



# Entrustable Professional Activities: A Once-in-a-Generation Opportunity to Advance Surgical Education

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ABS-VSB EPA PROJECT GRAND ROUNDS

BRIGITTE K. SMITH, MD, MHPE

# Disclosures

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- Member of the Vascular Surgery Board
  - Chair, Committee on EPAs
- Member of the ACGME Board of Directors
  - Milestones 2.0 Work Group



# Why Are We Talking About This?

PAPERS OF THE 133RD ASA ANNUAL MEETING

## General Surgery Residency Inadequately Prepares Trainees for Fellowship

*Results of a Survey of Fellowship Program Directors*

Samer G. Mattar, MD,\* Adnan A. Alseidi, MD, FACS,† Daniel B. Jones, MD, FACS,‡  
D. Rohan Jeyarajah, MD, FACS,§ Lee L. Swanstrom, MD, FACS,|| Ralph W. Aye, MD, FACS,¶  
Steven D. Wexner, MD, FACS, FRCS, FRCS(Edin), PhD (Hon),\*\* José M. Martinez, MD, FACS,††  
Sharona B. Ross, MD, FACS,‡‡ Michael M. Awad, MD, FACS,§§ Morris E. Franklin, MD, FACS,||||  
Maurice E. Arregui, MD, FACS,¶¶ Bruce D. Schirmer, MD, FACS,\*\*\* and Rebecca M. Minter, MD, FACS†††

Ann Surg 2013

### EDUCATION

## Are General Surgery Residents Ready to Practice? A Survey of the American College of Surgeons Board of Governors and Young Fellows Association

Lena M Napolitano, MD, FACS, FCCP, FCCM, Mark Savarise, MD, FACS, Juan C Paramo, MD, FACS,  
Laurel C Soot, MD, FACS, S Rob Todd, MD, FACS, Jay Gregory, MD, FACS, Gary L Timmerman, MD, FACS,  
William G Cioffi, MD, FACS, Elisabeth Davis, PhD, Ajit K Sachdeva, MD, FRCS, FACS

JACS 2014

DOCTOR AND PATIENT

## Are Today's New Surgeons Unprepared?

By PAULINE W. CHEN, M.D. DECEMBER 12, 2013, 12:20 PM 159 Comments



- [E-MAIL](#)
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- [SAVE](#)
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The surgeon had no prestigious named professorship, no N.I.H. grant and no plum administrative position in the hospital's hierarchy. But to the other surgeons-in-training and me, he was exactly who we wanted to be.

DOCTOR AND PATIENT  
Dr. Pauline Chen on  
medical care.



New York Times Dec 12, 2013



26% of fellowship directors believe incoming fellows could take call without need for assistance

27% of residents concerned they won't be prepared for independent practice

21% of chief residents worried they wouldn't be confident to perform procedures independently



# Why are *We* Talking About This?

A comparison of the knowledge base and surgical skills of integrated versus independent vascular surgery trainees

*J Vasc Surg* 2016

Robyn A. Macsata, MD,<sup>a,b</sup> and Stephen Fernandez, MPH,<sup>c</sup> *Washington, D.C.; and Hyattsville, Md*



Comparison of the integrated vascular surgery resident operative experience and the traditional vascular surgery fellowship

Adam Tanious, MD, MMSc, Mathew Wooster, MD, Andrew Jung, BA, Peter R. Nelson, MD, MS, Paul A. Armstrong, DO, and Murray L. Shames, MD, *Tampa, Fla*

*J Vasc Surg* 2017

**Perceptions of Society for Vascular Surgery Members and Surgery Department Chairs of the Integrated 0 + 5 Vascular Surgery Training Paradigm**

Misaki Kiguchi, MD,<sup>\*</sup> Andrew Leake, MD,<sup>\*</sup> Galen Switzer, PhD,<sup>†</sup> Erica Mitchell, MD,<sup>‡,§</sup> Michel Makaroun, MD,<sup>\*</sup> and Rabih A. Chaer, MD<sup>\*</sup>

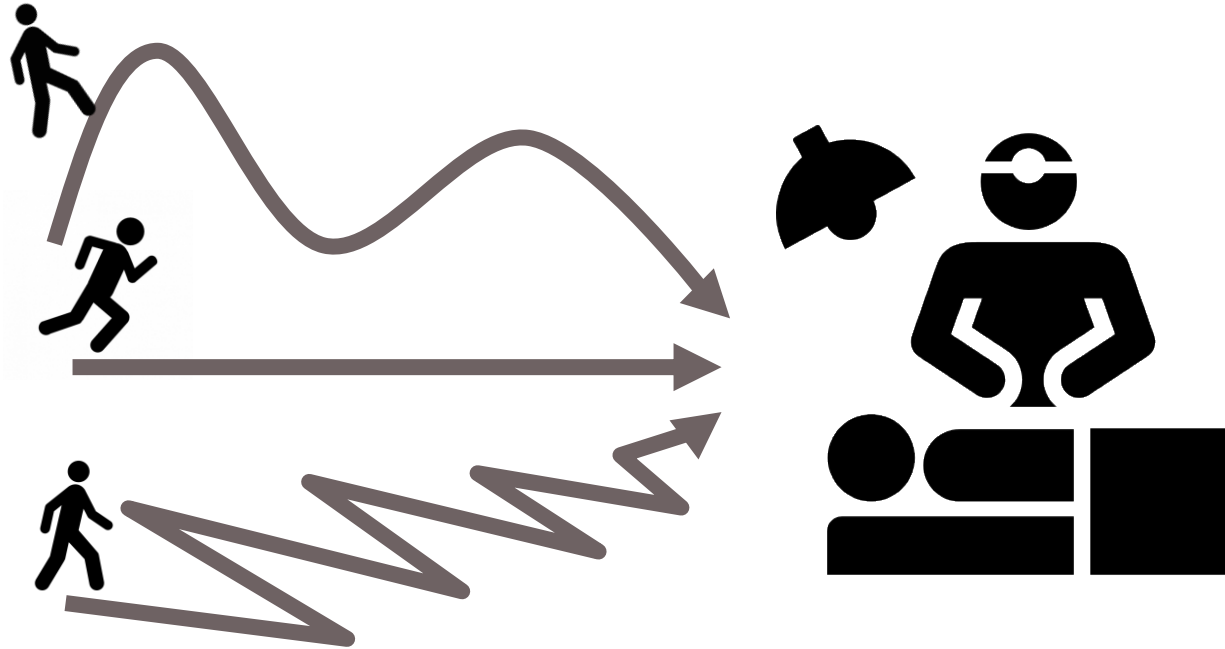
*J Surg Ed* 2014

POINT/COUNTERPOINT

**Point/Counterpoint: So you think you can make a vascular surgeon in 5 years?**

Publish date: February 1, 2016

# Our Current Training System



**Fixed Time = Variable Outcome**

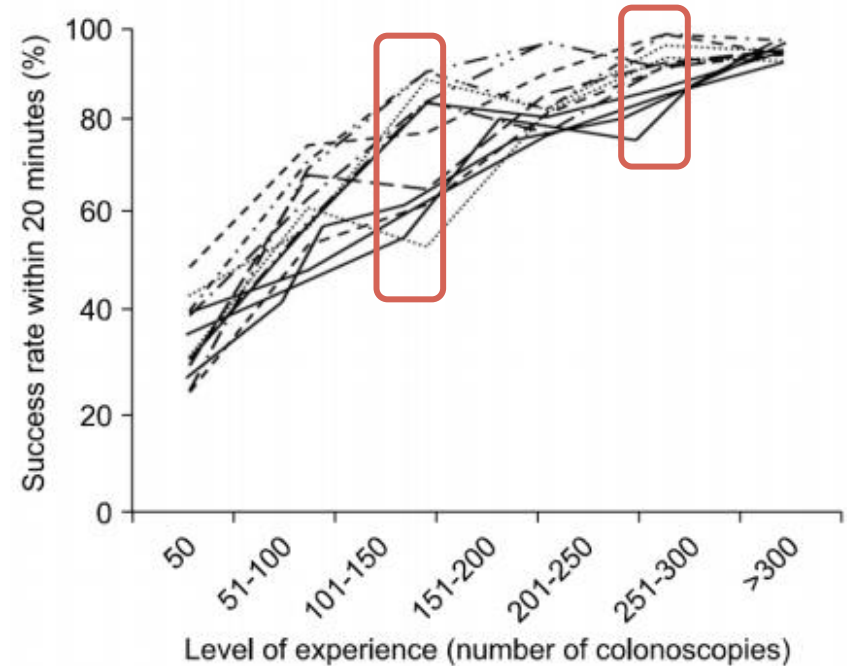
# Our Current Training System

Figure 2.1 Number of colonoscopies to attain proficiency

“Enough” cases  
“Index” cases  
“The hardest” cases

Case completion  $\neq$

Competence for the case



# Readiness of US General Surgery Residents for Independent Practice

*Brian C. George, MD, MAEd,\* Jordan D. Bohnen, MD, MBA,† Reed G. Williams, PhD,‡*

