RATTLED Program Part 2
Train the Trainer Workshop

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9/21/20
What Have I Gotten Myself Into?

• You will become **RATTLED** champions in your respective departments

• Modifying the content presented today and applying it to your context

• Creating ~6 one-hour, small group workshops to be scheduled over the academic year for all your residents

• With the goal of making (and ourselves) them lifelong learners, team leaders, educators, trained evaluators, growth-oriented coaches, & better diagnosticians
Just A Little History About RATTLED:

• This program has its origins in a RAT program developed for my master's thesis in 2001. It has morphed and grown with time.

• It has been used in 5 different University systems across all specialties.

• It has been shown to improve the ratings of residents by medical students and improved resident presentation skills (love to show more outcomes!)

• Introduced as a six-part large group RATTLED program in 2018 to all residents at HUMC and Jersey Shore, expanding to all clinical sites with students in 2019.

• Now maturing into a two-part program of 3 large group introductory sessions for interns followed by ~ 6 small group workshops in each of the core departments with residents, at each clinical site.
Todays Plan/ Agenda:

• Introductions of program/ and participants
  • Learning 101: Life long/Self Directed Learning
  • Teaching 101: Getting organized/Teaching Skills
  • Teaching 102: Models for Teaching in the Clinical Setting & Models for Student Presentations
  • Evaluation 101- triple jump of Eval/EPA’s and CET’s
  • Evaluation 102- Turning evaluation into growth feedback

*Thinking 101- Diagnostic process and Dx Error

Questions and suggestions for moving forward
Resident as Team Teacher Learner Educator Diagnostician

RATTLED Curriculum for Residents

Learning 101: Life long/Self Directed Learning
Teaching 101: Getting organized/Teaching Skills

Michael Giuliano, MD, MEd, MHPE, MA
Assistant Dean of Faculty, Resident and Student Development
RATTLED Curriculum: Learning 101
How Are You Learning?
Creating a Self-Directed Learning Plan For Life

Stay back! Don’t come near me, or…or…or…or…I’ll Read you!!!!

HAHAHA!! But you don’t have enough time to read us all!!!
Learning Objectives: Learning 101

• Discuss the importance of curiosity and life long self directed learning
• Create an individual learning plan for life
• Define the elements of the Master Adaptive learning model
• Outline the finding information framework (Fif) for searching resources
• Analyzing the central role of diagnostic tests in any ILP
• Construct a personal central organizing system for all learning
Lifelong Self Directed Learning (SDL) 
The Problem?

• What are your plans for dealing with knowledge that has a half-life of 1 year?
• What are your plans for dealing with the information explosion with new guidelines everyday?
• What are your plans for organizing your learning over a 40 year period?
• What about that Dx dilemma? And creating differentials?
• What is the best current Tx for a disease?
Lifelong Self-Directed Active Learning
The Secret Sauce of Keeping UpToDate for Life
First Ingredient!! Curiosity !!!!!!!
What Should Drive Your Life Long Learning?

Curiosity is an everlasting flame that burns in everyone's mind. It makes me get out of bed in the morning and wonder what surprises life will throw at me that day. Curiosity is such a powerful force. Without it, we wouldn't be who we are today. Curiosity is the passion that drives us through our everyday lives. We have become explorers and scientists with our need to ask questions and to wonder.

-Clara Ma 12 years old
Curiosity and Professional Responsibility

• I. A physician shall be dedicated to providing competent medical care, with compassion and respect for human dignity and rights.

• V. A physician shall continue to study, apply, and advance scientific knowledge, maintain a commitment to medical education, make relevant information available to patients, colleagues, and the public, obtain consultation, and use the talents of other health professionals when indicated.
Proposed Elements of a ILP For the Short term and for the long term....

• Create a plan for seeking out gaps in knowledge on a regular basis
• And then selecting appropriate resources (EBM) too fill the gap utilizing the “finding information framework”
• Plan for ongoing “real time” journal reading (what's in your library)
• Utilize systematic reviews of the “best” evidence-based literature
• Special attention to the proper use/interpretation of tests
• Develop a “personal filing system” for all learning esp. patient care/lectures/GR to retain over the long term
• Transform your learning into teaching
• Utilize formal diagnostic reasoning processes in your learning patient care and identifying dx error
Master Adaptive Learner

• The three most important words in a self directed learning plan are...

"I don't Know"

• This is where the learning begins
• Learn from every question !!!
Self Assessment and Self Monitoring and Modeling

• We are all looking to maintain our knowledge, skills and attitudes that produce excellent patient care
• But we also need to constantly improve/edit our knowledge and skills
• Must be constantly checking for knowledge/skill/attitude gaps
• Have a willingness and a plan to address these gaps...
Master Adaptive Learners- AMA Model for Lifelong Learning
Plan>learn>Assess>Adjust
Master Adaptive Learner (and teacher)

The Journey of a Master Adaptive Learner

Cognitive Dissonance

Critical Thinking
1. Identify assumptions
2. Analyze assumptions
3. Pursue alternative perspectives
4. Take informed action

Practice

Novel Presentation or Unexpected Results

Reflection-on-action
Self-monitoring
Mindful Practice

Reflection-in-action
Metacognition

GAP

What I Know - Can Do - Value at One Moment
What I Need To Know - Can Do - Value At The Next Moment

Decision to Investigate New Approach

GAP
Identify Learning
Resource

Cutrer, 2016
Finding the Right Resources/ Literature to Fill Gaps
What’s in Your daily Reading?

• Pub med data base
• Cochrane Systematic Review
• EBM/ DynaMedPlus
• Use it in real time in clinical care (Google Scholar)
• General ongoing lifelong reading (what’s in your library?)
• UpToDate electronic textbook ( caution!!)
• SOM utilizing the finding information framework (FIF)
The Finding Information Framework (FIF) is located on the School of Medicine's Library page along with the relevant medical and diagnostic databases.

You can access the library using this URL https://library.shu.edu/c.php?g=842730&p=6022846 or typing FIF Hackensack Meridian SOM in your search browser.
Diagnostic Tests and Tools In Context

- Reliable/valid
- Sensitivity, Specificity, PPV, NPV
- Likelihood Ratio
Diagnostic Tests

• Why do you use any diagnostic test?
Because it changes the post test probability of one or more of the possibilities you are considering.

That’s why...
What is Pre-Test Probability?

- Clinical Experience
- History and Clinical Exam Findings
- Known Risks for Disease
- Age, Gender, Race, PMH, Travel history, etc.
- Published Data
- Often the source of diagnostic error
Bayes' theorem is a relation among conditional and marginal probabilities. It can be viewed as a means of incorporating information, from an observation, for example, to produce a modified or updated probability distribution. To derive Bayes' theorem, note first from the definition of conditional probability that:

\[ P(A|B)P(B) = P(A \text{ and } B) = P(B|A)P(A) \]

denoting by \( P(A,B) \) the joint probability of \( A \) and \( B \). Dividing the left- and right-hand sides by \( P(B) \), we obtain:

\[ P(A|B) = \frac{P(B|A)P(A)}{P(B)} \]

which is the theorem conventionally known as Bayes' theorem. Each term in Bayes' theorem has a conventional name. The term \( P(A) \) is called the prior probability of \( A \). It is "prior" in the sense that it precedes any information about \( B \). \( P(A) \) is also the marginal probability of \( A \). The term \( P(A|B) \) is called the posterior probability of \( A \), given \( B \). It is "posterior" in the sense that it is derived from or entailed by the specified value of \( B \). The term \( P(B|A) \), for a specific value of \( B \), is called the likelihood function for \( A \) given \( B \) and can also be written as \( L(A|B) \). The term \( P(B) \) is the prior or marginal probability of \( B \), and acts as the normalizing constant. With this terminology, the theorem may be paraphrased as:

\[
\text{posterior} = \frac{\text{likelihood} \times \text{prior}}{\text{normalizing constant}}
\]
Knowing Tests and When to Use Them: make a list of “your” common tests...

• Reliability and validity
• Sensitivity
• Specificity
• Positive predicted value
• Negative predicted value
• Likelihood ratios
Mis-Conceptions of Diagnostic Tests

• If the test is positive the patient has the disease
• If the test is negative the patient does not have the disease
• If I do enough tests I will not miss any disease
Certainty is a Myth!! In both diagnostic testing and in diagnosis.

...in this world there is nothing certain but death and taxes.

