Entrustable Professional Activities

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Disclosure statement

No conflict of interest reported

Consider becoming (Associate) Fellow of AMEE
Overview

1. Competency-based medical education
2. Entrustable Professional Activities
3. Entrustment as assessment
4. EPAs in undergraduate education
Competency-based medical education
Features of CBME

1. **Outcome**-based, not process-based: what is *attained* is key, not just what is *done*

2. Focus on capability that **integrates** knowledge, skill, attitude

3. **Time-independent**: length of training adapted to individual differences

4. **Individualized**: trainees and contexts are not identical
Recommendations of Carnegie Report 2010

1. Fixed standards, flexible pathways
2. Integration of knowledge and clinical experience
3. Professional identity formation
4. Habits of inquiry and innovation
Competency-Based Medical Education

Philosophy
• More complete description of the physician
• Graduating physicians only when they meet standards

Practice
• Detailed description of competencies
• Struggle with teaching and assessment
What critics say

**MEDICAL EDUCATION AND THE TYRANT OF COMPETENCE**

Monkey see, monkey do: a competency model in search of a critical edge

Martin Talbot

A critical time for medical education: the perils of competence-based reform of the curriculum

**Competency-based training: who benefits?**

Alexandra Brightwell, Janet Grant


DOI 10.1007/s10459-016-9748-8

**Faith-based medical education**

Cynthia R. Whitehead, Ayelet Kuper
Analytic approach to CBME
Analytic approach to CBME

The doctor
- Medical expert
- Collaborator
- Communicator
- Manager
- Health advocate
- Scholar
- Professional
Analytic approach to CBME

The doctor

- Medical expert
- Collaborator
- Communicator
- Manager
- Health advocate
- Scholar
- Professional

...
Analytic approach to CBME

The doctor

Medical expert
- With nursing staff

Collaborator
- With family

Communicator
- With patients

Manager
- With colleagues

Health advocate
- With trainees

Scholar

Professional

...
The complexity of CBME

<table>
<thead>
<tr>
<th>Role</th>
<th>161 key concepts</th>
<th>28 key competencies</th>
<th>116 enabling competencies</th>
<th>434 milestones (excl CPD)</th>
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<tbody>
<tr>
<td>Medical expert</td>
<td>16</td>
<td>5</td>
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</tr>
<tr>
<td>Communicator</td>
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</table>
Entrustable Professional Activities
EPA definition

Unit of professional practice to be entrusted to a trainee once sufficient competence has been reached.
EPAs

- **Entrustable**: Acts requiring trust - by colleagues, patients, society. Prohibited for unqualified persons.

- **Professional**: Confined to occupations with extra-ordinary legal or other qualification.

- **Activities**: Tasks that must be done. May be scheduled, may be listed in work descriptions.

EPAs ground competencies in daily practice.
## Competencies versus EPAs

<table>
<thead>
<tr>
<th>Competencies</th>
<th>EPAs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>person-descriptors</strong></td>
<td><strong>work-descriptors</strong></td>
</tr>
<tr>
<td>knowledge, skills, attitudes, values</td>
<td>essential parts of professional practice</td>
</tr>
<tr>
<td>• content expertise</td>
<td>• discharge patients</td>
</tr>
<tr>
<td>• collaboration ability</td>
<td>• counsel patients</td>
</tr>
<tr>
<td>• communication ability</td>
<td>• design treatment plans</td>
</tr>
<tr>
<td>• management ability</td>
<td>• lead family meetings</td>
</tr>
<tr>
<td>• professional attitude</td>
<td>• perform paracenteses</td>
</tr>
<tr>
<td>• scholarly habits</td>
<td>• resuscitate if needed</td>
</tr>
</tbody>
</table>
Does it fit?

