Judging Clinical Competence

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Disclosure

- Dr. Lagasse has had no relevant financial relationship with any commercial entity related to the content of this lecture.
- Dr. Lagasse has no potential conflict of interest related to the content of this lecture
  - ASA Representative to the Joint Commissions Professional Technical Advisory Committee until December 2013
  - Member of Steering Committee for the CDC/CMS Surgical Care Improvement Project (SCIP)

Objectives

After attending this lecture, participants will be able to:
1. Identify the methods of judging the clinical competence of anesthesiologists;
2. Define the limitations of physician level performance measures for judging the competence of anesthesiologists
3. Predict future trends in Maintenance of Certification for judging competence

Judging Physician Competence

- National Practitioners’ Data Bank
  - State Professional Review Board – Licensure
- Peer Review
  - Structured Peer Review – Vitez Model, Lagasse Model
- Maintenance of Certification in Anesthesiology
  1. Professional Standing
  2. Lifelong Learning & Self-assessment
  3. Cognitive Examination
  4. Practice Performance Assessment & Improvement

National Practitioners’ Data Bank

Health Care Quality Improvement Act of 1986 (42 U.S.C. 11101)

- Payments made on behalf of physicians in connection with medical liability (1986)
- Sanctions against licenses, clinical privileges, and professional societies’ membership privileges (2010)
- No denominator data to calculate rate of medical malpractice closed claims, just the raw number

Edel and Lagasse. ANESTHESIOLOGY 91:848-855, 1999

Malpractice Litigation & Human Errors

- 37,924 anesthetics performed (1992-94)
- 13 cases in which human error, as judged by peer review, led to disabling injury
- 18 cases involving legal action
- No relationship between malpractice litigation and human errors
- National Practitioners’ Data Bank lacks face validity as a measure of competence
Peer Review

- Las Vegas Model – Vitez (1990)
- Endorsed by ASA for judging competence
  - Competence is a human decision;
  - Best indication of competence is outcome; and
  - Humans are inherently fallible
- Included system factors – Lagasse (1993)

Error Analysis: Human Factors

- Improper technique
- Equipment misuse / operator error
- Disregard of available data
- Failure to seek appropriate data
- Inadequate knowledge
- Supervision of residents
- Communication error
- Lack of professionalism

Error Analysis: System Factors

- Technical accidents
- Equipment failure
- Limitation of therapeutic standards
- Limitation of diagnostic standards
- Limitation of resources available
- Limitation of supervision
- Failure of communication
- Lack of professionalism

Distribution of Contributing Factors

- System Factors (92.2%)
- Technical accidents
- Limited therapeutic standards
- Limited diagnostic standards
- Limited supervision
- Human Factors (7.8%)
- Improper technique
- Failure to seek appropriate data
- Disregard of available data
- Inadequate knowledge

Face Validity

“...I should estimate that in my experience most troubles and most possibilities for improvement add up to proportions something like this: 94% belong to the system (system errors are the responsibility of management) 6% special (human errors are the worker’s responsibility)”

W. Edwards Deming

Point 8: Drive out fear...

- YNHH
Point 8: Drive out fear...

Providers fear that reporting human errors:
- Increases risk of malpractice litigation
- Suggests that they are less competent than their colleagues

Human Error Rates & Competence

- All adverse perioperative outcomes between January 1, 1998 and December 31, 2008 were reviewed
- 323,879 anesthetics administered
- 104 adverse events attributed to human error by the anesthesia provider
- 3.2 human errors per 10,000 anesthetics

Survey of Significant Human Error Rates

- Human error rates indicative of the need for remedial training
  - 10 per 10,000 anesthetics
- Human error rates suggestive of incompetence
  - 12.5 per 10,000 anesthetics

Sample Size, Alpha & Power (1-β)

Power of Peer Review

If we were willing to be wrong about 1 out of 100 anesthesiologists judged to be incompetent (alpha error 0.01) and 1 out 20 anesthesiologists judged to be competent (beta error 0.05), then sample sizes of 21,600 anesthetics per anesthesiologist would be required.

ASA PS as Indicator of Perioperative Risk

ASA PS predicts:
- Outcome Rate
- Outcome Severity
- Nonlinear, interactive complexity
ASA PS as Indicator of Human Error Rate

ASA PS predicts:
- Human Error Rate
- Nonlinear, interactive complexity
- Denominator should be judgments, not cases

Maintenance of Certification in Anesthesiology (MOCA)

I Professional Standing
II Lifelong Learning & Self-Assessment
III Cognitive Examination
IV Practice Performance Assessment & Improvement *

Professional Standing

- 10th Amendment authorizes laws to protect health, safety and welfare of citizens
- State Medical Boards license MDs
- Initial licensure is relatively rigorous
  - Medical school, postgraduate training, background checks
  - USMLE (3 step process)
- Renewal process is less rigorous (no exam)
  - NPDB review, unrestricted practice, no disabilities, CME