*Shari L. Meyerson, MD, MEd,§ Mary C. Schuller, MEd,§ Michael J. Clark, PhD,¶*

*Andreas H. Meier, MD, MEd,|| Laura Torbeck, PhD,† Samuel P. Mandell, MD, MPH,\*\**

*John T. Mullen, MD,\* Douglas S. Smink, MD, MPH,†† Rebecca E. Scully, MD,‡‡ Jeffrey G. Chipman, MD,§§*

*Edward D. Auyang, MD, MS,¶¶ Kyla P. Terhune, MD, MBA,|||| Paul E. Wise, MD,\*\*\* Jennifer N. Choi, MD,†*

*Eugene F. Foley, MD,††† Justin B. Dimick, MD, MPH,¶ Michael A. Choti, MD,‡‡‡ Nathaniel J. Soper, MD,§*

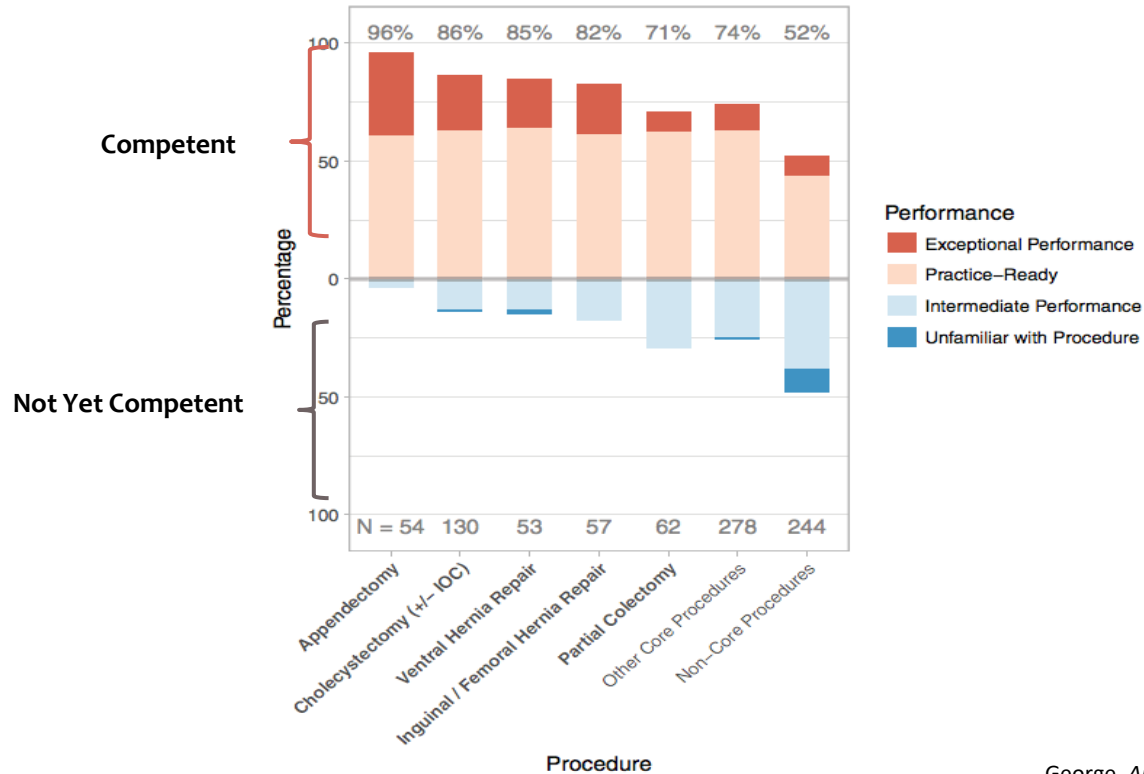
*Keith D. Lillemoe, MD,\* Joseph B. Zwischenberger, MD,§§§ Gary L. Dunnington, MD,†*

*Debra A. DaRosa, PhD,§ and Jonathan P. Fryer, MD, MHPE§, on behalf of the Procedural Learning and Safety Collaborative (PLSC)*

*(Ann Surg 2017;266:582–594)*



# General Surgery Graduates' Competence



George, *Ann Surg*, 2017

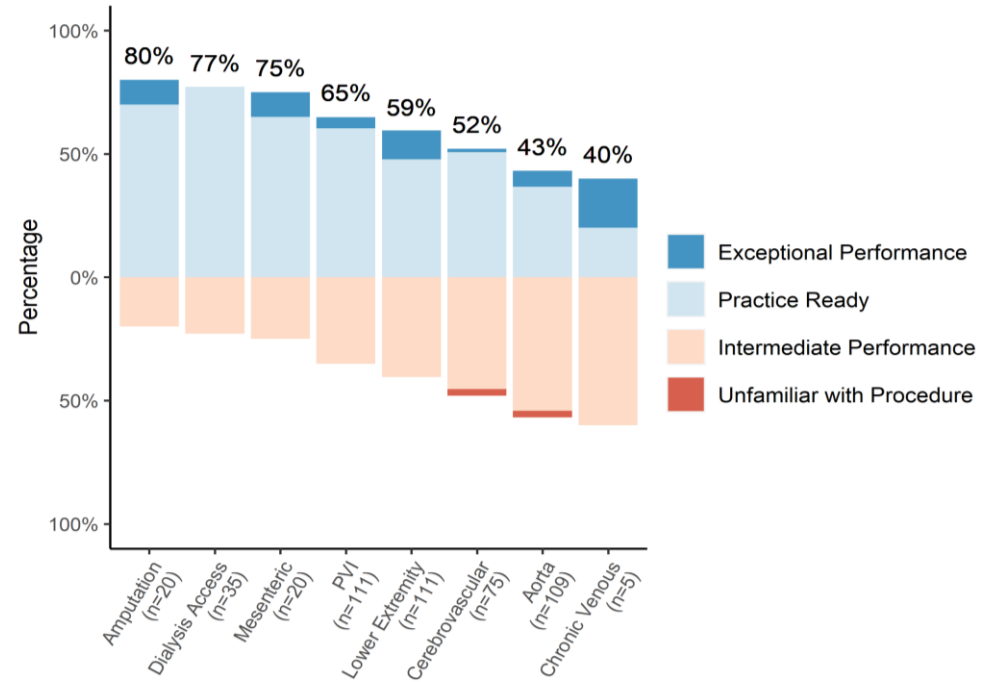
# Vascular Surgery Graduates' Competence

## 43 senior trainees

- 16 PGY5 residents
- 27 PGY7 fellows

## 15 Institutions

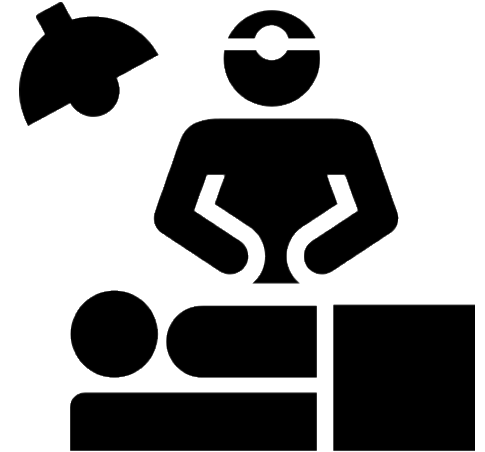
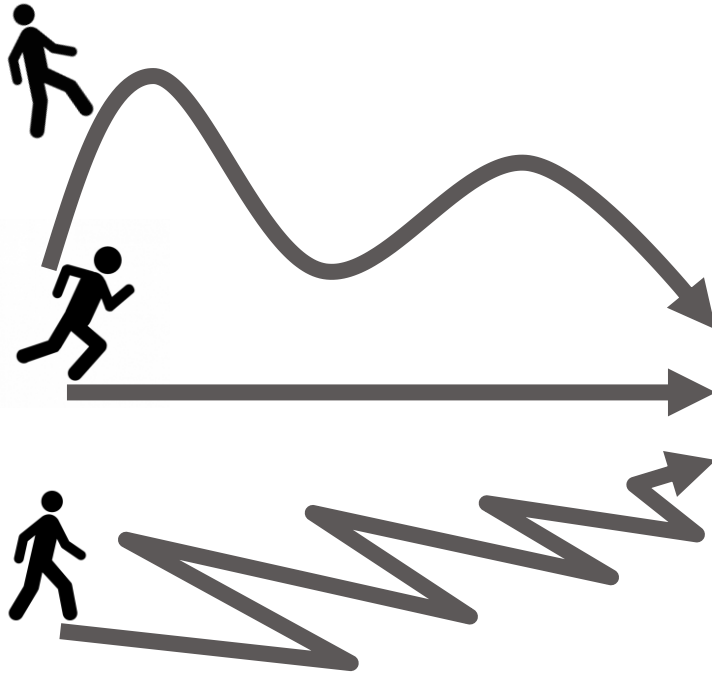
- 9 integrated programs
- 13 fellowship programs



