

# *Progressive Shift to Competency Based Medical Education (CBME)*



TSDA General Session  
Jan. 20, 2023  
Stephen C. Yang, MD

## *Agenda*

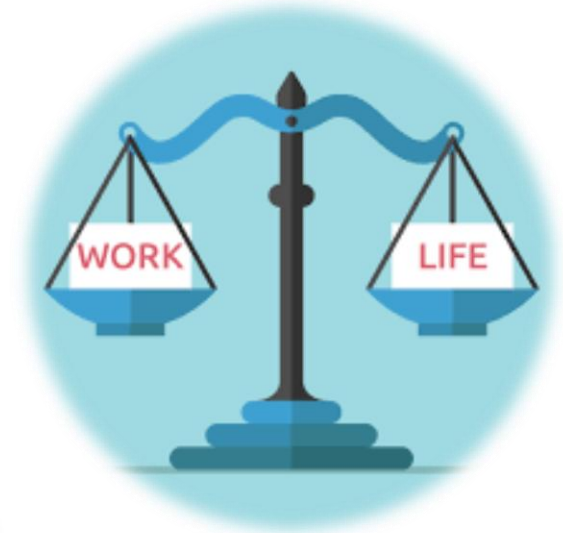
- Background
- Entrustable professional activities (EPAs)
- Feasibility of CBME in Thoracic Surgery

TSDA





You don't ~~X~~ have to reinvent  
the wheel.



reliable, not valid



# *Very Brief History of CBME*

- “Dean of American education of the 20th century”
- What purposes should a school seek to attain?
- What educational experiences can be provided to attain these purposes?
- How can these be organized?
- How can one determine whether these purposes are being attained?

## BASIC PRINCIPLES OF CURRICULUM AND INSTRUCTION

Ralph W. Tyler

THE UNIVERSITY OF CHICAGO PRESS  
Chicago and London



# Highlights From the Development of CBME

1996

CanMEDS is released. This framework is refreshed in 2005 and 2015.

1999

The Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties endorse a set of six core competencies

2017

The AAMC begins its Competencies Across the Continuum Learning Series: New and Emerging Areas



The Accreditation Council for Graduate Medical Education launches the Next Accreditation System, which incorporates milestones into the core competency framework

2012

A set of 13 Core Entrustable Professional Activities for Entering Residency is developed by a drafting panel convened by the AAMC. A 10-school pilot is established and runs through 2021.

The Coalition for Physician Accountability endorses the six general but essential domains of competence as its common framework.

