Effective Evaluations: A Guide for Preceptors

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Learning Objectives

• Compare and contrast each level of performance on the TCEP rubric scale and how that translates to pharmacy students becoming “practice-ready”

• Utilize the TCEP student evaluation rubric to assess student performance at different stages of professional development

• Employ evaluations as teaching tools to elicit student growth and development at the beginning, midpoint, and end of rotation

• Combine TCEP activity rubrics with professional experience to effectively assess students’ progress toward becoming practice-ready

• Discuss the role of end-of-rotation exit exams

• Utilize data provided by the student and college to improve preceptor and site performance

• Effective Evaluations: A Guide for Preceptors is accredited by ACPE for pharmacists and technicians.

• Dr. Randy Martin has not disclosed any financial or conflicts of interest in relation to this program.
Active Learning Ahead!

Instructions

• Evaluate the following Drug Information Responses using the TCEP Standardized Form at your table.

Student #1 – Drug Information Response
Thank you for your question regarding the selection of the appropriate anticoagulation therapy for VTE prophylaxis in patients with severe renal impairment. Patients who are hospitalized and/or critically ill are at significant risk for thromboembolic events due to the presence of one or multiple contributing factors of Virchow’s triad: hypercoagulability, hemodynamic changes, and endothelial injury or dysfunction. Since multiple antithrombotic drugs undergo renal clearance, this can complicate drug selection for patients with renal dysfunction and necessitate greater emphasis on proper drug and dose selection for maintaining the balance between prevention of thrombosis and risk of bleed.

Current CHEST Guidelines do not address specific considerations for this subpopulation beyond the recommendation that, in the setting of severe renal impairment (CrCl < 30 mL/min), doses of low-molecular-weight heparins should be reduced (IIC). 1 A review of the literature suggests that data is lacking as many studies do not include patients with renal dysfunction, but the most well-established options at this time are unfractionated heparin, which does not require renal adjustment, and enoxaparin, which is the most studied LMWH for this population. Argatroban is an anticoagulant that has been tested specifically with renal impairment and does not require dose adjustment as it undergoes hepatic metabolism, however pharmacokinetic data is lacking.2 Due to a lack of evidence-based guidelines, clinical judgment is key in managing therapeutic efficacy without compromising patient safety. LMWH are widely used and still may be considered in patients with renal impairment, but it should be noted that a meta-analysis examining their use in these patients showed a 2 to 3 fold increase in major bleeding events when compared to patients with normal renal function.3 There is insufficient data to suggest that LMWH should be avoided entirely in this population, however if they should be used, dose adjustment is recommended.

In summary, although there are a wide array of anticoagulant options for VTE prophylaxis in patients with renal impairment, it is important to assess the pharmacokinetic properties of each drug and the possible consequence of their use under these circumstances. The most studied options at this time are UFH and enoxaparin, but regardless of the specific drug selected, appropriate dose adjustment and close monitoring of relevant labs should be carried out.

References:

Student #2 – Drug Information Response
Re: Avycaz treatment and renal impairment dosing

To begin with, thanks for the question regarding Avycaz (Ceftazidime/Avibactam), formerly known as NXL104, which is a new cephalosporin-beta lactamase inhibitor combination approved in February 2015. It has activity against Gram negatives including some Klebsiella pneumoniae producing carbapenemases, class A enzymes and extended spectrum cephalosporinase that contain Amp C gene (Class C enzymes). It is administered intravenously 2.5mg every 8 hours IV infusion over 2 hours for 5 to 14 days.

In a Phase III clinical trial, it was observed that Avycaz was not metabolized by the kidney or liver, but was renally excreted in its unchanged form. Also, patients with baseline CrCl of 30 ml/min to 50 ml/min demonstrated lower clinical response. In view, some recommendations of renal monitoring and dose adjustment were made.

A Phase I multicenter, open-label Pharmakokinetic Cohort study conducted in hospitalized pediatrics with infection and receiving systemic antibiotics concluded that a single dose of Avycaz was comparable between each of the four (4) age cohorts [Cohort 1: >12yrs to <18yrs, Cohort 2: >6yrs to <12 yrs; Cohort 3: 2yrs to <6 yrs and Cohort 4: >3months to <2yrs] and also, no new safety concerns were identified.

In summary, patients with impaired kidney function currently taking or about to take Avycaz need their CrCl monitored as well as an adjustment in dosage [CrCl: 30 – 50 ml/min 1.25g Q8h and CrCl < 30ml/min 0.94g Q12h to 24h].

