

# **EPAs: Integrating Competencies & Milestones for Meaningful Assessment**

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# Objectives

- ▶ Analyze the relationship between EPAs, competencies and milestones
- ▶ Envision the role of EPAs, competencies and milestones in meaningful assessment
- ▶ Engage in team based/collective learning to meet our objectives

“Collective learning is visible when a group’s shared knowledge and ability is influenced or improved as a consequence of their interaction.”

Lingard L. Rethinking competence in the context of teamwork. In Hodges and Lingard (eds.) *The Question of Competence*. Cornell Univ Press 2012.



# Team-based Learning Process

- 1) Take an individual test based on articles that you read
- 2) Take a team test with a consensus answer for each question
- 3) Review team answers in large group
- 4) Discuss answers that < 80% of teams got correct
- 5) Facilitators review slides that align with participant learning needs as defined by the test
- 6) Participate in knowledge application exercises

# Question 1

All of the following statements are true  
**EXCEPT:**

Pediatrics Milestones are

- A) Narrative descriptions of performance that integrate behaviors across competencies
- B) Substrate for formative feedback & remediation
- C) A roadmap for learners
- D) Behavioral descriptors that span the



# The Milestone Project

- ▶ Partnership between ACGME & member boards of ABMS
- ▶ Charge:
  - Refine the language of the competencies in the context of the specialty
  - Set performance standards for each level of training
  - Identify/develop national assessment tools



# The Pediatrics Milestone Project

- ▶ Adds critical competencies not explicit in original ACGME competencies
- ▶ Describes each competency in terms of behaviors along a developmental continuum from novice to master
- ▶ Narratives build on the one that came before



# The Pediatrics Milestones

- ▶ There are 4-5 milestones or performance levels for each competency
- ▶ The series of milestones for each competency serve as a learning roadmap
- ▶ Each milestone provides specific behavioral expectations that form the substrate of formative feedback

## Question 2

All of the following are characteristic of EPAs  
**EXCEPT:**

- A) Represent a single domain of competence
- B) Represent the essential work that defines a discipline
- C) Are observable
- D) Are context dependent
- E) Map to competencies and their milestones