*Benjamin Franklin*
Individual Diagnostic Error Analysis

• Didn’t consider the diagnostic entity - 26%

• Premature closure on the wrong dx – 24%

*** Misinterpretation of a diagnostic test ~ 40%
How Are You Going to Keep All This Learning Organized

• Daily clinical problem, filling gaps
• Consultants and peers
• Ongoing reading from many sources
• Lectures/workshops
• Conferences
• Searches and differentials
• Case material
• 40 years of accumulated material?
Personal Central Organizing System For ALL Learning

- Fast
- Cheap
- Retrievable
- Flexible
- Weedable
Make **Teaching** as part of your daily learning

- **Theory** – Adult Learning Principles
- **Tools** to help with teaching
  - Communication skills
  - Construction and use of questions
- **Organization** – GNOME$_F$ model
  - One minute preceptor
  - One minute learner
  - Stanford faculty development model
Diagnostic reasoning/ Diagnostic error
Food For Thought .....Homework for future workshop

• Focus of a later workshop in RATTLED
• Think about your last diagnostic error or one you saw?
• Why did it happen? Individual issue or systems issue?
• How might you avoid the next error??
• Anybody have ideas on how to measure diagnostic error in real time ??
The Ten Commandments of Life Long Learning

Not yet approved by the Supreme Court for use in public…
The Ten Commandments of Life Long Learning

I. Though shalt be a lifelong self-motivated, organized learner always curious to best serve our patients

II. Thou shalt say “I don’t know” and admit errors many times a day and then go find the answer and understand the mistake

III. Thou shalt use cognitive reasoning when approaching problems
The Ten Commandments of Life Long Learning

IV. Thou shalt always know what a lab result really means in the context of its use

V. Thou shalt read the general scientific literature (a little) everyday and learn a new general fact each day

VI. Thou shalt query the literature and review it critically for the best available data before deciding on a diagnosis or treatment
The Ten Commandments of Life Long Learning

VII. Thou shalt call a consultant only with a specific question
VIII. Thou shalt take organized notes in rounds and in conferences and....
IX. Thou shalt file all gathered information into a personal organizing system each day
X. Thou shalt teach others and learn from others every day
Self Directed Learning Assignment

• Create/edit your own ILP/SDL plan including
• How you will improve the Dx process (for a later workshop)
• Your Plan for searching and reading the literature (your library?)
• How will YOU keep it organized? Creating a personal filing system
• Short term SDL (residency/boards focus) but also long term SDL for the next 40 years ....
Build a Knowledge Bridge to the Future
Resident as Team Teacher Learner Educator Diagnostician

RATTLED Curriculum for Residents

Teaching 101: Getting your teaching organized

Critical Teaching Skills

Michael Giuliano, MD, MEd, MHPE, MA
Assistant Dean of Faculty, Resident and Student Development

Hackensack Meridian School of Medicine
SDL or Teaching Needs to be organized?

• Your own SDL plan or ILP needs guiding principles on a small scale and over the long term
• For students you are teaching we also need guiding principles both on the small day to day scale and over the entire clerkship and beyond

*Homework Question: What do you think are the essential things students should know or be able to do before they finish their clerkship in your specialty??

Bring your list to the workshop
Organizing Teaching:
General Model for Organizing ANY Educational Event

• What do you want to accomplish? GOALS
• Who are the learners and what do they NEED?

**What should they learn to do? Learning OBJECTIVES**

• How do you want them to learn? METHODS
• How do you know they learned? EVALUATION
• How did they do? How did you do? FEEDBACK
Organizing Teaching: General Model for Organizing ANY Educational Event
Learning Objectives:  Teaching 101.
Organizing the Teaching:  The Basics

• Define session learning objectives (SMART) and the connection to course learning objectives
• Define the board core 8 competencies and the relationship to the more detailed Educational program objectives EPO’s (64 in all )
• Demonstrate how the competencies and EPO’s organize the “big picture” of teaching
• Show how the Entrustable professional Activities fit into the teaching plan and evaluation
• Demonstrate the critical teaching skills of using questions and communication behaviors to encourage involvement
What Does Good SDL and Teaching Look Like??

On the “small” scale they need to be SMART

- It is ORGANIZED with specific smart goals and learning objectives for yourself and student learning
Teaching is Also Organized in a hierarchy for the long scale Over 3 -5 years of residency or medical school

• And how they connect to today's session objectives (~3)
• Understanding the centrality of clerkship learning objectives (~30)
• And how they connect to competencies (big 8 from ACGME)
• And how they connect to EPA's (Entrustable Professional Activities 18 at the SOM)
• And how they connect to EPO's (Educational Program Objectives ~65) which are foundational to the entire curriculum

• Got it?
It is based on competences: The stuff you need to DO!!
Eight Core Competencies
So What Did You say EPO’s are?

Educational Program objectives- 65 in all

• The vision and mission of the SOM drove the creation of the EPO’s.
• The EPO’s are the outcome of our curriculum: that is students with specific competencies they can demonstrate at graduation.
• The EPO’s were the second step in the creation of the SOM curriculum after the vision and mission.

https://www.shu.edu/medicine/medical-education/upload/Educational-Program-Objectives.pdf
Definition of an Entrustable Professional Activity

A core unit of work, reflecting a responsibility that should only be entrusted upon someone with adequate competencies

More specific:
- Part of essential professional work in a given context
- Independently executable, within a time frame
- Leads to recognized output of professional labor
- Observable and measurable in process and outcome, leading to a conclusion (“well done” or “not well done”)
- Must require sufficient, specific knowledge, skill and attitude, generally acquired through training
- Should reflect competencies, important to be acquired
- Usually confined to qualified personnel only
AAMC 13 Entrustable Professional Activities

1. Gather a history and perform a physical exam
2. Prioritize a differential diagnosis following a clinical encounter
3. Recommend and interpret common diagnostic /screening tests
4. Enter and discuss orders and prescriptions
5. Document a clinical encounter in the patient record
6. Provide an oral presentation of the 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 needing urgent or emergent care and initiate evaluation and management
And last but not least...more EPA’s

11. Obtain informed consent for test and procedures
12. Perform general procedures of a physician
13. Identify systems failures and contribute to a culture of safety and improvement

EPA’s were used to structure the clerkship learning objectives and build the evaluation tool.
<table>
<thead>
<tr>
<th>EPA 14 Communication Skills</th>
<th>EPA 15 Counselling and Education</th>
<th>EPA 16 Developing Care Plans</th>
<th>EPA 17 Professionalism and Growth</th>
<th>EPA 18 Systems, Communities, and Solutions</th>
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</thead>
<tbody>
<tr>
<td>Rapport</td>
<td>Health literacy</td>
<td>Health promotion</td>
<td>Conduct</td>
<td>Health inequities</td>
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<tr>
<td>Patient perspective and empathy</td>
<td>Patient education/teaching</td>
<td>Chronic disease management</td>
<td>Humanism</td>
<td>Determinants of Health/Social DoH (EPO 2.8, 2.9)</td>
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<tr>
<td>Cultural humility</td>
<td>Shared decision making</td>
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<td>Growth</td>
<td>Community</td>
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<td>Sharing information/teaching</td>
<td>Motivational interviewing</td>
<td></td>
<td>Leadership</td>
<td>Systems</td>
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<tr>
<td>Difficult conversations</td>
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<td></td>
<td>Advocacy</td>
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What Other Skills Do You Need to be a GOOD TEACHER?

• Some simple basic skills like:
  - how to structure and use questions
  - how to communicate effectively for information transfer and feedback and create a positive learning environment
Teaching Tools: The Use of Questions

• Questions are probably the oldest teaching devise in the book (The Socratic Method)
• Questions are still the most useful teaching devise in the book
• Questions are still the most misused teaching devise in the book
Effective Use of Questioning
What makes a question especially effective?

• DISCIPLINED- Thought out, planned; if spontaneous, still well constructed

• DEEP- Doesn’t typically focus on first order topics; move from “name” and “describe” to “explain” and “connect”

• SYSTEMATIC- Leads to other issues of topics that can be discussed
What is the goal of questioning?

• The answer is important, but it is equally (or maybe more) important where the questioning takes you

• Goal is to probe into the thinking process of your learners

• Questioning → Dialog → Critical Thinking
Types of Questions

- Conceptual/clarification
- Probing Assumptions
- Probing Reasons/Rationale
- Viewpoints & Perspectives
- Probe implications & consequences
Alternate Way of Looking at Questions:
Open vs. Closed

• Broadening
• Justifying
• Hypothetical
• Alternative

• Facts
• Yes or No
• Specific answers
Blooms Taxonomy

- Level 1 – Knowledge
- Level 2 – Comprehension
- Level 3 – Application
- Level 4 – Analysis
- Level 5 – Synthesis
- Level 6 – Evaluation
The Purpose/Use of Questions In Blooms?