Task (EPA) to be done

Person with their competencies
**EPAs require multiple competencies**

<table>
<thead>
<tr>
<th></th>
<th>EPA1</th>
<th>EPA2</th>
<th>EPA3</th>
<th>EPA4</th>
<th>EPA5</th>
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<tr>
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<td>++</td>
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<tr>
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<td>+</td>
<td></td>
<td>+</td>
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<td>+</td>
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<tr>
<td>Communicator</td>
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<td>Leader</td>
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<td>+</td>
<td>++</td>
<td>++</td>
<td></td>
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<tr>
<td>Health advocate</td>
<td>+</td>
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<td>Scholar</td>
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</tr>
<tr>
<td>Professional</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td>++</td>
</tr>
</tbody>
</table>

Assessment focused on EPAs
EPAs: a synthetic approach

Tasks of daily practice

- EPA1
- EPA2
- EPA3
- EPA4
- EPA5

- Medical expert
- Collaborator
- Communicator
- Leader
- Health advocate
- Scholar
- Professional

Tasks of daily practice correspond to different roles and responsibilities.
Entrustment as assessment
Challenges to the validity of traditional workplace-based assessment

Content specificity

- Sampling issues; unfamiliarity (idiosyncrasy) issues

Context specificity

- Context variation; expert judgment variation

Rater bias

- Halo, leniency, restriction or range, lack of reference framework

Low construct alignment of rating instruments

- Limitations of current checklists
Problems with workplace-based assessment

- Traditional psychometrics do not work well in the workplace
- Variance caused by raters and context is larger than variance caused by measured trainee qualities
- Worsened by lack of supervision, fragmented care, short patient stays, short rotations, little observation
- Generalizability theory including multiple sources of variance (a) will still not control for most error variance and (b) unfeasible for practical purposes
“Competent” redefined

“Beyond a threshold of ability that allows for trust to act unsupervised”
Growth of competence over time

- expert
- proficient
- competent
- advanced
- novice

Training → Deliberate professional practice

Justified entrustment decision
EPA competence curves for one trainee

Justified entrustment decisions
Another trainee

Justified entrustment decisions

Loss of trust

training
deliberate professional practice

Competence threshold

Compe-
thres-
iment

EPA4
EPA2
EPA1
EPA5
EPA3
A graded supervision scheme

Level 5: supervision may be given to others
Level 4: “unsupervised” practice allowed
Level 3: practice with indirect supervision
Level 2: practice with direct supervision
Level 1: observation only

"Competent"

Supervised training
## An individualized workplace curriculum

### Graded supervision allows for

1. Observing the activity
2. Acting with direct supervision present in the room
3. Acting with supervision available within minutes
4. Acting unsupervised, i.e. under clinical oversight
5. Providing supervision to juniors

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### Portfolio of: trainee Jones

<table>
<thead>
<tr>
<th>EPA</th>
<th>PGY1</th>
<th>PGY2</th>
<th>PGY3</th>
<th>PGY4</th>
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<tbody>
<tr>
<td>EPA a</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>EPA b</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>EPA c</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>EPA d</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

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An individualized workplace curriculum allows for varied levels of supervision, from observing the activity (PGY1) to providing supervision to juniors (PGY4). This approach ensures that trainees are gradually prepared for independent practice.
Fixed standards, flexible pathways

• **Intra-trainee variation**: trainees do not reach competence for everything on last day of training

• **Inter-trainee variation**: different prior knowledge and skills, learning ability, general attitude

• **Context variation**: variable clinical opportunities, local practice (epidemiology, facilities, culture), education-mindedness of staff

  One size does not fit all
Entrustment as assessment

• Inversely related to required supervision
• Recognition of \textit{ability} + \textit{right} + \textit{duty} to act
• Accepting manageable risk of adverse events

*Oxford Dictionary: “Competence”
Assessment with entrustment in mind

- Not rating on a scale 1-9 (of F-A)
- Not rating separate competencies only
- Think of EPAs as ‘whole-tasks’
- Think: how much supervision is needed? (When) can I leave this learner unsupervised?
The trust concept in EPA-based assessment

- Trusting someone is making yourself **vulnerable**.
- Taking a calculated **risk** that future adverse events are manageable.
- Graduates will be certified to carry out activities that supervisors have **not been able to observe** and leaners may have never encountered.
- Entrustment decisions require an estimation of **adaptive competence**.
What do humans value in others who they must trust?

