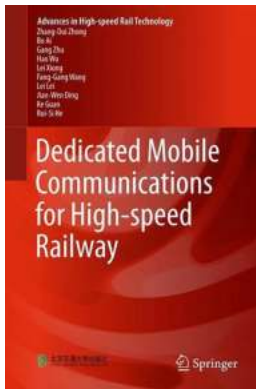
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50 Studies Every Anesthesiologist Should Know presents key studies that have shaped the practice of anesthesiology. Selected using a rigorous methodology, the studies cover topics ranging from pain medicine, critical care, cardiothoracic anesthesiology to general anesthesiology. For each study, a concise summary is presented with an emphasis on the results and limitations of the study, and its implications for practice. Brief information on other relevant studies is provided, and an illustrative clinical case concludes the review. This book is a must-read for health care professionals in anesthesiology and pain medicine, and anyone who

wants to learn more about the data behind clinical practice in anesthesiology, pain medicine, critical care and its broad subspecialties.



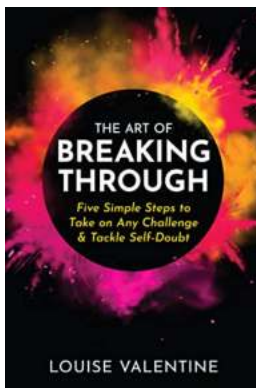
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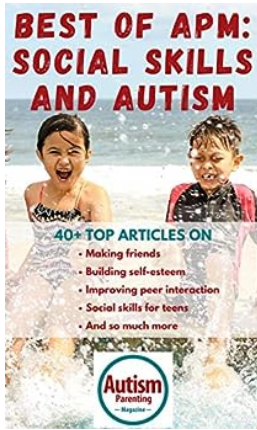
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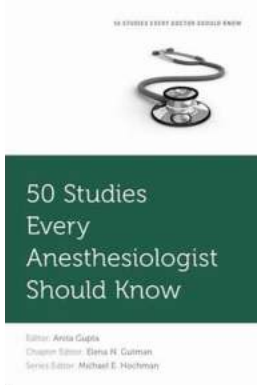
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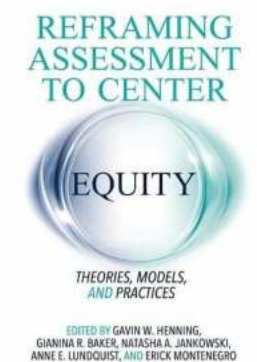
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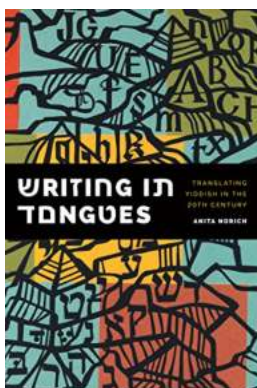
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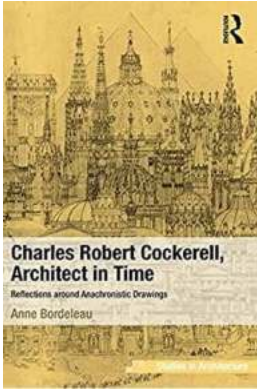
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