Professional Standing

USMLE

- Step 1 – multiple choice exam
  - Assesses knowledge and application of the basic sciences, including scientific principles for lifelong learning
- Step 2 – multiple choice exam & patient models
  - Assesses clinical knowledge and skills essential for the provision of safe and competent patient care under supervision
- Step 3 – multiple choice exam
  - Emphasis on unsupervised ambulatory patient management

Professional Standing Renewal Process

- No examination
- National Practitioners’ Data Bank review
- Unrestricted practice
- No physical or mental disabilities
- Continuing Medical Education
Lifelong Learning & Self-Assessment

- 350 CME/10 year cycle (≥250 Category 1)
  - ≤70 CME per calendar year
  - SEE Program or ACE Program (≥ 60 CME)
  - ASA or ABMS Patient Safety Programs (≥ 20 CME)
- Monitoring is not rigorous

2009 Cochrane Collaboration

- Educational meetings, alone or combined with other interventions, can improve professional practice and patient outcomes
- mixed interactive & didactic formats, and focusing on outcomes perceived as serious, may increase effectiveness
- Not likely to be effective for changing complex behaviors

Cognitive Examination

- 200 multiple choice questions
  - 75% general topics
  - 25% pediatric, cardiothoracic, and obstetric anesthesia, along with critical care and pain medicine
  - ≥90% pass rate per exam
- Unlimited attempts permissible (8X)
  - No earlier than the seventh year of their 10-year MOCA cycle
  - Offered twice per year

American Board of Anesthesiology, BOI. February 2012

Practice Performance Assessment & Improvement

Attestation: The ABA solicits references to verify clinical activity and participation in practice improvement activities

- Case Evaluation: 4-step process to assess practice and implement changes to improve
- Simulation Education Course: A contextual learning opportunity to assess and improve in areas such as crisis management

American Board of Anesthesiology, BOI. February 2012

Attestation

- Due in year 9 of the 10-year cycle
- Clinical activity information
  - Primary practice type (e.g., anesthesia, critical care medicine, pain medicine, etc.)
- Contact information for three references
  - Institution Based – Chief of Anesthesia, Practice Group President, Medical Director, etc.
  - Supervisory roles – not a peer review
  - Office Based – 3 physicians who refer to your practice
Case Evaluation

1. Collect outcome data or patient feedback
2. Compare data with guidelines, expert consensus, or peer data
3. Design and implement a plan to improve outcomes using clinical reminders, education, system/process changes, or clinical pathways
4. Collect new data with goal to improve or maintain a high standard of practice

Case Evaluation

- May be done by a group or by an individual
- If group approach used, it must be possible to extract the individual diplomate’s data
- Sample case evaluations on ABA Web site
  - Nausea and Vomiting
  - Surgical Site Infections
  - Hypothermia
  - Perioperative Beta Adrenergic Blockade

MOCA Case Data

Reintubation Rate

A1632, ASA Annual Meeting, Orlando, 2008

Reintubation Rate/1000 cases

Year


Reintubation Rate per 1,000 cases

Year


ASA AQI

Case Evaluations

- Obstructive Sleep Apnea
- Perioperative Hyperglycemia
- Mask Ventilation
- Massive Transfusion Therapy
- Prevention and Management of Local Anesthetic Systemic Toxicity
- Postoperative Epidural Catheter Management During LMWH Administration

AQI

Case Evaluation

- AQI PPAI courses are designed as three stage performance improvement activities
  - Stage 1: Audit, Educate, Compare (5 CME)
  - Stage 2: Design, Execute a Performance Improvement Plan (5 CME)
  - Stage 3: Re-Audit, Compare, Reflect (10 CME)
- Cost: Member $220 & Non-member $290
Simulation

ASA-endorsed simulation center
May be completed in a subspecialty
A contextual learning opportunity in areas such as crisis management (not a knowledge or skills assessment)
Improves performance in simulators
Cost: $1,800 per person

Simulators can generate a variety of tasks that can be used as the basis for the performance assessment
Simulators can be used to measure adherence to protocols
Scoring systems in response to simulated situations appear to show good inter-rater reliability

Summary:

Judging Competence Through MOCA

Initial licensure is rigorous, but renewal does not involve an examination
CME has a small benefit; not behavioral
Multiple choice exam; multiple attempts
Case evaluation represents a small individual sample in highly variable practice
Simulation does not include assessment

Age-related Decline in Competency

Legal Implications
- Age Discrimination in Employment Act of 1967
- Exemptions: 1) good cause, and 2) age is a Bona Fide Occupational Qualification (BFOQ)

BFOQ burden of proof
1) Reasonable to believe that all or most employees of a certain age cannot perform the job safely, or
2) It is impossible or highly impractical to test employees’ abilities to tackle all tasks associated with the job on an individualized basis

Recovery from Substance Abuse

No examination, peer review or simulation training for a recovering physician that could establish if, or when, it is safe to return to work
Despite mandatory surveillance, there is a high rate of recidivism
Competence assessment complicated by potential for rapid change and high stakes
Physicians self-determine competency to care for patients, when they should retire, and when it is safe to return to work after recovering from substance abuse.

We need peer assessment of risk-adjusted indicators with risk improved statistical power, frequent written examination, regular simulation assessments, and mandatory retirement.