1. ABILITY  Competence
2. INTEGRITY  Honesty/truthfulness, benevolence
3. RELIABILITY  Conscientious and consistent behavior
3. HUMILITY  Discernment of limitations + willingness to ask for help

Can I leave the theatre? A key to more reliable workplace-based assessment

J. M. Weller\(^1,2\), M. Misur\(^2\), S. Nicolson\(^2\), J. Morris\(^3\), S. Ure\(^4\), J. Crossley\(^5\) and B. Jolly\(^6\)

<table>
<thead>
<tr>
<th>What level of supervision did the trainee require for THIS patient overall</th>
<th>Trainee needs assessor in the theatre suite</th>
<th>Trainee needs assessor in the hospital</th>
<th>Trainee could manage this patient independently and does not require direct supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Making robust assessments of specialist trainees’ workplace performance

J. M. Weller\(^1,2\), D. J. Castanelli\(^3,4\), Y. Chen\(^1\) and B. Jolly\(^5\)

1. Not comfortable leaving the trainee unsupervised in theatre for any period of time.
2. Comfortable to leave trainee to go on brief coffee break in theatre tearoom. Not happy for trainee to instigate changes in management in your absences.
3. As in 2, but comfortable staying out of theatre for a bit longer (e.g. while eating your lunch). Trainee may instigate some new actions that you have previously discussed.
4. Happy to leave the theatre block but remain immediately available in the hospital. Feels the need to check in on the trainee at regular intervals.
5. Happy to leave the theatre block but remain immediately available (e.g. not take on another patient). Expect trainee to notify supervisor of any significant problem or event (e.g. persistent abnormal physiological parameter, major blood loss).
6. As in 5 but expect trainee to manage most problems initially, and call you if their initial management doesn’t work.
7. Could potentially be off-site but would want to review the trainee’s management plan before they started the patient.
8. Supervisor off-site. Confident that the trainee can make a good assessment and plant, but want to be notified that they are doing the patient.
9. Trainee could manage this patient as a consultant. Appropriate if they don’t contact supervisor. May have collegial discussion on the phone.
Entrustment Decisions: Bringing the Patient Into the Assessment Equation

Olle ten Cate, PhD

Abstract

Zwischen Scale for the Assessment of Intraoperative Performance

Brian C. George, MD,* Ezra N. Teitelbaum, MD,† Shari L. Meyerson, MD,† Mary C. Schuller, MSED,† Debra A. DaRosa, PhD,† Emil R. Petrusa, PhD,* Lucia C. Petito, MA,‡ and Jonathan P. Fryer, MD†

*Department of Surgery, Massachusetts General Hospital, Harvard University, Boston, Massachusetts; †Department of Surgery, Feinberg School of Medicine, Northwestern University, Chicago, Illinois; and ‡School of Public Health, University of California, Berkeley, California

Janelle Rekman, MD, Wade Gofton, MD, MEd, Nancy Dudek, MD, MEd, Tyson Gofton, PhD, and Stanley J. Hamstra, PhD
Psychology of traditional workplace assessment

She’s nice and works hard; it won’t hurt and will probably stimulate if I mark her ‘superior’

Please... mark me ‘superior’
She’s nice and works hard, but it may hurt my patients if I mark her ‘ready for unsupervised practice’.

Please... mark me ‘superior’.
Growth of competence and decrease of supervision over time

1 novice
2 advanced
3 competent
4 proficient
5 expert

Ready for unsupervised practice
Multiple ad-hoc entrustment decisions

Shades of decreasing supervision

Observe
2 direct
3 indirect
4 distant
no

EPA

training
deliberate professional practice
Assessment tools to ground summative entrustment decisions

1. Knowledge tests
2. Simulation
3. Short practice observations (MiniCEX, DOPS)
4. Case-based discussions
5. Long practice observation (MSF)
6. Products (reports, discharge letters)

E-Portfolios with mobile technology may capture information for summative entrustment decisions
EPAs in undergraduate medical education
UME examples worldwide

• 2014: USA: AAMC - Core entrustable professional activities for entering residency

• 2016: Canada: Entrustable professional Activities for the transition from medical school to residency

• 2017: Switzerland: Profiles: the New Objectives for Undergraduate Medical Education (including EPAs)

Core Entrustable Professional Activities for Entering Residency

Faculty and Learners’ Guide
ENTRUSTABLE PROFESSIONAL ACTIVITIES for the Transition from Medical School to Residency
The “Profiles” document: a modern revision of the objectives of undergraduate medical studies in Switzerland

