Assessing Competencies

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I have no COI related to this lecture.

I hope to provide topics for further discussion rather than outright answers to assessment.

- Do you believe current techniques for assessing competency are effective? Adequate?
- Performance in which competency responds best to feedback?

Definitions

- Assessment-the qualified opinion of a healthcare provider, informed by patient feedback and examination results, with regard to a specific health issue, whether critical, pending, or routine
- Evaluation- assessment and judgment- resident only attended 60% of conferences=they are a bad resident

Standards for Evaluation and Measurement

1 Utility

Informative, clarity

Timely

Influential

2 Feasibility

Can you afford it?

Is it realistic?

3 Propriety

ethically, legally sound

disclosure issues

4 Accuracy

Objective

Criterion referenced

Comparing individuals to a preset standard

Expert panel sets minimum passing score

Eg score above 70% passes

Norm referenced

Compare individuals to a reference group

Set by peers or standard population

Eg top 80% pass

Assessment

- Who, what, why, when, where, how

Formative	Summative
Guides future learning	Psychometric rigor-
Feedback	oral/written exams
Helps to inspire, motivate	Overall judgment
Promotes reflection	about competence
	Qualification for advancement

Giving bad grades/evals

- Objectify grading scale to remove ability of observers to give passing scores to trainees with issues
- Utilization of terms that makes it easier for evaluator to assess underperforming trainee
- Define satisfactory, avoid average
- We want to give a trainee ‘the benefit of the doubt’ when working with them intermittently
- Mention issues to the competency committee chair for evaluation of needs/concern

Adjusting to the Millenials

- As a friend recently stated- the validation generation, or trophy generation
- Also known as Gen Y, echo boomers or gen next
- 1982 through 1994 birth year
- Boomers need different educational experiences and tools than Gen X than Millenials
- Technology connected, adapted to, and expect, large amounts of stimulation
- Society as a whole changes their expectations as do our students
- What we are developing today will last about 20 years
- Interactions with trainees about feedback, especially of the negative variety, requires special handling in this cohort

Team approach

- Outside CCM and pain, Anesthesiology is not a team sport.
- Teaching team dynamics requires formal didactics or projects rather than implicit learning during team rounds.
- Current generations are used to working together- study groups, homework together, socialization

Developing a baseline

- Skills assessment and needs assessment at the start of training allow identification of strengths and weaknesses
- Trainee who lists themselves as top 10% in central line insertion- are they arrogant and potentially difficult to educate or did they participate in surgical residency
- Standardized testing provides insight in to personality and behaviors that can enhance teamwork and interpersonal skills- but expensive

Testing modalities as assessment tools

- Myers-Briggs-insight in to personality
- Birkman- interpersonal style, underlying motivations, expectations and stress behaviors
- 1. **Usual Behavior - an individual's effective behavioral style of dealing with relationships and tasks.**
- **2. Underlying Needs - an individual's expectations of how relationships and social situations should be governed in context of the relationship or situation.**
- **3. Stress Behaviors - an individual's ineffective style of dealing with relationships or tasks; behavior observed when underlying needs are not met.**
- **4. Interests - an individual's expressed preference for job titles based on the assumption of equal economic rewards.**
- **5. Organizational Focus - the perspective in which an individual views problems and solutions relating to organizational goals.**

Personal assessment

- Reflective writing
- Technique for struggling residents in particular
- Provide some guidance but leave the process open ended enough that they are forced to create
- Do they have insight?
- Is there evidence of a fixable issue?
- Who is the best person(s) to assist them?

Mentor

- Term mentor derives from the story of Odysseus and his son Telemachus. Athena, goddess of wisdom, disguised herself as Mentor, friend of Odysseus to assist with the sons growth and development in his fathers absence.
- A successful relationship includes personal and professional development
- Should the mentor be assigned or chosen? Same sex/race/religion/career goal/socioeconomic status?
- Mentor needs training themselves

Core competencies

- Patient care (PC)
- Medical knowledge (MK)
- Professionalism (P)
- Interpersonal and communication skills (ICS)
- Practice Based learning and improvement (PBLI)
- Systems Based practice (SBP)

Methodologies

- PC and MK are the traditional basis of evaluations
- (S)he is a good doctor but…
- Formal testing, simulators and direct observation make these items relatively easy to evaluate and process
- Teachers need to learn how to teach, mentor and promote competency in areas we were not specifically trained to manage

Time line based assessments

- What tasks, behaviors and skills are needed to survive the first week, month and year
- What behaviors do we want to motivate or suppress
- The One week evaluation- get to work on time, know where to find things, know who to call for equipment or help
- The mid term eval- manage a straight forward patient independently and a complex patient with minimal assistance, supervise a resident and teach them something

Professionalism

- Altruism
- Accountability
- Excellence
- Duty
- Honor and integrity
- Respect for others