Percentage on the top of each bar represents % of assessments indicating competence (Practice Ready and Exceptional Performance)

Unpublished SIMPL Data

# Goal System



Fixed Outcome, Time Variable

# Competency-Based Medical Education (a.k.a. “time-variable”)

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## Current Approach

- Focuses on process of education
  - Required experiences
  - Duration of training is time-based
- General principle is the same experiences for all
- Assessment is based on summative end-of-rotation evaluations
- May result in a variable product reflecting different rates of learning
- Typical tool for remediation is more time in training

## CBME

- Focuses on the outcome of education
  - Required competencies or skills
  - Duration of training = competence
- General principle to get to the same minimum level for all
- Assessment is frequent, formative, and workplace based
- May result in variable time-to-completion reflecting different rates of learning
- Typical tool for remediation is to focus on deficient areas

# Ortho Pilot Results



- Modular curriculum (21 modules)
- Had to meet basic rotation or module requirements before going on to advanced
- Stay on any given module until all competencies achieved for same
- Had to complete all 21 modules to complete program
- Progressed at trainee's own speed
- Formal **feedback to trainee increased 5-fold** compared to traditional model
- After 4 years, up to 2/3 of trainees were completing program up to **1 year ahead** of traditional schedule

**How do we know our graduates are competent?**

**ASSESSMENT**

# Current Assessments

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- End-of-Rotation evaluations
- VSITE
- Milestones / CCC
- Case Logs (case volume as surrogate for “competence”)
- QE/CE
- Fundamentals of Vascular Surgery
- 360 evaluations

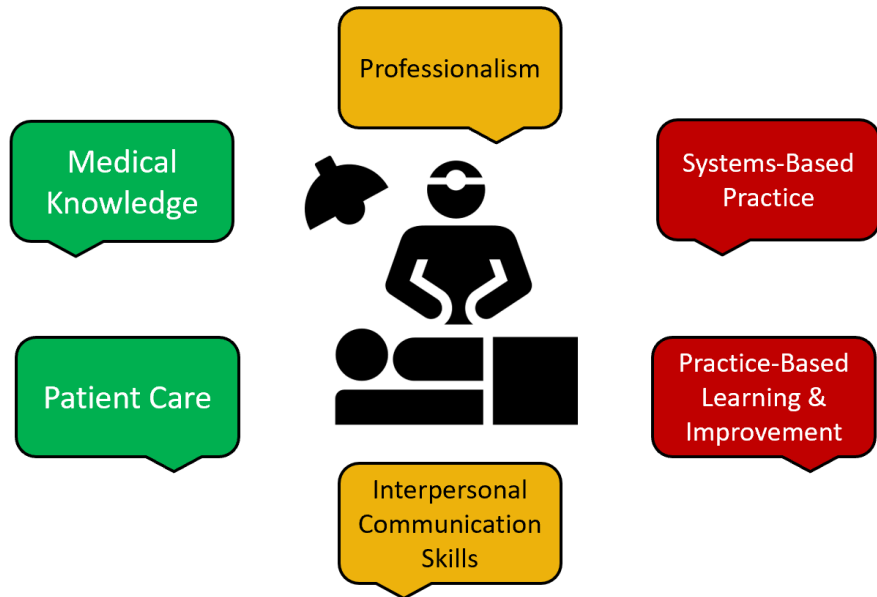
# FRAMEWORKS

*simplify / organize complex phenomena*



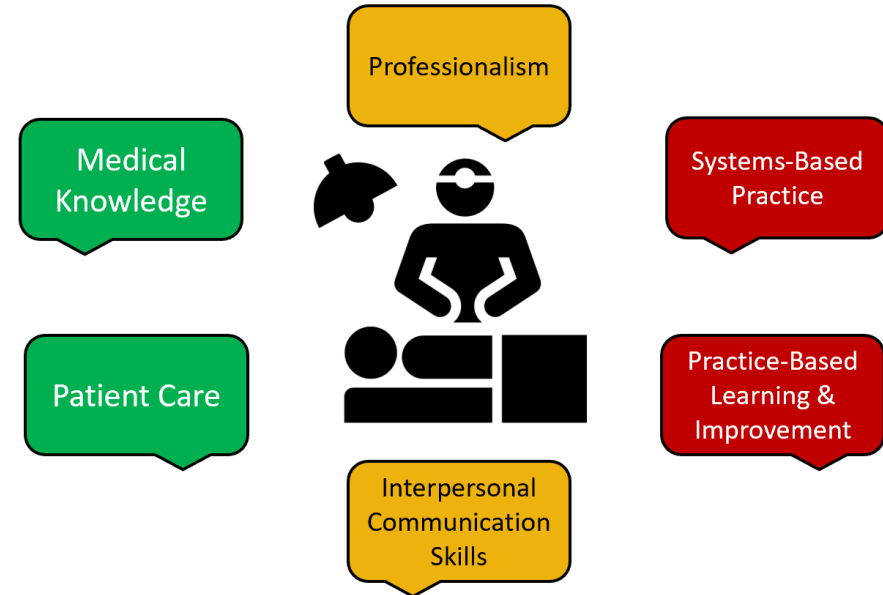
# ACGME 6 Core Competencies: *Framework*

- 6 Competencies to be a Physician
  - Sub-competencies and milestones are specialty-specific
- Influence Curriculum
  - Attention to non-technical and “non-cognitive” skills



# ACGME Milestones: Assessment of Competencies

- Behavioral anchors within a Likert scale
- Assessed over long-term (q 6 months)
- Integration of multi-source assessment
- CCC response process
- Improve feedback



# Milestones

## Patient Care 1: Patient Data

**Elicits & presents**  
a history and  
performs a  
vascular exam  
relevant to  
presenting  
complaint



**Orders & interprets**  
diagnostic  
testing;  
establishes  
differential



**Synthesizes**  
patient data;  
organized  
hierarchical  
differential for  
**basic** diseases,  
including 1<sup>o</sup> and  
2<sup>o</sup> trx options



**Synthesizes**  
patient data;  
organized  
hierarchical  
differential for  
**complex**  
diseases,  
including 1<sup>o</sup> and  
2<sup>o</sup> trx options



**Synthesizes**  
patient data;  
organized  
hierarchical  
differential for  
**rare** diseases, and  
variants of  
**complex** diseases



Vascular Surgery Milestones 2.0

# Clinical Competency Committee

## DATA

- 1) VSITE
- 2) Op Logs
- 3) End-of-rotation evals



## DECISION

Milestones ratings  
(competence)

## DELIBERATION

- 1) Most recent interaction
- 2) Best or worst interaction
- 3) Performance on other sub-competencies

# Current Assessments May Be (Are) Inadequate

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- Remote from moment of behavior
  - Recall bias
  - Recency bias
- Isolated competencies
  - Milestones
  - VSITE: Medical knowledge
  - Simulation: Technical skills
- Macro-assessments
  - Validity of assessment improves with greater # of “observations”
- “Experiences” (case volume, time) poor surrogates for **competence**



# Program Director Attestation

I certify that I have reviewed the foregoing application and that to the best of my knowledge and belief the information provided is correct.

I certify that the applicant is an ethical physician of good moral standing and has satisfactorily completed or is expected to complete satisfactorily a chief residency year in general surgery in a program accredited by the Accreditation Council for Graduate Medical Education under my direction.

I certify that the applicant has obtained at least six operative performance assessments performed by me or another faculty member during the applicant's residency training.

I certify that the applicant has obtained at least six clinical performance assessments performed by me or another faculty member during the applicant's residency training.

I certify that the applicant has successfully completed the ABS Flexible Endoscopy Curriculum.