Pierre-André Michaud\textsuperscript{a}, Patrick Jucker-Kupper\textsuperscript{b} and the Profiles working group\textsuperscript{c}
De Entrustable Professional Activities van CRU+
USA UME EPAs

1. Gather a history and perform a physical examination
2. Prioritize a differential diagnosis
3. Recommend and interpret common diagnostic and screening tests
4. Enter and discuss orders and prescriptions
5. Document a clinical encounter in the patient record
6. Give an oral presentation of a clinical encounter
7. Form clinical questions and retrieve evidence
8. Give or receive a patient handover
9. Collaborate as a member of an interprofessional team
10. Give urgent or emergent care
11. Obtain informed consent
12. Perform general procedures of a physician
13. Identify system failures and contribute to a culture of safety and improvement
1. Obtain a history and perform a physical examination adapted to the patient’s clinical situation
2. Formulate and justify a prioritized differential diagnosis
3. Formulate an initial plan of investigation based on the diagnostic hypotheses
4. Interpret and communicate results of common diagnostic and screening tests
5. Formulate, communicate and implement management plans
6. Present oral and written reports that document a clinical encounter
7. Provide and receive the handover in transitions of care
8. Recognize a patient requiring urgent or emergent care, provide initial management and seek help
9. Communicate in difficult situations
10. Participate in health quality improvement initiatives
11. Perform general procedures of a physician
12. Educate patients on disease management, health promotion and preventive medicine
Swiss Profiles Document EPAs

1. Gather a history
2. Perform a physical examination
3. Prioritize a differential diagnosis
4. Recommend and interpret diagnostic & screening tests
5. Perform general procedures
6. Recognize and address emergency situations
7. Develop a management plan
8. Document and present a patient’s encounter
9. Contribute to safety
Utrecht core EPAs

1. The clinical consultation
2. General medical procedures
3. Informing, advising & guiding patients and families
4. Communicating & collaborating with colleagues
5. Extraordinary patient care
EPA-Competency domain matrix

<table>
<thead>
<tr>
<th>EPAs for University Medical Center Utrecht</th>
<th>ME</th>
<th>CL</th>
<th>CM</th>
<th>HA</th>
<th>LE</th>
<th>PR</th>
<th>SC</th>
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<tbody>
<tr>
<td>1 The clinical consultation</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>2 General medical procedures</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Informing, advising and guiding patients and their families</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Communicating and collaborating with colleagues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Extraordinary patient care</td>
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</tr>
</tbody>
</table>

M: Medical Expert; CL: Collaborator; CM: Communicator; HA: Health Advocate; LE: Leader; PR: Professional; SC: Scholar
Brief descriptions of the five Core EPAs

1. The clinical consultation
   - History, physical examination, measuring vital signs, creating a differential diagnosis, ordering and interpreting diagnostic tests, designing a management plan, documentation

2. General medical procedures
   - Preparing and executing medical procedures including communication with the patient

3. Informing, advising & guiding patients and families
   - Discussing diagnostic options, test results or a management plan and documentation

4. Communicating & collaborating with colleagues
   - Writing discharge summary/letter, oral patient hand-overs, patient & research presentations, collaborating with health care workers and contributing to interprofessional teams

5. Extraordinary patient care
   - Basic life support, establishing death
START: Supervised Training in
- Attitude
- Research
- Teaching

