Guidance Document for Developing CPE Activities for Residents

Houston Methodist Hospital’s (HMH) Continuing Pharmacy Education (CPE) Program serves to support the development and accreditation of CPE activities that advance knowledge, core competencies, and teaching abilities to further the practice of pharmacy. HMH’s CPE program follows institution-specific policies and procedures that are in compliance with ACPE Standards.

In order to fulfill our mission and maintain our status as an accredited provider in good standing, we have made the following materials available to ensure new activities uphold the requirements stipulated by ACPE. This document includes the following:

- Definition of CPE
- CPE application
- Faculty forms
- Needs Assessment Description, Instructions, form and example
- Learning Objective Guide
- Learning Assessment Guide
- Sample CPE Outline
- Active Strategies Handout
- Preceptor feedback forms (content and style preceptors)
- Resident Self-assessment form
- CPE Activity Checklists Part 1 and Part 2

Process for Developing CPE activities

1. Read the HMH CPE policies (G.1.19, G.1.21, G.1.24, G.1.26, G.1.27) found on the following link: http://www.houstonmethodist.org/basic.cfm?id=35551
2. Complete the Faculty form packet that includes the Conflict of Interest, Faculty Agreement, Disclosure of Information, and the Disclosure of Commercial Support forms.
3. Review the CPE syllabus and additional handouts (Learning Objectives and Active strategies guides)
4. Formulate the CPE activity topic, CPE preceptors and CPE activity presentation date which determines all deadlines to the CPE Board.
5. Prepare the CPE planning document and outline
6. Prepare the presentation slides and additional materials (CPE application, preceptor feedback forms, self-assessment form)

Upon submission of materials to the CPE Board, a date at a future CPE Board meeting will be set for review. The CPE Board meets twice a month on the 1st and 3rd Thursdays from 2:00-3:30pm. Residents and the content preceptor(s) will be invited to attend the review for further clarification and questions on materials.
Definition of Continuing Pharmacy Education

Continuing education for the profession of pharmacy is a structured educational activity designed or intended to support the continuing development of pharmacists and/or pharmacy technicians to maintain and enhance their competence. Continuing pharmacy education (CPE) should promote problem-solving and critical thinking and be applicable to the practice of pharmacy.

What does ‘applicable to the practice of pharmacy’ mean?

In general, for guidance in organizing and developing CPE activity content, providers should ensure that, as for all health care professionals, pharmacists and pharmacy technicians should develop and maintain proficiency in six core areas*:

- delivering patient-centered care,
- working as part of interprofessional teams,
- practicing evidence-based medicine,
- focusing on quality improvement,
- using information technology, and
- developing and maintaining safe and effective medication use processes**.

Separate pharmacist and technician core competencies are a separate handout that can be found on the website.

*Adapted from Institute of Medicine’s Health Professions Education: A Bridge to Quality, April 2003.

**Added competency by ACPE CPE Pharmacy Technician Group

CPE activities are categorized according to the type of learning involved. There are 3 types: knowledge, application, and practice. Residents are required to develop an application-based CPE activity.

A. Knowledge-based CPE activity: These CPE activities are intended to transmit knowledge e.g. information. The CPE Board will ensure that the information is based on evidence as accepted in the literature by health care profession and appropriately referenced. The minimum amount of credit for these activities is 15 minutes or 0.25 contact hour.

B. Application-based CPE activity: These CPE activities are primarily constructed to apply the information learned in the time frame allotted. The CPE Board will ensure that the information is based on evidence as accepted in the literature by health care profession and appropriately referenced. The minimum amount of credit for these activities is 60 minutes or 1 contact hour.

C. Practice-based CPE activity: These CPE activities are primarily constructed to instill, expand, or enhance practice competencies through systematic achievement of specified knowledge, skills, attitudes, and performance behaviors. The CPE Board will ensure that the information is based on evidence as accepted in the literature by health care profession and appropriately referenced. The formats of these CPE activities should include a didactic component and a practice experience component. The provider should employ an instructional design that is rationally sequenced, curricular based, and supportive of achievement of the state professional competencies. The minimum amount of credit for these activities is 15 contact hours.
Conflict of Interest Form

Houston Methodist Hospital (HMH) System Board of Directors, members of HMH’s subsidiary Boards, members of the medical staff of each HMH entity, HMH employees, and outsourced members of HMH’s workforce have ethical, legal and fiduciary obligations to ensure decision making and other actions taken within the scope of their position or association with HMH are made objectively and solely for the benefit of HMH’s mission.

Please answer each question. Mark an X in the box next to “None”, if you do not have a reportable disclosure. To provide a full explanation of any reportable disclosure, please supplement with additional pages or use the space on the back of this form, if necessary.

