Strategies for Assessing Challenging Milestone Elements

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Mayo Clinic, Rochester, MN

Consortium of Neurology Program Directors
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Goals

• At the end of the session, participants should be able to discuss and implement a variety of strategies to assess challenging milestone elements in their programs

• To generate a discussion around milestone implementation at the program level, and opportunities to improve them
Outline

• Brief background on the milestones
• Using translating assessment systems to inform the milestones
• Challenging milestones elements, and potential assessment solutions
• Discussion
In 2013 and 2014, the ACGME implemented the Next Accreditation System (NAS), incorporating a number of significant changes to the accreditation process:

- More comprehensive data collection (annual resident/faculty survey, WebADS)
- Less frequent physical visits (self study visits for programs)
- Comprehensive institution-level site visits (Clinical Learning Environment Review [CLER] Program)
- Assessment of trainees along a series of specialty-specific milestones
Background: Milestones

The ACGME milestones are developmental outcomes that represent an educational continuum from the beginning of training to readiness for unsupervised practice.

• Milestones were designed to be:
  “Progressively demonstrated, competency-based developmental outcomes”

• Milestones were not designed to be:
  “Assessment tools”
<table>
<thead>
<tr>
<th>Worst</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Average</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Best</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
</table>
### Neurological Exam — Patient Care

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Performs complete neurological exam</td>
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<td>• Performs a relevant neurological exam incorporating some additional appropriate maneuvers</td>
<td>• Efficiently performs a relevant neurological exam accurately incorporating all additional appropriate maneuvers</td>
<td>• Consistently demonstrates mastery in performing a complete, relevant, and organized neurological exam</td>
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<td>- Visualizes papilledema</td>
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**Comments:**
Developing Assessment Tools to Inform Your Milestones

Step 1: Diagnose your milestones

Scope?

Narrow
Specific
Evaluable in fewer settings
Clinically intuitive

Broad
Versatile
Evaluable in more settings
# Developing Assessment Tools to Inform Your Milestones: Diagnose your milestones

<table>
<thead>
<tr>
<th>Adult Elbow Fracture – Patient Care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1</strong></td>
</tr>
<tr>
<td>• Obtains history and basic physical (e.g., age, gender, mechanism of injury, deformity, skin integrity, open/closed injury)</td>
</tr>
<tr>
<td>• Splints fracture appropriately</td>
</tr>
<tr>
<td>• Provides basic peri-operative management (e.g., post-operative orders, ice, elevation, compression)</td>
</tr>
<tr>
<td>• Lists potential complications (e.g., infection, hardware failure, stiffness, reflex sympathetic dystrophy [RSD], neurovascular injury, posttraumatic arthritis)</td>
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Developing Assessment Tools to Inform Your Milestones: Diagnose your milestones

<table>
<thead>
<tr>
<th>Critical Deficiencies</th>
<th>Requires direct supervision to ensure patient safety and quality care</th>
<th>Requires indirect supervision to ensure patient safety and quality care</th>
<th>Independently manages patients across inpatient and ambulatory clinical settings who have a broad spectrum of clinical disorders including undifferentiated syndromes</th>
<th>Manages unusual, rare, or complex disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot advance beyond the need for direct supervision in the delivery of patient care</td>
<td>Inconsistently manages simple ambulatory complaints or common chronic diseases</td>
<td>Provides appropriate preventive care and chronic disease management in the ambulatory setting</td>
<td>Provides comprehensive care for single or multiple diagnoses in the inpatient setting</td>
<td>Seeks additional guidance and/or consultation as appropriate</td>
</tr>
<tr>
<td>Cannot manage patients who require urgent or emergent care</td>
<td>Inconsistently provides preventive care in the ambulatory setting</td>
<td>Under supervision, provides appropriate care in the intensive care unit</td>
<td>Initiates management plans for urgent or emergent care</td>
<td>Appropriately manages situations requiring urgent or emergent care</td>
</tr>
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<td>Does not assume responsibility for patient management decisions</td>
<td>Inconsistently manages patients with straightforward diagnoses in the inpatient setting</td>
<td>Under supervision, provides appropriate care in the intensive care unit</td>
<td>Cannot independently supervise care provided by junior members of the physician-led team</td>
<td>Effectively supervises the management decisions of the team</td>
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<td>Unable to manage complex inpatients or patients requiring intensive care</td>
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<td>Cannot independently supervise care provided by junior members of the physician-led team</td>
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Developing Assessment Tools to Inform Your Milestones

Step 1: Diagnose your milestones

Step 2: “Find” each milestone in your program

Step 3: For those milestones not covered in your curriculum, decide where and how to add them (OSCE, simulation, didactics, etc)

Step 4: Design and implement assessment tools that translate to the milestones

For “narrow scope” subcompetencies, evaluations can be drawn more directly from the milestones

For “broad scope” subcompetencies, translation tools are needed to create useful evaluations
Neurological Exam — Patient Care

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Translation Tools for the Milestones: Entrustable Professional Activities (EPAs)