• Level 1 and 2 are for basic needs assessment.

• Level 3 makes the student use the information actively in a new setting-this is were learning really begins

• Level 4 and 5 makes the students think
• Level 6 makes the student and us sweat
Helpful Hints for Using Open Ended Questions

• WAIT for an answer..... that means WAIT for an answer (at least 3-5 seconds)
• Ask, don’t tell
• Avoid leading questions
• Play it straight
• Ask ONE question at a time and WAIT for the answer
Teaching Tools: Communication Behaviors of Teachers

• Silence
• Observation
• Purposeful eye contact
• Tracking
• Open ended encouragement
• Surface paraphrasing and exploration
Teaching Tools: Communication Behaviors of Teachers

• Self disclosure
• Active listening
• Intense paraphrasing
• Summarizing and interpreting
• Critiquing and correcting
• Persuasion, challenge, and confrontation
• Questioning
• Giving feedback
Key Goals of Teaching Communication Skills

- Create a positive, dynamic, safe learning environment where everyone can get involved.
- Bring everyone “In” with eye contact and appropriate questions for the level of learner.
- Self-reveal your own “ignorance” about a subject that comes up and then model lifelong learning.
- Utilize growth-based feedback (coaching) for the group or individual as indicated.
Creating a Positive Learning Environment

**POSITIVE LEARNING ENVIRONMENTS INCLUDE:**

<table>
<thead>
<tr>
<th>Engagement</th>
<th>Safety</th>
<th>Environment</th>
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<tbody>
<tr>
<td>- Positive student-teacher relationships</td>
<td>- Effectively addressed discipline problems</td>
<td>- Cohesive</td>
</tr>
<tr>
<td>- Teacher academic and emotional support</td>
<td>- Emotional and academic safety</td>
<td>- Democratic</td>
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<tr>
<td>- Peer academic and emotional support</td>
<td></td>
<td>- Goal directive</td>
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<tr>
<td>- Trust in teachers</td>
<td></td>
<td>- Captivating</td>
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<tr>
<td>- Personalised relationships</td>
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<td>- Challenging</td>
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<td>- Meaningful control</td>
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<td>- Relevant</td>
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Resident as Team Teacher Learner Educator Diagnostician

RATTLED Curriculum for Residents

Teaching 102- Models for Teaching in the Clinical Setting & Models for Student Presentations

Evaluation 101- triple jump of Eval/EPA’s and CET’s

Michael Giuliano, MD, MEd, MHPE, MA
Assistant Dean of Faculty, Resident and Student Development
Quick Recap of Learning 101/ Teaching 101

- **Learning 101** is all about developing a plan for self directed lifelong learning or an individualized learning plan (ILP) designed for both the short term (pass those boards) and long term (learning for 40 years).

- **Master Adaptive Learner Model** from the AMA is a good start with its focus on honest reflection about gaps and selection of resources.

- **Teaching 101** introduced the idea of competency based education and the centrality of SMART learning objectives to drive education.

- Introduced the Entrustable Professional Actives as a frame for creating both learning objectives and assessment tools.

- Touched on the basic skills of an educator including higher order questions.
Learning Objectives for Teaching 102
Models for organizing clinical teaching

**One-minute learner** (really the 10 minute learner) for a more student centered expansive model for structuring teaching in any setting

- Stanford faculty development model for clinical in-patient rounds with heterogenous groups of learners.

**Alternate Short and Longer Models for Student presentation**
- One minute preceptor both short and faculty driven
  - SNAPPS model longer and giving students more control
The One-Minute Learner: Setting Goals and Expectations with your Students
The Backbone of Our Clinical Teaching Model

Model developed by our own
Miriam Hoffman, MD
Associate Dean for Medical Education
One Minute (really 10 min.) Learner – Components beginning with a huddle

1. Goals
2. Getting Going
3. How Much and How Long
4. Presenting
5. Charting
6. Questions
7. Feedback
Why are setting expectations and discussing goals important?

For the learner and the teacher!
Why is this important esp. with short interactions

Setting Expectations
- For the learner
  - Clarifies role
  - Gives structure
  - Decreases anxiety
  - Feedback and assessment
- For the educator
  - Student hits the ground running
  - Student is more effective
  - Efficiency

Setting Learning Goals
- For the learner
  - Facilitates self-directed learning
  - Improves learner-educator relationship
  - Increased motivation; deeper learning
  - Learner’s needs/goals are valued
- For the educator
  - Framework for clinical teaching
  - Identifies student’s level and needs*** (how many shifts?)
  - “Learner-directed”

Puts educator and learner on the same page!
**ONE MINUTE LEARNER – Phase 1 OUTPATIENT**

**Huddle:** Have this brief discussion with your preceptor before the session starts.

- Prepare by thinking about your learning goals in advance
- Preview the schedule and charts if possible

Can I touch base with you about the plan for this clinical session?

**1. GOALS:**

- **Remember to be specific!**
  - Goals for the Unit:
  - Goals for today:
  - Discuss preceptor’s and student’s goals. Think about your current level/stage.
  - Are there specific patients/diagnoses/skills I should focus on?

I have been in clinic for 3 sessions, so I am comfortable with how the office flows. I need to work on history/PE skills. May I do the hx while you see the next patient? It would be great if I could do heart/lung exam on 2 patients today.

**2. GETTING GOING:**

- When, how, and who should I see?
- Should I room patients myself? Should I see any patient that is available? Should I see (for or not see) specific patients?

**3. HOW MUCH and HOW LONG:**

- How much of the visit should I do on my own? How long should I spend?
- What should I do when I am done seeing the patient?

**4. PRESENTING:**

- Where and how?
- I’d like to have practice presenting. Where should I present to you? What format should I use? What details should I include?

**5. CHARTING:**

- When and how?
- When writing a note, think about: What format and how detailed should the notes be? When should you write them? Who should you write notes on?

Remember that you and your preceptor should complete post-visit documentation.

**6. QUESTIONS:**

- When and what?
- When is a good time to ask questions that come up? What is a good resource to use to look up information?

**7. FEEDBACK:**

- When?
- When is a good time to discuss feedback?

Discuss what goals were met, and your next steps for learning.

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**ONE MINUTE LEARNER – Phase 1 INPATIENT**

**Huddle:** Have this brief discussion with your attending/resident at the beginning of the Unit or at the start of the session.

- Prepare by thinking about your learning goals in advance
- Preview patients on the service if possible

Can I touch base with you quickly about the plan for today?

**1. GOALS:**

- Remember to be specific!
  - Goals for the Unit:
  - Goals for today:
  - Discuss preceptor’s and student’s goals. Think about your current level/stage.
  - Are there specific patients/diagnoses/skills I should focus on?

I have been on rounds for 3 sessions, so I am comfortable with how the flow works. I need to work on history/PE skills. May I do the hx while you see the next patient? It would be great if I could do heart/lung exam on 2 patients today.

**2. GETTING GOING:**

- When, how and who should I see?
- Which patients should I see? Which resident should I follow? Should I have any specific patient information prepared for rounds?

**3. HOW MUCH and HOW LONG:**

- How much of the H&P should I do on my own? How much time do I have with the patient?

**4. PRESENTING:**

- Where, when, and how?
- I’d like to have practice presenting. Where and when should I present to you? What presentation format should I use? What details should I include?

**5. CHARTING:**

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Discuss what goals were met, and your next steps for learning.
One Minute Learner – Components
Huddle First before You Start

1. Goals
2. Getting Going
3. How Much and How Long
4. Presenting
5. Charting
6. Questions
7. Feedback
The One Minute Learner Huddle

• Have this brief discussion with your student before the session starts

• Preparation for the huddle:
  • Have the student think about their goals /learning objectives
    • What are their goals for the Unit; where they are in that trajectory?
    • What are their goals for this session?
    • Ask the student to think about HOW they will achieve these goals.

  • Have the student preview patients on the service, schedule, charts, if possible, and identify appropriate patients.
  • Preview your patients for the clinical session with the student’s learning needs/goals in mind.
  • Think about areas that you think the student needs to work on and focus your goals there.
1. **Goals**

1. **Elicit your student’s current level of training**
   - How long has s/he been in the office? Other clinical experience?