2014



American Board  
of Medical Specialties  
*Higher standards. Better care.®*

# ACGME ABMS Competency Based Medical Education Symposium

August 11-12, 2022



# ***Trainee/Educator Challenges***

## ***Trainee***

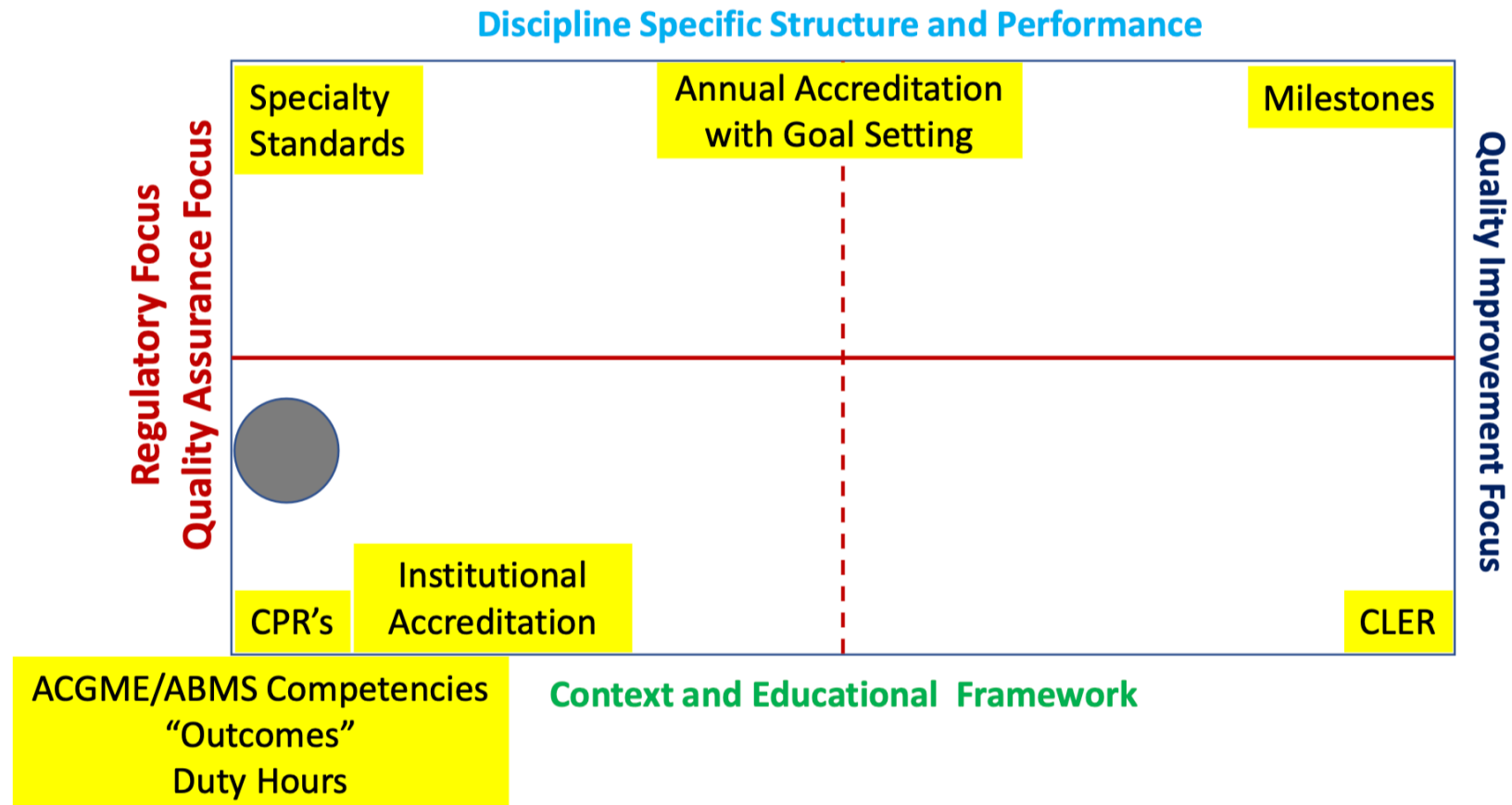
- **Knowledge gaps, unprepared for independent practice**
- **Existing methods of assessment and feedback not totally effective**
- **Some lack clear understanding of objectives**
- **Unclear when new abilities or skills are needed**