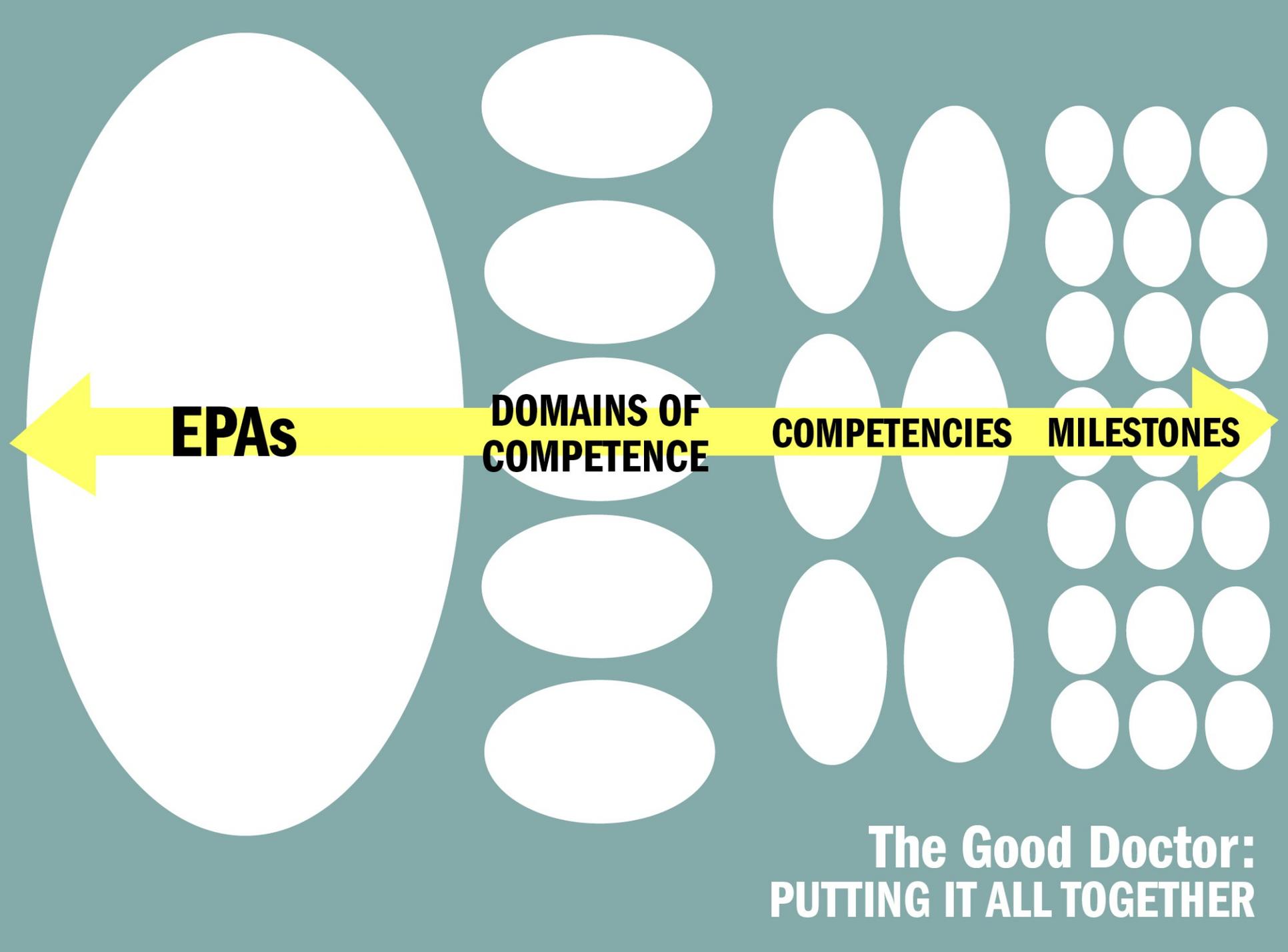
# Entrustable Professional Activities

- ▶ In aggregate- represent the essential professional work that defines a discipline
- ▶ Lead to a recognized outcome
- ▶ Are embedded in a clinical context so outcome is dependent on a complex interplay between the individual and the learning environment



# Entrustable Professional Activities

- ▶ Require integration of competencies (KSA) across domains
- ▶ Are observable and measurable
- ▶ Map to competencies and their milestones



**EPAs**

**DOMAINS OF  
COMPETENCE**

**COMPETENCIES**

**MILESTONES**

**The Good Doctor:  
PUTTING IT ALL TOGETHER**

# Question 3

Identifying EPAs for a subspecialty is best accomplished by

- A) Defining the competencies of a subspecialty
- B) Examining the clinical rotations of a fellow in that subspecialty
- C) Reviewing the curriculum for subspecialty training
- D) Delineating the day-to-day activities of a practitioner in that subspecialty
- E) Determining the responsibilities of a fellow within an ACGME accredited fellowship program

# Central Tenet of CBME

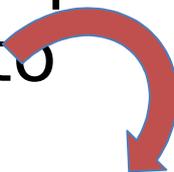
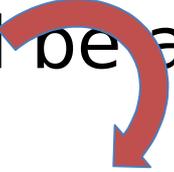


BEGIN WITH THE END IN MIND

Plan

FreePosterMaker.com

# Identifying EPAs

- Engage in backwards visioning process from what a given subspecialist does as part of routine practice to 
- Determine what the outcomes of GME training should be and 
- Continue the process to determine the needed outcomes of UME to address readiness for GME training