1. **Material Financial Interests**
   Describe any relationship you or an immediate family member (spouse or dependent child) has with a corporation, association, regulatory authority or other entity with whom HMH has a current or potential business relationship or which is a current or potential competitor of HMH, and which could result in a material financial or other benefit to you or your immediate family. Examples include, but are not limited to:
   - Vendors, including but not limited to pharmaceutical companies, device manufacturers and distributors, software companies, and billing companies.
   - Other health care providers, including but not limited to specialty hospitals, ambulatory surgery centers, and durable medical equipment suppliers.

   *Material financial interests include, but are not limited to:
   - Material investment (5% or more of publicly traded stock, but not if by means of a mutual fund or other "blind" investment device);
   - Service on a governing body;
   - Employment;
   - Fees for consulting, research or product evaluation;
   - Other financial arrangements.*

   ( ) None
   ( ) I have material financial interests to disclose

   For every relationship disclosed, please provide the name of the corporation, association, etc. and, as applicable, the position held and the type and amount of financial interest.

   ________________________________________________________________

   2. **Gifts and Gratuities**
   Describe any gift, award, travel, hospitality, service or other benefit valued at $300 or more in the past twelve months that you or an immediate family member (spouse or dependent child) have received from a current or potential HMH vendor or competitor. Vendors include but are not limited to pharmaceutical companies, device manufacturers and distributors, software companies, and billing companies.

   ( ) None
   ( ) I have gifts and gratuities to disclose

   For every relationship disclosed, please list the name of the vendor or competitor and describe the type and amount of any gift or other item.

   ________________________________________________________________

   3. **Outsourced Member of Management**
   If you are an employee of an outside company serving in a management role at a HMH entity, provide the name of that outside company. How do you manage this relationship with respect to discussions and decisions by this outside company that may impact HMH, or vice versa?

   ( ) I am NOT an employee of an outside company serving in a management role at HMH
( ) I am employed by an outside company serving in a management role at HMH

For every relationship disclosed, please list the name of the outside company and describe the way you will manage this relationship.

__________________________________________________________________________

4. **Outside Boards** If you are a member of a Board of an entity that is a competitor of HMH or may be doing business with HMH, provide the name of that outside Board. How do you manage this relationship with respect to discussions and decisions by this outside Board that may impact HMH, or vice versa?

( ) I am NOT a member of an outside Board that is a competitor of HMH or may be doing business with HMH

( ) I am a member of an outside Board that is a competitor of HMH or may be doing business with HMH

For every relationship disclosed, please list the name of the outside Board and describe the way you will manage this relationship.

__________________________________________________________________________

5. **Other Interests** Describe any other interest or matter that you or a family member have which could be interpreted as a possible conflict of interest, divided interest, or divided loyalty. Examples include, but are not limited to:
   - Honoraria, fees, or payment of travel or other expenses received for speaking engagements;
   - Endorsement of a product or service;
   - Membership on boards of corporations with whom HMH does business;
   - Membership on boards of HMH’s Community Benefit program recipients;
   - Family business or political or community affiliations that might reasonably cause a third party to question your objectivity;
   - Family member(s) compensated by or working for HMH.

( ) None

( ) I have other interests to disclose

For every relationship disclosed, please describe the interest or matter and the way you will manage this relationship.

__________________________________________________________________________

By signature below, I certify that all of my answers to the foregoing questions are true and correct to the best of my personal knowledge. I agree to report to the CPE Chair any activity or relationship that would change my responses to the foregoing questions within 60 days.

I have read the current HMH Conflict of Interest Policy (Business Practices Policy BP08). I understand and agree to comply with this policy.

Furthermore, I understand that as a charitable organization, HMH and its subsidiaries must engage primarily in activities that accomplish one or more of its tax-exempt purposes in order to maintain its tax-exempt status.

____________________________  ______________________   __________
Printed Name  Signature         Date
Disclosure of Commercial Support

In order for any faculty/speaker to present or produce a Continuing Pharmacy Education (CPE) activity within the Houston Methodist Hospital system, Houston, Texas and surrounding cites, you must disclose any commercial support received for the CPE activity.

Commercial Support Received From: ____________________________________________________________

Company: _____________________________________________________________________________

Division/Department:_____________________________________________________________________

Address: _______________________________________________________________________________

Phone Number: __________________________________________________________________________

Amount: _______________________________________________________________________________

Stipulations to Fulfill with this Support: _______________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

I agree to disclose this information on an acknowledgement in the program announcement, syllabus or handouts and/or during introduction at the program.