**Block**
- LINK YELLOW
  - Family medicine, ENT, Ophthalmology, Public health, Dermatology

**Block**
- LINK RED
  - Pediatrics
  - ObGyn
  - Clinical genetics

**Block**
- LINK GREEN
  - Family medicine
  - Internal medicine
  - Surgery

**Block**
- LINK PURPLE
  - Internal medicine
  - Surgery
  - EM, Anesthesiology

**Block**
- LINK BLUE
  - Neurology
  - Psychiatry
  - Geriatrics

Non-clinical blocks and elective
<table>
<thead>
<tr>
<th>UNIT year</th>
<th>LINK GREEN BA 1</th>
<th>LINK RED MA 1</th>
<th>LINK BLUE MA 1</th>
<th>LINK YELLOW MA 2</th>
<th>LINK PURPLE MA 2</th>
<th>TRANSITIONAL YEAR MA 3</th>
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<tbody>
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<td>Disciplines</td>
<td>Int.med.; surgery; fam.med.</td>
<td>Pediatrics; obgyn; clin. genetics</td>
<td>Neurology; psychiatry; geriatrics</td>
<td>Fam.med.; ENT; Ophth; derm; PubH</td>
<td>Int.med.; surgery; anaesth.</td>
<td>All major disciplines as elective options</td>
</tr>
<tr>
<td>EPA 1</td>
<td></td>
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<td><strong>The Clinical Consultation</strong></td>
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<tr>
<td>EPA 2</td>
<td></td>
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<td><strong>General Medical Procedures</strong></td>
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<tr>
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<td></td>
<td></td>
<td><strong>Guiding, Informing and Advising Patients &amp; Families</strong></td>
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<tr>
<td>EPA 4</td>
<td></td>
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<td><strong>Communicating and Collaborating with Colleagues</strong></td>
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<td>EPA 5</td>
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<td><strong>Extraordinary Patient Care</strong></td>
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# Utrecht EPAs

<table>
<thead>
<tr>
<th>Core EPA</th>
<th>Smaller, earlier, nested EPAs</th>
</tr>
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<tbody>
<tr>
<td>1 The Clinical Consultation</td>
<td>Hx/Phx and vital parameters; gynecological consultation; consultation of the pregnant woman; consultation of the neonate; consultation of the child; genetic consultation; neurologic consultation; psychiatric consultation; geriatric consultation; short-episode care consultation; chronic care consultation; Social-medical consultation; peri-operative consultations; hospitalized patient consultation; outpatient clinic consultation; emergency consultation</td>
</tr>
</tbody>
</table>
## Utrecht EPAs

<table>
<thead>
<tr>
<th>Core EPA</th>
<th>Smaller, earlier, nested EPAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 General medical procedures</td>
<td>Venipuncture; IV insertion; participating in the OR; inserting a urine catheter; speculum investigation; obtaining routine bacterial cultures; administering an ECG; Intramuscular, intra and subcutaneous injection; arterial puncture; inserting gastric tube</td>
</tr>
<tr>
<td>3 Informing, advising and guiding patients and families</td>
<td>Discussing diagnostic options; requesting informed consent; discussion test results, prognosis and management; discharge interview</td>
</tr>
<tr>
<td>4 Communicating &amp; collaborating with colleagues</td>
<td>Writing discharge summary/letter, oral patient hand-overs, patient and research presentations, collaborating with health care workers and contributing to interprofessional teams</td>
</tr>
<tr>
<td>5 Care under unusual Conditions</td>
<td>Establishing patient death Basic and advanced life support</td>
</tr>
</tbody>
</table>
The nesting principle: small EPAs nested within broad EPAs for entering residency
1. Permission to be present, not to enact the EPA.

2. **Direct supervision.** Supervisor present in the room. Pro-active supervision.
   a. EPA conducted as a co-activity with supervisor
   b. EPA conducted alone, with supervisor in the room; ready to step in as needed

3. **Indirect supervision.** Supervisor not in the room but in health care facility and quickly available for reactive/on-demand supervision.
   a. All findings / decisions double checked
   b. Key findings / decisions double checked
   c. Findings / decisions discussed on student request

4. **Limited supervision.** Supervisor not present in health care facility.
   a. Supervisor is available on call to come and provide supervision
   b. Supervisor is not available but may provide feedback and monitoring in hindsight

5. Permission to supervise others in practice of this EPA.
Examples of risky EPAs

- “Prioritize a differential diagnosis”
- “Identify system failures”
- “Recognize a patient requiring urgent or emergent care”
- “Contribute to safety”

Specifications must include concrete activities that allow for a decision to move from direct supervision, through indirect supervision, to no supervision.
Examples of risky EPAs

- “Prioritize a differential diagnosis”
- “Identify system failures”
- “Recognize a patient requiring urgent or emergent care”
- “Contribute to safety”

Specifications must include concrete activities that allow for a decision to move from direct supervision, through indirect supervision, to no supervision.
7-item format of EPA description

