Milestones to EPAs: What Does It All Mean?

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Six ACGME Competencies

- Medical Knowledge
- Patient Care
- Practice Based Learning and Improvement
- System Based Practice
- Professionalism
- Interpersonal and Communication Skills

Competency-based medical education (CBME)

- Outcome-based, not process-based: what is attained is key, not just what is done or taught
- Evaluate integration of knowledge, skill, attitude
  - "Trust" you to do the right thing
- Time-independent: length of training is not pre-set
  - Ex: Great at Cards- lousy at family meetings....
- Individualized: trainees and contexts are not identical
  - Won't see everything in your specialty

Workplace-learning!!
Milestones defined

Meaningful, measurable markers of progression of competence (sub-competencies)
- What abilities does the trainee possess at a given stage?
- What can the trainee be entrusted with?

Elisabeth Kubler-Ross Grief Reaction

- Denial – “Our residents learn just fine. We don’t need to change.”
- Anger – “Whose stupid idea is this anyway. The ACGME doesn’t know squat!”
- Bargaining – “So maybe I can still lecture if I let the residents pick the topics they want”
- Depression – “I’m a dinosaur. Maybe I should just retire”
- Acceptance – “So tell me again about this CBME”

Entrustable Professional Activities (EPAs)

- Define important clinical activities
- Link competencies/ milestones to KSA
- Include professional judgment of competence by clinicians

EPA - Pharyngitis evaluation and management
KSA - Assessment of Centor criteria
Milestone (Sub-Competency) - Performance of a focused history and physical exam
Milestone - Performance and communication of results
KSA - Performance and communication of results
KSA - Performance and communication of results for initial history and physical exam
KSA - Performance and communication of results for the chief complaint and urgent patient issues

Source: et al., 2014
Miller's Pyramid

- Does
- Shows How
- Knows How
- Knows

EPA's evaluate here!

- Behavior in the workplace
- Behavior in simulation exams
- Applied knowledge
- Factual knowledge

Trajectory of Milestones

- Expert
- Proficient
- Competent
- Advanced
- Novice

PGY 1  PGY 2  PGY 3  PGY 4  PGY 5  MOC

- Graduating Resident
- Intermediate Level Resident
- Finishing PGY 1
- Entering PGY 1

Assessing Performance

- Level 1: Resident cannot perform this skill with assistance
- Level 2: Resident should perform this skill under direct supervision
- Level 3: Resident can perform the skill under indirect supervision
- Level 4: Resident can perform this skill independently (i.e. at the ATTENDING LEVEL)
- Level 5: Resident can act as instructor or supervisor for this skill
Assessing Residents

EPA's

GOOD trainees DO these well:
1. Track health
2. Manage
3. Treat pain
4. Share decision making
5. Hand-off properly

We see residents DO these things.

We measure residents with these.

Milestones

Sub-competencies

ICS

PC 1
PC 2
PC 3
MK 1
MK 2
SBP 1
SBP 2
PBL 1
PBL 2
PBL 3
PF 1
PF 2

These are what we should be able to sort by.
Assessing Residents

Three Different Tools

The struggling resident can’t do these well.

1. Titrate insulin
2. Manage ventilator
3. Intubate
4. Intubation
5. Identify

This is what we see them struggle with.

Competencies

1. Patient Care
2. Medical Knowledge
3. Professionalism
4. Communication Skills
5. System-based Practice
6. Practice-based Learning

Milestones (Sub-competencies)

These might point towards the reason and solution for the struggles.

A new approach - the Entrustable Professional Activity (EPA)

- Start with concrete clinical activities, then link these to core competencies/milestones (or roadblocks...)
- Value individual differences.
- Incorporate professional judgment of competence by seasoned clinicians.
- Make deliberate “decisions of entrustment” for concrete “entrustable” activities.
- Build a collection (portfolio) to document competence.

Entrustable Professional Activities (KSA)

- Interpret EKG
- Manage ACS
- Resuscitate, stabilize, and care for critically ill patients.