2. **Ask your student about his/her specific learning goals for the day**
   - Ask about their growth plan
   - Think about CS goals and objectives

3. **Discuss any specific goals you have for the student**

   *Today I really want you to focus on collecting the history in a patient with multiple medical problems. Mrs. Jones would be a great patient for you to see.*

   *I have several well child checks on my schedule this morning, and I know you haven’t had pediatrics yet, so this would be a great opportunity for you to practice your skills in well child care.*
Source of Goals? Learning Objectives

• Clerkship specific learning objectives-
• Specific session learning objectives for TODAY
• Organized around the 8 general competencies
• Also using the Entrustable professional activities (EPA)
2. Getting Going

• When and how should the student start seeing patients?
  • Should the student see any patient that is available? See (or not see) specific patients?
  • Which patient should the student pick up and round on?
  • What admissions should the student do?
  • Should the student room patients themselves? Talk with your MA or nurse?
3. How Much and How Long

- How much of the visit should the student do on his/her own?
- How long should the student spend with each patient?
- What should they do when they are done seeing the patient?
4. Presenting

- Where and how?
  - Where should the student present to you?
  - What presentation format should be used? How detailed a presentation do you want?
  - Short with one minute preceptor?
  - Longer and more complex with SNAPPS model of presenting??
Beginning Rotation Students Still Need
Frequent short feedback and Direction

Table 2: The One-Minute Preceptor Model* 6

<table>
<thead>
<tr>
<th>Step</th>
<th>Objective</th>
<th>Example question/statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get a commitment</td>
<td>The learner will articulate his/her own diagnosis</td>
<td>“What do you think is going on?”</td>
</tr>
<tr>
<td>Probe for supporting</td>
<td>The preceptor will evaluate the learner’s knowledge or reasoning</td>
<td>“Why do you think that?”</td>
</tr>
<tr>
<td>evidence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teach general rules</td>
<td>Preceptor emphasizes common “take-home” points</td>
<td>“When you see X, it means Y.”</td>
</tr>
<tr>
<td>Reinforce what was right</td>
<td>Preceptor provides reinforcing (positive) feedback</td>
<td>Tell what the learner did right and the effect it had.</td>
</tr>
<tr>
<td>Correct mistakes</td>
<td>Preceptor provides constructive feedback with specific recommendations</td>
<td>Tell the learner what s/he did not do right.</td>
</tr>
<tr>
<td></td>
<td>for improvement</td>
<td>Tell the learner how to improve for the next time.</td>
</tr>
</tbody>
</table>

*After hearing the trainee’s presentation, work through the five steps shown in the table.
The One Minute Preceptor: Five Microskills

• Diagnose the patient (always our priority)
• Diagnose the learner
  • Get a commitment on what’s wrong
  • Probe for supporting evidence
  • Tell them what they did right
• Teach the general rules
• Correct errors
THE FIVE W’S METHOD for remembering micro skills

• WHAT do you think is going on?
• WHY do you think that?
• WHEN you see this think of.
• WHOOPS! You might have thought of.
• WARM FUZZY!! Good thought about.
One Minute Preceptor

What
Why
When
Whoops
Warm/fuzzy
### Table 3: The SNAPPS Model for Outpatient Presentations

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMARIZE</td>
<td>Briefly summarize the patient’s history and exam findings</td>
</tr>
<tr>
<td>NARROW</td>
<td>Present a 2–3-item differential diagnosis</td>
</tr>
<tr>
<td>ANALYZE</td>
<td>Discuss evidence supporting and against each item on the differential diagnosis</td>
</tr>
<tr>
<td>PROBE</td>
<td>Based on the three prior steps, ask the preceptor questions to help shape consideration of the differential diagnoses and management</td>
</tr>
<tr>
<td>PLAN</td>
<td>Present a proposal for managing the patient</td>
</tr>
<tr>
<td>SELECT</td>
<td>Choose a question to pursue in self-directed learning after the encounter</td>
</tr>
</tbody>
</table>

*In this model, the learner presents a case focusing on meeting the six objectives outlined in the table.*
Teacher control evolving into Student Control of Learning over time

<table>
<thead>
<tr>
<th>One minute preceptor</th>
<th>SNAPPPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summarise the case</td>
<td>Summarise the case</td>
</tr>
<tr>
<td>Get a commitment</td>
<td>Narrow the differential</td>
</tr>
<tr>
<td>‘What do you think is going on?’</td>
<td>‘What are the diagnostic possibilities here?’</td>
</tr>
<tr>
<td>Probe underlying understanding</td>
<td>Analyse the differential</td>
</tr>
<tr>
<td>‘What led you to this conclusion?’</td>
<td>‘Why is this diagnosis likely/unlikely?’</td>
</tr>
<tr>
<td>Reinforce what was done well</td>
<td>Probe the teacher</td>
</tr>
<tr>
<td></td>
<td>‘What question would you like to ask me?’</td>
</tr>
<tr>
<td>Teach general rules</td>
<td>Plan management</td>
</tr>
<tr>
<td>Correct errors</td>
<td>Select issue for self directed learning</td>
</tr>
</tbody>
</table>
5. Charting

• When and how?
  • What format should the student use for notes?
  • When should the student write notes?

• You and your student should complete post-visit documentation
6. Questions

- When is a good time to discuss questions the student has?
- What is a good resource to use to look up information?
7. Feedback following your evaluations

- When and how will you give the student feedback?
  - Real-time feedback during patient care
  - Recap feedback at the end of the session/day
  - Summative feedback at the end of the Unit

- Debrief the session

- Were goals met? Discuss next steps in learning. Elicit feedback from the learner.
Forward with Feedback: A bi-directional conversational approach

- **Goal** is Stated
- Self-Assessment
- Incorporation of Observations
- Coaching Plans are Co-developed

Feedback conversations where:
- Goal is Stated
- Self-Assessment
- Incorporation of Observations
- Coaching Plans are Co-developed
The One Minute Learner

• You can use all or parts of the OML during any given discussion

• Use the One Minute Learner (OML):
  At the beginning of the Unit
  and/or
  Before any clinical session throughout the rotation

• The OML can be used:
  • In any clinical teaching setting
  • In any discipline
  • With any level of learner
The One Minute Learner

**Benefits:**
- Quick and easy!
- Puts everyone “on the same page”
- Makes the clinical session more effective and efficient
- Clarifies roles
- Gives the student structure and decreases anxiety
- Facilitates self-directed learning
- Sets groundwork for feedback and assessment

**Promotes and structures:**
- Proactive discussion of **goals** and **expectations** with clear focus for evaluation and feedback
ONE MINUTE LEARNER – Phase 1
OUTPATIENT

Huddle: Have this brief discussion with your preceptor before the session starts
- Prepare by thinking about your learning goals in advance
- Preview the schedule and charts if possible

Can I touch base with you about the plan for this clinical session?

1. GOALS:
   Remember to be specific!
   Goals for the Unit:
   Goals for today:
   Discuss preceptor’s and student’s goals. Think about your current level/stage.
   Are there specific patients/diagnoses/skills I should focus on?
   I have been in clinic for 3 sessions, so I am comfortable with how the office flow works. I need to work on History/PE skills. May I do the Hx while you see the next patient? It would be great if I could do heart/lung exam on 2 patients today.

2. GETTING GOING:
   When, how and who should I see?
   Should I room patients myself? Should I see any patient that is available? Should I see (or not see) specific patients?

3. HOW MUCH and HOW LONG
   How much of the visit should I do on my own? How long should I spend?
   What should I do when I am done seeing the patient?

4. PRESENTING:
   Where and how?
   I’d like to have practice presenting. Where should I present to you? What format should I use? What details should I include?

5. CHARTING:
   When and how?
   When writing a note, think about: What format and how detailed should the notes be? When should you write them? Who should you write notes on?
   Remember that you and your preceptor should complete post-visit documentation.

6. QUESTIONS:
   When and what?
   When is a good time to ask questions that come up? What is a good resource to use to look up information?

7. FEEDBACK:
   When?
   When is a good time to discuss feedback?
   Discuss what goals were met, and your next steps for learning.

ONE MINUTE LEARNER – Phase 1
INPATIENT

Huddle: Have this brief discussion with your attending/resident at the beginning of the Unit or at the start of the session
- Prepare by thinking about your learning goals in advance
- Preview patients on the service if possible

Can I touch base with you quickly about the plan for today?

1. GOALS:
   Remember to be specific!
   Goals for the Unit:
   Goals for today:
   Discuss preceptor’s and student’s goals. Think about your current level/stage.
   Are there specific patients/diagnoses/skills I should focus on?
   I have been on rounds for 3 sessions, so I am comfortable with how the flow works. I need to work on History/PE skills. May I do the Hx while you see the next patient? It would be great if I could do heart/lung exam on 2 patients today.