## ***Educator***

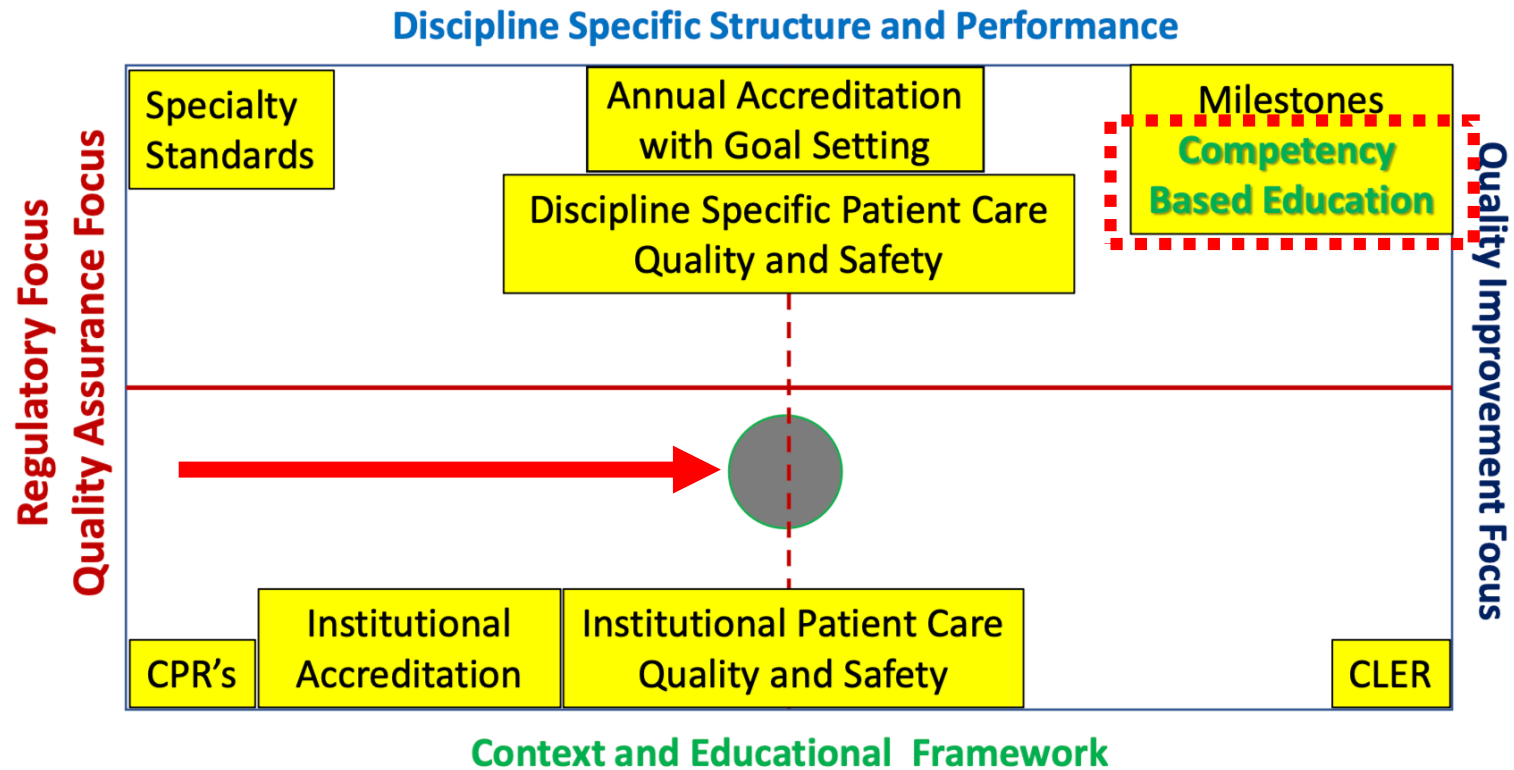
- **Struggle with in-training assessment tools**
- **Struggle with focused teaching activities, lack of clear learning objectives**
- **How to help the learner falling behind**

# Quality Assurance Focus vs. Quality Improvement Focus

## ACGME – “NAS” - 2012 to 2020



# ACGME's Balance between Rules-Based Compliance and Quality Improvement Tools For Program Accreditation in the Next Accreditation System





# *CBME: Overview*



- More than the six domains of clinical competency and Milestones: CBME next step in enhancement of education of each individual physician
- Advance curricular design and assessment while enhancing effectiveness in faculty evaluation
- May reward the better performers rather than constantly dwelling on those who need help



- **No common agreement on a standardized set of expectations for graduating trainees**
- **Students/residents entering training have vastly different skill sets and training experiences**
- **PD concerned that some trainees are not prepared for practice**

