Patient Outcomes are Better with Guideline-Driven Care

Opposer

Robin Russell

Nuffield Division of Anaesthetics
John Radcliffe Hospital, Oxford, UK

Editor-in-Chief
International Journal of Obstetric Anesthesia
Plan

• advantages of guidelines
• disadvantages of guidelines
• the use of evidence-based medicine
• evidence & recommendations
• are guidelines best for my patient?
Patient Outcomes are NOT Better with Guideline-Driven Care

British Journal of Anaesthesia

Volume 108, Number 4, April 2012

doi:10.1093/bja/aes092

EDITORIAL

Status of national guidelines in dictating individual clinical practice and defining negligence

R. A. Fearnley¹, M. D. D. Bell² and A. R. Bodenham²*

¹ Department of Anaesthesia, Kings College Hospital, London, UK
² Department of Anaesthesia, The General Infirmary, Leeds LS1 3EX, UK
*
E-mail: andy.bodenham@leedsth.nhs.uk
Patient Outcomes are NOT Better with Guideline-Driven Care
Patient Outcomes are NOT Better with Guideline-Driven Care

A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population

Alex B. Haynes, M.D., M.P.H., Thomas G. Weiser, M.D., M.P.H.,
William R. Berry, M.D., M.P.H., Stuart R. Lipsitz, Sc.D.,
Abdel-Hasim Breizat, M.D., Ph.D., E. Patchen Dellinger, M.D.,
Teodoro Herbst, M.D., Sudhir Joseph, M.S., Pascience L. Kiwata, M.D.,
Marie Carrinela M. Lapitan, M.D., Alan F. Merry, M.B., Ch.B., F.A.N.Z.C.A., F.R.C.A.,
Krishna Moorthy, M.D., F.R.C.S., Richard K. Reznick, M.D., M.Ed., Bryce Taylor, M.D.,
and Atul A. Gawande, M.D., M.P.H., for the Safe Surgery Saves Lives Study Group®
Advantages of guidelines

- weaning from assisted ventilation
- blood transfusion in critical care
- glycaemic control
- postoperative nausea & vomiting
Infection, Prevention & Control
Patient Outcomes are NOT Better with Guideline-Driven Care

Hand-washing technique with soap and water

1. Wet hands with water
2. Apply enough soap to cover all hand surfaces
3. Rub hands palm to palm
4. Rub back of each hand with palm of other hand with fingers interlaced
5. Rub palm to palm with fingers interlaced
6. Rub with back of fingers to opposing palms with fingers interlocked
7. Rub each thumb clasped in opposite hand using a rotational movement
8. Rub tips of fingers in opposite palm in a circular motion
9. Rub each wrist with opposite hand
10. Rinse hands with water
11. Use elbow to turn off tap
12. Dry thoroughly with a single-use towel
13. Hand washing should take 15–30 seconds

NHS

Basset Supplies & Services

 Highly Recommended
 CLEANSING DIFFICULTS

Clean your hands campaign
Patient Outcomes are NOT Better with Guideline-Driven Care

In prep room:
1. Patient washes hand and arm with soap and water & alcohgel.
2. With clean hands clean tray (creating an aseptic field).
3. Gather equipment & place around tray.
4. Clean hands with alcohol or soap & water (making them aseptic).
5. Prepare flushes & equipment protecting key parts using Non Touch Technique.

Proceed to patient directly if hands become contaminated re-clean them.
6. Position hand on drape, apply tourniquet.
7. Locate vein.
8. Clean hands with alcohol or soap & water (making them aseptic).
9. Apply sterile gloves (non sterile gloves if you don't need to re-palpate the puncture site).
10. Scrub skin site with 2% chlorhexidine / 70% alcohol.

11. Insert cannula.
13. Dispose of sharps & equipment.
14. Clean tray, dispose gloves.
15. Clean hands with alcohol or soap & water.