References:
Share at Your Table

• Compare your scores
  • What is the range of your scores?
  • What was the lowest? What was the highest?

• Discussion questions:
  • Did you want to change the grade for Student #1 after reading the response from Student #2?
  • Would you have graded the responses differently if you only received one of them?
  • Do you want to change the grades after discussing at your table?

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>CRITERIA 1</th>
<th>CRITERIA 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug Information Question</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug information question clearly defined, summarized the question or therapeutic dilemma; identified and referenced pertinent data and information.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to formulate appropriate literature review; Appropriate use of primary, secondary, tertiary literature sources.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature Review and Evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perform critical analysis of primary literature; summarized available data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature Review and Evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required comprehensive literature, applies information from critical analysis of literature, applies therapeutic and pharmacological knowledge.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Format of Presented Material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written: Organized, coherent response with logic, grammatically correct, no typographical errors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal: Appropriately organized, appropriate in speaker, clear concise, and logical in organization.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fielded questions effectively; Effectively communicates response to audience.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professionalism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-directed and displays independence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conscientious and follows through</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timeliness in response</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proper citation of references</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assessment in Experiential Education
What is “Assessment”?  

- Assessment is data collection and analysis  
- Assessment seeks to answer the following questions:  
  - What do students know?  
  - What do students understand?  
  - What can students do with their knowledge?  
- Assessment culminates in quality improvement of the teaching/learning process

Principles of Good Practice of Assessing Student Learning  

- Assessment  
  - Begins with educational values  
  - Accepts that learning is multidimensional, integrated, and progressive  
  - Has clear, explicit purposes  
  - Pays equal attention to outcomes and the experiences that lead to those outcomes  
  - Should be ongoing, not episodic  
  - Involves representatives from across the educational community  
  - Illuminates questions people care about  
  - Should be integrated into a larger scheme of continuous quality improvement  
  - Through assessment, educations meet their responsibility to the student, public, and profession

Assessment of the Student  

- Preceptor evaluation of the student  
- Assignment rubrics  
- Direct observations  
- Written exit examinations  
- Objective structured clinical examinations (OSCEs)  
- Student self-evaluation
Active Learning - Self-Assessment

• Reflect on your own process for assessment.
• How do you assess student performance as a preceptor?
• Does your process meet all of the good practices of assessment (right)?

- Reflects educational values
- Multidimensional and integrated
- Detects progressive growth
- Clear purposes
- Includes outcomes and experiences
- Ongoing, not episodic
- Involves across the educational community
- Answers questions we care about
- Promotes continuous quality improvement

What are our educational values?

• Practice-ready
• Team-ready
What is **Practice-ready?**

**Perspective: Organizations/Expert Panels**

Hospital Entry-Level Competencies

- Professional Practice
- Medication Use System
- Medication Safety and Practice

Community Entry-Level Competencies

- Communication/Interpersonal
- Retail Care
- Leadership

**Perspective: Practicing Pharmacists**

- Retail
- Hospital

**Perspective: Pharmacy Practice Managers**

- Retail
- Hospital
What are our outcomes?

- Foundational knowledge
  - Learner
- Essentials for Practice and Care
  - Patient-centered care
  - Medication use systems management
  - Health and wellness
  - Population-based care
- Approach to Practice and Care
  - Problem solving
  - Educator
  - Patient advocacy
  - Interprofessional collaboration
  - Cultural sensitivity
  - Communication
- Personal and Professional Development
  - Self-awareness
  - Leadership
  - Innovation and Entrepreneurship
  - Professionalism

Assessment Road Map

Why Do We Assess Student Performance?
Assessment of Learning

- Summative assessment
  - What does the student know?
  - What can the student do?
  - What gaps exist?