I certify that the applicant exhibits sufficient medical knowledge; ability to apply basic science to surgery; diagnostic and manipulative skills; surgical judgment; technical/operative expertise; and interpersonal skills as to be considered fully prepared for independent responsibility as a Specialist in Surgery. The applicant is recommended for examination.

SIGNATURE of  
Program Director: \_\_\_\_\_

DATE 9/19/19

# Failure on a Vascular Surgery Board-American Board of Surgery Examination does not predict cardiovascular outcomes in the Society for Vascular Surgery Vascular Quality Initiative



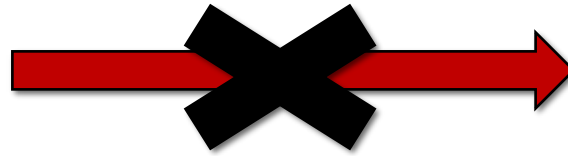
Larry W. Kraiss, MD,<sup>a,\*</sup> Ragheed Al-Dulaimi, MD, MPH, MSc,<sup>b</sup> Jack L. Cronenwett, MD,<sup>c,\*</sup> Philip P. Goodney, MD,<sup>c,\*</sup> Daniel G. Clair, MD,<sup>d,#</sup> John "Jeb" Hallett, MD,<sup>e,\*</sup> Robert Rhodes, MD,<sup>f,#</sup> Joseph L. Mills, MD,<sup>g,#</sup> Angela P. Presson, PhD,<sup>h</sup> and Benjamin S. Brooke, MD, PhD,<sup>a,\*</sup> Salt Lake City, Utah; Flint, Mich; Lebanon, NH; Columbia and Charleston, SC; and Houston, Tex

- Vascular Surgery Board - American Board of Surgery
  - Ever failed a VSB-ABS exam (QE or CE)
- Vascular Quality Initiative
  - Primary Outcome: Major Adverse Cardiac Event + Post-Operative Death
- Results: **“ever failed” had non-inferior post-op cardiovascular outcomes**

**Conclusions:** VSB-ABS examination performance by SVS-VQI surgeons does not correlate with registry-reported mortality or cardiovascular complications. Increasing surgical experience is strongly associated with lower odds of cardiovascular morbidity and death. (J Vasc Surg 2020;72:1753-60.)

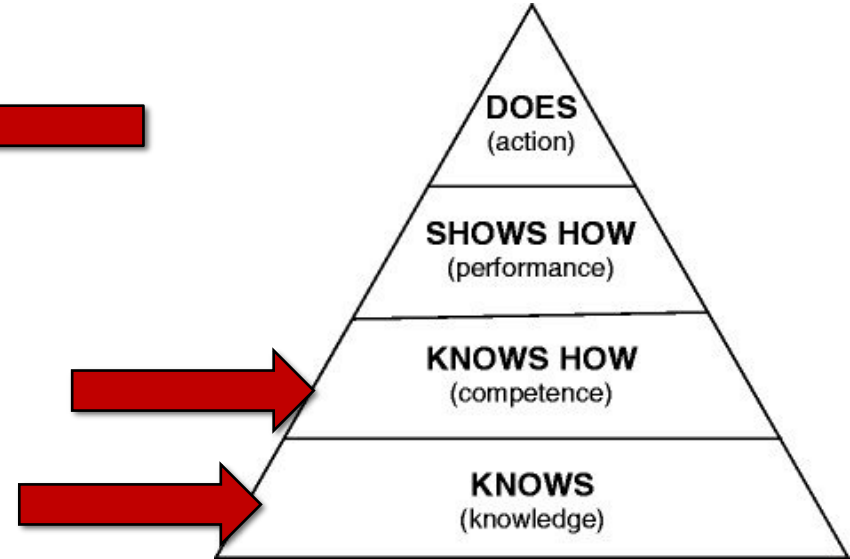
QE / CE

?!?!



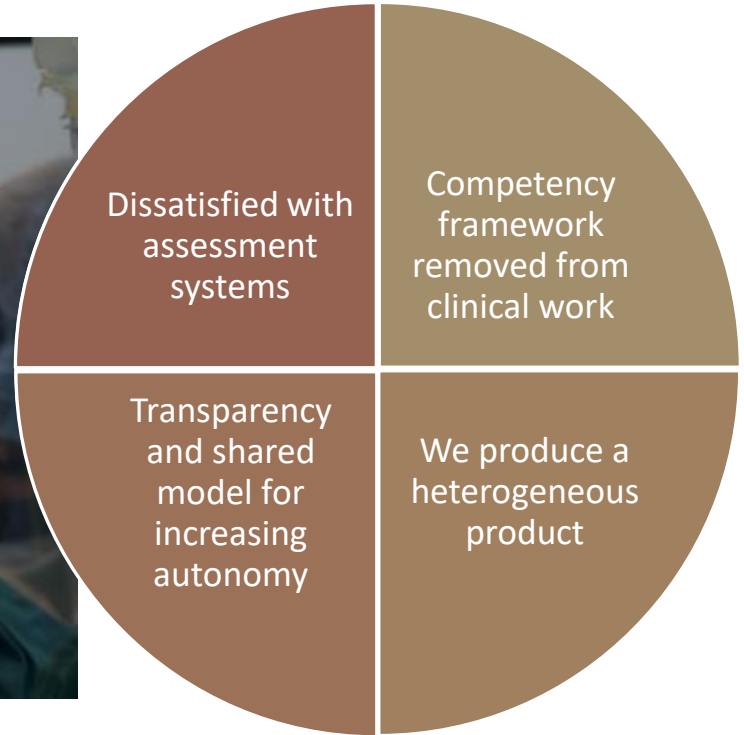
Outcomes  
in VQI

- Patient Care (Tech Skills)
- **Medical Knowledge**
- Professionalism
- Communication
- Systems-Based Practice
- Practice-Based Learning & Improvement





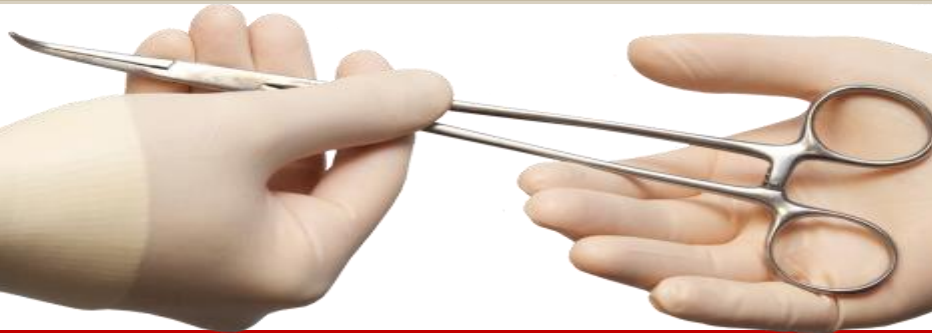
# Framing the problem



# EPAs as a possible solution

EPAs define discrete elements of surgical care that **assessors can relate to** and more objectively evaluate.

EPAs **start with the end in mind**: what do you expect all graduating vascular trainees to be able to do independently?



# Principles Guiding Scope Council

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- Individual resident is unit of assessment
- **Milestones and EPAs are complementary**
- **Purpose is to define core elements of vascular surgery**
- Entrustment to be based on frequent, formative micro-assessments
- **All trainees must be assessable on the activities included at all ACGME-accredited sites**
- Over time, this model may replace some current elements of certification
- EPAs will complement other materials, such as case logs
- The suite should reflect ABS-VSB definition of vascular surgery

# Entrustable Professional Activities (EPAs)

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- **Entrustable professional activity (EPA)**: a unit of professional practice that can be fully entrusted to a trainee once s/he has demonstrated the necessary competence to execute this activity unsupervised.
- EPAs are the core professional activities that together constitute the mass of critical elements that define Vascular Surgery
- The list of EPAs is a ***Framework***

The list of **Entrustable Professional Activities** is a ***Framework*** outlining the **core of Vascular Surgery**

15 EPAs to be a Vascular Surgeon  
(integrate the 6 competencies of a physician)

# 15 Vascular Surgery EPAs

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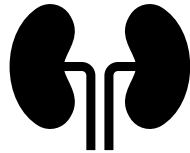
## Evaluate and Manage a Patient with