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Title of the EPA</td>
</tr>
<tr>
<td>2</td>
<td>Specification and limitations</td>
</tr>
<tr>
<td>3</td>
<td>Most relevant domains of competence</td>
</tr>
<tr>
<td>4</td>
<td>Required experience, knowledge, skills, attitude and behavior for entrustment</td>
</tr>
<tr>
<td>5</td>
<td>Sources of information to assess progress and ground a summative entrustment decision</td>
</tr>
<tr>
<td>6</td>
<td>Entrustment for which level of supervision is to be reached at which stage of training?</td>
</tr>
<tr>
<td>7</td>
<td>Expiry date</td>
</tr>
</tbody>
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### 2.2 Infuus

<table>
<thead>
<tr>
<th>Titel</th>
<th>Specificatie en bepalingen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Omvat de voorbereiding voor en uitvoeren van het klaarmaken van het infuussysteem, het prikken en aansluiten van een infuus en de communicatie daarbij met de patiënt.</td>
</tr>
<tr>
<td></td>
<td>• De bekwaamverklaring betreft: Hemodynamisch stabiel, wilsbekwaam persoon (&gt;18 jaar indien invasieve verrichting)*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relevantie van competentiegebieden</th>
<th>Essentieel: medisch kennis en vaardigheden, organisatie &amp; efficiëntie, professionaliteit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overig: communicatie</td>
</tr>
</tbody>
</table>

**Tot de vereiste kennis behoren:**

- Kennis hebben van de relevante anatomie, fysiologie, (contra-)indicaties, baten, risico's, alternatieve, mogelijke complicaties en alarmsymptomen, protocollen en benodigde materialen voor het klaarmaken infusvloeistof, prikken en aansluiten van een infuus
- Kennis hebben van de verschillend infusnaalden

**Tot de vereiste vaardigheden behoren:**

- Opbouwen en klaarmaken van het infuussysteem (aanprikken infuuszak, ontluchten infuslijn)
- Technische vaardigheid van het prikken van het infuus en aansluiten van de infuslijn
- Kunnen controleren of het infuus correct is geplaatst en kunnen anticiperen op complicaties
- Geeft een duidelijke instructie en uitleg aan de patiënt tijdens de uitvoering
- Time-management

**Tot de vereiste attitude behoren:**

- Creëert in houding en contact een veilige omgeving waarin de patiënt zich comfortabel voelt
- Heeft aandacht voor een correcte identificatie van de patiënt
- Kent eigen grenzen t.o.v. kennis en kunde en zoekt zo nodig hulp/supervisie
- Hanteert hygiëne en veiligheidsvoorschriften

**Eisen voor bekwaamverklaring SV niveau 2a:**

- Minimaal 5 keer uitgevoerd
- Minimaal 1 observatie en 1 casusbespreking

**Eisen voor bekwaamverklaring SV niveau 2b:**

- Minimaal 10 keer uitgevoerd
- Minimaal 2 observaties en 2 casusbesprekingen

(hierbij mogen de uitvoeringen en beoordelingen van een eventuele bekwaamverklaring op een lager niveau worden meegerekend)

**Gronden voor beoordeling en bekwaamverklaring**

**Bepaalde niveau en fase**

- Verwacht moment behalen supervisieniveau 2a, eind LINK groen.
- Verwacht moment behalen supervisieniveau 2b, eind LINK paars

* De student wordt bekwaam verklaard voor deze patiëntengroepen. Bij overige patiëntengroepen mogen taken wel uitgevoerd worden, maar op een aangepast supervisieniveau.
**EPA 3 - Formulate an initial plan of investigation based on the diagnostic hypotheses**

| 1. Short description | The graduate selects a series of tests to help refine the differential diagnosis for a clinical presentation and enable him/her to make appropriate management decisions.  

