Common Methods for Assessing Changes in Knowledge and/or Competence from CME Activities (Examples follow)

1. Objective Test
   Directly measuring acquired knowledge or performance of a skill is the most explicit and objective way to assess learning. Typically, this involves administering a quiz or longer test following a single or multiple learning events within an activity. Sometimes the quiz is administered both before and after a learning activity or event to demonstrate development (after all, a post-test alone may just be measuring prior knowledge and not what was learned at a single event or the many events comprising your activity). Objective assessments can be administered using audience response systems during an event or using an online survey tool during or outside of an event. Assessment of a learner's performance (including with simulated experience) is required in order to demonstrate achievement of skills. Objective quizzes and skills tests should be closely aligned with the learning objectives as a measure of objectives achievement.

2. Retrospective Pre/Post Survey
   Post-hoc, subjective, self-assessment of learning gain asks learners to designate their proficiency with the learning objectives before and after a single or multiple learning events within an activity. The method is retrospective because the learner's self-assessment of proficiency both before and after the event(s) is solicited only afterward. Retrospective pre/post survey data can be included with the event evaluation on the Learning & Feedback Form. The most common format lists each learning objective twice, once under the heading of "Proficiency before the learning opportunity" and once under the heading of "Proficiency after the learning opportunity." Common response options are: not at all proficient, somewhat proficient, moderately proficient, very proficient, extremely proficient. If learning objectives focus on competence rather than only knowledge, then this survey can subjectively assess change in competence.

3. Commitment to Change
   Expecting learners to indicate the changes to practice that they will undertake as a result of an event or activity (consisting of multiple events) has a long history in CME. Subjective commitment-to-change data are typically collected by an open-response question that asks what the participant intends to do differently as a result of, or use from, the learning activity. This question about what one intends to do differently in their practice based on the educational event is typically included on an event evaluation form (Learning & Feedback Form) although it is best collected with identifying information. By knowing who made a commitment, activity leaders can follow up in two valuable ways. One is to assist with additional educational or noneducational interventions. The other is to determine if the committed change was implemented and, if so, the resulting outcome or, if not, the barrier to implementation. *Be cautious of using this assessment tool alone with activities, such as grand rounds, where a variety of topics unrelated to an individual's practice may be included*. While it is reasonable to expect everyone to learn something (assessable by objective test or retrospective pre/post survey), they may not intend to put the knowledge into practice if it is viewed as irrelevant. Asking commitment to change in these situations can lead to low response rates or unmeaningful responses that jeopardize your ability to assess learning.

Combining more than one method on a single Learning & Feedback Form is encouraged. For example, commitment-to-change is commonly added when using one of the other methods. Likewise, you are free to customize the assessment for your activity. Most importantly, the choice of assessment method and the questions/prompts provided must be consistent with the changes that are selected for evaluating on the Application Part 2 - Education Planning Form.

Assessment Method #1, Objective Test

This page shows an example of assessing learning through use of an objective direct test. This is the most rigorous form of assessment and is preferred when feasible. Notice that questions tied to case scenarios assess whether the learner knows what to do with the assumption that they could do it if the opportunity arose; these questions, therefore, assess competence.

Session title: Current Diagnosis and Treatment of Vascular Anomalies

1. A 4 year-old healthy male presents to your office with an asymptomatic, enlarged upper lip. At birth a small lesion was present, and it has continued to slowly enlarge over the course of his lifetime. Which of the following is the most likely diagnosis?

   (A) Infantile hemangioma
   (B) Congenital hemangioma
   (C) Venous malformation
   (D) Kaposiform hemangioedothelioma
   (E) Pyogenic granuloma

2. A 2 month-old healthy female presents to your office with a rapidly enlarging lesion of the cheek first noted at 1 week of age. Which of the following is the most likely diagnosis?

   (A) Infantile hemangioma
   (B) Congenital hemangioma
   (C) Venous malformation
   (D) Kaposiform hemangioedothelioma
   (E) Arteriovenous malformation

3. A 12 year-old female presents to your office with a slowly enlarging lesion of the lip first noted at age 6 years. On hand-held Doppler examination, fast-flow is present. Which of the following is the most likely diagnosis?

   (A) Infantile hemangioma
   (B) Congenital hemangioma
   (C) Venous malformation
   (D) Kaposiform hemangioedothelioma
   (E) Arteriovenous malformation

4. A 3 month-old healthy female presents with a large 5cm x 5 cm infantile hemangioma obstructing vision of the left eye. Which of the following is the most appropriate next step in management?

   (A) Pulse-dye laser
   (B) Oral Propranolol
   (C) Sclerotherapy
   (D) Embolization
   (E) Resection

5. A 2 year-old healthy female presents to your office with a 4cm x 4cm macrocystic lymphatic malformation of her neck. Which of the following is the most appropriate next step in management?

   (A) Corticosteroid injection
   (B) Oral Propranolol
   (C) Sclerotherapy
   (D) Embolization
   (E) Resection

Assessment Method #2: Retrospective Pre/Post Survey

This page shows an example of assessing learning through use of retrospective pre/post survey. In this case the survey items are based on well-written learning objectives that convey what the learners are supposed to know or be able to do after the session. If the objectives are unacceptably vague or describe the agenda of the session rather than what will be learned, then this method will not work.

Session title: Current Diagnosis and Treatment of Vascular Anomalies

Objective 1

Recognize the classification of vascular anomalies

Before the activity

____ Not at all Proficient_____Slightly Proficient_____Moderately Proficient_____ Very Proficient ____ Extremely Proficient

After the activity

____ Not at all Proficient_____Slightly Proficient_____Moderately Proficient_____ Very Proficient ____ Extremely Proficient

Objective 2

Diagnose the major types of vascular anomalies based on history and physical examination

Before the activity

____ Not at all Proficient_____Slightly Proficient_____Moderately Proficient_____ Very Proficient ____ Extremely Proficient

After the activity

____ Not at all Proficient_____Slightly Proficient_____Moderately Proficient_____ Very Proficient ____ Extremely Proficient

Objective 3

Explain the treatment for each major type of vascular anomaly.

Before the activity

____ Not at all Proficient_____Slightly Proficient_____Moderately Proficient_____ Very Proficient ____ Extremely Proficient

After the activity

____ Not at all Proficient_____Slightly Proficient_____Moderately Proficient_____ Very Proficient ____ Extremely Proficient

Assessment Choice #3: Commitment to Change

*This page shows an example of assessing learning through use of a commitment-to-change response. Keep in mind that this item may not be responded to by those whose specialty resides outside of the topic and may, therefore, diminish the data you are able to collect. For **departmental grand rounds** you may wish to combine with one of the other assessment methods. You can also compile these change commitments and send them out to everyone a few weeks later as a reminder and, to the extent feasible, track whether changes are occurring when compiling the annual Outcomes Summary. Identified barriers to change should be considered when planning additional CME educational and noneducational interventions and can be reflected on in the Outcomes Summary.*

Session title: Current Diagnosis and Treatment of Vascular Anomalies

Information from this activity will be incorporated into my medical practice.

___ Strongly Disagree ___Disagree ___Neutral_____Somewhat Agree_____Strongly Agree

Changes in my practice that I am going to make:

1. _____

2. _____

If no changes, why not?

1. _____

2. _____