Activities that together constitute the mass of critical elements that operationally define a profession

• Generally observable behaviors (unlike competencies, which describe people, not actions)

• Assessed on an entrustment scale

• Require skills from (and therefore can be mapped to) multiple competencies

Translation Tools for the Milestones: Observable Practice Activities (OPAs)

Those individual, observable practices with which trainees are progressively entrusted during training

- Generally observable behaviors (unlike competencies, which describe people, not actions)
- Assessed on an entrustment scale
- May require skills from (and therefore can be mapped to) multiple competencies

Translation Tools for the Milestones: EPAs, OPAs, ETC…

Recognize papilledema

Perform a brain death examination

Identify and manage neuromuscular emergencies

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<th>5</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>The trainee cannot perform this task even with direct supervision or assistance</td>
<td>The trainee can perform this task, but requires direct supervision or assistance</td>
<td>The trainee can perform this task with indirect supervision (ie, supervisor not present)</td>
<td>The trainee can perform this task without supervision (ie, could do this in independent practice)</td>
<td>The trainee has mastered this task (ie, could train others to perform this task)</td>
</tr>
</tbody>
</table>
Developing Assessment Tools to Inform Your Milestones: Faculty Development

- Multiple simultaneous changes enhance the need for faculty development
- Faculty (and residents) need to be aware of the developmental nature of milestone evaluations
- All milestone elements must be achieved to assign a given level
- Trainees will generally occupy lower levels early in training
Assessment of the Challenging Milestone

• What makes a milestone element challenging?
  • Hard to define
  • Hard to observe
  • Seems “outside” conventional clinical medicine
  • Infrequent opportunities to assess
  • Uncommon disorders or syndromes
  • Availability of faculty/assessment expertise in a specific area
Assessment of the Challenging Milestone

• What are some potential approaches?
  • Increase direct observation of trainees in clinical or simulated settings
  • Ask for assessments from a variety of sources (allied, health, peers, patients)
  • Examination questions
  • Expand the settings in which assessment occurs
Assessment of the Challenging Milestone

**Competency:** Professionalism  
**Subcompetency:** Compassion, integrity, accountability, and respect for self and others  
**Level:** 3

| Incorporates patients’ socio-cultural needs and beliefs into patient care |

- **Issue:** Faculty may not always be the most convenient primary evaluator of an element
- **Approach:** Ask others to assess!
Assessment of the Challenging Milestone

- Patient satisfaction form:

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Agree (average score)</th>
<th>Strongly Agree</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explains information to me and my family using clear, understandable language</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrates compassionate care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorporates my preferences, background, and beliefs into the treatment plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allows me to participate in the decision-making process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keeps me and my family informed of test results and changes in the care plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof 1/Level 3: Incorporates patients’ socio-cultural needs and beliefs into patient care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICS 1/Level 2: Engages patients in shared decision making</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICS 2/Level 3: Effectively communicates the results of a neurologic consultation in a timely manner</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Assessment of the Challenging Milestone

**Competency:** Professionalism  
**Subcompetency:** Compassion, integrity, accountability, and respect for self and others  
**Level:** 3  

Incorporates patients’ socio-cultural needs and beliefs into patient care

- **Issue:** Faculty may not always be the optimal primary evaluator of an element
- **Approach:** Ask others to assess!  
  - Patients  
  - Peers  
  - Allied health staff (nurses, assistants, EPCs)
Assessment of the Challenging Milestone

Issue: How do we assess performance that may not be observable on a typical clinical rotation?

- Not feasible for observer to be present
- Low frequency events

Approach: Simulation

Competency: Professionalism
Subcompetency: Relationship development, teamwork, and managing conflict
Level: 3

Manages conflict in complex situations
Assessment of the Challenging Milestone

- **Neurosimulation:**
  - Doesn’t have to be in a formal sim center
  - Allows a structured, observed interaction

**Competency:** Professionalism  
**Subcompetency:** Relationship development, teamwork, and managing conflict  
**Level:** 3  

Manages conflict in complex situations
Assessment of the Challenging Milestone

**Competency:** Professionalism  
**Subcompetency:** Relationship development, teamwork, and managing conflict  
**Level:** 3  

Manages conflict in complex situations

- **Neurosimulation:**
  - Allows assessment of numerous competencies:
    - ICS
    - Patient care
    - Professionalism
Assessment of the Challenging Milestone

- **Issue**: How do we capture performance that may not be observable on a typical clinical rotation?
  - Low frequency events (but you don’t want to put a question on every evaluation form)
- **Approach**: Simulated “oral boards” cases

**Competency**: Patient Care  
**Subcompetency**: Movement Disorders  
**Level**: 4  
**Manages movement disorder emergencies**
Assessment of the Challenging Milestone

Competency: Patient Care
Subcompetency: Movement Disorders
Level: 4

Manages movement disorder emergencies

• Despite the demise of the oral examination for initial certification, “oral boards” are incredibly useful assessment exercises

• 1-2 faculty/resident, 10 minutes/case

“You are asked to evaluate a 32 year old man with confusion, tachycardia, and twitching muscle movements…”
Assessment of the Challenging Milestone

Competency: Professionalism  
Subcompetency: Compassion, integrity, accountability, and respect for self and others  
Level: 1  

Describes effects of sleep deprivation and substance abuse on performance

• Issue: How do we assess performance on elements outside clinical practice?  
• Approach: Elements that require the trainee to “explain” or “describe” could be covered with test questions
Assessment of the Challenging Milestone

**Issue:** Definition of terms

**Approach:** CCCs need to develop operational definitions

- In our program, how are we going to treat these terms?
- How will we remember this at the next CCC meeting?