Rotation Specific
End of Training
How to Approach EPA’s

Content Based EPA’s (variable portion)
- Example: perform venipuncture
- Generally different for each rotation

Process Based EPA’s (constant portion)
- Example: take a complete history
- Generally the same for similar rotations
  - Inpatient
  - Surgery
  - Consult
  - Ambulatory

Example Process EPA’s PGY I (Constant)
- Introduces self to patient and verifies patient identity
- Acquire an accurate and relevant history
- Perform an accurate physical exam
- Develop a prioritized differential diagnoses
- Develop an evidence-based diagnostic and therapeutic plan
- Demonstrates self-initiative in the use of information technology to retrieve materials for self-learning.
- Communicates with the patient that engages and focuses around the patient’s concern’s

Example Content EPA’s (Variable)
- Manage hyperkalemia during tumor lysis syndrome
- Perform paracentesis
- Manage derangement of sodium
- Manage extremes of blood pressure
- Initiate investigation of abdominal pain
- Participate in an inpatient cardiopulmonary resuscitation
- Identify fall risk in the older patient
- Recognize heart murmur
Writing and choosing EPA’s

1. Part of the essential professional work in a given context.
2. Must require adequate knowledge, skill and attitude.
3. Must lead to recognized output of professional labor.
4. Should be independently executable.
5. Should be executable within a time frame.
6. Should be observable and measurable.
7. Should reflect one or more competencies.

PLUS

1. Should be frequent enough to be seen in a rotation.
2. Should be important.
3. Should be measurable by the attending on the rotation.

EPA Process

• Keep it simple.
• Limit your content.
  EPA’s to 10 or fewer per rotation.
• Seek resident feedback on EPA’s.

Why COMPLICATE Life?

Wishing somebody?......Cell
Wanna meet up?..........Invite
Wanna be understood?.............Explain
Have questions?.............Ask
Don’t like something?............Say it
Like something?.............State it
Want something?.............Ask for it

Bring it All Together!
EPA’s/Milestones/Competencies

<table>
<thead>
<tr>
<th>Patient Care</th>
<th>Medical Knowledge</th>
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<tr>
<td>PC 1 PC 2 PC 3 PC 4 PC 5</td>
<td>MK 1 MK 2 MK 3</td>
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**EPA’s/Milestones/Competencies**

HemOnc PGY 1 – Initiate appropriate steroid treatment and consult appropriate services for spinal cord compression

- **Patient Care**
  - PC 1
  - PC 2
  - PC 3
  - PC 4
  - PC 5

- **Medical Knowledge**
  - MK 1
  - MK 2
  - MK 3

- **Practice Based Learning & Improvement**
  - PBL 1

- **Interpersonal Communication Skills**
  - ICS 1
  - ICS 2
  - ICS 3

- **Systems Based Practice**
  - SBP 1
  - SBP 2
  - SBP 3
  - SBP 4

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**EPA’s/Milestones/Competencies**

HemOnc PGY 1 – Initiate appropriate steroid treatment and consult appropriate services for spinal cord compression

- **Patient Care**
  - PC 1
  - PC 2
  - PC 3
  - PC 4
  - PC 5

  - PC 1: Recognize situation with a need for urgent or emergent medical care, including life-threatening conditions

- **Medical Knowledge**
  - MK 1
  - MK 2
  - MK 3

  - MK 1: Demonstrate sufficient knowledge to include complex or rare medical conditions and multiple coexistent conditions

  - MK 2: Understand the relevant pathophysiology and basic science for uncommon or complex medical conditions

- **Practice Based Learning & Improvement**
  - PBL 1

- **Interpersonal Communication Skills**
  - ICS 1
  - ICS 2
  - ICS 3

  - ICS 3: Request consultative services in an effective manner

- **Systems Based Practice**
  - SBP 1
  - SBP 2
  - SBP 3
  - SBP 4

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**EPA’s/Milestones/Competencies**

HemOnc PGY 1 – Initiate appropriate steroid treatment and consult appropriate services for spinal cord compression

- **Patient Care**
  - PC 1
  - PC 2
  - PC 3
  - PC 4
  - PC 5

- **Medical Knowledge**
  - MK 1
  - MK 2
  - MK 3

  - MK 3: Demonstrate sufficient knowledge to include complex or rare medical conditions and multiple coexistent conditions

  - MK 2: Understand the relevant pathophysiology and basic science for uncommon or complex medical conditions

- **Practice Based Learning & Improvement**
  - PBL 1

- **Interpersonal Communication Skills**
  - ICS 1
  - ICS 2
  - ICS 3

  - ICS 3: Request consultative services in an effective manner

- **Systems Based Practice**
  - SBP 1
  - SBP 2
  - SBP 3
  - SBP 4

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**Can Make Italian Food**

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<tr>
<th>EPA</th>
<th>Observable Professional Activities</th>
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<td>Milestones</td>
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<td>Narrative - KSA</td>
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- **Fruit**
- **Vegetables**
- **Protein**
- **Grain**

- Knows how to make sauce
- Knows how to dice tomatoes
- Knows what meat to use in the dish
- Knows what pasta to use