The plan of investigation should be limited to common clinical situations expected for this level of training. |
|---|---|
| Most relevant CanMEDS roles | Medical Expert  
Leader  
Professional  
Health Advocate |
| 3. Entrustable Behaviours | Pre-Entrustable  
The learner  
- Orders tests that are not relevant or helpful in the clinical situation.  
- Does not discuss with patients the possible consequences of ordering certain tests  
- Does not take into account the potential adverse effects of the ordered tests.  
- Does not justify the selection of the tests according to best practices  
- Does not ensure a follow up of the tests |
| | Entrustable  
The learner  
- Orders (or decides not to order) tests considering their features and limitations (e.g., reliability, sensitivity, specificity), availability, acceptability for the patient, inherent risks and contribution to a management decision  
- In case of social implications of positive results, discusses the selection of the tests with patients/family/caregiver/advocate when ordering them (e.g. HIV, pregnancy in an adolescent)  
- Identifies levels of uncertainty at each step of the diagnostic process and do not over-investigate or under-investigate  
- Chooses diagnostic interventions using evidence or best practice/guidelines according to costs and availability of resources taking into consideration the way in which care is organized  
- Identifies who will be responsible for the follow-up of the test results. |
| 4. Assessment suggestions | This EPA should be assessed by direct observation of the learner at rounds, during review of a patient encounter, with case reviews or chart simulated recall. |
## Resuscitation of the multiple trauma patient in the Emergency Room

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Resuscitation of trauma patients of all age groups, in the Emergency Room. Active participation in the trauma team. Assessment and control of vital functions. Pain management in trauma patients. No limitations.</td>
<td></td>
</tr>
</tbody>
</table>
| 3 | - Medical expert  
- Communicator  
- Collaborator  
- Manager  
- Health advocate  
- Scholar  
- Professional |   |
| 4 | Trauma mechanisms & pathophysiology; Organization of trauma care; Collaboration in the trauma team; Trauma diagnoses & treatment; Primary & secondary survey; Trauma airway management; Emergency IV\(^1\) & IO\(^2\) access; Emergency thoracostomy; Hemorrhage / massive transfusion; Emergency Room registration procedures |   |
| 5 | 5 SPOs and 5 trauma CBDs (different days and assessors), incl. trauma airway management, emergency IV & IO access and emergency thoracostomy; LPO over >3 weeks (MSF); 2 trauma simulator achievement tests passed |   |
| 6 | Level 4 (unsupervised practice) in PGY 4 of anesthesiology training |   |
| 7 | Six months after non-practice |   |
Assessment and entrustment issues

Dominant sources of information for feedback, assessment and entrustment decisions for EPAs

- Short practice observations
- Short case-based discussions
- Longitudinal practice observations

Aimed level of supervision for almost all EPAs

- 3b (indirect supervision with key findings checked)

Summative entrustment decision (STAR) based on:

- Short observations, case-based discussions, longitudinal observations
- Multiple ad-hoc entrustment decisions before summative entrustment decision

E-portfolio system manages all data
Assessment and entrustment issues

LINK

- Short practice observations
- STARs for nested EPAs
- Case-based discussions
- Professional behavior
- Assessments per discipline
- Completion of integrated clerkship
- Integration in full EPAs
Example of portfolio assessment

<table>
<thead>
<tr>
<th>Student name:</th>
<th>Specialty:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>Setting:</td>
</tr>
<tr>
<td>Hospital:</td>
<td>Observer:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EPA:</th>
<th>Check level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>of supervision</td>
</tr>
<tr>
<td>Hospital:</td>
<td>recommended</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Below expectations</th>
<th>Meets expectations</th>
<th>Exceeds expectations</th>
<th>Narrative feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical expert</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Collaborator</td>
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<tr>
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<tr>
<td>Professional</td>
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</tbody>
</table>

Strong points

Points of development
Wrap-up

- CBME: a great advance, but translating competencies to teaching and assessment is problematic - EPAs add to CBME by connecting competencies to practice
- Workplace-based assessment is fraught with difficulties
- Entrustment decision-making may serve as a route forward
- Scales using supervision levels as anchors appear to increase reliability
- Entrustment decisions as assessment: area of ongoing research
- EPAs are applicable in UME, but summative decisions to entrust with unsupervised practice not applicable
Video resources on EPAs

Animation explaining EPAs for postgraduate training:

EPA-video animation

Animation explaining EPAs from the College of Anaesthetists of Ireland EPA Team

EPA-video animation2

Animation explaining EPAs from the University of Toronto

EPA-video animation3
References

- ten Cate, O., Snell, L., & Carraccio, C. (2010). Medical competence: the interplay between individual ability and the health care environment. Medical Teacher, 32(8), 669-75.