Residency Review Committee for Medical Genetics

Teaching and Assessing Competence in a Medical Genetics Residency

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Association of Professors of Human and Medical Genetics

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SECTION 1:

GOALS AND OBJECTIVES

Curriculum planning involves at least five steps, beginning with identification of learner needs. For purposes of this discussion, we assume that the Program Requirements outline the general needs of all learners in Medical Genetics and begin with an overview of the second step, planning goals and objectives. Developing appropriate educational goals and learning objectives is a critical step in curriculum planning. Goals provide the big picture and objectives guide what residents should learn during a particular rotation. Assessment *(see Section 3)* is the means to determine whether they have done so.

Key Concepts:

Curriculum: a learning plan that includes all activities related to achieving an educational goal. In general, these activities include

- identifying and classifying needs of learners;
- developing goals and objectives;
- implementing the plan through teaching methods;
- assessing educational outcomes; and,
- using feedback to assist learners and to improve the program.

Goal: a general statement of purpose for the curriculum or for various components of the curriculum; general aim toward which learning is directed; a broad objective

Objective: a specific measurable aim; a clear, unambiguous goal

Objectives may be categorized in a variety of ways. Since the ultimate goal of education is for the resident to demonstrate learning, this guide suggests that the best objectives are **learner-centered**. The Outcome Project builds on this consideration because focusing on the development of competence is inherently **learner-centered**. Learner-centered objectives describe the competence that the resident is expected to demonstrate and give substance to the curriculum goals.

This concept can be represented as:

For a more in-depth discussion of educational goals and objectives, see:
Kern DE, Thomas PA, Howard DM, Bass EB. Curriculum development for medical education. Baltimore: Johns Hopkins University Press; 1998.

OBJECTIVE ⇨ **OUTCOME**

EDUCATIONAL GOALS for GME in MEDICAL GENETICS

Most of the educational goals for a Medical Genetics residency program curriculum are already contained in the Program Requirements. These goals are general statements of purpose or content outlining the aims of GME in Medical Genetics. Since the Requirements were never meant to be a curriculum document, some of the goals may not be stated in a "standard" educational style, but they are, nonetheless, true representations of general aims toward which education in Medical Genetics should be directed.*

The following examples of educational goals are taken directly from the Program Requirements. The same goals might be stated in various ways throughout the document. They focus on the General Competencies:

Patient Care**

Section I.A.1:
Clinical medical geneticists are able to: (a) diagnose and manage genetic disorders…

Section V.D.1.d
…prescribe and perform medical interventions essential for the care of patients with heritable disorders…

These two statements represent different ways of stating the same goal. They both describe expectations for competence of a medical geneticist in Patient Care. Neither statement provides specific direction for how the goal might be assessed, except in the most general terms.

Practice-based Learning and Improvement

Section V.D.3, V.D.3.a
Practice-based learning and improvement… involves the investigation and evaluation of care for their patients…and improvements in patient care. Residents are expected to obtain and use information about their own patients and the larger population from which their patients are drawn…

The educational goal in this excerpt can be found in the second sentence. It focuses on development of competence in Practice-based Learning and Improvement. The statement clearly addresses the expectation for "obtaining and using knowledge." The statement does not, however, provide any suggestion of how either the resident or faculty will know if it has been achieved.

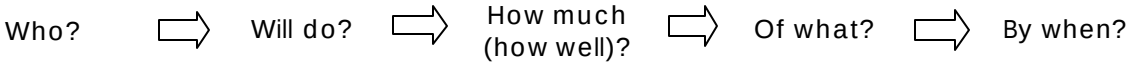
* Appendix A to this guide contains excerpts from the current version of the Medical Genetics Program Requirements highlighting goasl and objectives identified therein.

** The Requirements do not contain explicit references to the General Competencies throughout the document. A careful reading of the Requirements, however, reveals that reference to the General Competencies occurs throughout the document, even where not explicitly stated.

LEARNING OBJECTIVES FOR GME IN MEDICAL GENETICS

Learning objectives are *specific measurable statements* that detail the learning (or with regard to the Outcome Project, the competence) the resident is expected to demonstrate. Objectives should be aligned with the goals of the curriculum. The learning or competence should be in the form of acquired knowledge, observable skills and/or behaviors, and demonstrated attitudes. Objectives are unambiguous and clear; often, though not always, they offer some indication of how they might be assessed.

Learning objectives, especially **learner-centered** objectives, typically answer several questions*:



Based on this pattern, how might a learning objective in Medical Genetics look?

Residents will use their knowledge of heterogeneity, variability, and natural history of genetic disorders in [effective] patient care decision making [by the end of their first year]. (adapted from the Program Requirements, I.A.1)

Some general principles should be kept in mind when developing objectives :

Who?	"**Residents**" are the common "who" of GME. In some specialties, however, goals might be developed for each post graduate year (PGY).
Will do?	In this case, the residents "**will use**" or "demonstrate" their knowledge. The critical component of a learner-centered objective is that the "doing" is observable and therefore, eventually, measurable.
How much (how well?)	"**In effective patient care decision making**" may not quite fit the question, but the element of effectiveness gives an indication of the level of skill or competence targeted in the objective.
Of what?	"**their knowledge of heterogeneity, variability, and natural history of genetic disorders**" states clearly and unambiguously what residents are expected to learn and what faculty are expected to assess.
By when?	"**by the end of the first year**" is not included in the Program Requirements, but may be added as an expectation of the program.

Three questions MUST be addressed in each objective: "**Who?**" "**Will do?**" and "**Of what?**" The remaining questions, "How much/how well?" and "By when?" are important, but need not be specifically addressed. The curriculum goals will guide how the objectives will be formulated.

* Kern DE, Thomas PA, Howard DM, Bass EB. Curriculum development for medical education. Baltimore: Johns Hopkins University Press; 1998, p. 29.