1. Cerebrovascular disease
2. (need for) Dialysis access
3. Traumatic or iatrogenic vascular injury
4. Peripheral arterial aneurysm
5. Claudication
6. Chronic limb threatening ischemia
7. Acute limb ischemia
8. (need for) Amputation
9. Chronic venous disease
10. Acute venous thromboembolic disease
11. Asymptomatic aorto-iliac aneurysm
12. Symptomatic / ruptured aorto-iliac aneurysm
13. Chronic mesenteric disease
14. Acute mesenteric disease
15. Type B aortic dissection

# Vascular Surgery EPAs



Mesenteric Ischemia



Dialysis Access



Chronic Limb-Threatening Ischemia



Cerebrovascular Disease



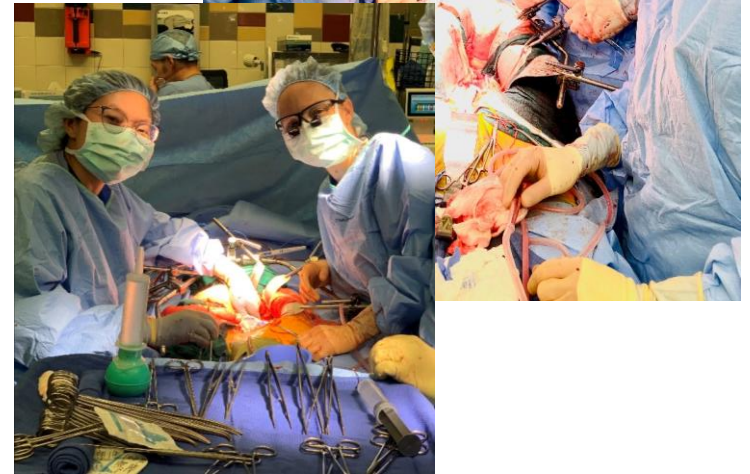
Aortic Aneurysm

## EPAs Chosen to Represent:

- Undeniable **core** of a vascular surgeon
- Common conditions (encountered frequently at every program)
- Include other essential non-technical skills
  - Communication
  - Systems-based practice
- Management of the **entirety of the disease process**

# How Do We *ASSESS* EPAs?





# Workplace-Based Assessment

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- An essential element of Competency-Based Medical Education (as opposed to time-based)
- Assessment that takes place during the process of actual clinical care
  - Converts everyday patient care into an opportunity for assessment
  - Assessment occurs in real time
  - Occurs across multiple contexts and conditions
  - Allows assessment of all aspects of care including professionalism and communication skills

# Holistic View

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*Would you trust this learner to perform this task without supervision?*

Evaluate & Manage  
a patient with acute  
critical limb ischemia

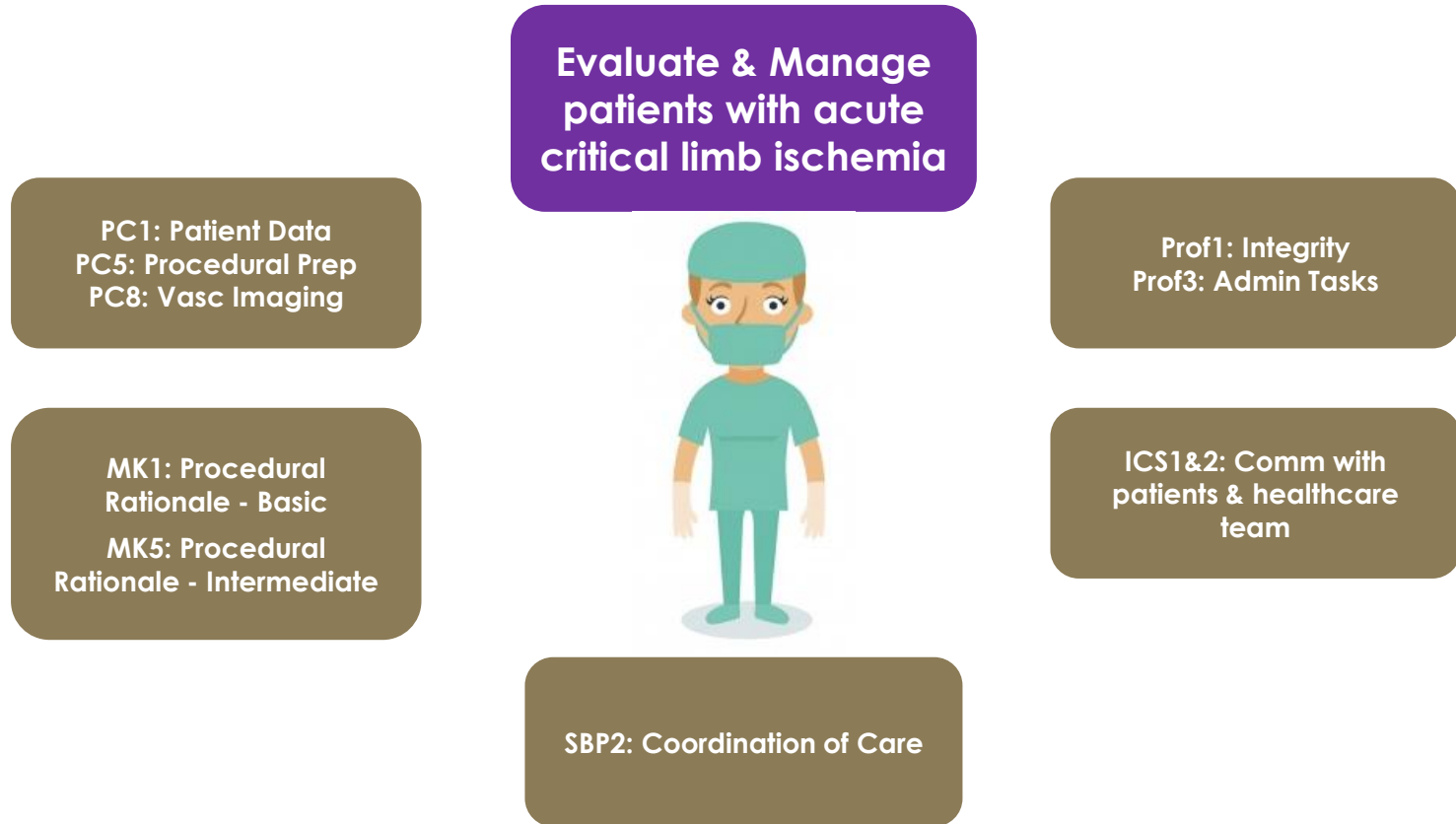
The ED just  
called about a  
patient with a  
“cold leg.”



Ok. Go see the  
patient, and if they  
don't need OR  
tonight, we can  
discuss in the  
morning.