2. GETTING GOING:
   When, how and who should I see?
   Which patients should I see? Which resident should I follow? Should I have any specific patient information prepared for rounds?

3. HOW MUCH and HOW LONG
   How much of the H&P should I do on my own? How much time do I have with the patient?

4. PRESENTING:
   Where, when, and how?
   I’d like to have practice presenting. Where and when should I present to you? What presentation format should I use? What details should I include?

5. CHARTING:
   When and how?
   When writing a note, think about: What format and how detailed should the notes be? When should you write them? Who should you write notes on?
   Remember that you and your preceptor should complete post-visit documentation.

6. QUESTIONS:
   When and what?
   When is a good time to ask questions that come up? What is a good resource to use to look up information?

7. FEEDBACK:
   When?
   When is a good time to discuss feedback?
   Discuss what goals were met, and your next steps for learning.
Clinical Teaching Rounds Model: For Larger Complex Groups
Sandford Faculty Development Model

• Control the session
• Create and communicate goals
• Create a positive learning climate
• Promote retention and understanding*
• Evaluate (using standard CET tool)
• Give feedback (using the forward with feedback model)
• Promote self-directed learning
SFDP Clinical Teaching Model

(1) Control the session
  • Time
  • Place
  • Length
  • Keep on topic
  • Avoid digressions
  • Discourage external interruptions
Clinical Teaching Model

(2) Create and communicate the goals

- Ask the learners where they want to go today
- Prioritize the goals then state them clearly
- Limit the goals according to time
- State the relevance of the goals
Clinical Teaching Model

(3) Create a positive learning climate

• Listen to the learners
• Respect the learners
• Encourage the learners
• Admit ignorance
• Stimulate interest especially with “good” questions
Resident as Team Teacher Learner Educator Diagnostician

RATTLED Curriculum for Residents
Evaluation 101—translating your observations (CET) into evaluation and forward to feedback
Learning Objectives for Evaluation 101/102

- Define the types of classic feedback outline the forward with feedback model of the SOM
- Outline the sequence of clearly defined goals leading to objective direct observation and then feedback aimed at growth
- List the Entrustable professional Activities that will be the backbone of the evaluation tools

Evaluation 102

- Demonstrate and calibrate the use of the comprehensive evaluation tool (CET)
- Outline the continued role for narrative assessment
- Demonstrate the forward with feedback model
What Does Good Teaching Look Like??

• Organized with LO /Problem centered in the clinical context in a safe environment

• It always involves evaluation at multiple levels of knowledge, skills and attitude

• Includes feedback and coaching that is appropriate (forward with feedback)
Triple Jump of Assessment: Making it Count for Learners

- What is being observed?
  - Ex. Problem focused exam

- Assessment
  - Was desired task performed/goal met?
    - Ex. Our CET
  - Provide feedback to learner
    - Ask learner to create action plan

- Feedback/Action plan

Norcini JJ and Burch V. (2007)
Evaluation

• Formative - on the way

• Summative - the end of a defined period
Evaluation/Formative

- Usually performed many times during an educational experience (rotation, course, program)
- Involves many events and is usually verbal and informal (Feedback Friday)
- Does not result in a grade
- Intended to teach the learner and help them to improve
- Should involve multiple aspects of thinking/skills/attitudes
Evaluation at all levels using Blooms /Formative

• Knowledge-Level 1 and 2 questions
• Application of knowledge- Level 3 question
• Clinical Problem Solving- Level 4 and 5
• Dealing with ambiguity and uncertainty-Level 6 questions
• Attitude/Motivation
• Skills-Physical exam/Presentation/procedures
Blooms Taxonomy of Questions

• Level 1 – Knowledge
• Level 2 – Comprehension
• Level 3 – Application
• Level 4 – Analysis
• Level 5 – Synthesis
• Level 6 – Evaluation
Evaluation/Summative

- Usually performed at the end of an educational experience (rotation, course, program)
- Involves a single event, usually a test or some other evaluation tool.
- Results in a grade or pass/fail
- Intended to summarize a learner’s achievement and not to teach
Feedback (Forward with Feedback)

The process of giving data back to the learner for the purpose of bringing about change.
Evaluation + Feedback = Teaching
Forward with Feedback: A bi-directional conversational approach

SOM Feedback Conversation Model

Feedback conversations where:
- Goal is Stated
- Self-Assessment
- Incorporation of Observations
- Coaching Plans are Co-developed
SOM Model is a Blend of Formative /Summative

• We utilize both verbal and written evaluation all throughout the learning

• Have multiple points of written assessment (early easy case vs later more complex case)

• Always using both verbal and written feedback to drive growth in the forward with feedback model.

• Base the written evaluation tools on the Entrustable professional Activities (EPA’s)
How Do We Currently “Evaluate”?

• Ask lower level blooms questions (factual knowledge)
• Can they get stuff DONE (get a result, call the consult etc.)
• Oral presentation skills modeled after “the way we do it”
• Nice and gets along with everyone
• Helpful volunteering to do things for the “team”

• End of rotation evaluations “pleasure to work with”
SOM Primary Evaluation Tool: Comprehensive Evaluation Tool (CET)

• CET evaluation tool will be the central tool used across all clerkships
• It will help standardize the evaluation process no matter the site/specialty
• It will take into account the development of the competencies (skills) of the students over time
• It will be used multiple times across the clerkship by many different observers with all the evaluations “polled” by clerkship leadership
• The CET is structured around Entrustable Professional Activities (EPA’s)
• Different Clerkships will focus on different EPA’s to evaluate
Definition of an Entrustable Professional Activity

A core unit of work, reflecting a responsibility that should only be entrusted upon someone with adequate competencies

More specific:
- Part of essential professional work in a given context
- Independently executable, within a time frame
- Leads to recognized output of professional labor
- Observable and measurable in process and outcome, leading to a conclusion (“well done” or “not well done”)
- Must require sufficient, specific knowledge, skill and attitude, generally acquired through training
- Should reflect competencies, important to be acquired
- Usually confined to qualified personnel only
AAMC 13 Entrustable Professional Activities

1. Gather a history and perform a physical exam
2. Prioritize a differential diagnosis following a clinical encounter
3. Recommend and interpret common diagnostic / screening tests
4. Enter and discuss orders and prescriptions
5. Document a clinical encounter in the patient record
6. Provide an oral presentation of the 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 needing urgent or emergent care and initiate evaluation and management
And last but not least...more EPA’s

11. Obtain informed consent for test and procedures
12. Perform general procedures of a physician
13. Identify systems failures and contribute to a culture of safety and improvement

EPA’s will be used to structure the clerkship learning objectives and the evaluation tools (CET’s)
Unique EPA’s from our SOM

14. Communication skills with patients (assumed in EPA 1 and 11)
15. Patient counseling and education/teaching
16. Developing chronic care plans (beyond EPA 10)
17. Professionalism and Growth (beyond EPA 7)
18. Systems, Communities and Solutions (Determinants of health)
<table>
<thead>
<tr>
<th>EPA #</th>
<th>EPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>History, Physical Exam</td>
</tr>
<tr>
<td>2*</td>
<td>Prioritize DDx</td>
</tr>
<tr>
<td>3*</td>
<td>Diagnostic tests</td>
</tr>
<tr>
<td>4*</td>
<td>Orders and Rx</td>
</tr>
<tr>
<td>5*</td>
<td>Documentation</td>
</tr>
<tr>
<td>6*</td>
<td>Presentation</td>
</tr>
<tr>
<td>7</td>
<td>Clinical Questions</td>
</tr>
<tr>
<td>8</td>
<td>Handoffs</td>
</tr>
<tr>
<td>9</td>
<td>IPE Collaboration</td>
</tr>
<tr>
<td>10*</td>
<td>Acute Care</td>
</tr>
<tr>
<td>11</td>
<td>Informed Consent</td>
</tr>
<tr>
<td>12</td>
<td>Procedures</td>
</tr>
<tr>
<td>13</td>
<td>Systems failure/Patient safety</td>
</tr>
<tr>
<td>14*</td>
<td>Communication skills</td>
</tr>
<tr>
<td>15</td>
<td>Counseling and education</td>
</tr>
<tr>
<td>16</td>
<td>Developing care plans</td>
</tr>
<tr>
<td>17*</td>
<td>Professionalism and growth</td>
</tr>
<tr>
<td>18*</td>
<td>Systems and solutions</td>
</tr>
</tbody>
</table>