LEARNING OBJECTIVES FOR GME IN MEDICAL GENETICS

The Program Requirements in Medical Genetics offer some suggestions from which learning objectives in Medical Genetics can be developed. While the statements may not be written as "traditional" learning objectives within the Requirements, they nonetheless include components of objectives.

Patient Care

Program Requirements:
Goal

gather essential and accurate information about the patient using the following clinical skills (V.D.1.a):

Objective

- medical interviewing, including the taking and interpretation of a complete family history, including construction of a pedigree
- physical examination
- diagnostic studies, including the interpretation of laboratory data generated from biochemical genetic, cytogenetic, and molecular genetic analyses (V.D.1.a.i-iii)

This three-part objective is ready for inclusion in the curriculum. It clearly describes what the resident should learn and already gives some indication of what needs to be assessed.

MEDICAL KNOWLEDGE

Program Requirements:
Goal

Medical Knowledge about established and evolving biomedical, clinical, and cognate sciences, as well as the application of this knowledge to patient care. (V.D.2)

Objective

Residents must a.) know, critically evaluate, and use current medical information and scientific evidence for patient care, including

- results from genetics laboratory tests
- quantitative risk assessment
- available bioinformatics (V.D.2.a.i-iii)

Answers the question: *The residents **will do**…*

Answers the question: ***Of what?***

PRACTICE-BASED LEARNING AND IMPROVEMENT

Program Requirements:
Goal

Practice-based learning and improvement that involves the investigation and evaluation of care for their patients, the appraisal and assimilation of scientific evidence, and improvements in patient care. Residents are expected to obtain and use information about their own patients and the larger population from which their patients are drawn (V.D.3; V.D.3.a)

This statement appears to be much like an objective but closer scrutiny reveals that no clear expectation for "obtain and use" is provided.

Possible Objective

The residents will demonstrate changes in their patient care practices based on information from case discussions.

This is one possible objective written to reflect the expected goal (left) for Practice-based Learning and Improvement.

LEARNING OBJECTIVES FOR GME IN MEDICAL GENETICS

(continued)

INTERPERSONAL AND COMMUNICATION SKILLS

Program Requirements:

Goal	Objective
Interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and other health professionals. Residents must be able to (V.D.4)	[The residents will] maintain comprehensive, timely and legible medical records (V.D.4.e)

Answers both what the *residents* ***will do*** and ***of what.***

PROFESSIONALISM

Program Requirements:

Goal	Objective
Professionalism, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds. Residents are expected to: (V.D.5)	[The residents will] demonstrate a commitment to ethical principles pertaining to [1] patient privacy and autonomy, [2] the provision or withholding of clinical care, [3] confidentiality of patient information, [4] informed consent, [5] conflict of interest, and [6] business practices (V.D.5.b)

Answers both what the *residents* ***will do*** and ***of what.*** The "commitment to ethical principles" can be observed in at least six different contexts to which numbers have been added here for clarity.

SYSTEMS-BASED PRACTICE

Program Requirements:

Goal	Objective
Systems-based practice, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents must be able to (V.D.6)	[The resident will] provide optimal value for the patient by incorporating the considerations of cost awareness and risk-benefit analysis (V.D.6.c)

Answers both what the *residents* ***will do*** and ***of what.***

SECTION 2:

INSTRUCTIONAL METHODS

Implementation is the third step in curriculum planning. Goals and objectives become operational through teaching, i.e., the use of various instructional methods. Teaching residents extends far beyond the traditional lecture mode. As a matter of fact, some "teaching methods" also become assessment methods, as will become apparent in Section 3. To plan for instruction, the program director and faculty need especially to consider the context in which the particular knowledge, skill or attitude identified in the objective can best be learned.

***Instructional Methods**

- Clinical teaching
- Clinical experiences
- Performance feedback
- Departmental conferences, lectures, or discussions
- Institutional conferences, lectures, or discussions
- Individual or group projects
- Computer modules
- Standardized patients
- High-tech simulators/simulations
- Anatomic or animal models
- Role play or simulations
- Games
- Role modeling

* For descriptions of each of these instructional methods, see www.acgme.org,

Suggestions for instructional methods associated with the learning objectives outlined in Section 1 can be found on the following page.

ALIGNING INSTRUCTIONAL METHODS WITH LEARNING OBJECTIVES

Patient Care

Objective

- medical interviewing, including the taking and interpretation of a complete family history, including construction of a pedigree
- physical examination
- diagnostic studies, including the interpretation of laboratory data generated from biochemical genetic, cytogenetic, and molecular genetic analyses (V.D.1.a.i-iii)
-

Medical Knowledge

Objective

Residents must a.) know, critically evaluate, and use current medical information and scientific evidence for patient care, including

- results from genetics laboratory tests
- quantitative risk assessment
- available bioinformatics (V.D.2.a.i-iii)

Interpersonal and Communication Skills

Objective

[The residents will] maintain comprehensive, timely and legible medical records (V.D.4.e)

Professionalism

Objective

[The residents will] demonstrate a commitment to ethical principles pertaining to [1] patient privacy and autonomy, [2] the provision or withholding of clinical care, [3] confidentiality of patient information, [4] informed consent, [5] conflict of interest, and [6] business practices (V.D.5.b)

Practice-based Learning and Improvement

Objective

The residents will demonstrate changes in their patient care practices based on information from case discussions.

Systems-based Practice

Objective

Case Discussions and ***Chart Review*** (clinical teaching) provide appropriate means by which to teach and assess all the competencies.

ALIGNING INSTRUCTIONAL METHODS WITH LEARNING OBJECTIVES *(continued)*

Patient Care

Objective

- medical interviewing, including the taking and interpretation of a complete family history, including construction of a pedigree
- physical examination
- diagnostic studies, including the interpretation of laboratory data generated from biochemical genetic, cytogenetic, and molecular genetic analyses (V.D.1.a.i-iii)
-

Medical Knowledge

Objective

Residents must a.) know, critically evaluate, and use current medical information and scientific evidence for patient care, including

- results from genetics laboratory tests
- quantitative risk assessment
- available bioinformatics (V.D.2.a.i-iii)

Interpersonal and Communication Skills

Objective

[The residents will] maintain comprehensive, timely and legible medical records (V.D.4.e)

Professionalism

Objective

[The residents will] demonstrate a commitment to ethical principles pertaining to [1] patient privacy and autonomy, [2] the provision or withholding of clinical care, [3] confidentiality of patient information, [4] informed consent, [5] conflict of interest, and [6] business practices (V.D.5.b)

Patient Encounters using ***Clinical Experiences*** and/or ***Standardized Patients*** are the teaching methods of choice for these competencies.