# Question 4

EPAs, competencies and milestones can help move us towards

- A) Fixed length-variable outcome programs
- B) Fixed outcome-variable length programs
- C) Fixed length-fixed outcome programs
- D) Variable length-variable outcome programs
- E) None of the above

# CBME

- ▶ Predicated on transitions based on competence as opposed to time
- ▶ Recent Carnegie report calls for standardization of outcomes and individualization of training
- ▶ EPAs articulate the expected outcomes
- ▶ Potential exists to transition learners to the next phase of the educational continuum once they have been entrusted with all required professional activities of the current phase

# Question 5

## Advantages of EPAs

- A) Provide a framework for continuous learning after completion of training
- B) Lead to a recognized result
- C) The activity outcome is dependent on both the individual and the learning environment
- D) The same EPAs can apply to a number of specialties and/or subspecialties
- E) All of the above



# Lifelong Learning: Training to Practice

- ▶ Foundational to medical education
- ▶ Learning doesn't stop at the end of residency or fellowship
- ▶ Consider “advanced” EPAs as part of MOC with ability to practice without supervision occurring with ongoing practice experience
  - *e.g., a recently graduated interventional cardiology fellow may not be ready to perform a cath on a newborn with complex congenital heart disease without help on day 1 of practice*

# Question 6

Which of the following is **NOT** a necessary ingredient for a learner to be entrusted with an EPA?

- A) Repeated observation of the learner
- B) Ability of the learner to practice without supervision
- C) Direct observation of a learner engaged in the EPA
- D) A single supervisor making all the entrustment decisions
- E) Likelihood of the learner's ability to perform

# Entrustment

- ▶ By definition - ability to achieve the desired and measurable professional activity outcome/result without supervision
- ▶ To ensure that the outcome is reproducible, the learner should be directly observed over time
- ▶ Ideally more than one witness to the performance and formal sign-off of entrustment



# Challenge to Entrustment Decisions

- ▶ Fragmentation of care
- ▶ Fragmentation of relationships

# Question 7

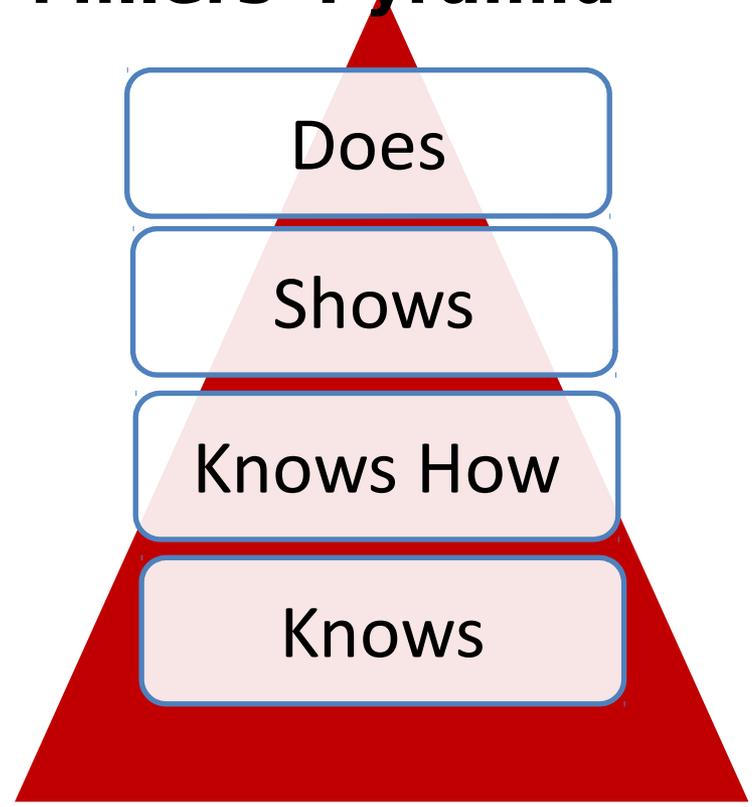
Entrustment decisions should be based on