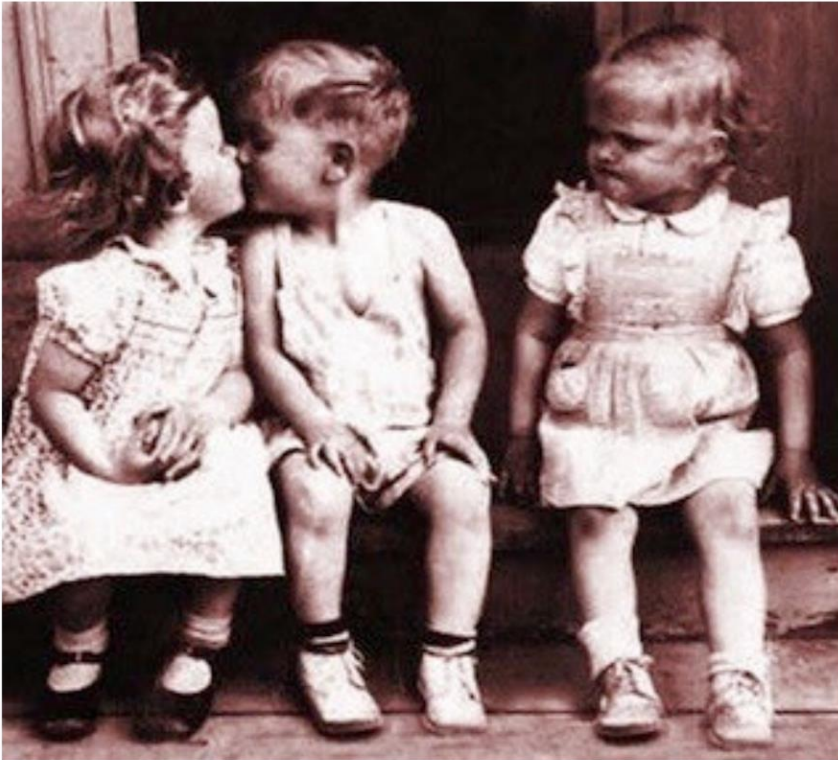
# *Why transition to CBME?*

- **Current surrogates for competency:**
  - Case logs
  - Milestones
  - Test performance
  - PD's attestation
  - Time-based performance (rather than objective demonstration of competence)
- **What we have now to access competency:**
  - Simulation
  - Operative feedback tools
  - Skills/cognitive curricula (e.g. FLS)
  - Entrustable professional activities (EPAs)
  - Video assessments

*Current assessments have not kept up with competencies...*



# Twelve Year Experience with CBME in Orthopaedic Surgery at University of Toronto



RICHARD K. REZNICK  
**CHANGING  
TRAINING**  
ACROSS AN ENTIRE MEDICAL SCHOOL

	Entering Residency	<input type="checkbox"/> Exams after 4 years	Exams after 5 years
PILOT YEARS	14	8	5
2013-14	12	5	4
2014-15	9	4	5
2015-16	9	1	5
2016-17	9	2	7
Totals	53	20	26

## Competence by Design

Canada's model for competency-based medical education

### Understanding Competence by Design

Transforming Canada's residency training to align with the realities of 21st century practice.

What is CBD?



Rationale for change



Schedule and status



What to expect



Is it working?