ALIGNING INSTRUCTIONAL METHODS WITH LEARNING OBJECTIVES

(continued)

Patient Care

Objective

- medical interviewing, including the taking and interpretation of a complete family history, including construction of a pedigree
- physical examination
- diagnostic studies, including the interpretation of laboratory data generated from biochemical genetic, cytogenetic, and molecular genetic analyses (V.D.1.a.i-iii)
-

Medical Knowledge

Objective

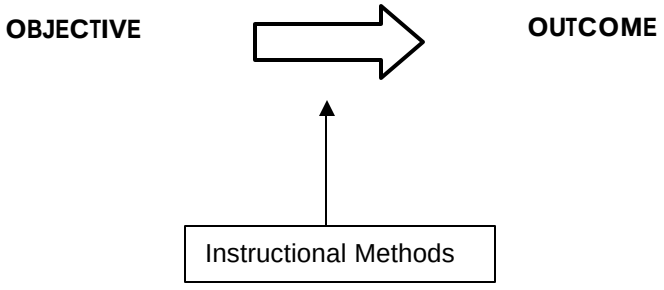
Residents must a.) know, critically evaluate, and use current medical information and scientific evidence for patient care, including

- results from genetics laboratory tests
- quantitative risk assessment
- available bioinformatics (V.D.2.a.i-iii)

Case Logs are a logical choice for teaching as well as for assessing these two competencies.

Remember!

Objectives provide the direction for the desired learning outcomes.



ASSESSMENT tells us whether the learning outcomes have been achieved.

SECTION 3:

ASSESSMENT: KEY CONCEPTS

Assessment is the "process of collecting, synthesizing, and interpreting information to aid decision-making".[1] Assessment results should allow sound inferences about what learners know, believe, and can do [2] in defined contexts. Assessment, therefore, integrates several concepts, which are described below.

ASSESSMENT SYSTEM

1. Representative objectives
2. Objectives match assessment
3. More than one method
4. Multiple samples
5. Multiple assessors
6. Standards
7. Professional conduct

ASSESSMENT INSTRUMENT/APPROACH*

Valid

Reliable

Feasible

*See Appendix D

References
1. Airasian PW. Classroom assessment (3rd ed.). New York: McGraw-Hill, 1997.
2. McMillan JH. Essential assessment concepts for teachers and administrators. Thousand Oaks, CA: Corwin Press, Inc., 2001.

ASSESSMENT SYSTEM

1. Select educational objectives that are representative of educational area

- Because you want to be sure that you are targeting the important areas and it is impracticable to address everything

2. Match assessment to the objectives

- To help you determine if the educational objectives have been met

3. Use more than one assessment method

- To obtain a more complete picture of learner abilities and to compensate for the weaknesses of any single method (See Appendix C)

4. Assess on several occasions

- To obtain information about typical or habitual performance

5. Employ more than one assessor

- To obtain a more complete and stable picture of learner abilities

6. Assess performance according to pre-specified standards

- To increase the chances that everyone is rated similarly

7. Conduct assessment professionally

- To demonstrate regard for the welfare of those involved and affected by the assessment (e.g., explain what will be assessed, how, and when assessment will be conducted, and provide residents opportunities to learn the areas in which they will be assessed)

Medical Genetics

Sample Resident Assessment Plan

Instrument	Competency Area
Case Discussion Rating Form	All
Chart Stimulated Recall Checklist	Patient care, Medical Knowledge, Practice-based Learning & Improvement, Systems-based Practice
Patient Encounter Rating Form (faculty)	Patient Care, Medical Knowledge, Professionalism, Interpersonal & Communication skills
Patient Encounter Checklist (genetic counselor or other)	Professionalism, Interpersonal & Communication skills
Logs	Patient Care, Medical Knowledge

Instructions

Case Discussion Rating Form

What is the Case Discussion Rating Form?

A case discussion rating form can be used to assess a resident's oral report on his/her care of a patient. It obtains information about components of the six ACGME competency areas.

Why use the Case Discussion Rating Form?

- To cue the supervising physician on what to assess and on what to give feedback
- To aid a standardized approach to resident assessment
- To measure resident abilities in all six competencies evident during case discussion
- To guide resident learning
- To gauge resident progress

Who completes the Case Discussion Rating Form?

The form is completed by the physician who is supervising the resident's current rotation.

How is the Case Discussion Rating Form used?

- The rater, a supervising physician, meets with the resident to discuss the resident's care of a single patient (select cases with significant diagnoses that are consistent with rotation objectives).
- The rater's questions parallel the items on the rating form. Thus the rater elicits information that indicates how well the resident has performed specific tasks on the form such as information gathering or treatment planning.
- For each item on the form, the rater evaluates the resident on a scale of 1 to 9. The rater compares the resident's performance with the descriptions of "acceptable" performance irrespective of the resident's training level. More details about the resident's performance are written in the comments sections.
- The rater discusses the resident's performance with him or her as soon as the form is completed.

How often is the Case Discussion Rating Form used?

Ideally, the form should be used once early during the rotation (to guide learning) and again near the end of the rotation (to gauge progress) using a case with similar diagnosis and complexity. The Case Discussion Rating Form does not have to be used during every rotation, but should be used often enough during the year to obtain information about an adequate scope of diagnoses.

Benefits of this method

This assessment builds on a routine interaction between residents and supervising physicians thus aiding feasibility. Information gathered with this method is based on the resident's clinical experience thus the assessment is relevant to the daily experience of the learner.