- Toll gate assessment
  - Determines progression to the next phase
  - High stakes exams
  - OSCEs

Preceptor Evaluation of the Student

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(Excellent)</td>
</tr>
<tr>
<td>4.5</td>
<td>(Very Good)</td>
</tr>
<tr>
<td>4</td>
<td>(Good)</td>
</tr>
<tr>
<td>3.5</td>
<td>(Minimal Competency)</td>
</tr>
<tr>
<td>3</td>
<td>(Needs Improvement)</td>
</tr>
<tr>
<td>2</td>
<td>(Significant Deficits Exist)</td>
</tr>
<tr>
<td>0</td>
<td>(Unacceptable)</td>
</tr>
<tr>
<td>No Opportunity/ Not Observed</td>
<td></td>
</tr>
</tbody>
</table>

Student Performance

- Student has exceeded expectations and can function independently at all times.
- Student has met expectations and requires minimal to no guidance from preceptor (can perform independently ≥ 90% of the time).
- Student has met expectations and can complete task in a supervised situation with limited guidance from preceptor (can perform independently ≥ 80% of the time).
- Student has met expectations but requires occasional guidance from preceptor (can perform independently ≥ 70% of the time).
- Student requires significant guidance from preceptor (can perform independently < 70% of the time).
- Student requires significant guidance from preceptor, and preceptor must often complete activity for student (can perform independently < 50% of the time).
- Student does not function independently and requires direct supervision by preceptor at all times.
- No opportunities exist on this rotation to allow student to demonstrate skills. Demonstration of skills was not observed.
Preceptor Evaluation of the Student

**Rating 5**
(Excellent)

4.5  
(Very Good)

4  
(Good)

3.5  
(Minimal Competency)

3  
(Needs Improvement)

2  
(Significant Deficits Exist)

0  
(Unacceptable)

**No Opportunity/Not Observed**

**Student Performance**

- **Student has exceeded expectations and can function independently at all times.**
- **Student has met expectations and requires minimal to no guidance from preceptor** (can perform independently $\geq 90\%$ of the time).
- **Student has met expectations and can complete task in a supervised situation with limited guidance from preceptor** (can perform independently $\geq 80\%$ of the time).
- **Student has met expectations but requires occasional guidance from preceptor** (can perform independently $\geq 70\%$ of the time).
- **Student requires significant guidance from preceptor** (can perform independently $< 70\%$ of the time).
- **Student requires significant guidance from preceptor, and preceptor must often complete activity for student** (can perform independently $< 50\%$ of the time).
- **Student does not function independently and requires direct supervision by preceptor at all times.**
- **No opportunities exist on this rotation to allow student to demonstrate skills.**
- **Demonstration of skills was not observed.**

**Rotation 3, 4, 5**

**Rotation 6, 7, 8**

**Predicted Progressive Student Performance**

Preceptor Rating Prediction Assuming Progressive Development of APPE Students
Prediction vs. Reality of Student Performance

Rating Prediction Assuming Progressive Development vs. Actual Preceptor Ratings of APPE Students

Preceptor Evaluation of the Student

Active Learning Ahead!
Table Discussion

• “Student has exceeded expectations and can function independently at all times.”

• What does independently mean to you?
  a) The student can do your job better than you can
  b) The student can do your job as good as you can
  c) The student can cover you if you are sick
  d) The student can cover your lunch

• Where should IPPE students perform on the TCEP rubric?

Assessment for Learning

Assessment for Learning

- Formative Assessment
  - Used for improvement rather than accountability or final decisions
  - Done throughout the teaching-learning process
  - Provide feedback and allow for correction
  - Can occur at any stage of the learning process
  - Examples:
    - Homework
    - Quizzes
    - Pre-tests
    - Self-assessment
    - Reflections
    - Feedback Fridays

Key Components of Formative Assessments

- It is a process, not a single activity
- It is about learning
  - Reduce extrinsic motivators
  - It's not about the grade!
- Provide feedback to improve student learning
- Focus on progress!
- Provide faculty/preceptors with information to modify instruction, activities, and experiences
- Allow student self-assessment to improve self-awareness of their own learning

Elements of Effective Feedback

- Adapted S.M.A.R.T. model
  - Specific
  - Measurable & Meaningful
  - Accurate & Actionable
  - Respectful
  - Timely

Feedback should be **SPECIFIC**

- “You have a lot of room for improvement in patient care activities.”

- Tips
  - Provide details of your observations concerning performance
  - Give multiple examples when possible
  - Separate what went well, and what didn’t go well
Feedback should be **MEASURABLE & MEANINGFUL**

- “You need to be more professional.”

  - **Tips**
    - Focus attention to actions and examples of behavior
    - As subjectivity increases, specificity of feedback needs to increase

Feedback should be **ACCURATE & ACTIONABLE**

- “You should be more proactive.”