<table>
<thead>
<tr>
<th>Competency: Patient Care</th>
<th>Diagnoses and manages common cognitive/behavioral disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcompetency:</td>
<td></td>
</tr>
<tr>
<td>Cognitive/Behavioral Disorders</td>
<td></td>
</tr>
<tr>
<td><strong>Level:</strong> 3</td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Competency: Patient Care</th>
<th>Diagnoses and manages uncommon cognitive/behavioral disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcompetency:</td>
<td></td>
</tr>
<tr>
<td>Cognitive/Behavioral Disorders</td>
<td></td>
</tr>
<tr>
<td><strong>Level:</strong> 4</td>
<td></td>
</tr>
</tbody>
</table>
Assessment of the Challenging Milestone

**Competency:** Patient Care
**Subcompetency:** Headache Syndromes
**Level:** 5

Engages in **scholarly activity in headache syndromes** (e.g., teaching, research)

• **Issue:** How do we capture content that may not be observable on a typical clinical rotation?

• **Approach:** For **scholarly activity**, ask trainees to periodically upload CVs prior to CCC meetings or semiannual review
Assessment of the Challenging Milestone

Competency: PBLI  
Subcompetency: Self-directed learning  
Level: 2  

Use feedback to improve performance

• Issue: What if the element cannot be assessed in a relatively brief faculty-learner interaction?
• Approach: Include assessment of this element on your semiannual review form
## Assessment of the Challenging Milestone

<table>
<thead>
<tr>
<th>Competency: SBP</th>
<th>Subcompetency: Work in interprofessional teams to enhance patient safety</th>
<th>Level: 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Describes potential sources of system failure in clinical care such as minor, major, and sentinel events</td>
<td></td>
</tr>
</tbody>
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<tbody>
<tr>
<td></td>
<td>Participates in a team-based approach to medical error analysis</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Competency: Medical Knowledge</th>
<th>Subcompetency: Diagnostic Investigation</th>
<th>Level: 4</th>
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<tbody>
<tr>
<td></td>
<td>Explain diagnostic yield and cost-effectiveness of testing</td>
<td></td>
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</table>
Assessment of the Challenging Milestone

- Competency: SBP
  Subcompetency: Work in interprofessional teams to enhance patient safety
  Level: 3

- Describes potential sources of system failure in clinical care such as minor, major, and sentinel events

- Issue: How do we capture content that may not be observable on a typical clinical rotation?

- Approach: Integrate your milestone assessments into other venues
Assessment of the Challenging Milestone

Cost of Care

- Hospitalization #1 (5 days)
- Hospitalization #2 (10 days)

Root Cause Analysis

- ESR
- CRP
- Dom2 Private Room?
- TTE
- TEE
- MRI head

Potential interventions for follow-up of laboratory results

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Effort</th>
<th>Yield</th>
<th>Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician training on indications for laboratory testing</td>
<td>High</td>
<td>Low</td>
<td>No</td>
</tr>
<tr>
<td>Phone communication for abnormal laboratory results</td>
<td>Med</td>
<td>Med</td>
<td>Yes</td>
</tr>
<tr>
<td>Request alteration in ESL to include pertinent stroke labs</td>
<td>Low</td>
<td>Med</td>
<td>Yes</td>
</tr>
<tr>
<td>EMR pull of laboratory studies for trend assessment</td>
<td>High</td>
<td>High</td>
<td>Yes</td>
</tr>
<tr>
<td>Progress note checklist to include pertinent service labs</td>
<td>High</td>
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Assessment of the Challenging Milestone

• Issue: How do we capture content that may not be observable on a typical clinical rotation?

• Approach: Integrate your milestone assessments into other venues
  • Can include assessment questions (OPA, etc.) in conference evaluation!

Competency: Patient Care
Subcompetency: Work in interprofessional teams to enhance patient safety
Level: 3

Describes potential sources of system failure in clinical care such as minor, major, and sentinel events
Assessment of the Challenging Milestone

• Other challenging milestone elements?

• Why are they challenging?

• What are some potential solutions?
Conclusions

• Once you’ve designed an assessment system for your program, you have to decide how to assess performance on each milestone element

• For challenging milestone elements, be creative in your choice of evaluator, medium, and setting

• Share your solutions with your colleagues!
Questions?
Thank you!