* Denotes that all clerkships will incorporate and assess. These 10 EPA’s will be in the CET-Core evaluation form.
Key Features of Clerkship Assessment

- Assessment of ALL this (knowledge/skills/behaviors/etc) will:
  - Take place within the clerkship
    - Assessment in the clinical setting (that’s your job!!!)
    - Sim-center based assessments
    - Clerkship assignments
  - Be structured using and driven by the 18 SOM EPAs

- Everything our students learn/do will be represented in the SOM EPAs

- Students will therefore be assessed using the EPAs
### EPAs become Clerkship Learning Objectives: For Example

<table>
<thead>
<tr>
<th>EPA #</th>
<th>EPA</th>
<th>Trans. Clerk. Milestone</th>
<th>Clerk 6 month Block OSCE Milestone</th>
<th>Clerk 12 month Block OSCE Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>History, Physical Exam</td>
<td>M1</td>
<td>M2</td>
<td></td>
</tr>
</tbody>
</table>

- Perform appropriately thorough histories and physical exams for patients as part of a surgical evaluation
  - **Hx**
    - Surgical Hx
      - What, why, complications, sequelae, anesthesia, etc
    - Transfusion hx
  - **PE**
    - Hydration

- Perform appropriately thorough histories and physical exams for patients as part of a Ob/Gyn evaluation
  - **Hx**
    - ObGyn Hx (pregnancies,
    - Medications – contraception hx
    - Sexual Hx
    - Trauma, abuse
  - **PE**
    - Breast, Female GU exam
Student’s abilities will increase (with practice/feedback/practice). Therefore, EPAs are assessed serially as the student develops.

Evaluation at two or more points in clerkship. Straight forward case early then complex case later.
As Educators Our Job is to help student climb the curve of competence, assessing as they grow.
Eight Core Competencies
EPA Milestones (M1, M2) are assessed developmentally

<table>
<thead>
<tr>
<th>EPA #</th>
<th>EPA</th>
<th>Trans. Clerk. Milestone</th>
<th>Clerk 6 month Block OSCE Milestone</th>
<th>Clerk 12 month Block OSCE Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>History, Physical Exam</td>
<td>M1</td>
<td>M2</td>
<td></td>
</tr>
</tbody>
</table>

- Perform appropriately thorough histories and physical exams for patients as part of a surgical evaluation
  - **M1:**
    - In patients with 1 or more of these scenarios:
      - With minimal comorbidities
      - With typical presentation
      - With common diagnoses
  - **M2:**
    - In patients with 1 or more of these scenarios:
      - With multiple comorbidities
      - With more complex and/or atypical presentations
      - Incorporating complex biopsychosocial factors into the assessment of the patient

- Perform appropriately thorough histories and physical exams for patients as part of a Ob/Gyn evaluation
  - **M1:**
    - In patients with 1 or more of these scenarios:
      - With minimal comorbidities
      - With typical presentation
      - With common diagnoses
  - **M2:**
    - In patients with 1 or more of these scenarios:
      - With multiple comorbidities
      - With more complex and/or atypical presentations
      - Incorporating complex biopsychosocial factors into the assessment of the patient
Multiple Versions of the CET form

- Comprehensive Evaluation Tool- Full (CET-FULL) this version will have all 18 EPA’s

- Comprehensive Evaluation Tool- CORE (CET-CORE) will have the 10 EPA’s that all clerkships will assess

- EPA component tool will focus on just one specific EPA (on the fly)
Comprehensive Clerkship Evaluation Tool (CET)

• Has a section for each EPA being assessed
• Each EPA has 1-4 “line items”

• Each line item has 4 behavioral anchors
  • Behavior 3 = target behavior
  • Behavior 4 = stretch goal
  • Behavior 1-2 = student developing
  • Behavior 1 = may be very concerning

• Still need Narrative feedback to describe examples of student’s behaviors (especially for those getting a 1 and 4)
The Purpose of narrative evaluations

• To summarize performance for the student and teacher especially in areas of attitudes, interpersonal communication and professionalism.
• To communicate meaningful summary information to other parties (program directors)
• To provide information for planning future educational experiences
• To identify areas that need revision
• To compare a student’s skills to those of others, or to certain competencies that will determine whether or not a student progresses
Clerkship Comprehensive Clinical Evaluation Tool (CET) - Core

Instructions:
- Check the box for the behaviors that the student is consistently performing.
- Do not worry if you have only worked with the student a small amount of time; we will adjust for that.

Competency Targets*:
1. First half of Clerkship Year: to achieve competency in the skills below in patients with straightforward/common clinical scenarios.
2. Second half of Clerkship Year: to achieve competency in the skills below in patients with complex/atypical clinical scenarios.
* See SOM Clinical Skills Competency Assessment Toolkit for more information.

Student Name: ____________________ Evaluator Name: ____________________ Time worked with the student: ________ sessions / days / weeks [Circle one]

EPA 1 – History and Physical Examination

1. History - Organization

<table>
<thead>
<tr>
<th>Lacking organization or coherent structure</th>
<th>Has rationale for organization, but somewhat illogical or not driven by accurate clinical reasoning</th>
<th>Well organized and logical, mostly driven by clinical reasoning</th>
<th>Well organized, fluid (information logically connects) and clearly driven by accurate clinical reasoning</th>
<th>Unable to assess</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Straightforward/common:</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2 ☐ Complex/atypical:</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

2. History & Physical Exam - Content

<table>
<thead>
<tr>
<th>Missing key information and/or contains inaccurate information</th>
<th>Includes only simplistic or key clinical information AND/OR applies a general examination lacking clear clinical reasoning, and/or missing some components</th>
<th>Includes accurate and reasonably complete clinical information, mostly driven by clinical reasoning</th>
<th>Accurate and complete including data from secondary data sources (where appropriate), incorporating multiple Determinants of Health in appropriate detail. Applies astute clinical reasoning through targeted hypothesis driven questions and physical examination maneuvers</th>
<th>Unable to assess</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Straightforward/common:</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
How to use the CET?

1. **Observe** the student’s behaviors
   - With patients
   - With families
   - With the clinical team
   - In their presentations and discussions with you

2. **Read** the behaviors in the boxes

3. Check off the **behavior** the student is **consistently performing**

4. **Provide the student with feedback**

*Don’t worry about how much you have worked with the student*
Let’s use it: CET workshop in Evaluation 102

• Divide into small groups
• Discuss the CET *in your small group* (EPA 1, 14)
• Watch videos focusing on history taking (use EPA 1 (1, 2, 4) and EPA 14)
• **Individually** rate the learner’s performance
• Come together *in your small group* (with faculty member) to compare ratings and come to a consensus rating
• **Reflect** on ways to improve consistency in scoring
• Discuss *in the large group*. 
Let’s use it: CET workshop in Evaluation 102

- Videos
  - [https://vimeo.com/87739465](https://vimeo.com/87739465)
  - [https://vimeo.com/87740989](https://vimeo.com/87740989)
  - [https://vimeo.com/87742772](https://vimeo.com/87742772)
The CET will be student- AND faculty-driven

• **For the student:**
  
  • Is given to students at the beginning of clerkships
  
  • Defines target behaviors to lead students to the “path” to improvement
  
  • Student-driven CETs “on-the-fly”

• **For the faculty:**
  
  • Used for student-driven “on-the-fly” CET (ALL faculty)
  
  • Used for weekly feedback sessions (Primary preceptors, residents)
  
  • Used at the Mid-clerkship review (Primary preceptors)
  
  • Used for final summative assessment (Primary preceptors)
“On-the-Fly” CET: EPA Component tool

• Sometimes you will complete only part of the CET (student-driven)

• Please complete as many of the line items as you are able

• You may be asked by the Clerkship Director to complete:
  • Only some of the CET line items

  • Another shorter tool called an EPA Component tool
    • This is a tool that assesses only one of the EPAs (more to come ...)


When will EPA Component Tools be used?