  - **Tips**
    - Be open to new information from the student
    - Be aware of the time frame remaining for improvement
    - Help prioritize improvement needs for the student (rule of 3)
    - Provide examples of corrective action

Feedback should be **RESPECTFUL**

- “I know you already signed on with a retail store, but you need to try harder on this rotation.”

  - **Tips**
    - Focus feedback on PERFORMANCE, not the PERFORMER
    - Don’t assign motivations to students’ actions
    - Balance negative feedback with positive feedback when appropriate
Feedback should be **TIMELY**

- "I was busy at the beginning of your rotation, so I just graded your week 1 SOAP note and this week’s SOAP note together. Both had huge gaps in monitoring."

- **Tips:**
  - Provide feedback as close to the observation as possible
  - Allow adequate time for improvement

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**Active Learning Ahead!**

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**Instructions**

- Assume this is a non-graded activity. Evaluate the following Drug Information Responses. Utilizing the TCEP rubric as a formative assessment, what key feedback would you provide to the student?
Student #1 – Drug Information Response

Thank you for your question regarding the selection of the appropriate anticoagulation therapy for VTE prophylaxis in patients with severe renal impairment. Patients who are hospitalized and/or critically ill are at significant risk for thromboembolic events due to the presence of one or multiple contributing factors of Virchow’s triad: hypercoagulability, hemodynamic changes, and endothelial injury or dysfunction. Since multiple antithrombotic drugs undergo renal clearance, this can complicate drug selection for patients with renal dysfunction and necessitate greater emphasis on proper drug and dose selection for maintaining the balance between prevention of thrombosis and risk of bleed.

Current CHEST Guidelines do not address specific considerations for this subpopulation beyond the recommendation that, in the setting of severe renal impairment (CrCl < 30 mL/min), doses of low-molecular-weight heparins should be reduced (IIC). A review of the literature suggests that data is lacking as many studies do not include patients with renal dysfunction, but the most well-established options at this time are unfractionated heparin, which does not require renal adjustment, and enoxaparin, which is the most studied LMWH for this population. Argatroban is an anticoagulant that has been tested specifically with renal impairment and does not require dose adjustment as it undergoes hepatic metabolism, however pharmacokinetic data is lacking. Due to a lack of evidence-based guidelines, clinical judgment is key in managing therapeutic efficacy without compromising patient safety. LMWH are widely used and still may be considered in patients with renal impairment, but it should be noted that a meta-analysis examining their use in these patients showed a 2- to 3-fold increase in major bleeding events when compared to patients with normal renal function. There is insufficient data to suggest that LMWH should be avoided entirely in this population; however, if they should be used, dose adjustment is recommended.

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In a Phase II clinical trial, it was observed that Avycaz was not metabolized by the kidney or liver, but was renally excreted in its unchanged form. Also, patients with baseline CrCl of 20 ml/min to 50 ml/min demonstrated lower clinical response. In view, some recommendations of renal monitoring and dose adjustment were made.

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In summary, patients with impaired kidney function currently taking or about to take Avycaz need their CrCl monitored as well as an adjustment in dosage [CrCl: 30 – 50 ml/min 1.25g Q8h and CrCl < 30ml/min 0.94g Q12h to 24h]. Besides, the question of usage by patients on dialysis has not been fully explored, as there are currently no research data, clinical trials or studies to further provide the much-anticipated answer. As such, patient on dialysis are not to be given this new medication.

References:
Self-Assessment

Do you ever think about what you think about?

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug Information Question</td>
<td>5</td>
</tr>
<tr>
<td>Literature Sources</td>
<td>5</td>
</tr>
<tr>
<td>Literature Review and Evaluation</td>
<td>5</td>
</tr>
<tr>
<td>Conclusion/Answer/Response</td>
<td>5</td>
</tr>
<tr>
<td>Format of Presented Material</td>
<td>5</td>
</tr>
<tr>
<td>Professionalism</td>
<td>5</td>
</tr>
<tr>
<td>Timeliness in response</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Student #2 Self-Assessment

Active Learning

• Think about how you think...
• Case: Your pharmacy and clinical leadership have decided that pharmacists will now select perioperative antibiotics and doses. You have been provided with a protocol and algorithm which was developed by your infectious disease pharmacist.

• How will you learn the new program?