Measuring medical professionalism David T Stern 2006
Educating for Professionalism D Wear and J Bickel 2000

Positive assessments

- Professionalism has historically been graded toward the negative- s(he) doesn't have it, rather than to the positive
- What behaviors are universally recognized as positive
- What behaviors do you add as local or profession-specific indicators?
- Stay an extra hour to finish the 8 hour case
- See your patients the night before instead of AM
- Attend conferences
- Interact in positive fashion with physician and non-physician colleagues
- 360 degree review- allow the trainee to select their reviewers so that a bad review has more impact

Professionalism

- Diagnose cause of sudden hemodynamic change, and react quickly with appropriate fluid or medication intervention. Know when to call attending for assistance. (PC, MK, **P)**
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- Know the conference schedule, and attend all Wednesday and division-specific Thursday morning conferences. Site-specific intradepartmental conferences are optional. (MK, **P**)
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- Know how to communicate patient management issues with surgeon while awaiting arrival of attending. (ICS**, P**, MK)
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- Know the conference schedule, and attend all Wednesday and division-specific Thursday morning conferences. Site-specific intradepartmental conferences are optional. (MK, **P**)
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- Review the patient's medical history, discuss anesthetic implications and plan an anesthetic for straightforward patients. (PC, MK**, P**, ICS)

Professionalism

- Study of physicians related to behaviors and lawsuits- Blink/Tipping point
- Trained audiologists identified contempt and disinterest by clinicians during patient encounters
- Regardless of skill, those who lack empathy are significantly more likely to be sued
- Sensitivity to patient global needs, not just medical, is required to avoid contempt, and hopefully allow empathy

Interpersonal and Communication Skills (ICS)

- Know the procedure to call report at the end of the case, providing relevant patient data to the PACU or ICU nurse in an organized fashion. (PC, ICS, P, SBP)
- Fill out an anesthetic record completely and legibly. Vital signs are stored in each monitor as trend data. Chart data is never to be documented based on 'best guess'. Trend data is to be used to document vital signs if data cannot be recorded live. (PC, P, ICS)
- Safely prepare a patient for transport from the OR to the ICU or PACU. Complete transport on straightforward patient without assistance from faculty member. Give concise completion of report. (PC, MK, ICS)
- Place anesthetic record in chart at end of procedure, and place departmental copies in the correct bin at each institution, with QI documentation. Complete PACU admission order form for all PACU admissions. (PC, ICS)
- Review the patient's medical history, discuss anesthetic implications and plan an anesthetic for straightforward patients. (PC, MK, P, ICS)
- Know the indications for antifibrinolytics. (MK, PC, ICS)
- Know issues associated with spinal cord protection in aortic surgical patient population. (PC, MK, ICS)
- Describe the hemodynamic perturbations associated with OPCAB to a junior resident, and teach them how to anticipate problems associated with movement of heart and occlusion of coronary arteries. (PC, MK, **ICS**, SBP)
- Select and rationalize choice of inotropes for discontinuation of CPB. (MK, **ICS**)

ICS, cont.

- Recognize presence of cardiac distention during CPB and appropriately discuss concerns with surgical team. (PC, MK, ICS, PBLI)
- Understand surgical plan for order of coronary grafting in OPCAB patient. (MK, ICS)
- Determine appropriate transfusion needs for moderately complex patient. (MK, ICS, PBLI)
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- Independently care for complex CT surgical patients, with attending as consultant only. (PC, MK, ICS, PBLI)
- Supervise a junior resident placing invasive lines and caring for a straightforward CT patient with minimal faculty involvement. (PC, ICS)
- Understand patient's coronary anatomy and be able to discuss concerns about order of coronary grafting during OPCAB with surgical team. (PC, MK, ICS, PBLI)
- Know the indications for placement of IABP. Be able to guide surgical placement of IABP. Be able to initiate troubleshooting of IABP problems. (PC, MK, ICS)
- Manage coagulation status comprehensively, including cogent discussion with surgical team about need for coagulation factors and factor 7. (PC, MK, ICS, PBLI)

PBLI

- QA project is an excellent forum for learning critical thinking and process evaluation
- Vanderbilt matrix to spur learning
- Need a project mentor to add insight in to the process
- Pre and post skills test to objectify process
- Feedback received during the year allows opportunity for learning even at the year end review (personnel interaction discussion)

SBP

- Group projects-initial idea provided by a UMDNJ article on this concept
- MBA training with groups
- HBR articles-team building
- Trainee understanding of the benefits-why do we have to do it and not everyone else?