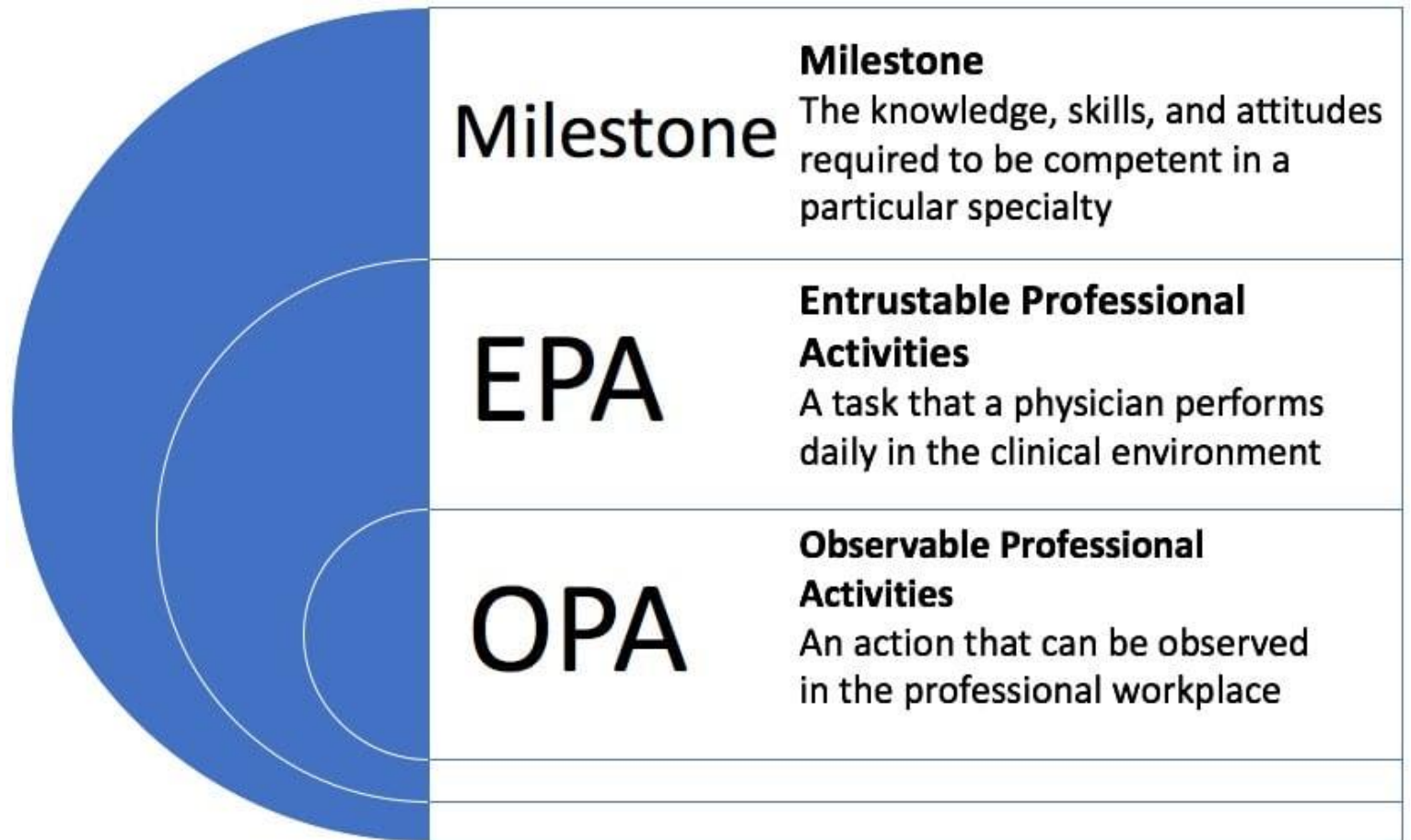


Program evaluation dashboard



## *What are EPAs?*

- “An essential task that an individual can be trusted to perform independently in a given context.”
- Popular assessment component of CBME





# *AAMC EPAs for Graduating Medical Students*



- 1.** Gather a history and perform a physical examination.
- 2.** Prioritize a differential diagnosis following a clinical encounter.
- 3.** Recommend and interpret common diagnostic and screening tests.
- 4.** Enter and discuss orders and prescriptions.
- 5.** Document a clinical encounter in the patient record.
- 6.** Provide an oral presentation of a clinical encounter.
- 7.** Form clinical questions and retrieve evidence to advance patient care.
- 8.** Give or receive a patient handover to transition care responsibility.
- 9.** Collaborate as a member of an interprofessional team.
- 10.** Recognize a patient requiring urgent or emergent care and initiate evaluation and management.
- 11.** Obtain informed consent for tests and/or procedures.
- 12.** Perform general procedures of a physician.
- 13.** Identify system failures and contribute to a culture of safety and improvement.

**FIGURE 1.** The AAMC's Core EPAs for entering residency.<sup>a</sup>

Abbreviation: EPA, entrustable professional activity.

a. AAMC. *Core Entrustable Professional Activities for Entering Residency Curriculum Developers' Guide*. AAMC; 2014. Accessed March 25, 2022. [https://store.aamc.org/downloadable/download/sample/sample\\_id/63/%20](https://store.aamc.org/downloadable/download/sample/sample_id/63/%20)

# ***Current ABMS EPAs***

<b>Specialty</b>	<b>#EPAs</b>	<b>Status</b>
<b>ABPS</b>	<b>4 program consortium</b>	<b>Pilot since 2017</b>
<b>ABU</b>	<b>25</b>	<b>Implemented 2018</b>
<b>ABOS</b>	<b>Knowledge/Skills/ Behavior Program</b>	<b>Launched 2021, 50 residencies adopted</b>
<b>ABS</b>	<b>19/14 more in devt</b>	<b>Going live July 2023</b>
<b>Vascular surgery</b>	<b>10?</b>	<b>Launch 2024</b>
<b>Pediatric surgery</b>	<b>Early stage of devt</b>	
<b>Complex gen surg onc</b>	<b>Early stage of devt</b>	
<b>Surgical critical care</b>	<b>Early stage of devt</b>	
<b>ABFM</b>	<b>10</b>	<b>Started 2015</b>
<b>ABPeds</b>	<b>17/6 each for subspec</b>	<b>Pilot since 2016</b>
<b>ABPath</b>	<b>4</b>	<b>2020 pilot</b>

