The Most Influential Trends in Healthcare Affecting the Practice of Nurse Anesthesia—A Perspective

- The FAST movement towards evidence based practice
- Patient safety, quality, and error prevention
- Wellness Initiatives for healthcare providers
- The CRNA as THE healthcare executive
- Changing reimbursement methods
What is Evidence-based Medicine?

- YOU MUST KNOW: It IS influencing the practice of Nurse Anesthesia and in a BIG way!
• Simply put:

• EBM is the integration of best research evidence with clinical expertise and patient values
Best Research Evidence

- Clinically relevant research typically from the basic sciences of medicine/nursing
  - **BUT** especially from patient-centered clinical research, into the accuracy and precision of diagnostics, prognostic markers, and the efficacy and safety of regimens
Clinical Expertise

- Ability to use our clinical skills and past experiences
- Rapidly identify each patient’s unique health state and diagnosis, their risks and benefits of intervention, and their personal expectations
Patient Values

- This is critical!
- Every time we treat a patient, if we must bring their unique preferences and concerns into consideration
When The Three Are Integrated...

- There exists optimization of clinical outcomes
- There exists a higher quality of life
This really isn’t that new

- However it has grown significantly in recent times
  - One publication in 1992
  - 30,000+ since just on PubMed!
Examples

• Patient Outcomes and Evidence-Based Medicine in a Preferred Provider Organization Setting: A Six-Year Evaluation of a Physician Pay-for-Performance Program
  • Health Serv Res. 2007 Dec;42(6p1):2140-2159.
Evidence-based medicine in day surgery

Decreased hospital length of stay associated with presentation of cases at morning report with librarian support.

So how do you practice EBM?

- Compromises 5 steps
  - 1-Convert the information needed into question format
  - 2-Tracking down the BEST EVIDENCE to answer the question
  - 3-Critically appraise the evidence for validity, reliability, and clinical applicability
  - 4-Integrate the research with our expertise and each unique patient
  - 5-EVALUATE the effectiveness and efficiency in steps 1-4, seek ways to improve
The Five Steps of EBM

1. Frame Patient Scenario into a Clinical Question
2. Systematically retrieve best evidence available
3. Critically appraise evidence
4. Apply results to patient
5. Evaluate decision making

Librarian Centred
The Million Dollar Question

- Does providing evidence based care REALLY improve the outcomes for our patients?

- A photo of the operating room of the future (ORF) at Massachusetts General Hospital in Boston. The monitors will show a comprehensive look at the patient's physiology during surgery, among other details.
Evidence Based Practice in Use

- Surviving Sepsis Campaign
- Peri-operative Beta Blockers
- Tight Glycemic Control Initiatives
What Is the Surviving Sepsis Campaign Exactly?

- International critical and infectious disease experts in the diagnosis and management of infection and sepsis
- Representing 11 organizations
- Developed guidelines that WE can use to improve outcomes in severe sepsis and septic shock
- Phase 1 - Initiated 10/02 to improve survival in severe sepsis
- Phase 2 – Guidelines with evidence to support
- Phase 3 - will be dedicated to evaluate the impact on clinical outcomes
Recommendations from Phase 2

• **Do note:** intended to provide GUIDANCE for us caring for a patient with severe sepsis or septic shock

• **Remember !!!** Key Point—not applicable to ALL patients

• Nothing can replace your clinical decision making capability when you are provided with a unique set of clinical variables
Recommendations are graded based on a modified Delphi methodology with categorization.