- A) The outcome of the EPA that has been carried out
- B) A standardized checklist
- C) The clinical context in which the EPA is performed
- D) A and B
- E) A and C



# What do EPAs Assess?

## Millers' Pyramid



## Kirkpatrick's Levels

4. Outcomes/results
3. Learner behavior change
2. Knowledge acquisition
1. Learner satisfaction

# Question 8

Challenges to using EPAs for assessment include all of the following **EXCEPT**:

- A) Developing individual EPAs that are “big” enough to represent the integration of competencies
- B) Developing EPAs that are “small” enough to be independently executable within a time frame
- C) EPAs that overlap specialties
- D) Judiciously mapping EPAs to competencies, critical for entrustment decisions
- E) Ensuring that the list of EPAs covers all ACGME competencies in the mapping process



# Professional Activities

▶ Are the following EPAs?

- Taking a blood pressure

- Providing ambulatory care

# Question 9

Which of the following is **NOT** a “value-added “ of using an EPA model?

- A) EPAs frame competencies in a clinical context
- B) EPAs provide a granular approach to competency assessment
- C) EPAs can provide a set of criteria for transition to practice
- D) EPAs add the element of level of supervision to assessment
- E) Entrustment decisions allow inference about a learner’s competence



# Milestones & EPAs Are Complementary

- ▶ Competencies/Milestones: Granular View
  - Taking a history OR performing a physical on a well newborn OR educating a new mother OR...
  
- ▶ EPA : Holistic View
  - Caring for a well newborn
  - Use milestones in a diagnostic way
  - If you can't take care of a well newborn is it because you can't do the history OR the physical examination OR...

# Question 10

Which of the following taxonomies goes from most broad to most narrow?

- A) EPA, Competency, Milestone, Domain of Competence
- B) Domain of Competence, EPA, Competency, Milestone
- C) Domain of Competence, Competency, EPA, Milestone,
- D) EPA, Domain of Competence, Competency, Milestone
- E) EPA, Milestone, Competency, Domain of Competence

# The Good Doctor: Putting It All Together



- Identify core activities
- Describe their functions
- Judiciously map to domains & competencies critical to entrustment decisions
- Develop a curriculum G & O that support the KSA to perform the functions

**Panoramic  
View**

**Telephoto  
View**

- ▶ Current state of assessment tools versus the milestones:  
A head-to-head match-up





# Global Rating: Patient Care

(Modified from ABIM Rating Scale)

0 = N/A  
1-3 = Unsatisfactory  
4 = Marginal  
5-6 = Satisfactory  
7-9 = Superior

0	1	2	3	4	5	6	7	8	9
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- Incomplete, inaccurate medical interviews, physical exams, and review of other data; incompetent performance of essential procedures; fails to analyze clinical data and consider patient preferences when making medical decisions
- Incomplete, illogical, superficial
- Inept, careless, disregards risk and discomfort to patients
- Does not use information from technology or references to support patient care decisions and patient education

- Superb, accurate, comprehensive medical interviews, physical exams, review of data, and procedural skills; always makes diagnostic and therapeutic decisions based on available evidence, sound judgment, and patient preferences
- Logical, thorough and efficient
- Proficient, minimizes patients' discomfort
- Uses information technology and references to support patient care decisions and patient education

# *Trigger* Encounter Video

An 18 month old child presents to the Pediatric Emergency Department with emesis and a first seizure

- Special thanks to Dan Schumacher and Brad Benson for the writing and producing of this video



# Performance Assessment

For MS3?    For PGY-2?