# *Topic EPAs from the ABS*

## **The General Surgery EPAs**

The ABS has been hard at work since the conclusion of the pilot in 2020, 18 core EPAs that will be evaluated for general surgery:

- 1.** RLQ pain/Appendicitis \*
- 2.** Benign or malignant breast disease
- 3.** Benign or malignant colon disease
- 4.** Gallbladder disease \*
- 5.** Inguinal hernia \*
- 6.** Abdominal wall hernia
- 7.** Acute abdomen
- 8.** Benign anorectal disease
- 9.** Small bowel obstruction
- 10.** Thyroid and parathyroid disease
- 11.** Dialysis access
- 12.** Soft tissue infection
- 13.** Cutaneous and subcutaneous neoplasms
- 14.** Severe acute or necrotizing pancreatitis
- 15.** Perioperative care of the critically ill surgery patient
- 16.** Flexible GI Endoscopy
- 17.** Evaluation/initial management of a trauma patient \*
- 18.** Provide general surgery consultation \*

# Example EPA from ABU

## ENTRUSTABLE PROFESSIONAL ACTIVITIES FOR UROLOGY (2018)

### Urology: Core EPA #2

**Performing an initial consultation, and developing a plan for investigation or management, for patients presenting in the clinic or inpatient non-urgent settings**

#### Key Features:

- This EPA focuses on the initial assessment of patients with non-urgent conditions, and builds on the skills of Foundations to include patients with more complex presentations and/or diagnoses

#### Assessment Plan:

Direct or indirect observation (case review) by supervisor

Use Form 1. Form collects information on:

- Presentation: complex UTI; cutaneous genital lesions; male infertility; genital and/or pelvic pain; adrenal mass; suspicious renal mass; suspicious scrotal mass; elevated PSA
- Complexity: low; high

Collect 10 observations of achievement

- At least 6 different presentations
- At least 5 high complexity
- At least 3 assessors

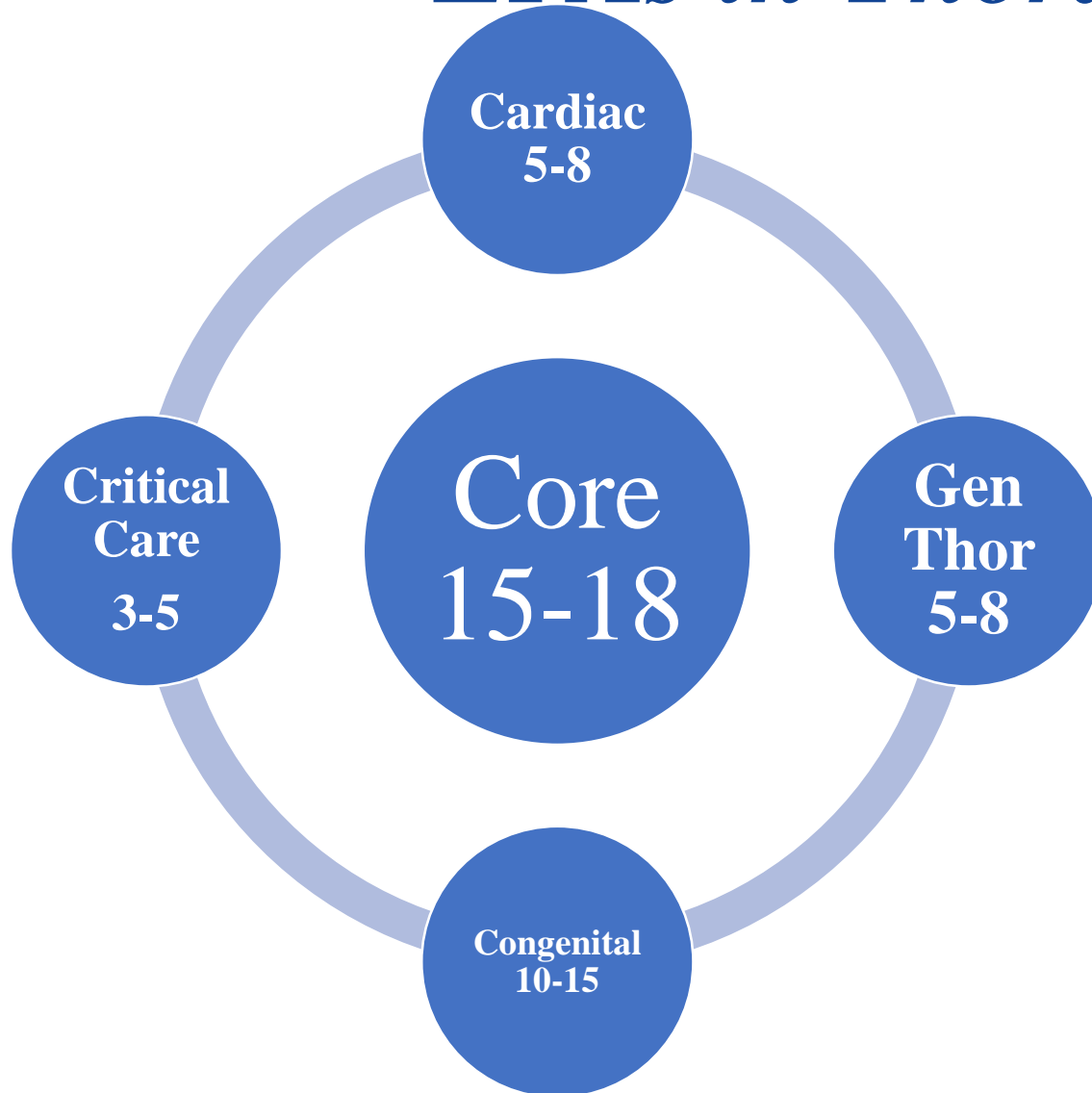
#### Relevant Milestones:

- 1 **ME 1.4** Perform clinical assessments that address all relevant issues
- 2 **ME 2.2 Administer and interpret disease specific questionnaires, as appropriate (e.g. erectile dysfunction)**
- 3 **ME 2.2** Identify and interpret pertinent findings on physical examination
- 4 **ME 2.2 Identify indications for, and interpret, specialized tests**
- 5 **L 2.1** Use clinical judgment to minimize wasteful practices
- 6 **ME 2.2 Integrate the patient's other medical problems, overall functioning and current health status into the decision regarding plan of care**
- 7 **ME 2.4** Stratify risk for clinical progression/recurrence and identify patients that need further investigation (e.g. biopsy) and/or surgical intervention
- 8 **S 3.4 Integrate best evidence and clinical expertise into decision-making**
- 9 **ME 2.4 Develop and implement a plan, which may include further investigation, surveillance, medical treatment and/or surgical intervention**
- 10 **ME 4.1** Determine the necessity and timing of referral to another health care professional

# *Proposal for Feasibility of CBME Thoracic Surgery*

- **Align EPAs with Core Competencies, Milestones and KF exam**
- **ABTS-organized “EPA Council” to discuss CBME, development of EPAs, methodologies of competencies for evaluation and certification**
- **Balanced group of subspecialties (cardiac, general thoracic, congenital, critical care) and representing:**
  - **ABTS**
  - **ACGME/TS-RRC**
  - **TSDA**
  - **TSRA**
  - **Diplomats 1-5 yrs out**
  - **ABS rep (Brenessa Linderman)**
  - **Susan Moffatt-Bruce**

# ***“Personal” Vision for EPAs in Thoracic Surgery***



- **Core Domains**

- *Foundations* (basic procedures)
- *Consultations* (in- & out-pts)
- *Operative Techniques*
- *Teaching*
- *Scholarly Work*
- *Transition to Practice*

- **Specialty Domains**

- *Level 5 Milestones*



# *Perception of EPAs*

## • Strengths:

- EPA development roadmap has been done by ABS
- Partner with ABS EPAs – IT support via SIMPL (John Mellinger)
- Available resources

## • Challenges:

- Cost
- More intense/robust assessments
- Faculty development/overwhelmed
- Acceptance in community
- Developing competent/early/partial board certification
- Competencies not covered by EPAs
- Tying curriculum to EPAs
- Filling gaps in variation of clinical experience
- Billing/by-in from MC/insurance co



# *Summary - CBME*

- **EPAs - natural progression from medical school to general surgery residency**
- **Start planning strategies for CBME with other stakeholders – incorporating CC, MS, KF, video assessments, and development of EPAs**