_____ No commercial support has been received for the CPE program entitled:

_____________________________________________________________________________________

_____________________________________________________________________________________

_____________________________________________________________________________________

__________________________  _____________________________  ____________
Printed Name                Signature                        Date
Faculty Disclosure of Information

In order for any faculty/speaker to present or produce a Continuing Pharmacy Education (CPE) activity within the Houston Methodist Hospital system, Houston, Texas and surrounding cities, you must agree to the following actions and disclosure of information:

______ To avoid promotional activities or materials as an integral part of the program or in any manner which interferes with or interrupts the educational activity. This includes any material with a pharmaceutical company’s logo or name or name of a product listed as an advertisement.

______ To disclose any significant relationship or affiliation involving ANY funding organizations. This should be listed on the cover of any handouts or informational material provided and in the slides of the presentation.

______ To disclose information that is considered an off-label use of a drug, product, or device. This designation must be listed adjacent to or near the information in handouts or informational materials and must be announced when presenting the information.

______ To disclose limitation of information, including but not limited to:

 Data that represents ongoing research, interim analysis, preliminary data or unsupported opinion

 Opinions or approaches to care that, while supported by some research studies, do not represent the only opinion or approach to care supported by research.

Faculty Agreement

In order for any faculty/speaker to present or produce a Continuing Pharmacy Education (CPE) activity within the Houston Methodist Hospital system, Houston, Texas and surrounding cities, you agree to the following:

1. Read the HMH CPE policies (Policies G.1.19, G.1.21, G.1.24, G.1.26, G.1.27) available at www.methodistpharmacy.org and agree to comply with them. If any questions regarding these policies or any procedures arise, I will contact the Continuing Pharmacy Education Board (CPEB) Chair, Julie Won, for further clarification.

2. Agree to make changes or revisions on program content/activities in accordance with ACPE standards to ensure balance, independence, objectivity, scientific rigor and full disclosure of agreed upon information.

3. In preparation for presenting the CPE activity, I will turn in all program materials including but not limited to: program learning objectives, slides or comprehensive outline, learning assessment questions, handouts and any other informational material, and other pertinent materials to the CPEB chair on the agreed upon timelines.

_____________________________     ________________________
Printed Name                 Signature                 Date
Educational Needs Assessment

**ACPE Standard 2**: CPE activities must be developed based on a multifaceted process where educational needs are prospectively identified.

Needs assessment should be completed before planning specific CPE activities and should guide content development and delivery. The purpose of a needs assessment is to drill down to the specific educational needs of your intended audience. This can be done by performing a gap analysis.

**A. Gap Analysis:**

You can identify one of the following:

1) A current problem
   a. What is the problem (potential or actual) that needs to be addressed
   b. What is the audience doing now that could or has led to this problem? (Current practice)
   c. What should or could the audience be doing instead to solve or prevent this problem (Best practice)

2) New process or procedures (current or future)
   a. What new process or procedures (current or future), recent change or expected changes are happening that will affect this group?
   b. Where is the audience currently in this skill, training, process or procedural aspect (Current practice)
   c. What information, skill or technique will the audience need to attain in order to implement this new process or procedure? (Best practice)

3) Change in practice or behavior
   a. What behavior or practice is happening that needs to change? (Current practice)
   b. What should be happening? (Best practice)

Potential sources for Gap analysis:

- Focus groups
- New guidelines that current practice isn’t in accordance with
- DNV/JCAHO areas to improve
- Med error reporting system
- Findings/goals from hospital committees/CQI issues
- Journal Articles/Primary literature
- Needs Assessment Survey
- Government/Regulatory Body
- Research

**Next Steps:**

**B. Formulate the Objectives**: What should be learned in order to move the learners from their current state to the desired state?

**C. Formulate potential learning assessment questions**: these assess whether each objective is achieved.
INSTRUCTIONS FOR USING THE CPE PLANNING DOCUMENT

1. **State the current practice** of the cohort of learners to which your educational activity is targeted. You can determine this based on interviews (formal or informal) with members of the targeted audience, a questionnaire, or a published article that reports on findings from learners. *The key is to go beyond expert perception of the gap and to include the perception of the learner.*

2. State the source used that provided you with the current practice (i.e., from questionnaire of membership, interviews with “n” targeted practitioners, etc.)

3. **State the best practice** under “Key Point.” A best practice may be from a national guideline or consensus statement from a credible organization, from peer-reviewed medical literature where more than one source agree on the practice, or from the considered opinion of the expert-planner in the case when no published guideline exists. This becomes the end-goal for the activity.

4. State the source used that provided you with the best practice (i.e., article from peer-reviewed journal, name of consensus statement or clinical guideline, etc.).

5. **State the gap** based on the difference between best practice and current practice. This “resulting gap” will define the learning objectives you will develop, which in turn leads to the content of the activity. Indicate the “type of gap” (i.e., did the gap you isolated indicate learners lacked knowledge (K), competence (C), or that implementing it in practice or performance (P) was the issue). Use those codes to indicate the type of gap in the chart.