• What steps will you take to be ready when the program rolls out next month?
Metacognition

- Awareness and understanding of your own thought processes
- Self-awareness enhances performance
- Inexperienced and incompetent individuals LACK metacognition
- Poor performers significantly overestimate their performance
- Gender differences in metacognition
- Metacognitive learners are strategic in learning process

Monitoring Metacognition

- Written reflection
  - Changes in perspectives, perceptions
  - Identification of new strengths
  - Identification of new gaps
  - Next steps
- Debriefing
  - “Walk me through your process.”

Self-Authorship

Following Formulas
- Influenced by Authority
- Follows rules, algorithms, guidelines

Crossroads
- Influenced by Authority
- Engages in self-direction
- Looks to authority for confirmation

Becoming Self-Authored
- Influenced by Self
- Students direct their own lives
- Use authority for confidence building and as a positive role model

Internal Foundations
- Influenced by Self
- Students have a fully self-directed foundation of beliefs and values
Reflection and Learning Partnership Model

- Utilize both interactive and written reflection
- Balance challenge and support
- Model
  - Read and review 3 articles by the “authority”
  - Participate in a preceptor-facilitated discussion
  - Defend and Devil’s Advocate
  - Hold self accountable to those that they agreed with
  - Written reflection on how the articles influenced their development and identify opportunities for improvement

Validate the learner as a knower. Mute the voice of authority.
Reinforce “self” as central to growth. Students should bring their perspective into play.
Promote mutual learning and sharing of expertise, knowledge, and authority.

Assessment for Program Development

- Educational outcomes met
- High quality preceptors
- Sites are conducive to learning
- Adequate diversity of experience

Educational Outcomes

- Center for Advancement of Pharmacy Education (CAPE) 2013 Outcomes
- Accreditation Council for Pharmacy Education (ACPE) Standards
- Interprofessional Educational Collaborative (IPEC) Competency Standards
- Pharmacist’s Patient Care Process
- Entrustable Professional Activities (EPA)

Entrustable Professional Activities

AACP’s answer to Practice & Team Ready

What are EPAs?

- Specific tasks or responsibilities, which they are entrusted to perform without direct supervision
- Previously developed for medical programs to bridge a performance gap between completion of medical school and residency
- Pharmacy EPAs are categorized approximately parallel to CAPE
- Both competence in the activity and level of entrustability are measured

Levels of Entrustability

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Observe Only</td>
<td>Learner is permitted to observe only. Even with direct supervision, learner is not entrusted to perform the activity or task.</td>
</tr>
<tr>
<td>II. Direct Supervision</td>
<td>Learner is entrusted to perform the activity or task with direct and proactive supervision. Learner must be observed performing task in order to provide immediate feedback.</td>
</tr>
<tr>
<td>III. Reactive Supervision</td>
<td>Learner is entrusted to perform the activity or task with indirect and reactive supervision. Learner can perform task without direct supervision but may request assistance. Supervising pharmacist is quickly available on site. Feedback is provided immediately after completion of activity or task.</td>
</tr>
<tr>
<td>IV. Intermittent Supervision</td>
<td>Learner is entrusted to independently perform the activity or task with supervision at a distance. Learner can independently perform task. Learner meets with supervising pharmacist at periodic intervals. Feedback is provided regarding overall performance based on sample of work.</td>
</tr>
<tr>
<td>V. General Direction</td>
<td>Learner is entrusted to independently decide what activities and tasks need to be performed. Learner is entrusted to direct and supervise the activities of others. Learner meets with supervising pharmacist at periodic intervals. Feedback is provided regarding overall performance based on broad professional expectations and organizational goals.</td>
</tr>
</tbody>
</table>

AACP Core Entrustable Professional Activities Domains

- Professionalism
- Self-Esteem
- Communication
- Patient Care Provider
- Interprofessional Team Member
- Population Health Promoter
- Information Master
- Practice Manager
- Self-Developer

Closing the Loop
On Your Own – Review Your Self-Assessment

- Reflect on your own process for assessment.
- How do you assess student performance as a preceptor?
- Does your process meet all of the good practices of assessment (right)?
  - Reflects educational values
  - Multidimensional and integrated
  - Detects progressive growth
  - Clear purposes
  - Includes outcomes and experiences
  - Ongoing, not episodic
  - Involves across the educational community
  - Answers questions we care about
  - Promotes continuous quality improvement

Share at Your Table

- What is one thing you already knew that was reinforced today?
- What is one thing you learned today that you did not already know?
- What is one thing you will change about your preceptorship based on what you’ve learned?

Share with the Room

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- What is one thing you learned today that you did not already know?
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