Grading of recommendations

A. Supported by at least two level 1 investigations
B. Supported by one level 1 investigation
C. Supported by level 11 investigations only
D. Supported by at least one level 111 investigation
E. Supported by level IV or V evidence
Grading System
(continued)

Grading of evidence:

I. Large, randomized trials with clear-cut results, low risk of false positive (alpha) error or false-negative (beta) error

II. Small, randomized trials with uncertain results

III. Nonrandomized, contemporaneous controls

IV. Nonrandomized, historical controls and expert opinion

V. Case series uncontrolled studies, and expert opinion
What the evidence supports and doesn’t support when treating sepsis

- CVP range
- Hct range
- Cultures
- Other Diagnostics
- Antibiotics
- Source control

- Fluid therapy
- Vasopressors
- Inotropic tx
- Steroids
- rhAPC
- Permissive hypercapnia
Phase 3

- Joint effort with the Institute of Healthcare Improvement
  - Deploy “change bundles” based on previous recommendations
  - Chart reviews will identify and track change in practice and clinical outcomes
Evidence Based Care

• Engendering evidence-based change through motivational strategies while monitoring and sharing impact with healthcare practitioners is key to improving outcome in severe sepsis.
So, what is the answer??

• To the million dollar question
  • How do you ethically conduct these studies that would require withholding care of an evidence based methodology approach?
  • You don’t. You can’t
What We Do Know!

• Population based outcomes research has shown those who do receive evidence based treatment have better outcomes than those who don’t
• MI w beta blockers – decreased mortality rates
Your Professional Organization: The AANA

- Practice Committee
  - Our charge 2007-2008
Beta Blockers

• The Most Recent:

• ACC/AHA 2006 Guideline Update on Peri-operative Cardiovascular Evaluation for Non-Cardiac Surgery: Focused Update on Peri-operative Beta-Blocker Therapy
The Evidence Demonstrates

- BBs reduce peri-operative ischemia
- May reduce the risk of MI
- May reduce the risk of death in high risk patients
- Start the BB several days/weeks before surgery if possible
- Target HR 50-60 prior to
- Target HR less than 80 during and after
Tight Glycemic Control
The Latest Question

• What are the effects of glucose control on the risk of SSI?
• Most studies have focused on cardiac surgery patients
• Emerging evidence that stringent glucose control may reduce the rates of SSI in a variety of surgical populations
Position Statement and Practice Guidelines of the ADA

- Dr. Krinsley presented the case for tight glycemic control in the ICU at a symposium sponsored by Novo Nordisk held in conjunction with the American Diabetes Association meeting. A similar symposium sponsored by Sanofi-Aventis also reviewed the evidence in favor of tight glycemic control and then provided recommendations for inpatient management of hospitalized patients with diabetes.
Reducing Errors and Patient Safety Initiatives

- Possibly the most important ‘trend’—saving human lives
<table>
<thead>
<tr>
<th>Issue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overwork, stress or fatigue of health professionals</td>
<td>74%</td>
</tr>
<tr>
<td>Doctors not having enough time with patients</td>
<td>70%</td>
</tr>
<tr>
<td>Not enough nurses in hospitals</td>
<td>69%</td>
</tr>
<tr>
<td>Health professionals not working together or not communicating as a team</td>
<td>68%</td>
</tr>
<tr>
<td>Poor training of health professionals</td>
<td>58%</td>
</tr>
<tr>
<td>The influence of HMOs and other managed care plans on treatment decisions</td>
<td>55%</td>
</tr>
<tr>
<td>Poor handwriting by health professionals</td>
<td>52%</td>
</tr>
<tr>
<td>Medical care being very complicated</td>
<td>47%</td>
</tr>
<tr>
<td>Lack of computerized medical records</td>
<td>46%</td>
</tr>
</tbody>
</table>
The Institute of Medicine

- **To Err Is Human: Building a Safer Health System**
  - 44,000-98,000 die each year as a result of medical errors that could have been prevented
  - Using the lower estimate, preventable errors exceed attributable deaths to MVAs, breast cancer and AIDS
Beyond costing human lives

- Result in total costs $\sim 17$ BILLION - 29 BILLION dollars
- Initiatives from this report include reduction in errors by 50%
One Significant Conclusion

• Majority do not result from individual recklessness or the actions of a particular group
• Errors ARE caused by: faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent them
It is NOT rocket science

• Best prevented by designing the health system at ALL levels to make it safer

• AND make it harder for people to do something wrong and easier for them to do it right
No Blame Allowed

- It does little to make the system safer
- Does little to PREVENT others from making the same error
• We are a decade behind the high risk industries in our attention to ensuring basic safety
Did you know?