6. The gap should inform you of the type of outcomes that are appropriate for this activity (i.e., does the gap indicate a need to improve learner competence and/or performance-in-practice). **Note:** Once designated, this will define your choice of evaluation (outcome) measurement tools.

7. **Prepare a learning objective for each identified gap.** Each objective should include a verb that is chosen to describe something a pharmacist will do in practice (and not what the teacher will teach). For example, do not use verbs such as “discuss” or “describe, learn or understand.” Use words such as “apply, develop a strategy to…, etc.” Ensure that the objective clearly states a standard against which one can judge the success in achieving the objective. The “standard” helps inform the outcomes questions you will prepare.

8. **Prepare evaluation / outcomes questions** depending on the “Intended Outcomes” you stated earlier. For example, if improvement in competence was indicated, then you must prepare outcomes questions related to demonstrating an improvement in competence.

*Please refer to the EXAMPLE CPE Planning Document on the following page to assist with the preparation of the planning document for your CPE activity.*
## EXAMPLE – CPE PLANNING DOCUMENT

### NEEDS ASSESSMENT / GAP ANALYSIS

<table>
<thead>
<tr>
<th>CURRENT PRACTICE (What is)</th>
<th>BEST PRACTICE (What should be)</th>
<th>RESULTING GAPS (What interventions are indicated)</th>
<th>TYPE OF GAP CAUSED</th>
<th>LEARNING OBJECTIVE</th>
<th>OUTCOME INDICATED</th>
<th>OUTCOME QUESTIONS (Learning Assessment question linked to Learning Objective and Outcome)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Point:</strong> Only 25% of pre-diabetic patients receive appropriate lifestyle and/or pharmacologic management</td>
<td><strong>Key Point:</strong> Patients with HbA1c of 5.7-6.4% are pre-diabetic and should receive lifestyle and/or pharmacologic management</td>
<td>Lack of knowledge in managing pre-diabetic patients</td>
<td></td>
<td>1. Summarize clinical guidelines on impaired fasting glucose and glucose tolerance 2. Recommend appropriate management of pre-diabetic patients</td>
<td>X C P</td>
<td>1. Case involving IFG pt and educating an MD on need for further f/u and possibly management. 2. Case involving pre-diabetic patient and failed lifestyle management. LA question asking best option for next step.</td>
</tr>
<tr>
<td><strong>Source:</strong> 1. Smith J, JournalXXX.2010; 9(4): pp</td>
<td><strong>Source:</strong> Standards in Medical Care in Diabetes 2014. ADA</td>
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<tr>
<td><strong>Key Point:</strong> PO chemotherapy is crushed at the bedside by the RN and administered down the J-tube</td>
<td><strong>Key Point:</strong> PO chemotherapy should be crushed under the biological safety cabinet for administration through the J-tube</td>
<td>Lack of knowledge regarding the dangers of crushing and handling oral chemotherapeutics</td>
<td>X K C P</td>
<td>1. Review the ONS best practices guidelines for chemotherapy preparation</td>
<td>X C P PO</td>
<td>1. Recall the appropriate method of PO chemotherapy preparation and handling when pts are unable to take medications by mouth</td>
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<tr>
<td><strong>Source:</strong> 8-10 RN/RPh interviews</td>
<td><strong>Source:</strong> Oncology Nursing Society Best Practices document</td>
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<tr>
<td><strong>Key Point:</strong> HIT patients on argatroban are managed according to package insert recommended dosing</td>
<td><strong>Key Point:</strong> HIT patients on argatroban should have their infusion adjusted with lower doses than recommended by package insert</td>
<td>Lack of knowledge of argatroban pharmacy protocol, guidelines</td>
<td>X K C P</td>
<td>1. Recommend appropriate treatment options in HIT patients</td>
<td>X C P PO</td>
<td>1. Case involving a HIT patient on argatroban and requiring dose adjustment.</td>
</tr>
<tr>
<td><strong>Source:</strong> HMH PSN reports, HMH internal data</td>
<td><strong>Source:</strong> CHEST guidelines, HMH MUE</td>
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### LEGEND

- **K** = KNOWLEDGE
- **C** = COMPETENCE
- **P** = PERFORMANCE
- **PO** = PATIENT OUTCOMES
## CPE PLANNING DOCUMENT

<table>
<thead>
<tr>
<th>NEEDS ASSESSMENT / GAP ANALYSIS</th>
<th>IMPLEMENTATION</th>
<th>EVALUATION</th>
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<tr>
<td><strong>CURRENT PRACTICE</strong> (What is)</td>
<td><strong>BEST PRACTICE</strong> (What should be)</td>
<td><strong>RESULTING GAPS</strong> (What interventions are indicated)</td>
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<td>Key Point:</td>
<td>Key Point:</td>
<td>Type of gap caused</td>
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### Legend
- **K** = Knowledge
- **C** = Competence
- **P** = Performance
- **PO** = Patient Outcomes