Disadvantages of this method

There may be discrepancies between the resident's behavior and their report of it during the case discussion thus it may be necessary to conduct an occasional validity check such as directly observing a portion of the resident's encounter with a patient.

Medical Genetics Case Discussion Rating Form

Resident: _____ **Rotation:** _____

Faculty: _____ **Date:** _____
Patient: ?New ?Follow-up **Dx:**_____ **Setting:** ?Clinic ?In-patient

Please circle the number corresponding to the resident's performance in each area, irrespective of the resident's training level. Explain your ratings in the comments sections.

Developing = *Several behaviors performed inadequately or missed (ratings 1, 2, or 3)*
Acceptable = *Most behaviors performed acceptably (ratings 4, 5, or 6); acceptable performance is described below*
Exemplary = *All behaviors performed very well (ratings 7, 8, or 9)*

DEVELOPING ACCEPTABLE EXEMPLARY

Patient Care

1. Information gathering **1 2 3 4 5 6 7 8 9**
Obtains enough information from the history, physical examination, pedigree, & laboratory tests to include or exclude likely, significant disorders;

2. Treatment or care plan **1 2 3 4 5 6 7 8 9**
Develops appropriate plans for specific genetic disorders; reflects good understanding of current accepted medical genetics practices

COMMENTS:_____

_____

Medical Knowledge

3. Analytic thinking **1 2 3 4 5 6 7 8 9**
Uses effective problem solving; demonstrates sound clinical judgment; applies analytic approach to clinical situations; uses an ordered approach to laboratory testing; weighs strength of data

4. Application **1 2 3 4 5 6 7 8 9**
Applies medical genetics knowledge to patient care; accurately interprets laboratory data; understands the rationale for management or treatment recommendations

COMMENTS:_____

_____

Practice-based Learning & Improvement

5. Practice review **1 2 3 4 5 6 7 8 9**
Compares own practice and outcomes to accepted Practice/guidelines & national or peer data; reflects on areas of uncertainty to identify improvement needs

6. Ongoing learning **1 2 3 4 5 6 7 8 9**
Seeks feedback from others; does extra reading or research when needed; demonstrates up-to-date knowledge; critiques research evidence for applicability to patient care; uses bioinformatics resources

7. Improvement **1 2 3 4 5 6 7 8 9**
Is willing to change practice behaviors in response to feedback from others & review of own practice; applies new skills or knowledge to patient care

COMMENTS:_____

Systems-based Practice

8. Care coordination **1 2 3 4 5 6 7 8 9**
Coordinates care with other providers to ensure comprehensive & integrated care

Systems-based Practice DEVELOPING ACCEPTABLE EXEMPLARY

9. Cost-conscious care **1 2 3 4 5 6 7 8 9**
Considers costs & benefits of tests & treatments; follows accepted patient care pathways; uses appropriate billing codes

10. System resource utilization **1 2 3 4 5 6 7 8 9**
Assures patient awareness of, & advocates for patient access to, available care options; makes appropriate referrals to community resources; understands different healthcare delivery systems & medical practices

COMMENTS:_____

_____

Professionalism

11. Responsibility **1 2 3 4 5 6 7 8 9**
Is careful & thorough in completing the tasks required to care for patients effectively

12. Practices within ability **1 2 3 4 5 6 7 8 9**
Recognizes limits of his/her abilities; asks for help when needed; refers patients when appropriate; exercises authority accorded by position & /or experience

13. Patient diversity **1 2 3 4 5 6 7 8 9**
Responds to each patient's unique needs & characteristics by being sensitive to issues related to patient culture, age, gender & disabilities; provides equitable care regardless of patient culture or socioeconomic status

14. Integrity and ethical behavior **1 2 3 4 5 6 7 8 9**
Takes responsibility for actions; admits mistakes; recognizes & tries to address ethical dilemmas; & conflicts of interest

COMMENTS:_____

_____

Interpersonal & Communication Skills

15. Relationship-building **1 2 3 4 5 6 7 8 9**
Understands & tries to address patient's concerns; incorporates patient's preferences into treatment/care plan

16. Pt. education & counseling **1 2 3 4 5 6 7 8 9**
Understand & explains risks, side effects, & benefits of diagnostic tests, treatment/care, & limitations of outcomes; is aware of possible barriers to treatment/care

COMMENTS:_____

_____

This form has been reviewed with me
Resident's Signature: _____ Date: _____

Instructions

Chart Stimulated Recall Checklist

What is the Chart Stimulated Recall Checklist?

This instrument can be used to assess a resident's oral and written report on his/her care of a patient. It obtains information about components of Practice-based Learning and Improvement, Systems-based Practice, Patient care, and Medical Knowledge.

Why use the Chart Stimulated Recall Checklist?

- To cue the supervising physician on what to assess and on what to give feedback
- To aid a standardized approach to resident assessment
- To measure resident abilities in competency areas evident during chart stimulated recall
- To guide resident learning
- To gauge resident progress

Who completes the Chart Stimulated Recall Checklist?

The checklist is completed by the physician who is supervising the resident's current rotation.

How is the Chart Stimulated Recall Checklist used?

- The rater, a supervising physician, reviews charts completed by the resident and selects a case with a significant diagnosis that is consistent with rotation objectives.
- The rater then uses information in the chart to guide discussion with the resident about his/her care of the patient.
- For each item on the checklist, the rater determines whether the resident performed the behavior described (inferred from the chart or resident's oral report). If the resident performs the behavior acceptably or consistently (irrespective of the resident's training level), the rater places a checkmark in the "yes" column. If the resident performs the behavior, but does so inconsistently or could improve, the rater checks the "yes, but" column. If the resident does not perform the behavior, the rater checks the "no" column.
- The rater discusses the resident's performance with him or her as soon as the checklist is completed.

How often is the Chart Stimulated Recall Checklist used?