• Between 1996-2002 there were >150 (reported) cases of “wrong”

• Wrong? Wrong person, wrong body part, wrong procedure
Penalties for “wrong”

• JCAHO does penalize as a regulatory body
• June 2001 Florida BOM
  • MDs fined up to 10K, five hours of risk management education, 50 hours of community service, and a one hour lecture to the medical community on wrong site surgery!
Details

- Of the 150 wrong site surgeries:
  - 126 have root cause analysis info
  - 41% of these = orthopaedic/podiatry
  - 20% general surgery
  - 14% neurosurgery
  - 11% urologic surgery
  - Remaining dental/oral/maxillofacial, cardiovascular thoracic, ENT, Ophth
The environment where it occurs

- 58% occurred in hospital based ASC or freestanding ASC
- 29% in-patient, hospital
- 13% other in-patient sites (ER, ICU etc)
Key Suggestions from IOM Report

- Create a Center for Patient Safety housed with the Agency for Healthcare Research and Quality
- Develop voluntary reporting systems for all stakeholders
- Organizations to create a culture of safety
Progress Well Under Way

• December 2000-$50 million to AHRQ to support efforts at reducing errors
  • Developing and testing new technologies
  • Large scale demonstration projects to test safety interventions and error reporting strategies
  • Support multidisciplinary teams of researchers to develop new knowledge
  • Support projects aimed at the environment for error reduction
  • FUNDINGS to improve provider education
In the Private Sector

• The Leapfrog Group
  • Private and public sector group purchases
  • Unveiled market based strategy to improve safety and quality
    • Computerized physician order entry
    • Evidence based hospital referrals
    • ICUs staffed by MDs credentialed in critical care medicine
Summary of MHA Keystone: HAI (hospital acquired infection prevention initiative)

- **Vision:** MI hospitals will lead the nation in patient safety and quality improvement practice

- **Mission:** MHA Keystone Center for Patient Safety and Quality will expedite the translation of patient safety and quality evidence into practice

- **Goal:** to eliminate hospital-associated infections in the hospital setting, starting with a strategic and manageable list of targeted infections. Only interventions that are consistent with national evidence for scientific merit and are feasible at the bedside will be used.
Joint Commission and Patient Safety
A time out is the last in a series of steps established in 2003 as part of The Joint Commission’s Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery
Performance of Correct Procedure at Correct Body Site

Policy

Organization policy describes standardized approach to ensure that correct procedures are consistently performed on correct patients.

Practitioner

Correct Diagnosis & Procedure Planning

Conduct informed consent process:
• Inform patient and family about procedure rationale, plans, options, risks.
• Obtain and document consent for all procedures, including full name of procedure, site, anaesthesia plan or preferences.

Provider

Day of Procedure

Pre-Procedure Verification:
• Ensure practitioners have current information on the patient’s medical status and proposed procedure plans.
• Obtain the patient record.
• Verify all relevant entries, including the informed consent document, are present and properly identified for the correct patient.
• Obtain relevant laboratory tests and imaging studies and verify correct patient identification on images.

Practitioner

Pre-Op Holding Area

Mark The Procedure Site:
• Marked by person who will do the procedure.
• Use indelible marker.
• Mark the practitioner’s initials.
• Have patient confirm site and markings.

Patients

Operating/Procedure Room

Conduct “Time-Out”:
• Verify correct patient (2 IDs).
• Verify planned procedure.
• Verify procedure site.
• Verify correct positioning on procedure table.
• Verify availability of special equipment, implants, or prosthesis.

Proceed with Correct Procedure

Engage patients and families in all aspects of care. Provide patients with information about their medical condition and proposed procedure plans in a way that is understandable to the patient at all times.
The Magnet Recognition Program®
The Magnet Recognition Program® was developed by the American Nurses Credentialing Center to recognize health care organizations that provide the very best in nursing care and uphold the tradition within nursing of professional nursing practice. The program also provides a vehicle for disseminating successful practices and strategies among nursing systems. The Objectives of the Magnet Recognition Program® are to recognize nursing services that use the Scope and Standards for Nurse Administrators (ANA, 2003) to build programs of nursing excellence for the delivery of nursing care to patients that:

Promote quality in a milieu that supports professional nursing practice

Provide a vehicle for the dissemination of successful nursing practices and strategies among health care organizations using the services of registered professional nurses

Promote positive patient outcomes
What does the evidence say about work hours?