**Key Point: **

**Source: **
Learning Objective Guide

Each CPE activity should have objectives that define what the pharmacists and technicians should be able to do upon completion. Learning Objectives should be:

- Specific and measurable
- Developed to specifically address the identified educational need (ACPE Standard 2)
- Addressed by an active learning activity (ACPE Standard 7)
- Covered by a learning assessment (ACPE Standard 9)
- Focused on the CE participant

Specific and Measurable
A learning objective is measurable when the participant can perform a task identified in the learning objective

<table>
<thead>
<tr>
<th>Knowledge (to recall facts)</th>
<th>Comprehension (to understand)</th>
<th>Application (to apply concepts/demo skills)</th>
<th>Analysis (use info/make connections)</th>
<th>Synthesis (formulation)</th>
<th>Evaluation (judgment)</th>
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<td>Select</td>
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Verbs to AVOID when writing learning objectives:

<table>
<thead>
<tr>
<th>Verbs to AVOID when writing learning objectives:</th>
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<tr>
<td>Know</td>
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Examples of well written learning objectives:
At the completion of this activity, the participant will be able to:

- Summarize pharmacokinetic monitoring programs often offered by hospital pharmacy services.
- Recommend appropriate therapy based upon the patient’s co-morbid conditions.
- Review potential outcomes from implementing a pharmacokinetic monitoring service at your facility.

Examples of weak, un-measurable learning objectives:

At the completion of this activity, the participant will be able to:

- Increase participant’s knowledge of new drugs released in the last year.
- Understand the differences between long-acting insulin preparations.
- Become familiar with new treatment options for bipolar disorder.

Educational Need

Develop your learning objectives based upon what has been identified as the audience’s need. For example, if your topic was identified because of several warfarin-related dosing errors that have occurred within the pharmacy staff, you could have an objective on determining appropriate dosing for warfarin.

Active Learning Activity

All CPE activities must include active participation and involvement of the pharmacist and technician. The methodologies employed should be determined by the CPE activity planned, objectives, educational content, and the size and composition of the intended audience.

Learning Assessment

Learning Assessments must be included in each CPE activity to allow pharmacists and technicians to assess their achievement of the learned content. Recommend having at least one learning assessment cover each learning objective. For example, the presenter could have 5 learning assessment questions interspersed throughout the presentation that address a CE activity with 3 learning objectives.

CE Participant (Audience)

Keep in mind that CE is to be designated as P (pharmacist) or T (technician) based on the content of the program. Your learning objectives should reflect this content and the designation. If your program is intended for both pharmacists and technicians, you should have separate learning objectives for each group unless all objectives are applicable to both groups’ roles and responsibilities. These should be reasonable for each group to achieve within their specific performance objectives.

As experts regarding medication use, pharmacists will be responsible for:

1. Rational use of medications, including the measurement and assurance of medication therapy outcomes
2. Promotion of wellness, health improvement, and disease prevention
3. Design and oversight of safe, accurate, and timely medication distribution systems.

Pharmacists should also develop and maintain proficiency in five core areas:

- Delivering patient-centered care
- Working as part of interdisciplinary teams
- Practicing evidence-based medicine
- Focusing on quality improvement and
- Using information technology

The pharmacy technician performs activities related to three broad function areas. The specific responsibilities and activities that pharmacy technicians may perform within each function area are:

1. Assisting the pharmacist in serving patients
2. Maintaining medication and inventory control systems
3. Participating in the administration and management of pharmacy practice

ACPE Definition of Continuing Education for the Profession of Pharmacy, Approved 10/06, released 1/07
ACPE Accreditation Standards for Continuing Pharmacy Education, Released 10/07, Effective 1/09
Development of Learning Assessment Questions

Conducting a learning assessment allows pharmacists and technicians to assess their achievement of the learned content and is required for CPE credit. There are various ways to conduct a learning assessment e.g. post-test, questions asked through an audience response system, color cards, etc. The learning assessment question will differ depending upon the type of CPE activity. Feedback on the learning assessment question should be given in a timely manner.