- Cooks marinara sauce
- Dices tomatoes
- Browns ground beef
- Boils ravioli
Can Make Italian Food

**Competencies**
- Knows how to make sauce
- Knows how to dice tomatoes
- Knows what meat to use in the dish
- Knows what pasta to use

**Things we measure over time**
- Cooks marinara sauce
- Dices tomatoes
- Browns ground beef
- Boils ravioli

**Observable and measurable activities demonstrating skills, knowledge and ability**
- Fruit
- Vegetables
- Protein
- Grain

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Can Ride A Bike Safely

**Competencies**
- Equipment Safety
- Bicycle Etiquette
- Endurance

**Milestone**
- Knows Right Size bike to use
- Can Balance
- Can Propel Forward
- Knows Hand signals

**Narrative - Do you trust them? What you are watching that describes the EPA**
- Rides 100 feet without falling
- Rides with a helmet
- Riding in same direction as traffic using hand signals
- Rides for over 8 hours at once

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Develop and achieves comprehensive management plan for patients

**Competencies**
- Routinely identify subtle or unusual physical findings
- Interpret common diagnostic testing
- Manage patients with common and complex disorders
- Customize care based on patient’s preference and overall health
- Manage Pancreatitis
- Adjust short and long acting narcotics for cancer and sickle cell patients
- Deliver appropriate goal directed therapy for severe sepsis

**Milestone**
- MK PBL Patient Care
- SBP Prof
- Com. & IHS

**Narrative - KSA (Do you trust them?)**
- Develops and achieves comprehensive management plan for patients
Rotation Name: Continuity Clinic Rotation PGY 1
Rotation Goals: Deliver more efficient and timely continuity care in a busy family medicine office.

Entrustable Activities
- Demonstrate the ability to elicit sensitive concerns, negotiate management plans, and provide excellent patient education.
- Comprehend a total health maintenance plan that ensures timely and effective patient care.
- Exhibit an overall understanding of the patient's needs and preferences.
- Identify and follow-up critical patient information.

Milestones
- PC-1, PC-2
- MK-3
- PBL-1
- MK-1
- CIP1, CIP2

Competencies
- Patient Care
- Medical Knowledge
- System Based Practice
- Practice Based Learning
- Professionalism
- Communication & Interpersonal

Rotation Name: PGY 1 Surgery General
Rotation Goals: To develop an understanding of basic evaluation of patients with abdominal complaints and disorders.

Entrustable Activities
- Able to identify chronic conditions needing advanced management
- Communicates effectively with patients and families
- Able to develop a prioritized differential diagnosis
- Communicates with the patient at their level of understanding

Milestones
- PC1, PC2, PC3
- MK1
- PBL1, PBL2, PBL3
- PROF1
- ICS1, ICS2

Competencies
- Patient Care
- Medical Knowledge
- System Based Practice
- Practice Based Learning
- Professionalism
- Communication & Interpersonal

Date Revised: ________________

Program: Family Medicine
Continuity Clinic Rotation PGY 1

In New Innovations
- Able to tie a 1 and 2-handed square knot
- Ability to debride wounds
- Ability to palpate abdomen; identifying acute abdomen and peritoneal irritation
- Identifies symptoms and signs related to sepsis

What We Hope to Accomplish

Rotation: Cardiology Advanced Critical Care

Objectives and Outcomes
1. Interpret basic and advanced EKGs and use as active in patient management decisions
2. Interpret Holter on critical care unit
3. Interpret patient's exercise tolerance

Performance Indicators and Measures
1. Better stability, compliance, and complication profile that may be uncharacterized by other factors
2. Decrease in the number of revascularization procedures
3. Lengthen the amount of time spent in the hospital
4. Decrease in the number of patients admitted to the intensive care unit
5. Decrease in the number of patients admitted to the hospital
6. Decrease in the number of patients admitted to the hospital
7. Decrease in the number of patients admitted to the hospital
8. Decrease in the number of patients admitted to the hospital
9. Decrease in the number of patients admitted to the hospital
What We Hope to Accomplish

Next Steps

- Refinement of Rotational Goals and Objective
- Incorporate Milestones in the rotation
- Identify EPA’s and observable behaviors for the rotation
- Map EPA’s to Milestones and Competencies
- Create New Assessment based on EPA’s

"WHAT'S THE MINIMAL LEVEL OF COMPETENCE AROUND HERE?"
References


Ten Cate, O. S. (2010). Medical competency: the interplay between individual ability and the health care environment. Medical Teacher, 494-497.