1. Formative assessment in the clinical setting (workplace based assessment)
   • Each clerkship can choose which EPAs to focus on (in addition to the core 10)
   • Can require students to ask faculty/residents to observe and complete a certain number
   • In the future these will be summative

2. Sim-Center based evaluations
   • For formative and summative sessions (e.g. end of clerkship OSCE)
When will EPA Component Tools be used? Daily in “direct” observations and grading assignments

• To assess clerkship-specific patient assignments or write ups
  • Examples:
    • Students are required to be observed doing an H&P on a patient with one of the clerkship’s Required Clinical Experiences (RCE) – e.g. MI in Medicine.
      • The EPA component eval for EPA 1 (History & PE) is what the attending uses to provide feedback on their direct observation
    • Could use more than 1 EPA component Eval in this same encounter:
      • EPA 1 (History & PE) and EPA 14 (Communication skills)
    • Students are required to submit a patient write up about their diagnostic reasoning and medical decision making for a patient
      • Graded using EPA Components Evals for:
        • EPA 2 (Prioritized DDx)
        • EPA 3 (Diagnostic tests)
        • EPA 16 (Developing care plans)
<table>
<thead>
<tr>
<th>SOM Entrustment Scale: Can They Do a Task?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not allowed to perform EPA; allowed to observe</td>
</tr>
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</table>
Resident as Team Teacher Learner Educator Diagnostician

RATTLED Curriculum for Residents

Evaluation 102- Turning evaluation into growth feedback

Thinking 101- Diagnostic process and Dx Error
Learning Objectives for Evaluation 101/102

• Define the types of classic feedback outline the forward with feedback model of the SOM
• Outline the sequence of clearly defined goals leading to objective direct observation and then feedback aimed at growth
• List the Entrustable professional Activities that will be the backbone of the evaluation tools

Evaluation 102

• Demonstrate and calibrate the use of the comprehensive evaluation tool (CET). Will do in small group workshops
• Giving “forward with feedback” and creating a growth plan
• Outline the continued role for narrative assessment
SOM Primary Evaluation Tool: Comprehensive Evaluation Tool (CET)

• CET evaluation tool will be the central tool used across all clerkships
• It will help standardize the evaluation process no matter the site/specialty
• It will take into account the development of the competencies (skills) of the students over time
• It will be used multiple times across the clerkship by many different observers with all the evaluations “polled” by clerkship leadership
• The CET is structured around Entrustable Professional Activities (EPA’s)
• Different Clerkships will focus on different EPA’s to evaluate
<table>
<thead>
<tr>
<th>EPA #</th>
<th>EPA</th>
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<tbody>
<tr>
<td>1*</td>
<td>History, Physical Exam</td>
</tr>
<tr>
<td>2*</td>
<td>Prioritize DDx</td>
</tr>
<tr>
<td>3*</td>
<td>Diagnostic tests</td>
</tr>
<tr>
<td>4*</td>
<td>Orders and Rx</td>
</tr>
<tr>
<td>5*</td>
<td>Documentation</td>
</tr>
<tr>
<td>6*</td>
<td>Presentation</td>
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<tr>
<td>7</td>
<td>Clinical Questions</td>
</tr>
<tr>
<td>8</td>
<td>Handoffs</td>
</tr>
<tr>
<td>9</td>
<td>IPE Collaboration</td>
</tr>
<tr>
<td>10*</td>
<td>Acute Care</td>
</tr>
<tr>
<td>11</td>
<td>Informed Consent</td>
</tr>
<tr>
<td>12</td>
<td>Procedures</td>
</tr>
<tr>
<td>13</td>
<td>Systems failure/Patient safety</td>
</tr>
<tr>
<td>14*</td>
<td>Communication skills</td>
</tr>
<tr>
<td>15</td>
<td>Counseling and education</td>
</tr>
<tr>
<td>16</td>
<td>Developing care plans</td>
</tr>
<tr>
<td>17*</td>
<td>Professionalism and growth</td>
</tr>
<tr>
<td>18*</td>
<td>Systems and solutions</td>
</tr>
</tbody>
</table>

* Denotes that all clerkships will incorporate and assess. These 10 EPA’s will be in the CET-Core evaluation form.
Comprehensive Clerkship Evaluation Tool (CET)

• Has a section for each EPA being assessed
• Each EPA has 1-4 “line items”

• Each line item has 4 behavioral anchors
  • Behavior 3 = target behavior
  • Behavior 4 = stretch goal
  • Behavior 1-2 = student developing
  • Behavior 1 = may be very concerning

• Still need Narrative feedback to describe examples of student’s behaviors (especially for those getting a 1 and 4)
## Comprehensive Clerkship Evaluation Tool (CET) - Core

**Instructions:**
- Check the box for the behaviors that the student is consistently performing
- Do not worry if you have only worked with the student a small amount of time; we will adjust for that.

**Competency Targets:**
1. First half of Clerkship Year: to achieve competency in the skills below in patients with straightforward/common clinical scenarios
2. Second half of Clerkship Year: to achieve competency in the skills below in patients with complex/atypical clinical scenarios
* See SOM Clinical Skills Competency Assessment Toolkit for more information

### Student Name: ___________________ Evaluator Name: ___________________ Time worked with the student: _______ sessions / days / weeks [Circle one]

#### EPA 1 – History and Physical Examination

1. **History - Organization**
   - Lacking organization or coherent structure
   - Has rationale for organization, but somewhat illogical or not driven by accurate clinical reasoning
   - Well organized and logical, mostly driven by clinical reasoning
   - Well organized, fluid (information logically connects) and clearly driven by accurate clinical reasoning
   - Unable to assess

<table>
<thead>
<tr>
<th></th>
<th>Straightforward/common</th>
<th>Complex/atypical</th>
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</thead>
<tbody>
<tr>
<td>Lacking organization</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Has rationale</td>
<td>□</td>
<td>□</td>
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<tr>
<td>Well organized</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Well organized, fluid</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Unable to assess</td>
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</table>

2. **History & Physical Exam - Content**
   - Missing key information and/or contains inaccurate information
   - Includes only simplistic or key clinical information AND/OR applies a general examination lacking clear clinical reasoning, and/or missing some components
   - Includes accurate and reasonably complete clinical information, mostly driven by clinical reasoning
   - Accurate and complete including data from secondary data sources (where appropriate), incorporating multiple Determinants of Health in appropriate detail. Applies astute clinical reasoning through targeted hypothesis driven questions and physical examination maneuvers
   - Unable to assess

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<tr>
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<tr>
<td>Includes simplistic</td>
<td>□</td>
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</tr>
<tr>
<td>Includes acc.</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Accurate and complete</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Unable to assess</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Assessment: Making it Count for Learners

- What is being observed?
  - Ex. Problem focused exam

- Goal
  - Was desired task performed/goal met?
  - Ex. Our CET

- Assessment

- Feedback/Action plan
  - Provide feedback to learner
  - Ask learner to create action plan

Norcini JJ and Burch V. (2007)
Feedback

The process of giving data back to the learner for the purpose of bringing about

CHANGE
Evaluation + Feedback = Teaching
Feedback Should Be:

• **Expected** - at a set time interval
• **Well timed** - ideally soon after the observed behavior
• Based on **first hand** observed data
• **Regulated in quantity** depending on the needs of the learner
Feedback Should Be:

- **Descriptive** and non-judgmental of specific behavior or lack thereof
- Concerned with **decisions and actions**, not assumed intentions
- Limited to **remediable behaviors** and not personality traits
Basic Feedback Should....

• Always enlist the learners perspective
• Provide guidance to resolve problems or further improve
• Have a defined timeline for implementing change and re-evaluation
• And be served as a sandwich-positive /corrective/positive? however will this model bring change and improvement?

• But this isn’t enough.....
Forward with Feedback

Miriam Hoffman, Michael Giuliano, Jennifer Kobrin, Elizabeth Koltz, Ofelia Martinez, Keith Metzger, Sally Schwab, Ron Silvis, Marygrace Zetkulic

June, 2018
Feedback conversations where:
- Goal is Identified
- Self-Assessment
- Incorporation of Observations
- Coaching Plans are Co-developed
Feedback should be SPECIFIC!

- The more detailed and specific the better
- Being vague leaves the learner at a loss of what to work on to improve
- Saying “good job” is a compliment – it feels good, but does not make you “good”.
- Examples of unhelpful feedback:
  - Read more
  - You will make a great doctor one day
“What” not “Why” – Language is Important

• Focus comments on “what” you observed that was done or said, not on “why” you think something was done.

• Avoid asking “why did you do that”, rather ask, “what was going on when you did...” or, “what was your thinking when you said...”
Feedback conversations where:
- Goal is Stated
- Self-Assessment
- Incorporation of Observations
- Coaching Plans are Co-developed
SOM Feedback Conversation Model

Giver
Start the feedback with a specific goal or target in mind. For example, know the learners growth plan. It may be a goal identified by your peer or part of growth plan, or someone just asking for feedback.

Receiver
Ask for feedback coming prepared with your self-assessment and your smart goals.
Self-Assessment of the goal
-Ask the learner what their assessment of their performance is.
Provide your observations, both gaps and strengths.