<table>
<thead>
<tr>
<th>Learning Assessment</th>
<th>Knowledge-based activity</th>
<th>Application-based activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions should be structured to determine recall of facts based on learning objectives.</td>
<td>Questions should include case studies structured to apply principles learned based on the learning objectives.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Assessment Feedback</th>
<th>Knowledge-based activity</th>
<th>Application-based activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include correct response to questions. Provide rationale for correct and incorrect answers.</td>
<td>Include correct evaluation of case studies. Review rationale for correct and incorrect answers.</td>
<td></td>
</tr>
</tbody>
</table>

Things to consider:

- Develop one learning assessment question for each objective.
- Questions should be written either in multiple-choice or true/false format.
- Questions should be simple, clearly stated, and related only to the educational objective for which they are designed.
- Pose the question in the affirmative; avoid use of negative statements such as "not" and "except" because they often confuse the learner.
- Answer choices should be specific and distinct, not overlap with the other answers.
- Avoid using the same or similar words in both the question and the correct answer as this may clue the learner to the correct answer.

Examples of Learning Assessment Questions:

<table>
<thead>
<tr>
<th>Learning Objective</th>
<th>Knowledge-based activity</th>
<th>Application-based activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall significant adverse effects of anticoagulation therapy.</td>
<td>Recommend appropriate anticoagulation therapy in patients with renal failure</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Assessment Question</th>
<th>Knowledge-based activity</th>
<th>Application-based activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>The most significant adverse effect of rivaroxaban to monitor for is:</td>
<td>A.J. is an obese 80 y.o. male with DM, CRF with a baseline Scr- 2.7 and atrial fibrillation. He is anticoagulated with warfarin but is non-compliant with lab monitoring. What agent would you recommend for him?</td>
<td></td>
</tr>
<tr>
<td>a) bleeding</td>
<td>a) apixaban 2.5mg twice daily</td>
<td></td>
</tr>
<tr>
<td>b) hepatitis</td>
<td>b) rivaroxaban 15mg daily</td>
<td></td>
</tr>
<tr>
<td>c) abdominal pain</td>
<td>c) heparin 5,000 units SQ twice daily</td>
<td></td>
</tr>
<tr>
<td>d) thrombocytopenia</td>
<td>d) aspirin 81mg daily</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Assessment Feedback</th>
<th>Knowledge-based activity</th>
<th>Application-based activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A is the correct answer because..... B,C, and D are incorrect because.......</td>
<td>A is the correct answer because..... B,C, and D are incorrect because.......</td>
<td></td>
</tr>
</tbody>
</table>
## Suggested Active Learning Strategies for
Use with ACPE’s CPE Activity Types and Bloom’s Taxonomy Levels

<table>
<thead>
<tr>
<th>CPE Activity: KNOWLEDGE</th>
<th>Suggested Active Learning Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bloom’s Taxonomy</strong></td>
<td></td>
</tr>
<tr>
<td>Knowledge-type verbs</td>
<td>Lecture</td>
</tr>
<tr>
<td>Define</td>
<td>Visuals</td>
</tr>
<tr>
<td>Repeat</td>
<td>Examples</td>
</tr>
<tr>
<td>List</td>
<td>Illustrations</td>
</tr>
<tr>
<td>Record</td>
<td>Analogies</td>
</tr>
<tr>
<td>Comprehension-type verbs</td>
<td>Test/Assessment</td>
</tr>
<tr>
<td>Discuss</td>
<td>Review</td>
</tr>
<tr>
<td>Describe</td>
<td>Writing</td>
</tr>
<tr>
<td>Explain</td>
<td>Presentations</td>
</tr>
<tr>
<td>Recognize</td>
<td>Matching questions/answers</td>
</tr>
<tr>
<td>Identify</td>
<td>Questions</td>
</tr>
<tr>
<td>Translate</td>
<td>Discussion</td>
</tr>
<tr>
<td>Restate</td>
<td>Report</td>
</tr>
<tr>
<td>Express</td>
<td></td>
</tr>
</tbody>
</table>

