

Introduction

Graduate medical education has recently undergone a transformation in evaluation of physician trainee performance with a priority being placed on ensuring that trainees are competent and entrustable with key clinical tasks. Constant evaluation of progress in relationship to established milestones and entrustable professional activities (EPAs) now occurs. More recently, EPAs for graduating medical students have been proposed. A key unifying theme of EPAs is continuous workplace-based assessment with a focus on self-awareness and self-identification of one's strengths and deficiencies. However, compared to traditional feedback from faculty, such self-reflection has been underutilized and its efficacy debated. We designed a pilot to evaluate the utility of a self-assessment tool in the 3rd year medical school cardiology clerkship.

Objectives

- To guide students to think about and self-identify their clinical skill weaknesses as part of development of a lifelong self-assessment career skill
- To provide unique insight into what students feel they are learning (or not) from their pre-clerkship and clerkship cardiology curricula
- To develop novel educational tools to improve reported weaknesses in cardiovascular competencies

Methods

We modified a previously validated instrument through the help of a medical student focus group to create a survey for rating student self-reported competence with 20 fundamental activities of inpatient medicine and cardiovascular care. It also polled for personal gaps in cardiology knowledge/skills. The survey was administered to all 3rd year medical students rotating through cardiology before and then again after their rotation.

Results

Describe location, timing, and intensity of an auscultated heart murmur								
	Sig below avg (1)	Below avg (2)	Avg (3)	Above avg (4)	Sig above avg (5)	N	Mean	SD
Pre Clerkship	0%	39.1%	39.1%	21.7%	0%	23	2.83	0.76
Post Clerkship	0%	0%	34.6%	50%	15.4%	26	3.81	0.69

Interpret an echocardiogram report on your patients								
	Sig below avg (1)	Below avg (2)	Avg (3)	Above avg (4)	Sig above avg (5)	N	Mean	SD
Pre Clerkship	4.3%	43.5%	52.2%	0%	0%	23	2.48	0.58
Post Clerkship	0%	7.7%	50%	30.8%	11.5%	26	3.46	0.81

Most self-assessed competency ratings showed a substantial improvement after clerkship completion (two examples above)

Interpret a stress test report on your patients								
	Sig below avg (1)	Below avg (2)	Avg (3)	Above avg (4)	Sig above avg (5)	N	Mean	SD
Pre Clerkship	9.1%	40.9%	45.5%	4.5%	0%	22	2.45	0.72
Post Clerkship	0%	28%	40%	32%	0%	25	3.04	0.79

Apply the concept of cost effectiveness in relation to the care of your patients								
	Sig below avg (1)	Below avg (2)	Avg (3)	Above avg (4)	Sig above avg (5)	N	Mean	SD
Pre Clerkship	0%	43.5%	52.2%	0%	4.3%	23	2.65	0.70
Post Clerkship	0%	12%	56%	28%	4%	25	3.24	0.72

There were two notable outliers that showed only modest improvement

Highest post-clerkship scores	
Communicate effectively with pts and their families	4.35
Communicate respectfully and effectively with members of health care team	4.24
Verbally present findings to resident/attending	4.04
Interpret key cardiac lab results (eg Trop, BNP)	4.04
Describe location and degree of lower extremity edema	4.00
Lowest post-clerkship scores	
Interpret a stress test report on your patients	3.04
Apply the concept of cost effectiveness in relation to care of your patients	3.24
Interpret an echocardiogram report on your patients	3.46

Students overall also felt least competent at these two skills after completing the clerkship

Conclusions

- Self-assessment data from students allow unique insight into perceived curricula deficiencies
- Students reported an improvement in most competencies through the cardiology clerkship
- Two important skills remained weak both before and after the clerkship:

Interpreting a stress test report

Applying the concept of cost effectiveness in relation to patient care

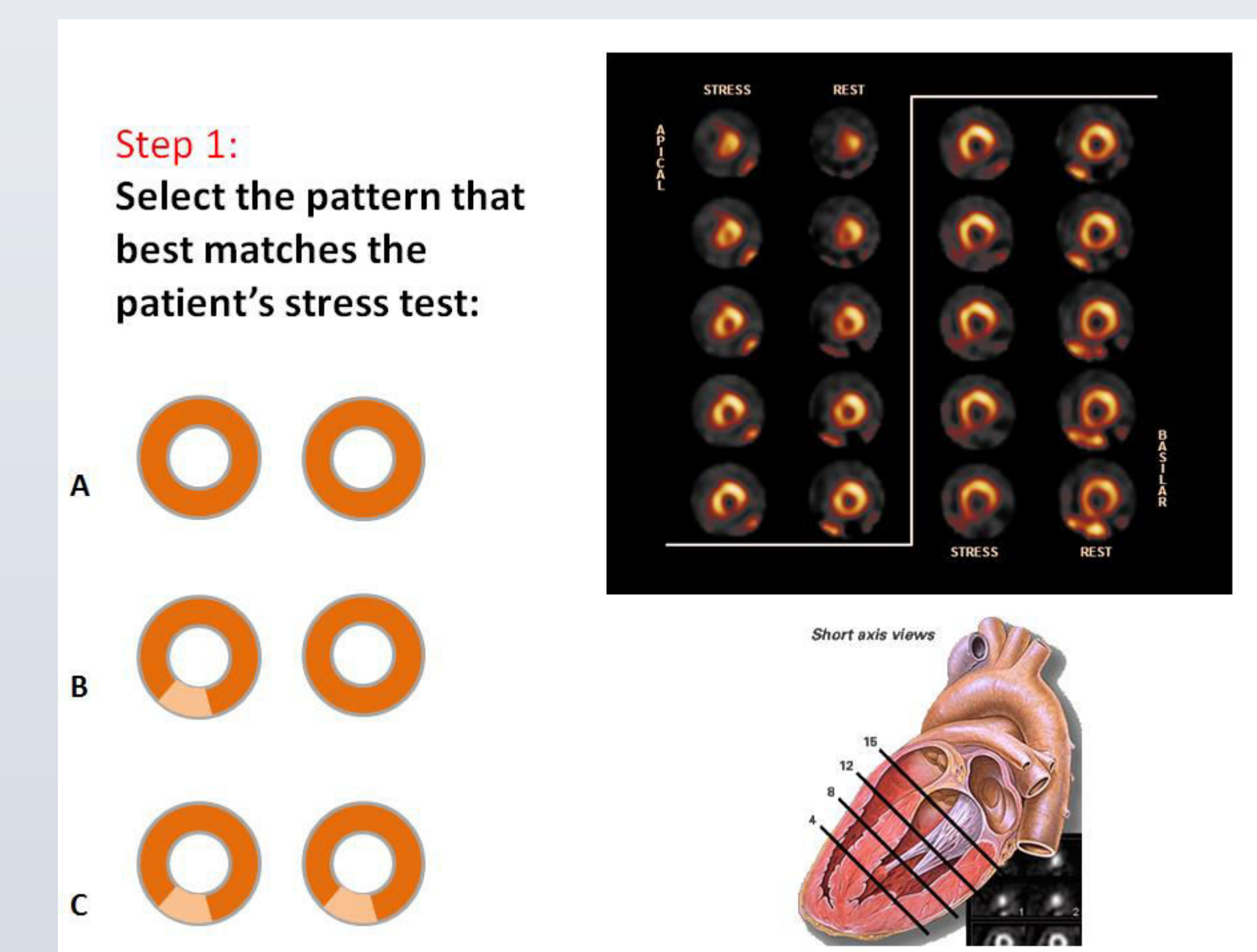
Future Directions

- Develop novel educational experiences during the cardiology clerkship to address the two weakest domains

Online interactive modules

Hands-on stress lab experience

Self-reflective exercises for cost effective care



SOAP-V for presentations or notes
Subjective: focused history and review of systems for the day
Objective: vital signs, physical examination, results of diagnostic studies (labs, radiology, etc.)
Assessment: a summary of the patient along with a probable diagnosis for the current presentation
Plan: your proposed treatment for the patient, by problem, including ordering tests and treatments
Value: Justify the planned tests and treatments and consider alternatives. Ask yourself the following questions:
 1. **Evidence of value:** Before ordering a test, have you and the team considered whether the result would change management? Before ordering a treatment, have you considered the evidence for the treatment vs. no treatment or an alternative treatment?
 2. **Patient values:** Have you discussed with the patient their goals and values? Do they recognize the potential harm of the test/treatment compared to alternatives?
 3. **Relative cost:** What is the approximate cost of the test/treatment? What are the downstream costs? Are there less costly alternatives with similar benefits?
 Where to find cost information: HealthCareBlueBook.com

ACP High Value Care Toolbox: High Value Care Educational Prescription
 Name: _____ Date: _____ Disease/Condition: _____
 Diagnosis ☐ Treatment ☐
 Test you are considering: _____ Alternative treatment: _____
 Alternative test: _____
☐ Alternative is no testing
☐ Alternative is no treatment
 How good is the test and how does the alternative compare (if there is one)? (Circle your answer)
 Test: Sensitivity: Low Moderate High
 Specificity: Low Moderate High
 Alternative: Sensitivity: Lower Similar Higher
 Specificity: Lower Similar Higher
 What are the potential harms?
 Harms of the test: _____
 Harms of the alternative: _____
 What are the costs of test and alternative?
 Clinical Choice made: _____
 Did this exercise change management of this patient? Yes No
 Did this exercise change your approach to future patients with the same problem? Yes No

References

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