Ideally, the form should be used once early during the rotation (to guide learning) and again near the end of the rotation (to gauge progress) using a case with similar diagnosis and complexity. The Chart Stimulated Recall Checklist does not have to be used during every rotation, but should be used often enough during the year to obtain information about an adequate scope of diagnoses.

Benefits of this method

Information gathered with this method is based on the resident's clinical experience thus the assessment is relevant to the daily experience of the learner.

Disadvantages of this method

There may be discrepancies between the resident's behavior and their report of it during chart stimulated recall thus it may be necessary to conduct an occasional validity check such as directly observing a portion of the resident's encounter with a patient.

Medical Genetics Chart Stimulated Recall Checklist

Resident: _____ **Rotation:** _____

Rater: _____ **Date:** _____

Diagnosis: _____ **Complexity:** ? Low ? Moderate ? High

Based on information derived from the **patient's chart and the resident's verbal report**, determine whether each behavior below was demonstrated with this specific patient. Please check the option that best describes the resident's performance, irrespective of the resident's training level. Give suggestions for improvement in the comments section.

Yes = demonstrated acceptably and/or consistently
Yes, but = demonstrated but needs improvement
No = not demonstrated
n/a = not applicable

	Yes	Yes, but	No	n/a
Patient Care 1. Gathers information about the patient's personal history				
2. Notes pertinent positives and negatives in history-taking				
3. Notes pertinent positives and negatives in physical examination				
4. Orders appropriate laboratory tests				
Medical Knowledge 5. Develops an appropriate differential diagnosis				
6. Knows the appropriate treatment/care options for this patient				
Practice-based Learning & Improvement 7. Demonstrates knowledge of current literature relevant to this patient				
8. Selects treatment/care consistent with current accepted practice and/or evidence				
9. Has a method for tracking the impact of treatment/care on this patient				
10. Identifies areas relevant to managing this patient where own knowledge is uncertain				
11. Identifies own practice behaviors relevant to managing this patient that could be improved				
12. Has a plan to address own improvement needs				
13. Is receptive to feedback about his/her management of this patient				
Systems-based Practice 14. Has a method for following-up with the patient, other providers, and the laboratory to make sure patient gets needed tests and care				
15. Works with other providers to ensure complete & integrated care				
16. Selects tests that demonstrate awareness of cost-effectiveness				
17. Knows which care options and resources are available to this patient				
18. Provides timely care				
19. Demonstrates knowledge of appropriate billing codes				

Comments:

This form has been reviewed with me

Resident's Signature: _____ Date: _____

Instructions

Patient Encounter Rating Form

What is the Patient Encounter Rating Form?

A patient encounter rating form can be used to assess a resident's interactions with a patient. It obtains information about components of the following ACGME competency areas: Patient Care, Medical Knowledge, Interpersonal and Communication Skills, and Professionalism.

Why use the Patient Encounter Rating Form?

- To cue the supervising physician on what to assess and on what to give feedback
- To aid a standardized approach to resident assessment
- To measure resident abilities in the competencies evident during a patient encounter
- To guide resident learning in the specific areas described on the form
- To gauge resident progress

Who completes the Patient Encounter Rating Form?

The form is completed by the physician who is supervising the resident's current rotation.

How is the Patient Encounter Rating Form used?

- The rater, a supervising physician, observes the resident as he/she interacts with a patient, paying particular attention to behaviors described on the form.
- For each item on the form, the rater evaluates the resident on a scale of 1 to 9. The rater compares the resident's performance with the descriptions of "acceptable" performance irrespective of the resident's training level. More details about the resident's performance are written on the back of the form.
- The rater discusses the resident's performance with him or her as soon as the form is completed.

How often is the Patient Encounter Rating Form used?

At least four encounters should be observed over a 12-month period to obtain a stable estimate of resident performance.

Benefits of this method

Information about resident ability is based on direct observation of the resident thus enhancing the validity of information obtained. This assessment method is based on the resident's clinical experience; this makes it relevant to the daily experience of the learner.

Disadvantages of this method

This assessment method is often considered time-consuming. Ideally, the supervising physician should be present during the resident-patient encounter to rate performance, however, it is also acceptable to rate videotaped encounters.

Medical Genetics New Patient Encounter Rating Form - Clinic

Resident: _____ Rotation: _____ Date: _____

Faculty: _____ Diagnosis: _____

Please circle the number corresponding to the resident's performance in each area, irrespective of his/her training level.

Developing= *Several behaviors performed inadequately or missed (ratings 1, 2, or 3)*
Acceptable= *Most behaviors performed acceptably (ratings 4, 5, or 6); acceptable performance is described below*
Exemplary= *All behaviors performed very well (ratings 7, 8, or 9)*

	DEVELOPING			ACCEPTABLE			EXEMPLARY		
Medical Interview									
1. Initiating interview	**1**	**2**	**3**		**4**	**5**	**6**	**7**	**8**	**9**
Greets patient; introduces self clearly; begins process of building rapport through appropriate eye contact, relaxed body language and pleasant affect										
2. Taking history - content	**1**	**2**	**3**		**4**	**5**	**6**	**7**	**8**	**9**
Elicits description of symptoms and sequence of events; obtains enough information about family & genetic history to construct a three-generation pedigree & enough information for a thorough risk assessment; elicits patient's concerns/worries										
3. Taking history - process	**1**	**2**	**3**		**4**	**5**	**6**	**7**	**8**	**9**
Listens attentively; allows patient to complete statements without interruption; uses concise, easily understood questions & comments; appropriately uses open & closed questioning techniques; facilitates patient's responses verbally & nonverbally; redirects patient as needed										
Physical Examination									
4. Conducting exam -content	**1**	**2**	**3**		**4**	**5**	**6**	**7**	**8**	**9**
Conducts an appropriate physical exam										
5. Conducting exam - process	**1**	**2**	**3**		**4**	**5**	**6**	**7**	**8**	**9**
Conducts exam in a logical and efficient sequence; is sensitive to patient comfort; is respectful of patient's privacy										
Clinical Judgment									
6. Assessing condition	**1**	**2**	**3**		**4**	**5**	**6**	**7**	**8**	**9**
Obtains sufficient information from interview & exam to include or exclude likely, relevant, significant conditions; orders appropriate laboratory tests; interprets available lab data appropriately										
7. Addressing condition	**1**	**2**	**3**		**4**	**5**	**6**	**7**	**8**	**9**
Develops a plan that is appropriate for the condition & reflects a good understanding of current, accepted medical genetics practice & addresses patient's concerns and preferences										
Counseling & Planning									
8. Explaining condition	**1**	**2**	**3**		**4**	**5**	**6**	**7**	**8**	**9**
Explains assessment clearly & uses non-technical language; provides the correct amount & type of information; checks for patient understanding; responds to patient emotion & reassures patient as appropriate										
9. Discussing plan	**1**	**2**	**3**		**4**	**5**	**6**	**7**	**8**	**9**
Describes plan clearly & uses non-technical language; gives reasons for plan; discusses relevant benefits and risks; checks for patient receptiveness to plan; explores possible compliance issues; negotiates, educates & counsels as needed										