### CPE Activity: APPLICATION AND/OR PRACTICE

<table>
<thead>
<tr>
<th>CPE Activity: APPLICATION AND/OR PRACTICE</th>
<th>Suggested Active Learning Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bloom’s Taxonomy</strong></td>
<td></td>
</tr>
<tr>
<td>Application-type verbs</td>
<td>Role play</td>
</tr>
<tr>
<td>Interpret</td>
<td>Simulations</td>
</tr>
<tr>
<td>Apply</td>
<td>Practice exercises</td>
</tr>
<tr>
<td>Employ</td>
<td>Demonstrations</td>
</tr>
<tr>
<td>Use</td>
<td>Projects</td>
</tr>
<tr>
<td>Demonstrate</td>
<td></td>
</tr>
<tr>
<td>Illustrate</td>
<td></td>
</tr>
<tr>
<td>Practice</td>
<td></td>
</tr>
<tr>
<td>Analysis-type verbs</td>
<td>Case studies</td>
</tr>
<tr>
<td>Distinguish</td>
<td>Problems</td>
</tr>
<tr>
<td>Analyze</td>
<td>Discussion</td>
</tr>
<tr>
<td>Differentiate</td>
<td>Pro/con grids</td>
</tr>
<tr>
<td>Calculate</td>
<td>Application exercises</td>
</tr>
<tr>
<td>Compare</td>
<td></td>
</tr>
<tr>
<td>Contrast</td>
<td></td>
</tr>
<tr>
<td>Criticize</td>
<td></td>
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<tr>
<td>Debate</td>
<td></td>
</tr>
<tr>
<td>Diagram</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Phillips, L. *The Continuing Education Guide The CEU and other Professional Development Criteria*. 1994
<table>
<thead>
<tr>
<th>Bloom’s Taxonomy</th>
<th>Suggested Active Learning Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthesis-type verbs</td>
<td></td>
</tr>
<tr>
<td>Plan</td>
<td>Problems</td>
</tr>
<tr>
<td>Compose</td>
<td>Case studies</td>
</tr>
<tr>
<td>Design</td>
<td>Develop plans</td>
</tr>
<tr>
<td>Propose</td>
<td>Simulations</td>
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<tr>
<td>Formulate</td>
<td>Projects</td>
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<tr>
<td>Arrange</td>
<td></td>
</tr>
<tr>
<td>Construct</td>
<td></td>
</tr>
<tr>
<td>Create</td>
<td></td>
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<tr>
<td>Set up</td>
<td></td>
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<tr>
<td>Organize</td>
<td></td>
</tr>
<tr>
<td>Prepare</td>
<td></td>
</tr>
<tr>
<td>Evaluation-type verbs</td>
<td></td>
</tr>
<tr>
<td>Judge</td>
<td>Case studies</td>
</tr>
<tr>
<td>Evaluate</td>
<td>Problem exercises</td>
</tr>
<tr>
<td>Rate</td>
<td>Projects</td>
</tr>
<tr>
<td>Compare</td>
<td>Critiques</td>
</tr>
<tr>
<td>Revise</td>
<td>Simulations</td>
</tr>
<tr>
<td>Score</td>
<td></td>
</tr>
<tr>
<td>Select</td>
<td></td>
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<tr>
<td>Choose</td>
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<tr>
<td>Assess</td>
<td></td>
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<tr>
<td>Estimate</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Phillips, L. *The Continuing Education Guide The CEU and other Professional Development Criteria*. 1994
Sample CPE Outline

Diabetic Ketoacidosis (DKA) and HHS (hyperosmolar hyperglycemic state) CE Outline

I. Objectives
   a. Differentiate between DKA and HHS
   b. Formulate appropriate strategies for transition to subcutaneous insulin
   c. Evaluate the role of bicarbonate therapy in patients with DKA
   d. Develop a plan for prevention of future DKA/HHS episodes

II. Epidemiology
   a. Incidence
   b. Prognosis
   c. Cost to healthcare system

III. Pathogenesis
   a. Hyperglycemia
   b. Formation of ketone bodies
   c. Electrolyte abnormalities

IV. Precipitating factors
   a. Infection
   b. New onset type 1 diabetes
   c. Medication adherence
   d. Drugs
   e. Unprovoked DKA

V. Diagnosis
   a. History and physical examination
      i. Time course of DKA and HHS
      ii. Symptom presentation and physical findings
   b. Laboratory findings
      i. Diagnostic criteria for DKA based on lab abnormalities
      ii. Differentiating between DKA and HHS
      iii. Way to monitor for ketonemia
         1. Direct measurement of beta-hydroxybutyrate
         2. Nitroprusside tablets or reagent sticks
   c. Differential diagnosis
      i. Other types of acidosis (i.e. Lactic acidosis, alcoholic ketoacidosis, ethylene glycol toxicity)

VI. Treatment
   a. Fluid therapy
      i. Use of isotonic saline
         1. Correcting Na levels based on elevated BG levels
      ii. Transition to ½ NS
      iii. Transition to D5W
   b. Insulin therapy
      i. Continuous intravenous infusion of regular insulin
         1. Titrating dose of insulin infusion
         2. Bolus + infusion vs infusion alone
      ii. IV insulin analogs
         1. Discuss clinical trials and potential for use
   c. Potassium
      i. When to initiate potassium replacement and at what rate
Effect of potassium levels on initiation of insulin therapy

d. Bicarbonate
   i. Potential risks and benefits associated with bicarbonate therapy
   ii. Discuss clinical trials and meta-analysis regarding this topic
   iii. Potential indications for bicarbonate therapy based on guidelines

e. Phosphate
   i. Lack of benefit with phosphate supplementation
   ii. Potential indications for phosphate replacement based on guidelines

f. Transition to subcutaneous insulin
   i. Defining resolution of DKA and HHS
   ii. Overlap of continuous infusion insulin with SCQ insulin
   iii. Determining dose of insulin to be administered
       1. Known diabetes and taking insulin at home
       2. Insulin-naïve patients
   iv. Types of insulin administered
       1. Basal-bolus method versus NPH + regular insulin

g. Feeding
   i. Discuss when it is appropriate to begin feeding

h. Complications
   i. Cerebral edema
       1. Incidence
       2. Etiology
       3. Prevention
       4. Treatment
   ii. Hypoglycemia, hypokalemia