1. Unsatisfactory
2. Unsatisfactory
3. Unsatisfactory
4. Marginal
5. Satisfactory
6. Satisfactory
7. Superior
8. Superior
9. Superior



## Example Competency: Domain of Patient Care

- ▶ Make informed diagnostic and therapeutic decisions that result in optimal clinical judgment

# “First level” Milestone

- Recalls and **presents** clinical **facts** in the history and physical in the order they were elicited **without filtering, reorganization or synthesis**
- Provides a **non-prioritized list of all diagnostic considerations** rather than the development of working diagnostic considerations
- Has **difficulty** developing a **therapeutic plan**
- **Summary: Recites the history and physical and then looks to supervisor for synthesis and plan**

# Second Level Milestone

- Focuses on features of the clinical presentation, making pattern recognition more precise and leading to a continual search for new diagnostic possibilities
- Reorganizes clinical facts from the history and physical exam to help the clinician on clarifying tests to order rather than to develop and prioritize a differential
- Suggests a myxoid differential diagnosis and therapies and unclear management plans since there is no unifying diagnosis
- Summarizes from information gathering to broad differential

# “Third Level” Mini-Case

- **Abstracts and reorganizes** elicited clinical findings; **compares and contrasts** the diagnoses being considered when presenting and discussing the case.
- **Presents a well synthesized and organized assessment** of the focused differential diagnosis and management plan
- **Summary: Synthesizes information to a working diagnosis and differential diagnosis that informs the evaluation and management plan**



# “Fourth Level” Milestones

- Reorganizes and stores clinical information leading to an **early directed diagnostic hypothesis** that is refined with subsequent history, physical, and test results to confirm this initial schema
- **Identifies discriminating features** between similar patients and **avoid premature closure**
- Focuses therapies based on a **working diagnosis** which results in an **effective, efficient diagnostic work-up and plan**
- **Summary: Rapidly focus on a differential diagnosis, accurate evaluation and management plan**



# Performance Assessment

- ▶ Milestone for MS3? For PGY-2?
  - **Level 1:** Recites the history and physical and then looks to supervisor for synthesis and plan
  - **Level 2:** Jumps from information gathering to broad evaluation without a focused differential
  - **Level 3:** Synthesizes information to allow a working diagnosis and differential diagnosis that informs the evaluation and management plan
  - **Level 4:** Rapidly focuses on correct working and differential diagnosis allowing for efficient and accurate evaluation and management plan

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# The Next Major Hurdle

Second level

Third level

Fourth level

Fifth level

## Putting It All Back Together

Balancing the reductionist  
with a constructivist approach



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## Entrustability of professional activities and competency-based training

*Olle ten Cate*

The idea of competency-based training (CBT) seems to have entered medical education with a

fields other than medical education.<sup>4,5</sup> The way in which we succeed in defining competence

respect, I supervise to deliver



# Why EPAs?

- Make sense to faculty, trainees, and the public
- Situate competencies and milestones in the clinical context in which we live
  - Align what we assess with what we do
  - Make assessment more practical by clustering milestones into meaningful professional activities
  - Explicitly add the level of trust & supervision to the assessment equation



# Milestones + EPAs: Both Are Critical for Assessment

- ▶ Competency/Milestones: A Granular Approach (Telephoto)
  - Assess how well a learner can accomplish some small part of an EPA (e.g., a complete and accurate physical examination of a newborn)
  
- ▶ EPAs: A Holistic Approach (Panoramic)
  - Integrate competencies within a clinical context and assess clusters of behaviors that allow one to take care of patients (e.g., provide care for a well newborn)



# INCOMPETENCE

WHEN YOU EARNESTLY BELIEVE YOU CAN COMPENSATE  
FOR A LACK OF SKILL BY DOUBLING YOUR EFFORTS,  
THERE'S NO END TO WHAT YOU CAN'T DO.



# Knowledge Application- Exercise 2

- 1) Review Handover EPA identification & mapping
- 2) Read vignettes
- 3) Individually rank order vignettes from lowest performer (Level 1) to highest performer (Level 5)
- 4) Review individual rankings as a group and come to a consensus for your team
- 5) Team discussion about which vignette merits entrustment
- 6) Large group discussion