• Speaking of safety and evidence
Overworked "Scrubs" Are More Likely to Make Mistakes that Harm or Kill Their Patients

A new study shows that sleep-deprived interns are prone to err-sometimes fatally

By JR Minkel
The marathon-working shifts expected of first-year medical residents... are putting patients in danger, according to the first study to identify mistakes that injured patients. After five 24-hour-plus shifts a month, the study found that interns were seven times more likely to harm a patient through error than if they had not worked any long shifts, and four times more likely to make a mistake that resulted in a patient's death. "These data suggest that fatigue contributes to tens of thousands of injuries to patients and thousands of deaths" annually.
AORN Position Statement on Safe Work/On-Call Practices

• **Pre-amble:** Call hours currently vary from 4 - 72 hours or more

• **Actual hours worked on-call are unpredictable and can range from 30 minutes to entire length of call period**

• **Working sustained hours may affect safe patient care, strain existing human resources, create stress for peri-operative staff members, and increase the potential for occupational injury due to prolonged work hours**
What Does the Non-RN Research Show?

- Fatigue and sleep deprivation effect performance
- Sustained work hours and prolonged periods of wakefulness are among working conditions-negative effect on human performance
- 17 hours without sleep can adversely affect performance to the equivalent of a blood alcohol concentration of 0.05%
- 24 hours without sleep, performance degradation is = blood alcohol concentration of 0.08-0.10%
- Research shows relationship between fatigue, total hours worked, task intensity, extended work periods
Error Making?

- Work periods of 12 hours or more are associated with a higher probability of making an error and an increase in risk-taking behaviors

- Peak performance peaks at 5 hours, declines at 12-16 hours

- Links exists between working extended hours and medical error rates

- Medical error rates triple after 12.5 hours of sustained activity
Provigil for your excessive sleepiness

- Provigil acts on areas in the brain having to do with the sleep/wake mechanism. It increases alertness in sleepy individuals, but probably not to normal alertness levels. Provigil is rapidly absorbed by the body and it’s at its most effective within two hours of ingestion.
• Provigil is only approved for use by adults and children over the age of 16

• Should only be taken by those suffering from EDS (excessive daytime sleepiness) associated with narcolepsy, OSAHS or SWSD (shift work sleep disorder)

• To find a sleep specialist in your area, visit the Web site of the American Board of Sleep Medicine at http://www.absm.org/diplomates/listing.htm
Wellness and the CRNA - Promoting a Positive Trend

- We are your neighbors, the kids down the street, the business owner up the street. We are the doctors and nurses who take care of you, the parents who care for you. We are the people who are affected by drug abuse as well as those who abuse drugs. We are everyone in the world
The AANA recognizes that anesthesia providers, because of their exposure and the nature of their work, may be at high risk for substance misuse.
• The alarming trend of substance abuse in anesthesia providers
Stephanie Luck and Jane Hedrick


What ELSE the CRNA as THE healthcare administrator must know

• It is beyond knowing how to give an anesthetic & all the preceding information!

• To Obtain Credential Status with ACHE, you must know
  • Governance and Organizational Structure
  • What defines the well managed healthcare organization?
  • Duties, roles, and responsibilities of the governing board
Add, but not limited to...

- Properly functioning human resource department
- Financial management of the institution
- Professionalism and ethics
- Healthcare technology and information management
- Quality and performance improvement
- Specifics of nursing and clinical support services
- Laws and regulations
- The “business”: marketing and strategy
- Management. What makes it? What breaks it?
Pay for CRNAs for Quality Care

• Performing at work equates to increasing the financial rewards in terms of “salary”
• Performing at work equates to the hospital obtaining increased reimbursement for following quality care standards
QUESTIONS???????????????