***Would you trust this learner to perform  
this task without supervision?***

# EPA requires proficiency in multiple competencies simultaneously



# EPAs: Under the Hood



EPA

Competency

Sub-Competency

Milestone

Evaluate & Manage patients with acute critical limb ischemia

Patient Care

PC1: Patient Data  
PC5: Procedural Prep  
PC8: Vasc Imaging

Milestone L1

Milestone L2

Medical Knowledge

MK1: Procedural Rationale - Basic  
MK5: Procedural Rationale - Intermediate

Milestone L1

Milestone L2

Systems-Based Practice

SBP2: Coordination of Care

Milestone L1

Milestone L2

Interpersonal & Communication Skills

ICS1&2: Comm with patients & healthcare team

Milestone L1

Milestone L2

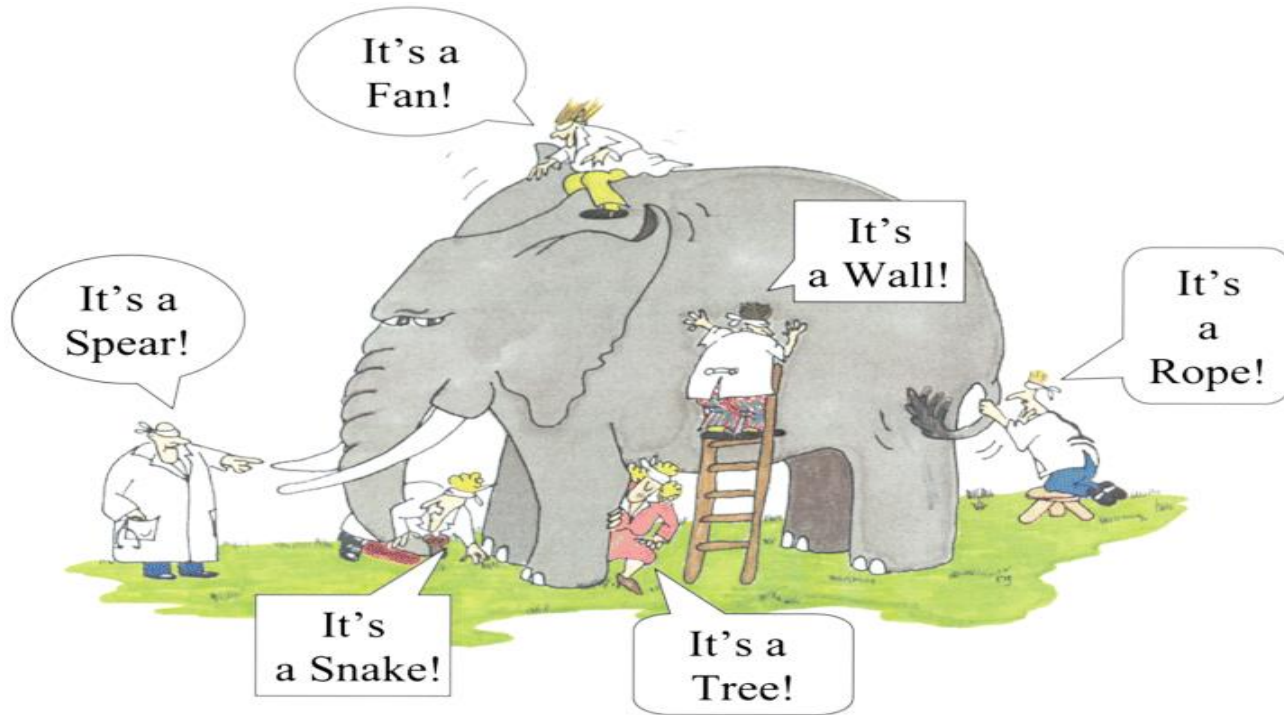
Professionalism

Prof1: Integrity  
Prof3: Admin Tasks

Milestone L1

Milestone L2

# Reductionist vs Holistic: What does a competent surgeon really look like in function?





# We Already Do This

I can let the resident start and scrub in for the key portion





# Trust / Entrustment in Clinical Care

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- **Competence**
  - Knowledge and Skill to perform the activity
- **Integrity**
  - Truthfulness
  - Benevolence
- **Reliability**
  - Conscientiousness
  - Predictable behavior
- **Humility**
  - Recognition of own limitations and willingness to ask for help

I trust this trainee to perform this activity with:

1

Limited Participation

2

Direct Supervision

3

Indirect Supervision

4

Practice Ready

***EPAs are assessed using an Entrustment Scale***



# EPA Assessment App

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Developed exclusively for the American Board of Surgery



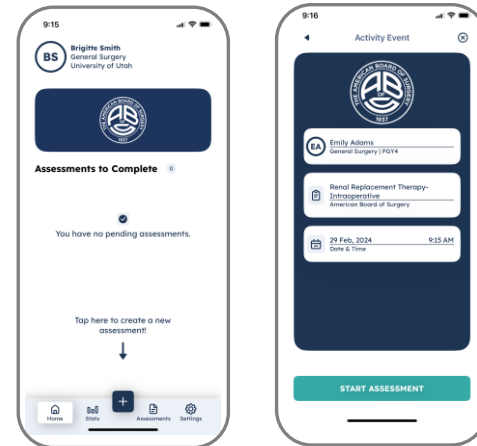
# ABS EPA App developed by SIMPL:

a data collection method for workplace performance assessment




1. EPA assessment is created
2. Notification automatically sent to counterpart's smart phone

3. Users complete assessment
  - a. Case complexity
  - b. Entrustment
4. Faculty dictate feedback



3:27 5G%

**BS** Brigitte Smith  
Vascular Surgery Fellowship  
University of Utah



**Assessments to Complete** 0

You have no pending assessments.

Tap here to create a new assessment!

Home Stats **+** Assessments Settings

3:27 5G%

**Trainee**

**Recent**

- ER** Ethan Rosenfeld  
Vascular Surgery Fellowship | PGY7
- MB** Markus Boesl  
General Surgery | PGY5
- AT** Alex Trinh  
General Surgery | PGY5

**Directory** **A-Z**

- ER** Ethan Rosenfeld  
Vascular Surgery Fellowship | PGY7
- TS** Thomas Serena  
Vascular Surgery Fellowship | PGY6

3:27 5G%

**Activity**

**Recent**

- Chronic Limb Threatening Ischemia-  
Intraoperative Open  
American Board of Surgery
- Asymptomatic Aorto-iliac Aneurysm-  
Intraoperative Endovascular  
American Board of Surgery


**Directory** **A-Z**

- Acute Limb Ischemia-Intraoperative  
Endovascular  
American Board of Surgery
- Acute Limb Ischemia-  
Intraoperative Open  
American Board of Surgery

**NEXT**

3:27 5G%

**Activity Event**



- ER** Ethan Rosenfeld  
Vascular Surgery Fellowship | PGY7
- Acute Limb Ischemia-  
Intraoperative Endovascular  
American Board of Surgery

16 Sep, 2024 3:27 PM  
Date & Time

**START ASSESSMENT**

3:28 5G%

### Complexity Score

**ER** Ethan Rosenfeld  
Acute Limb Ischemia-  
Intraoperative Endovascular

16 Sep, 2024 - 7 days left 3:27 PM

How complex was the case compared to similar cases?

Straightforward

**Moderate**

Complex



3:28 5G%

### Entrustability Score

**ER** Ethan Rosenfeld  
Acute Limb Ischemia-  
Intraoperative Endovascular

16 Sep, 2024 - 7 days left 3:27 PM

Based on this performance, I would entrust the trainee at this level for the next similar case:

Limited Participation

- Demonstrates understanding of sharps safety, safe use of devices, and surgical field sterility
- Uses US to visualize access vessels
- Recognizes the importance of maintaining wire access
- Identifies potential crises (loss of access, ruptured artery, dissection) that could occur during endo treatment of ALI
- Describes the potential for compartment syndrome after an endo approach for ALI

Direct Supervision

- Uses US to obtain vascular access; demonstrates basic catheter and wire-handling techniques
- Describes radiographic and clinical findings with arterial rupture, embolization, or dissection that can occur during endo treatment for ALI
- Describes most potential operative errors and inraop findings, needs assistance to demonstrate

Direct Supervision

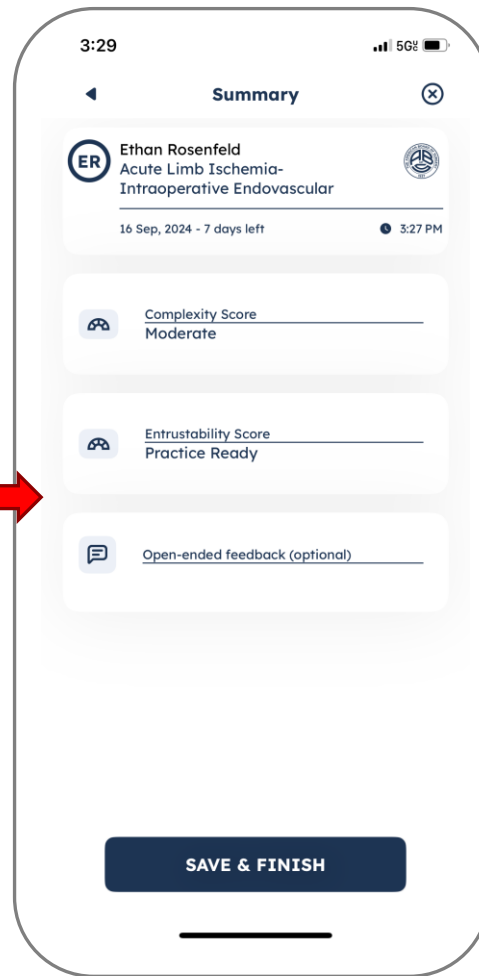
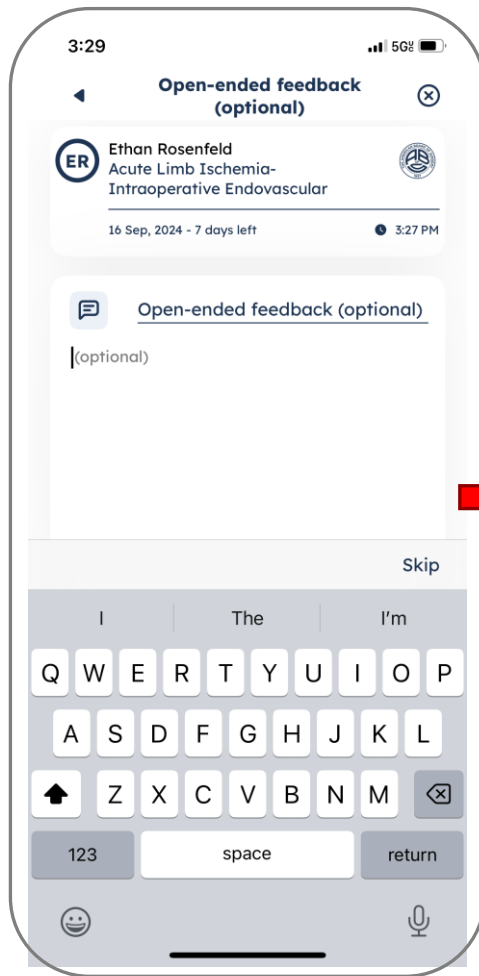
- Uses US to obtain vascular access; demonstrates basic catheter and wire-handling techniques
- Describes radiographic and clinical findings with arterial rupture, embolization, or dissection that can occur during endo treatment for ALI
- Describes most potential operative errors and inraop findings; needs assistance to demonstrate how to avoid errors
- Describes findings with arterial injury, venous injury, and dissection that can be encountered during endo treatment for ALI