- As part of your CT Anesthesiology fellowship, you will participate in a group project. The general topic will change for each year's class, but the overall mission will be the same. The goal of this project is to teach trainees group management skills, time management skills, interpersonal skills assessment and management, professionalism, system-based practice and problem-based learning.
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- As Anesthesiology trainees we rarely interact with our colleagues as a team. OR rooms are set up and run independently, with only the trainee and their staff interacting on a regular basis. Counter this with the high percentage of team interaction and management on medical or surgical teams. In order to facilitate your learning around group dynamics, you are being assigned a group project, with a single group grade, for the year.

Competency baseline

- Should we define competency for trainees?
- Can a resident meet fellowship criteria?
- Residency did not meet minimum- what next?
- What if a fellow meets criteria early?
- How do you define a cardiac anesthesiologist-echo, coagulation, inotropes, CPB management, critical incident response, care of congenital or transplant patient for non-cardiac surgery?

Competencies

- What knowledge, skill, interaction ability, multitasking and team building are necessary to consider someone capable of independently weaning from CPB?
- Does it matter if the patient is a CABG with normal EF versus a MV repair with dilated cardiomyopathy?

Valve Competency

- Preoperative evaluation: Independent assessment of adequate diagnostic criteria for surgical intervention for cardiac valve repairs or replacements, including cardiac catheterization and echocardiographic diagnostic criteria for stenotic and regurgitant lesions affecting mitral, aortic, tricuspid, and pulmonic valves and adjacent structures causing similar pathophysiology. Independent assessment of the adequacy of medical management prior to surgical intervention.
- Anesthetic planning and management: Independent selection of monitors appropriate to the complete spectrum of valvular heart disease pathophysiology. Independent selection of anesthetic induction and maintenance techniques appropriate to each type of valvular heart disease. Independent selection of vasoactive and inotropic drugs appropriate to the complete spectrum of valvular heart disease.
- Transesophageal echocardiography: Independent diagnostic capabilities for the complete spectrum of valvular heart disease. The most critical competency is timely and accurate intraoperative assessment of the adequacy of valve repair or replacement, including advising the surgeon appropriately when valve repair or replacement is inadequate.
- The program director will be responsible for establishment and documentation of the achievement of these minimum competency expectations. Under usual circumstances, these minimum expectations should be met after participation in 25 surgical procedures involving adult patients requiring CABG with or without CPB.

CPB Competency

- Minimum expectations for management of initiation of CPB includes expert management of: adequacy of anticoagulation, ventilation in transition to CPB, adequacy of venous and arterial cannulation, hypotension at onset of CPB, anesthetic drugs in the transition to CPB.
- Minimum expectations for management of maintenance of cardiopulmonary bypass (CPB): Expert management of pressure and flow; hemoglobin concentration, fluids and electrolytes, glucose concentrations, anticoagulation and antifibrinolytic agents, arterial blood gases, hypothermia and rewarming, anesthetic drugs, and monitoring (including ECG, TEE, arterial pressure, urine output, and other monitors).
- Minimum expectations for management of separation from CPB include expert management of maintenance of CPB to facilitate optimal hemoglobin and electrolytes for CPB separation, cardiac rhythm including pacing and defibrillation as indicated, TEE to assist separation from CPB and adequacy of surgical repairs as indicated, vasoactive drugs, resumption of pulmonary ventilation and management of complexities such as hypoxemia and hypercarbia after CPB, teamwork in the mechanical transition from extracorporeal to physiologic cardiac function including optimization of cardiac preload and afterload, heparin neutralization and its complications, and anesthetic drugs.

CABG Competency

- Preoperative evaluation: Independent assessment of severity of ischemic heart disease, optimization of medical management, and clinical implications of recent myocardial infarction
- Anesthetic planning: Independent appropriate selection of monitors and anesthetic drugs reflecting a complete understanding and application of the principles of myocardial oxygen demand and supply and stress response suppression; appropriate selection of patients for early extubation (fast-tracking) anesthetic approaches.
- Anesthetic management: Expert competency at placement of intravenous, arterial, and central venous catheters; expert ability to diagnose and manage myocardial ischemia using electrocardiography and transesophageal echocardiography; appropriate use of anesthetic, vasoactive, and beta-adrenergic blocking drugs to avoid and manage acute myocardial ischemia; recognition of regional myocardial ischemia after bypass grafting by use of diagnostic aids with appropriate communication of this condition to surgeon; expert understanding of the implications of off-bypass CABG including management of hemodynamic instability; expert application of fast-track and non-fast track anesthetic techniques to CABG patients.

How to evaluate?

- Numbers or competencies?
- Highly specialized programs nationally impair ability to standardize guidelines
- Numbers is easy, but do they tell the whole story?
- Competencies objectify skills. Where is experience and exposure evaluated?

Summary

- Pre and post testing-objective data
- Pre and post skills assessment- insight in to personality and self motivation
- Testing modules provide important feedback regarding behaviors
- Educate the educators
- Mentor relationships
- Use a wide variety of evaluation tools to maximize ROI

References

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