- State both gaps (1-2) and strengths, based on your observations. Use verbs describing what you saw as opposed to providing your assumptions and judgement statements.
Coaching Plans or Next Steps and Follow-Up

- A coaching plan can be as brief as one or two action items.
- The key to a good plan is:
  1.) Ask the learner what they think they can do?
  2.) Provide actions with input and resources, if possible.
  3.) Agree on a follow-up plan.
Coaching Plans need to be collaborative and SMART
How Do High Achievers Think?

Fixed Mindset

- Something you’re born with
- Something to avoid
- Could reveal lack of skill
- Unnecessary
- Something you do when not enough talent
- Get Defensive
- Takes it Personally
- Blame others
- Get Discouraged

Growth Mindset

**SKILLS**

- Comes from hard work
- Can always improve

**CHALLENGES**

- Embraces
- An opportunity to grow
- Essential
- A path to mastery

**EFFORT**

- Valued
- Something to learn from
- Identifies areas to improve
- Use as a wake up call to work harder

**FEEDBACK**

- Identifies areas to improve
How Do High Achievers Practice?
Where do you want yourself? Your learners?

There is always someway I can improve

This is the way I always did this.
No one’s complaining, I’ll just keep doing it this way

I don’t have what it takes, why try

Deliberate Practice

1 Peak, Anders Erickson
The Purpose of narrative evaluations

• To summarize performance for the student and teacher especially in areas of attitudes, interpersonal communication and professionalism.
• To communicate meaningful summary information to other parties (program directors)
• To provide information for planning future educational experiences
• To identify areas that need revision
• To compare a student’s skills to those of others, or to certain competencies that will determine whether or not a student progresses
Resident as Team Teacher Learner Educator Diagnostician

RATTLED Curriculum

Thinking 101- Diagnostic process and Dx Error

Michael Giuliano MD, MEd, MHPE, MA
Assistant Dean for Faculty, Resident and Student development

Hackensack Meridian School of Medicine
Three BIG Questions/Objectives

I. How are clinical problems solved?

II. What kind of diagnostic models are used to aide this process?

III. How can we learn to become better clinical problem solvers and avoid common errors?
Catching Clouds? Diagnostic Error is hard to Define
Learning Objectives for Thinking 101

• Define diagnostic error
• Create a culture in which diagnostic errors are opportunities to learn (not errors to hide)
• Share stories of diagnostic error and list lessons learned about built in cognitive biases we all share
• List potential “habits” of mind and systems to reduce Dx error
• Demonstrate how do we teach this to our students? Our peers? Our faculty
Definition of Diagnostic Error

- A diagnostic error is one where the diagnosis is unintentionally delayed-sufficient information was available earlier

- Wrong, where another diagnosis was made before the correct one or

- Missed with no diagnosis ever made until more definitive information becomes available
The Medical Culture surrounding Error? Not My Problem? Or Hide the Problem?
We Need a culture that Stops and Smells the Errors Expecting them and Using them to improve systems
Literature on Diagnostic Error Suggests...

*literature notes broad range of 2% to 25% of patients affected by a “diagnostic error”

• Autopsy studies over the past 30 years reveal a consistent 10% rate of significant “surprises”
Models for Clinical Problem Solving/Duel Processing

- Hypothesis/Deductive reasoning (System 2 thinking)
- Algorithmic reasoning
- Pattern recognition (System 1 thinking)
Sources of Diagnostic Error by Individuals...

- Intellectual factors
  - Lack of knowledge
  - Overconfidence in knowledge
  - Bias (CDR’s)
- Failure to check for errors
  - Reluctance to change initial opinion
  - Lack of detailed follow up
  - Inadequate peer review with propagation or errors
Individuals are rarely perfect and make errors: Sandy Koufax Perfect game 9/9/65 is rare
Why did I miss the diagnosis?

• It never crossed my mind
• I paid too much attention to one finding, especially a lab result
• I didn’t listen enough to the patients story
• I was in too much of a hurry
• I didn’t know enough about the disease
I AM SORRY
I AM NOT LISTENING TO YOU
Why did I miss the diagnosis?

• I let the consultant convince me
• I didn’t reassess the situation
• The patient had too many problems at once
• I was influenced by a similar case
• I failed to convince the patient to investigate further
• I was in denial of an upsetting diagnosis

Error Analysis

• Didn’t consider the diagnostic entity - 26%

• Premature closure on the wrong dx – 24%

• Misinterpretation of a diagnostic test – 40%
Cognitive Dispositions to Respond (CDR) = Bias

• Error of over attachment to a particular diagnosis
  • e.g. Anchoring, Confirmation bias, Premature closure, Sunk costs

• Error due to failure to consider alternative diagnoses
  • e.g. Multiple alternatives bias, Representativeness restraint, Search satisficing, Sutton’s slip, Unpacking principle, Vertical line failure

• Error due to inheriting someone else’s thinking
  • e.g. Diagnosis momentum, Framing effect, Ascertainment effect, Bandwagon effect
Cognitive Dispositions to Respond (CDR) = Bias

• Errors in prevalence perception or estimation
  • e.g. Availability bias, Ambiguity effect, Base-rate neglect, Gambler’s fallacy, Hindsight bias, Playing the odds, Posterior probability error, Order effects

• Errors involving patient characteristics or presentation context
  • e.g. Fundamental attribution error, Gender bias, Psych-out error, Triage cueing, Contrast effect, Yin-yang out

• Errors associated with physician affect, personality, or decision style
  • e.g. Commission bias, Omission bias, Outcome bias, Visceral bias, Overconfidence/ under confidence, Vertical line failure, Belief bias, Ego bias, Sunk costs, Zebra retreat
100 Cases of Diagnostic Error in Internal Medicine- Graber

• No fault-7%

• Systems related- 65% (teamwork and communication)

• Cognitive- 74% (faulty synthesis, premature closure)

• Average case had 5.9 errors
Sources of Diagnostic Error

- **Systems** based errors
  - Complex care settings
  - Many steps in patient care
  - Many healthcare providers
  - Many systems interacting to deliver care
How Could Our Clinical Care Teams Reduce Diagnostic Error?

Tips for Better Teamwork

- Team understands the goals and is committed to attaining them
- Creativity, innovation, and different viewpoints are expected
- Communication is open, honest, and respectful
- People are comfortable taking reasonable risk
- Members of the team make high quality decisions together
World Champion Brooklyn Dodgers 1955:
A Team can even conquer the world (and the Yankee’s)
Your Microsystems Purpose

- Obtain patient information and transform it into recognizable clinical problems (active listening)

- Solve the problems with Hx, PE, Dx tests, time...and come to a diagnosis (use Dx aide)

- Manage the patient's problems/disease (EBM)

- Discharge from the microsystem (with follow up)
Goal: Minimizing Error in Your “Microsystem”

• Recognize the elements of the microsystem you work in (who, where, how of it)

• Identify the weak points where error is most likely (communication/team work/CDR)

• Learn the 10 “potential” habits for minimizing error
Reflection Exercise

• Think about a diagnostic error you were involved in?
• Consider the context of the error and discern if it was a cognitive bias at work or a systems issue or both (write it down)
• Share your story with your group and discuss other possible factors
• Propose solutions to help mitigate the individual cognitive error and the system error
Accept Errors
Learn from Errors
Critical takeaways:

• Finding information framework/ Master Adaptive learner
• Competencies/ EPO/EPA/ SMART learning objectives
• Be sure the residents have the clerkship specific learning objectives
• ONE MINUTE LEARNER- backbone of organizing clinical teaching
• Stanford Faculty Development Program model for rounding
• One-minute preceptor and SNAPPS model for presenting
• CET tool for evaluation
• Forward with feedback for growth oriented coaching
Make these models your own:

• Modify as needed in your context
• Utilize role play in practicing the models (esp. feedback)
• Active small group discussion about critical LO in your department
• Use calibration video’s for learning to utilize the CET
• Require a work product, ideally to be turned in, esp. with ILP’s and personal filing system plans.
• Make it fun, context specific and interactive.
We are here to help with development:

- [Michaela.Giuliano@hackensackmeridian.org](mailto:Michaela.Giuliano@hackensackmeridian.org) cell 201-983-1591

- [Douglas.Fabrizio@hackensackmeridian.org](mailto:Douglas.Fabrizio@hackensackmeridian.org) for HUMC programs

- [Joseph.Martinelli@hackensackmeridian.org](mailto:Joseph.Martinelli@hackensackmeridian.org) for Mountainside/Palisades