Key principles of ANTT
Protect patients:
- Protect key parts at all times.
- Always wash hands effectively.
- Non-touch technique always.
- Use appropriate infection precautions.

www.annt.co.uk
Patient Outcomes are NOT Better with Guideline-Driven Care

Breaking the rules: understanding non-compliance with policies and guidelines

Healthcare organisations use policies and guidelines to standardise and clarify care and improve efficiency, productivity, and safety. But Jane Carthey and colleagues are concerned that their burgeoning number makes it impossible to distinguish the essential from the irrelevant and is affecting compliance.

Jane Carthey human factors consultant¹, Susannah Walker anaesthetic registrar², Vashist Deelchand research associate², Charles Vincent professor of clinical safety research², William Harrop Griffiths consultant anaesthetist³

¹Imperial College London, London, UK; ²Department of Biosurgery and Technology, Imperial College London; ³Department of Anaesthesia, Imperial College Healthcare NHS Trust, London
“[the] extraordinary and uncoordinated proliferation of guidelines in the NHS confuses staff, causes inefficiency and delay and is becoming a threat to patient safety”
Patient Outcomes are NOT Better with Guideline-Driven Care
Patient Outcomes are NOT Better with Guideline-Driven Care
Single-use instruments have been linked with bleeding

Shadow Health Secretary Dr Liam Fox has called for a public inquiry into the safety of single-use surgical instruments.

Dr Fox said the instruments should be banned across the UK until their safety had been conclusively proven.

The Department of Health said a suspension on the use of such equipment in tonsil and adenoid surgery in England was likely to remain in place.

The use of single-use equipment has been linked to 20 adverse incidents, including the deaths of two patients.

Two-year-old Crawford Roney haemorrhaged and died in June 2001 following surgery at the Alexandra Hospital in Cheadle.
Patient Outcomes are NOT Better with Guideline-Driven Care
Patient Outcomes are NOT Better with Guideline-Driven Care
Patient Outcomes are NOT Better with Guideline-Driven Care

SNEEZING AFTER SEX PREVENTS PREGNANCY
A NEW COLLECTION OF OLD WIVES’ TALES

Peter Engel
Patient Outcomes are NOT Better with Guideline-Driven Care
**Table 3.1 Levels of evidence**

<table>
<thead>
<tr>
<th>Level</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Systematic review or meta-analysis of randomised controlled trials</td>
</tr>
<tr>
<td>1b</td>
<td>At least one randomised controlled trial</td>
</tr>
<tr>
<td>2a</td>
<td>At least one well-designed controlled study without randomisation</td>
</tr>
<tr>
<td>2b</td>
<td>At least one well-designed quasi-experimental study, such as a cohort study</td>
</tr>
<tr>
<td>3</td>
<td>Well-designed non-experimental descriptive studies, such as comparative studies, correlation studies, case–control studies, and case series</td>
</tr>
<tr>
<td>4</td>
<td>Expert committee reports, or opinions and/or clinical experience of respected authorities</td>
</tr>
</tbody>
</table>

**Table 3.2 Grading of recommendations**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Strength of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Based directly based on level 1 evidence</td>
</tr>
<tr>
<td>B</td>
<td>Based directly on level 2 evidence or extrapolated from level 1 evidence</td>
</tr>
<tr>
<td>C</td>
<td>Based directly on level 3 evidence or extrapolated from level 1 or level 2 evidence</td>
</tr>
<tr>
<td>D</td>
<td>Based directly on level 4 evidence or extrapolated from level 1, level 2 or level 3 evidence</td>
</tr>
</tbody>
</table>
Problems with the quality of evidence

- study limitations
- inconsistency of results
- indirect evidence
- imprecision
- reporting bias
Effect of epidural vs parenteral opioid analgesia on the progress of labor

- Philipsen and Jensen, 1989
- Thorp et al., 1993
- Ramin et al., 1995
- Muir et al., 1996
- Bofill et al., 1997
- Sharma et al., 1997
- Barry et al., 1997

Total:

- Epidural: 97/1183
- Opioid: 67/1186
- OR: 1.50 (0.81-2.76)

Halpern et al. JAMA 1998
Problems with the quality of evidence

- study limitations
- inconsistency of results
- indirect evidence
- imprecision
- reporting bias
Patient Outcomes are NOT Better with Guideline-Driven Care

The Analgesic Efficacy of Transversus Abdominis Plane Block After Cesarean Delivery: A Randomized Controlled Trial

Problems with the quality of evidence

- study limitations
- inconsistency of results
- indirect evidence
- imprecision
- reporting bias
Patient Outcomes are NOT Better with Guideline-Driven Care

Remifentanil & pressor response

Yoo et al. BJA 2009
Problems with the quality of evidence

- study limitations
- inconsistency of results
- indirect evidence
- imprecision
- reporting bias
Patient Outcomes are NOT Better with Guideline-Driven Care
“a thousand uneventful uses of remifentanil for obstetric PCA do not exclude the possibility that catastrophic adverse events might occur with a frequency as high as 1/333.”

Sneyd IJOA 2009
Remifentanil for labour analgesia: time to draw breath?

The use of remifentanil for labour analgesia has grown over 12 years, from a few carefully selected cases [1] to being available in over a third of units in the UK [2]. As interest among the anaesthetic community has grown, articles have appeared in journals with increasing regularity. This issue of Anaesthesia contains three reports on the use of remifentanil during labour. Two are concerned with establishing the best method of administration: Shen et al. compare patient-controlled analgesia (PCA) with continuous infusion [3], and Jost et al. demonstrate a novel approach of a patient-altered variable PCA dose [4]. The third article is a case report of cardio-respiratory arrest associated with remifentanil PCA [5]. This is now the fourth case report of respiratory and/or cardiac arrest related to remifentanil in obstetrics published in the last year [5–8]. Why the sudden flurry? Has familiarity bred complacency? And where does this leave remifentanil within our armoury of labour analgesic techniques?

Remifentanil has a substantial body of evidence that supports its use for labour analgesia. It is an ultra-short acting opioid that is rapidly and efficiently metabolised by both mother and fetus [9, 10], a recent meta-analysis confirms that it is a more effective labour analgesic than other parenteral and inhalational alternatives [11]. Whilst epidurals might provide better pain relief, remifentanil PCA is popular with parturients and both share similar satisfaction scores [11, 12]. It has euphoric side-effects that may contribute to its acceptability with labouring women, with some studies demonstrating similar pain relief scores to epidural analgesia [13]. Several units have published safe use in hundreds of cases [14–16], and its application within the UK and beyond has grown rapidly [2, 17, 18]. Some hospitals have developed remifentanil analgesia either for women with contraindications to regional analgesia or where an ‘epidural on demand’ service is not provided [2]. Others allow remifentanil as a routine analgesic.
Patient Outcomes are NOT Better with Guideline-Driven Care

ASRA Practice Advisory

Regional Anesthesia in the Patient Receiving Antithrombotic or Thrombolytic Therapy

American Society of Regional Anesthesia and Pain Medicine Evidence-Based Guidelines (Third Edition)

Terese T. Horlocker, MD,* Denise J. Wedel, MD,* John C. Rowlingson, MD,† F. Kayser Enneking, MD,‡ Sandra L. Kopp, MD,* Honoria T. Benson, MD,§ David L. Brown, MD∥ John A. Heit, MD,*

However, the catheter should be removed a minimum of 10 to 12 hrs after the last dose of LMWH.

In response to these patient safety issues, the American Society of Regional Anesthesia and Pain Medicine (ASRA) convened its Third Consensus Conference on Regional Anesthesia and Anticoagulation. Practice guidelines or recommendations summarize evidence-based reviews. However, the rarity of spinal hematoma defies a prospective randomized study, and there is no current laboratory model. As a result, the ASRA consensus statements represent the collective experience of recognized experts in the field of neuraxial anesthesia and anticoagulation. These are based on case reports, clinical series, pharmacology, hematology, and risk factors for surgical bleeding. An understanding of the complexity of this issue is essential to patient management.