10. Closing session	**1**	**2**	**3** Summarizes assessment & plan; discusses next steps		**4**	**5**	**6**	**7**	**8**	**9**

How can the resident improve his/her abilities in the areas above (over)?

This form has been reviewed with me:

Resident's Signature: _____ Date: _____

Instructions

Patient Encounter Checklist – Genetics Counselor or other health care staff

What is the Patient Encounter Checklist?

A patient encounter checklist is used to assess a resident's Interpersonal and Communication Skills and Professionalism during a patient encounter.

Why use the Patient Encounter Checklist?

- To cue the rater on what to assess and on what to give feedback
- To aid a standardized approach to resident assessment
- To measure resident abilities in the competencies evident during a patient encounter
- To guide resident learning in the specific areas described on the form
- To gauge resident progress
- To obtain information about resident performance from non-physician members of the health care team

Who completes the Patient Encounter Checklist?

The checklist is completed by a genetics counselor or other staff member who is part of the patient care team.

How is the Patient Encounter Checklist used?

- The rater observes the resident as he/she interacts with a patient, paying particular attention to behaviors described on the checklist.
- For each item on the checklist, the rater determines whether the resident performed the behavior described. If the resident performs the behavior acceptably or consistently (irrespective of the resident's training level), the rater places a checkmark in the "yes" column. If the resident performs the behavior, but does so inconsistently or could improve, the rater checks the "yes, but" column. If the resident does not perform the behavior, the rater checks the "no" column.
- More details about the resident's performance are written in the "comments" section.
- The rater discusses the resident's performance with him or her as soon as the form is completed.

How often is the Patient Encounter Checklist used?

At least four encounters should be observed over a 12-month period to obtain a stable estimate of resident performance.

Benefits of this method

Information about resident ability is based on direct observation of the resident thus enhancing the validity of information obtained. This assessment method is based on the resident's clinical experience; this makes it relevant to the daily experience of the learner.

Disadvantages of this method

This assessment method is often considered time-consuming. Ideally, the rater should be present during the resident-patient encounter to rate performance, however, it is also acceptable to rate videotaped encounters.

Medical Genetics Patient Encounter Checklist
Communication Skills & Professionalism

Resident: _____ **Rotation:** _____

Rater: _____ **Date:** _____

Patient: ? New ? Follow-up **Setting:** ? Clinic ? In-patient

For each behavior below, observe the resident interacting with the patient and determine whether the behavior was demonstrated. Please check the option that best describes the resident's performance, irrespective of the resident's training level. Give suggestions for improvement in the comments section.

No = behavior not demonstrated
Yes, but = behavior demonstrated but needs improvement
Yes = behavior demonstrated acceptably and/or consistently

	Yes	Yes, but	No
1. Greets family/patient	___	___	___
2. Establishes reason(s) for visit	___	___	___
3. Gives family/patient opportunity to talk	___	___	___
4. Listens attentively	___	___	___
5. Moves from open to closed questions	___	___	___
6. Uses language that is easily understood by patient	___	___	___
7. Explores family/patient's concerns	___	___	___
8. Encourages family/patient to ask questions	___	___	___
9. Answers family/patient's questions	___	___	___
10. Considers family/patient needs associated with culture, disability, gender, or age	___	___	___
11. Considers family/patient preferences when discussing care	___	___	___
12. Demonstrates empathy and support	___	___	___
13. Demonstrates respect	___	___	___
14. Maintains composure	___	___	___
15. Appears confident	___	___	___
16. Summarizes key issues addressed	___	___	___
17. Gives clear follow-up plan	___	___	___

Comments:

APPENDIX A

MEDICAL GENETICS PROGRAM REQUIREMENTS
SELECTED EXCERPTS AS GOALS AND OBJECTIVES

PATIENT CARE	
Program Requirements: Goals	*Program Requirements: Objectives*
Clinical medical geneticists are able to: (a) diagnose and manage genetic disorders (I.A.1)	(b) use their knowledge of heterogeneity, variability and natural history of genetic disorders in patient-care decision making (I.A.1)
	(c) provide patient and family counseling (I.A.1)
	(d) elicit and interpret individual and family medical histories (I.A.1)
Programs must provide (a) opportunities for residents to become involved in research and teaching and… (I.B.2)	(b) education in the basic sciences and **clinical areas** pertinent to medical genetics, including mendelian genetics, cytogenetics, diagnosis and treatment of inborn errors of metabolism, molecular diagnosis, syndrome identification and dysmorphology, teratology, reproductive genetics, congenital malformations, multifactorial disorders, mental retardation and developmental disabilities, genetic screening, social and ethical issues in medical genetics, genetic counseling, and quantitative human genetics. (I.B.2)
The residents must have the opportunity to develop the abilities to diagnose genetic disorders…and manage the broad range of clinical problems that are encompassed within medical genetics. (V.A.1)	
The program must provide residents with experience in direct and progressively responsible patient management as they advance through the program so that those completing the program will have developed sound clinical judgment. (V.B.1)	
Residents must have the opportunity to care for a number of patients and families sufficient to permit them to develop an understanding of the wide variety of medical genetic problems…	…Typically, this will mean that programs will care for at least 100 different patients or families per year for each resident. These patients and families must be seen in outpatient and inpatient settings. (V.B.2.d.1)
The development of mature clinical judgment requires that residents, properly supervised, be given responsibility for patient care commensurate with their ability. This can be achieved only if the resident is involved in the decision-making process and in the continuity of patient care. Residents must be given the responsibility for direct patient care in all settings…	…including planning and management, both diagnostic and therapeutic, subject to review and approval by the attending physician. (V.B.2.d.4)
Residents must develop an understanding of the appropriate use of laboratories during diagnosis, counseling, and management of patients with genetic disorders. (V.B.d.2)	Clinical biochemical genetic, molecular genetic, and cytogenetic laboratories must be integral components of each program. Residents must spend a minimum of 2 continuous weeks in each type of laboratory so that they will be able to develop their abilities to understand and critically interpret laboratory data. (V.B.d.2)