Indirect Supervision

- Performs a diagnostic angiogram, efficiently traverses a stenosis, and delivers stents/balloons to the appropriate location
- Develops an endo plan (percutaneous or hybrid) with backup options if the initial plan fails; demonstrates understanding of device limitations based on a patient's anatomy and device instructions for use
- Describes an appropriate response to loss of arterial access, dissection, embolization, or arterial rupture during endo intervention for ALI

Practice Ready

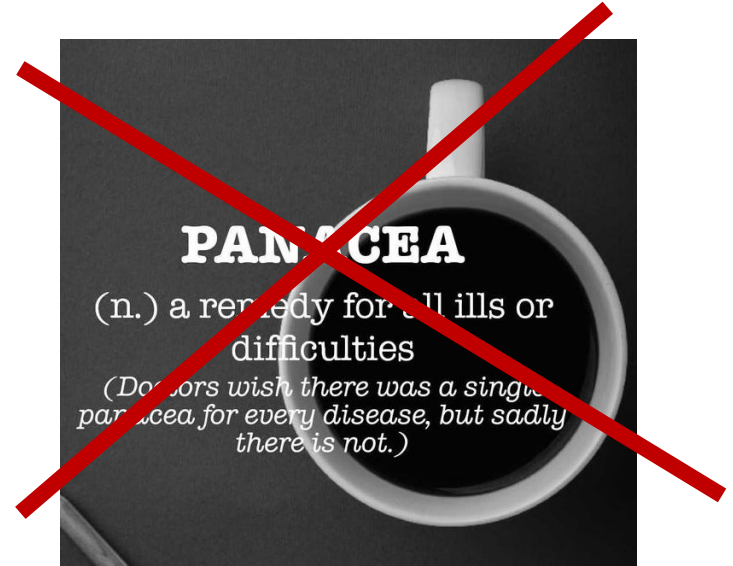
- Plans and performs an intervention, including appropriate endo/thrombectomy device sizing and selection and alternate access (pedal, brachial) thrombectomy devices
- Anticipates patient-specific complications during endo intervention for ALI (potential arterial injury from small access, heavily calcified lesion, difficult iliac bifurcation, long lesion); describes appropriate management of the complication, including conversion to an open procedure





# Assessment of EPAs

- Workplace-based
- Direct observation
- “Real Time” (expires in 7 days)
- Construct: Entrustment



*Everything we care about CANNOT be assessed through direct observation in the clinical setting!*

# Addition by Subtraction

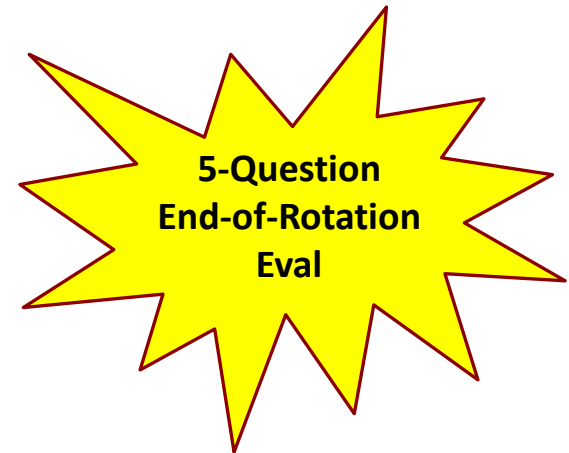
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- Elimination of less meaningful assessments
  - End-of-Rotation Evaluation
- Grounding of CCC conversations
  - Efficiency
  - Validity of ratings (data-informed)
- Enhancement of career transition handoffs
- Potential for integration with and automation of ACGME required elements
  - 'Case logs,' milestones maps, faculty development

# What is Missing?

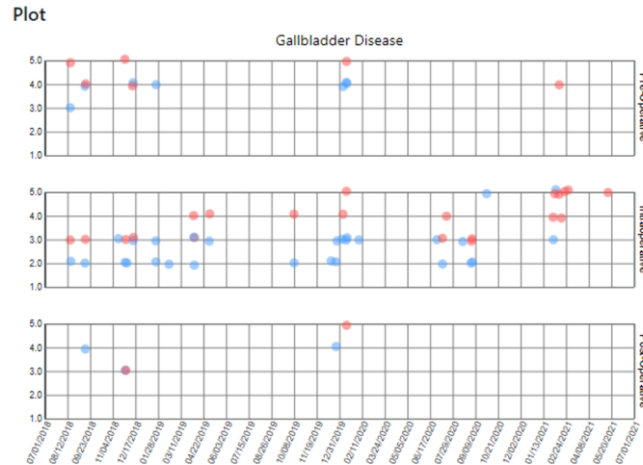
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- **SBP1: Patient Safety**
- **SBP2: Quality Improvement**
- **PBLI2: Reflective Practice, Commitment to Personal Growth**
- **P1: Professional Behavior**
- **P2: Ethical Principles**
- **P3: Accountability, Conscientiousness**
- **P4: Self-Awareness, Help-Seeking**



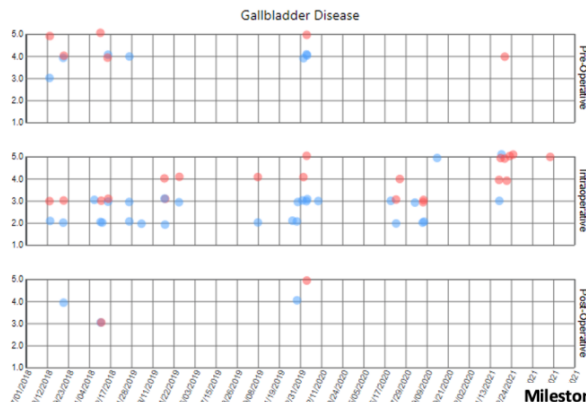
# CCC / PD Use

- Dashboard reports to inform CCC discussion
- “pre-populate” Milestones
- Feedback transcripts provide supporting examples



# CCC: Convert EPA Ratings to Milestones

Plot



Based on summative entrustment decisions for EPAs rating for assigned milestones result



- PC1 Level 3
- PC2 Level 2
- PC3 Level 2
- PC4 Level 3
- MK2 Level 3
- ICS1 Level 3



CCC reviews micro-assessment data and makes summative rating by phase

Milestone Table:

	Preoperative/Assessment	Intraoperative/Procedural	Postoperative/Disposition
1 Limited Participation	PC1 L1 MK2 L1 ICS1 L1 PBL1 L1	PC2 L1 PC3 L1 MK2 L2	PC4 L1 ICS1 L1
2 Direct Supervision	PC1 L2 MK2 L2 PBL1 L2 ICS1 L2	PC2 L2 PC3 L2 ✓	PC4 L2 ICS1 L2
3 Indirect Supervision	PC1 L3 MK2 L3 ✓ ICS1 L3	PC2 L3 PC3 L3 MK2 L3	PC4 L3 ICS1 L3 ✓ MK2 L3
4 Practice Ready	PC1 L4 MK2 L4 PBL1 L4 ICS1 L4	PC2 L4 PC3 L4 MK2 L4 PBL1 L4	PC4 L4 ICS1 L4

# Trainee and Faculty Use

- **All:** Speak the entrustment language
- **Evaluator:** Give specific feedback related to entrustment behaviors
- **Trainee:** Have an autonomy plan and communicate in a shared language



# EPA: Evaluate and manage a patient with cerebrovascular disease: How rating is framed post performance

## Intra-Operative Phase

2

### Direct Supervision

**Demonstrates meticulous tissue handling adjacent to nerves and arteries, particularly at the level of the carotid sheath**

Sometimes does not use both hands in a coordinated manner, often tentative

**Identifies most steps of the procedure (inflow/outflow control) and the equipment required (shunt, neuromonitoring)**

Requires prompting to advance the procedure

**Feedback for trainee:** “Your dissection of the carotid bifurcation was meticulous, with attention to adjacent nerves.”