(Reg Anesth Pain Med 2010;35: 64–101)
### National Society Guidelines on Neuraxial Blocks & Anticoagulants

<table>
<thead>
<tr>
<th></th>
<th>Austria(^{11})</th>
<th>Belgium(^{12})</th>
<th>France(^{13})</th>
<th>Germany(^{14})</th>
<th>Netherlands(^{15})</th>
<th>Spain(^{16})</th>
<th>United States(^{5})</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unfractionated heparin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>s.c.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>before(^{*})</td>
<td>4 h</td>
<td>—(^{a})</td>
<td>12 h</td>
<td>4 h</td>
<td>No CI</td>
<td>No CI(^{b})</td>
<td>No time interval(^{c})</td>
</tr>
<tr>
<td>after(^{*})</td>
<td>1 h</td>
<td>1 h</td>
<td>6-8 h</td>
<td>1 h</td>
<td>—</td>
<td>—</td>
<td>1 h</td>
</tr>
<tr>
<td>i.v.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>before(^{*})</td>
<td>4 h</td>
<td>—(^{a})</td>
<td>4 h</td>
<td>4-6 h</td>
<td>4 h</td>
<td>—</td>
<td>(NB)/2-4 h (CW)</td>
</tr>
<tr>
<td>after(^{*})</td>
<td>1 h</td>
<td>1 h</td>
<td>6-8 h</td>
<td>1 h</td>
<td>1 h</td>
<td>1 h</td>
<td>1 h</td>
</tr>
<tr>
<td><strong>Low-molecular-weight heparin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prophylactic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>before(^{*})</td>
<td>12 h</td>
<td>12 h</td>
<td>10-12 h</td>
<td>12 h</td>
<td>10 h</td>
<td>12 h</td>
<td>10-12 h(^{d})</td>
</tr>
<tr>
<td>after(^{*})</td>
<td>4 h</td>
<td>4 h</td>
<td>4-12 h</td>
<td>2-4 h</td>
<td>2 h</td>
<td>6 h</td>
<td>6-8 h [first dose] (NB)(^{e})/&gt;2h (CW)</td>
</tr>
<tr>
<td><strong>Therapeutic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>before(^{*})</td>
<td>24 h</td>
<td>24 h</td>
<td>24 h</td>
<td>24 h</td>
<td>24 h</td>
<td>24 h</td>
<td>24 h</td>
</tr>
<tr>
<td>after(^{*})</td>
<td>4 h</td>
<td>4 h</td>
<td>24 h</td>
<td>2-4 h</td>
<td>24 h</td>
<td>6 h</td>
<td>24 h (NB)/2 h (CW)(^{e})</td>
</tr>
<tr>
<td><strong>Warfarin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>before(^{*})</td>
<td>INR &lt;1.4</td>
<td>INR &lt;1.4</td>
<td>INR &lt;1.5</td>
<td>INR &lt;1.4</td>
<td><strong>INR &lt;1.8</strong></td>
<td>INR ≤1.5</td>
<td>(NB)(^{f})/INR&lt;1.5 (CW)</td>
</tr>
<tr>
<td>after(^{*})</td>
<td>Restart</td>
<td>Restart</td>
<td>—</td>
<td>Restart</td>
<td>Restart</td>
<td>Restart</td>
<td>Restart</td>
</tr>
<tr>
<td>after CW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{a}\) Indicates a recommendation for not using LMWH.

\(^{b}\) Indicates a recommendation for using LMWH.

\(^{c}\) Indicates a recommendation for no time interval.

\(^{d}\) Indicates a recommendation for 10-12 h.

\(^{e}\) Indicates a recommendation for 6-8 h [first dose] (NB)\(^{e}\)/>2h (CW).