PATIENT CARE *(continued)*	
Program Requirements: Goals	*Program Requirements: Objectives*
Patient care that is compassionate, appropriate, and effective for the treatment of health programs and the promotion of health. (V.D.1)	
gather essential and accurate information about the patient using the following clinical skills (V.D.1.a):	• medical interviewing, including the taking and interpretation of a complete family history, including construction of a pedigree • physical examination • diagnostic studies, including the interpretation of laboratory data generated from biochemical genetic, cytogenetic, and molecular genetic analyses (V.D.1.a.i-iii)
make informed decisions about diagnostic and therapeutic interventions based on patient and family information and preferences, up-to-date scientific evidence, and clinical judgment by (V.D.1.b)	• demonstrating effective and appropriate clinical problem-solving skills • understanding the limits of one's knowledge and expertise • appropriate use of consultants and referrals (V. D.1.b.i-iii)
	develop and carry out patient management plans (V.D.1.c)
prescribe and perform medical interventions essential for the care of patients with heritable disorders (V.D.1.d)	*(Note: Could also be considered a learning objective if an appropriate and focused means of assessment can be developed.)*
counsel and educate patients and their families (V.D.1.e)	• to take measures needed to enhance or maintain health and function and prevent disease and injury • by encouraging them to participate actively in their care and providing information that will contribute to their care • to empower patients to make informed decisions, interpret risk assessment, and to use predictive testing for themselves and family members (V.D.1.e.i-iii)
use information technology to support patient care decisions and patient education (V.D.1.f)	*(Note: Could also be considered a learning objective if an appropriate and focused means of assessment can be developed.)*
assist patients in accomplishing their personal health goals (V.D.1.g)	
work with health care professionals, including those from other disciplines, to provide patient-focused care (V.D.1.h)	

MEDICAL KNOWLEDGE	
Program Requirements: Goals	*Program Requirements: Objectives*
Clinical medical geneticists are able to…: (I.A.1)	(e) interpret clinical genetic and specialized laboratory testing information (I.A.1)
	(f) explain the causes and natural history of genetic disorders and genetic risk assessment (I.A.1)
Programs must provide (a) opportunities for residents to become involved in research and teaching and… (I.B.2)	(b) education in the **basic sciences** and clinical areas pertinent to medical genetics, including mendelian genetics, cytogenetics, diagnosis and treatment of inborn errors of metabolism, molecular diagnosis, syndrome identification and dysmorphology, teratology, reproductive genetics, congenital malformations, multifactorial disorders, mental retardation and developmental disabilities, genetic screening, social and ethical issues in medical genetics, genetic counseling, and quantitative human genetics. (I.B.2)
Each resident must participate formally, through lectures or other didactic sessions, in the equivalent of a 1-year graduate level course in basic, human, and medical genetics, including but not limited to…(V.B.2.a)	…population and quantitative genetics, mendelian and non-mendelian genetics, cytogenetics, biochemical genetics, and molecular genetics. (An introductory medical genetics course for medical students does not satisfy this requirement.) (V.B.2.a)
Medical Knowledge about established and evolving biomedical, clinical, and cognate sciences, as well as the application of this knowledge to patient care. Residents must a.) know, critically evaluate and use current medical information and scientific evidence for patient care, including… (V.D.2; V.D.2.a.)	• results from genetics laboratory tests • quantitative risk assessment • available bioinformatics (V.D.2.a.i-iii)
	be able to locate, appraise, and assimilate evidence from scientific research studies related to their patients' health problems (V.D.2.b)
PRACTICE-BASED LEARNING AND IMPROVEMENT	
Program Requirements: Goals	*Program Requirements: Objectives*
Practice-based learning and improvement that involves the investigation and evaluation of care for their patients, the appraisal and assimilation of scientific evidence, and improvements in patient care. Residents are expected to (V.D.3)	
obtain and use information about their own patients and the larger population from which their patients are drawn (V.D.3.a)	*(Note: Could also be considered a learning objective if an appropriate and focused means of assessment can be developed.)*
use information technology to manage information, access on-line medical information, and support their own education (V.D.3.b)	
facilitate the education of patients, families, students, residents, other health care professionals, and the general public (V.D.3.c)	

INTERPERSONAL AND COMMUNICATION SKILLS	
Program Requirements: Goals	*Program Requirements: Objectives*
As medical genetics involves families and individuals of all ages, residents must be competent to work with adults and children and must have an opportunity to gain an understanding of family dynamics as they relate to issues of diagnosis, counseling and management. (V.A.1)	
Interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and other health professionals. Residents must be able to (V.D.4)	maintain comprehensive, timely and legible medical records (V.D.4.e)
	communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families (V.D.4.a)
	communicate effectively with patients and families to create and sustain a professional and therapeutic relationship (V.D.4.b)
	communicate effectively with physicians, other health care professionals, health-related agencies, and the general public (V.D.4.c)
	work effectively as a member or leader of a health care team or organization (V.D.4.d)
PROFESSIONALISM	
Program Requirements: Goals	*Program Requirements: Objectives*
Professionalism, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds. Residents are expected to: (V.D.5)	demonstrate a commitment to ethical principles pertaining to patient privacy and autonomy, the provision or withholding of clinical care, confidentiality of patient information, informed consent, conflict of interest, and business practices (V.D.5.b)
demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession, and a commitment to excellence and on-going professional development (V.D.5.a)	
demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities (V.D.5.c)	