VII. Prevention
   a. Sick day management
   b. Home glucose-ketone meters

VIII. Conclusion

IX. References
Continuing Pharmacy Education (CPE) Program Information Application for Residents

Date:

Title of CPE program:

Presenter(s) Information:

Name

Title

Institution    Houston Methodist Hospital

Target audience:

- pharmacists
- pharmacy technicians
- nurses
- physicians
- other healthcare providers _______________________________

CE contact hours:

(Programs cannot be <1.0 but can be in increments of 0.5 after 1.0 i.e. 1.5 CE or 2.5)

CE contact hours should include time for presentation, Q&A, learning assessment tool, and program evaluation.

Learning Objectives: At the completion of this program, the participant will be able to:

(review Learning Objective guide)

Type of Learning Assessment Used: (i.e. Turning Point, formal quiz)

Objective and Assessment Cross-matching Table

Please indicate the Learning Assessment Question that covers a specific Learning Objective

<table>
<thead>
<tr>
<th>Objective Number</th>
<th>Learning Objective</th>
<th>Question Number</th>
<th>Learning Assessment Question that correlates with the objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Example) 1</td>
<td>Recommend appropriate therapy for a patient with CKD who are refractory to first line options</td>
<td>(Example) 4</td>
<td>JG is a 56 yo WF with CAD who....</td>
</tr>
</tbody>
</table>
Date of presentation: (minimum of 60 days from date of this application)

CPE Preceptors:
Content:
Style:
CPE Preceptor Evaluation Form (For Preceptors to Complete)

Name of Resident:

Name of CE Program:

Name of CE Preceptor:

As the CE preceptor, I have reviewed the program for the following:

☐ Clinical content
  o Appropriate level for targeted audience(s)
  o Contains accurate and most recent literature/guideline information
  o Logical flow with sufficient background information progressing to a specialist focused discussion

☐ Style content
  o Spelling/grammar
  o Consistent formatting/spacing
  o References cited appropriately
  o Abbreviations appropriately defined

☐ Materials were turned in promptly and sufficient work according to preceptor-resident specified deadlines and expectations

At this point in time, my overall evaluation of the resident’s work and performance on the CE thus far:

☐ Needs Improvement
☐ Satisfactory Progress
☐ Achieved

Comments: (please comment on what the resident did well and what could be improved)

Preceptor Signature ________________________________ Date _____________
CPE Resident Self-Assessment Form (For Residents to complete)

Name of Resident:

Name of CE Program:

Name of CE Preceptor:

I have reviewed the program for the following:

☐ Clinical content
  o Appropriate level for targeted audience(s)
    ________________________________________________________________
  o Contains accurate and most recent literature/guideline information
    ________________________________________________________________
  o Logical flow with sufficient background information progressing to a specialist focused discussion
    ________________________________________________________________

☐ Style content
  o Spelling/grammar
    ________________________________________________________________
  o Consistent formatting/spacing
    ________________________________________________________________
  o References cited appropriately
    ________________________________________________________________
  o Abbreviations appropriately defined
    ________________________________________________________________

☐ I turned in all of the CE materials promptly and sufficient work according to preceptor-resident specified deadlines and expectations

At this point in time, my overall evaluation of my work and performance on the CE thus far:

☐ Needs Improvement
☐ Satisfactory Progress
☐ Achieved

Comments:


Resident Signature _____________________________     Date _____________
CPE Activity Checklist for Submission to the CPE Board Part 1
(this checklist should be included at the front of your submission)

☐ CPE planning document
☐ CPE outline

Name ___________________________ Date _____________
CPE Activity Checklist for Submission to the CPE Board Part 2
(this checklist should be included at the front of your submission)

☐ Faculty Form
☐ CV
☐ CPE application form
☐ Self-assessment evaluation form
☐ Preceptor feedback form (Content preceptor)
☐ Preceptor feedback form (Style preceptor)
☐ Preceptor COI form
☐ Slides in Turning Point
☐ Any additional handouts or references

Name____________________________        Date_____________