\(^{f}\) Indicates a recommendation for (NB)\(^{f}\)/INR<1.5 (CW).
Consensus

“The process of abandoning all beliefs, principles, values, and policies in search of something in which no one believes, but to which no one objects; the process of avoiding the very issues that have to be solved, merely because you cannot get agreement on the way ahead.”

Margaret Thatcher
Problems with the quality of guidelines

- evidence may be poor
- interpretation relies on opinion
- membership of guideline committees
- evidence-based vs. opinion-based
- may not be in patient’s best interest
Evidence based medicine: what it is and what it isn’t

It’s about integrating individual clinical expertise and the best external evidence

Evidence based medicine, whose philosophical origins extend back to mid-19th century Paris and earlier, remains a hot topic for clinicians, public health practitioners, purchasers, planners, and the public. There are now frequent workshops in how to practice and teach it (one sponsored by the BMJ will be held in London on 24 April); undergraduate¹ and postgraduate² training programmes are incorporating it³ (or pondering how to do so); British centres for evidence based practice have been established or planned in adult medicine, child health, surgery, pathology, pharmacotherapy, nursing, general practice, and dentistry; the Cochrane Collaboration and Britain’s Centre for Review and Dissemination in York are providing systematic reviews of the effects of health care; new evidence based practice journals are being launched; and it has become a common topic in the lay media. But enthusiasm has been mixed with some negative reaction.⁴⁻⁶ Criticism has ranged from evidence based medicine being old hat to it being a dangerous innovation, perpetrated by the arrogant to serve cost cutters and suppress clinical freedom. As evidence based medicine continues to evolve and adapt, now is a useful time to refine the discussion of what it is and what it is not.

Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. By individual clinical expertise we mean the proficiency and judgment that individual clinicians acquire through clinical experience and clinical practice. Increased expertise is reflected in many ways, but especially in more effective and efficient diagnosis and in the more thoughtful identification and compassionate use of individual patients’ predicaments, rights, and preferences in making clinical decisions about their care. By best available external clinical evidence we mean clinically relevant research, often from the
Evidence based medicine: what it is and what it isn’t

It’s about integrating individual clinical expertise and the best external evidence

“The conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients.....[it] means integrating clinical expertise with the best available evidence from systematic research”
Patient Outcomes are NOT Better with Guideline-Driven Care

Grading of Recommendations Assessment, Development and Evaluation

Welcome

The Grading of Recommendations Assessment, Development and Evaluation (short GRADE) Working Group began in the year 2000 as an informal collaboration of people with an interest in addressing the shortcomings of present grading systems in health care. The working group has developed a common, sensible and transparent approach to grading quality of evidence and strength of recommendations. Many international organizations have provided input into the development of the approach and have started using it. >> learn more
### GRADE quality of evidence and definitions

<table>
<thead>
<tr>
<th>Grade</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Further research unlikely to change confidence in estimate of effect</td>
</tr>
<tr>
<td>Moderate</td>
<td>Further research likely to have important impact on confidence in estimate of effect and may change estimate</td>
</tr>
<tr>
<td>Low</td>
<td>Further research very likely to have important impact on confidence in estimate of effect and likely to change estimate</td>
</tr>
<tr>
<td>Very Low</td>
<td>Any estimate of effect very uncertain</td>
</tr>
</tbody>
</table>
GRADE factors deciding recommendations

- quality of evidence
- magnitude of effect
- importance of outcome
- undesirable effects
- patient values & preferences
- costs
Patient Outcomes are NOT Better with Guideline-Driven Care

Caesarean section

November 2011
NICE Clinical Guideline

National Collaborating Centre for Women's and Children's Health
Summary

• increasing use of guidelines
• popularity of evidence-based medicine
• not all guidelines are evidence-based
• clinical experience with best evidence
• suitable grading of evidence & recommendations
• patient outcomes are NOT better
• and finally........
“a fool will do well to follow guidelines when treating patients, but a wise man might do better not to follow them slavishly.”

John Hampton