“You need to work more on using your left hand in tandem with your right to better dissect out inflow/outflow control.”

# EPA: Evaluate and manage a patient with cerebrovascular disease: *How to use pre-performance to define next step (Zone of Proximal Development)*

## Intra-Operative Phase

### Pre-op discussion: Faculty

“I want you to focus on using both hands in a coordinated manner, particularly while dissecting the distal internal carotid artery.”

3

### Indirect Supervision

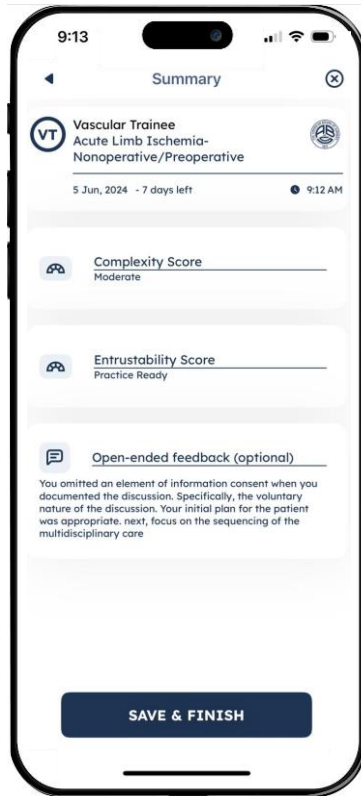
Demonstrates meticulous tissue handling adjacent to nerves and arteries, particularly at the level of the carotid sheath  
Identifies all steps of the procedure (inflow/outflow control) and the equipment required (shunt, neuromonitoring)  
Does not require prompting to advance the procedure

### Pre-op discussion: Trainee

“Could I work on dissecting out the distal internal carotid artery?”

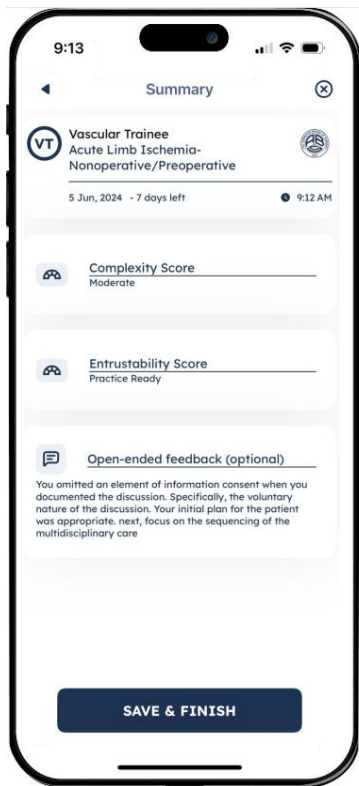


# Use *Your* Data (resident)



- Chief resident on overnight call with a VA surgeon with whom they do not regularly work / operate
- Consult: Acute critical limb ischemia
- Review your data
  - Past 2 months – 10 ALI cases
  - 5 different university surgeons
  - Entrustment Level: Practice Ready

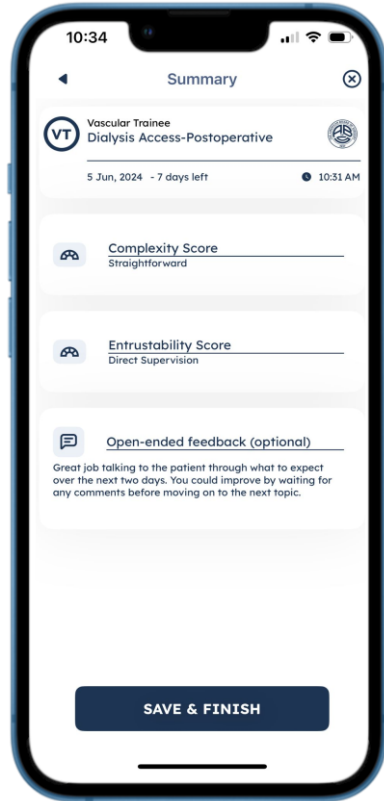
# Use Your Data



“I have done 15 ALI cases at the entrustment levels of ‘*Practice Ready*’ in the past 2 months. Do you think I can take the PGY2 through this thrombectomy?”

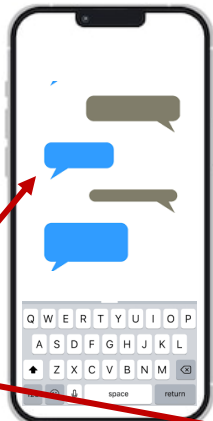
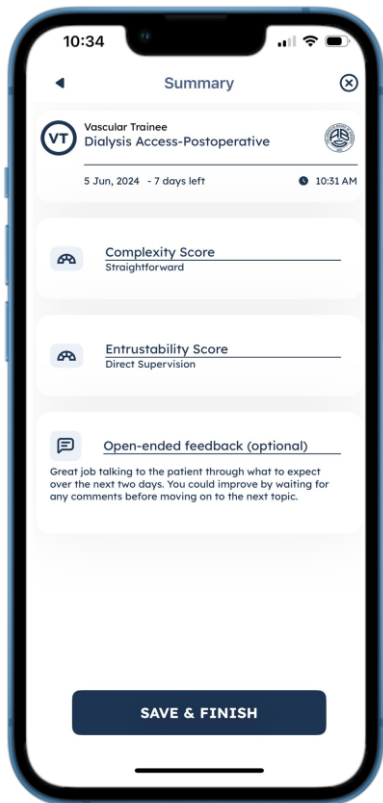


# Use Your Data



- Junior resident on vascular surgery rotation with single surgeon at community hospital
- Case: *Elective* AV fistula creation
- Review your data
  - Past month – 10 AVFs
  - Single surgeon
  - Entrustment: Direct Supervision

# Use Your Data



“I have noticed that I have been at the Direct Supervision entrustment level for the past ten AVF creations.”

“What can I improve upon to get to the Indirect Supervision level?”

OR

“Could I try to get proximal and distal control of the brachial artery?”



# Purposes / Goals of EPA Assessments

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- Documentation
- Increase frequency of assessment (reliability)
- Mitigate recall bias
- Increase feedback (accelerate learning!)
  - Frequency
  - Quality
- Make language of assessment clinically relevant
- Predictive analytics (?)
- Move toward CBME

# How will this be used?

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- Eventually...Competency-Based Board Eligibility
- Leveraging Board's strength in assessment and role as convener
- Intent is frequent, formative assessment oriented to entrustment for autonomy and competence on core skills
  - Customized dashboards in development for key stakeholders (residents, faculty, PD's, RA's, CCC's)
- First-year goal is **progressive engagement**
- Summary will be required for class of 2029 VSB QE application
  - Goal at outset would be for all graduates to demonstrate practice ready performance on all EPAs\*

# What about time variability?

- Promotion in place concept
  - “**Sheltered independence**” —retaining advanced resident experience while honoring achieved skills
- Flexibility in training
- Potential for scaled autonomy as competence is demonstrated
- Focus on quality and consistency of product
- Some agnosis pending actual data on impact



# EPA Resources



THE AMERICAN  
BOARD OF SURGERY

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[Get Certified](#) ▸ [Entrustable Professional Activities \(EPAs\)](#) ▸ [EPAs for Vascular Surgery](#)

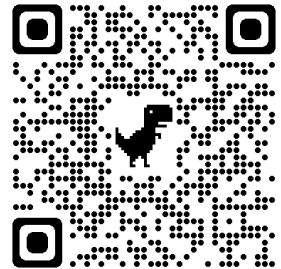
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## THE VASCULAR SURGERY EPAS

# 15 EPAs for the assessment of vascular surgery residents

There are a total of 15 core EPAs that will be evaluated for vascular surgery (VS). They are:

- Cerebrovascular disease
- Dialysis access
- Traumatic / iatrogenic vascular injury
- Peripheral arterial aneurysm





# Thank You

## Questions?

*Feedback and questions may also be directed to  
smith.brig13@gmail.com*

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