SYSTEMS-BASED PRACTICE AND IMPROVEMENT	
Program Requirements: Goals	*Program Requirements: Objectives*
Because of the complex nature and multiple system involvement of genetic disorders, residents must be exposed to multidisciplinary and interdisciplinary models during the program and…(V.A.1)	…must become proficient at organizing teams of health-care professionals in order to provide the necessary resources for their patients. (V.A.1)
Residents must have regular opportunities to work with genetic counselors, nurses, nutritionists and other health care professionals who are involved in the provision of clinical medical genetics services. (V.B.d.3)	
Systems-based practice, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents must be able to (V.D.6)	
advocate for quality patient care and… (V.D.6.a)	…assist patients in dealing with system complexities (V.D.6.a)
work effectively in various health care delivery settings and systems (V.D.6.b)	
	provide optimal value for the patient by incorporating the considerations of cost awareness and risk-benefit analysis (V.D.6.c)
promote health and function and prevent disease and injury in populations (V.D.6.d)	
	possess the basic economic and business knowledge necessary to function effectively in one's practice setting (V.D.6.e)

Instructional Methods

1. **Clinical Teaching** - teaching that occurs in the clinic, EDs, ORs, laboratories, or other medical settings and addresses issues related to residents' current patient cases or clinical responsibilities.
2. **Clinical Experiences** - direct, hands-on clinical or patient care activities. This may include surgery, patient exams, the reading of radiographs and preparation of pathology assays.
3. **Performance Feedback** - information provided to a resident that describes what (s)he has done well or poorly and provides specific guidance as to how performance might be improved.
4. **Departmental Conferences, Lectures or Discussions** - formal, classroom instruction on a specific topic or method, led by one or more faculty, residents, or staff, etc.
5. **Institutional Conferences, Lectures, or Discussions** - formal educational event involving institution-sponsored grand rounds, lectures, discussions, or workshops for residents and/or faculty from multiple specialties; may be part of an institutional core curriculum (i.e. a set or course of learning activities arranged to impart knowledge and skills in fundamental domains, for example, communication skills, legal issues, ethics).
6. **Individual or Group Projects** - multi-step, multi-component tasks performed as vehicles for learning and applying knowledge and skills. Projects should result in a product. Examples are literature reviews, research, clinical quality improvement projects, and community health advocacy work.
7. **Computer Modules** - computer-based instructional units that present medical knowledge or clinical tasks, etc, that residents work through independently. These modules are developed either by the institution/program or purchased from commercial vendors.
8. **Standardized Patients** - professional actors or real patients trained to present realistically and reliably a medical condition and/or specific patient behaviors; the standardized patient provides instruction to the resident or feedback about his/her performance
9. **High-Tech Simulators/Simulations** - 3-dimensional, high tech, computerized devices that represent human anatomy and physiological responses (simulators) are used by residents to learn procedures and operations. Or realistic patient care scenarios are generated using high tech/virtual reality devices (simulations). Residents engage in the scenario as in real life to learn or apply clinical or teamwork skills.
10. **Anatomic or Animal Models** - non-computerized, 3-dimensional devices that replicate the properties of human anatomical structures are used by residents to learn procedures.
11. **Role Play or Simulations** - staged replicas of potentially real situations are engaged in by residents to learn, practice or rehearse skills needed in those situations. This method is often used in difficult or high-risk situations, e.g. mobilization of a medical team in a multi-victim accident or confrontation of an "impaired " colleague.
12. **Games** - informal activities with goals, rules, rewards and penalties for various courses of action. Games may be computerized, played individually or in groups, facilitated or self-paced.
13. **Role Modeling** - portrayal of desired professional behaviors, communication skills, or clinical skills, etc. by attending/supervising physician with the expectation that residents will learn these behaviors and skills by observing the role models.

APPENDIX B

ASSESSMENT INSTRUMENT OR APPROACH: KEY CONCEPTS

Validity is the extent to which an assessment approach measures what it intends to measure. The following methods may be used to obtain evidence for validity:

- Pilot test the assessment to check for clarity, meaningfulness, and ease of use (face validity)
- Ask experts to review the assessment to see if it appears to gather information about the area that is being assessed (content validity).
- Determine if the assessment distinguishes between people with different levels of experience. You would expect those with more experience to perform better than those with less experience (construct validity).
- Determine if the assessment is sensitive to changes in learners' knowledge, skills, or values. You would expect that learners who completed a specific educational course would perform better than those who did not complete the course (construct validity).
- Find out if assessment data correlate with data from other assessments designed to measure similar areas (concurrent Validity).
- Find out if assessment data correlate with future indicators (predictive validity).

Reliability is the consistency of assessment results and ranges from 0 to 1.0. In education, the following types of reliability are often calculated:

- Inter-item or inter-station, or inter-case reliability is the degree of consistency in an individual's performance across different items, stations, or cases.
- Inter-rater or inter-observer reliability is the extent of agreement across two or more observers rating the same performance.
- Test-retest reliability is consistency between responses over a short period of time.
- A G coefficient gives information about overall reliability because variables that might affect reliability are examined simultaneously instead of separately, which is how the reliabilities described above are calculated.

Feasibility is the extent to which it is possible to implement an assessment and pertains to variables such as cost, time required, acceptability to learners and raters.

APPENDIX C

APPENDIX D

Assessment Methods

1. **Clinical Performance Ratings** - Monthly, rotation, semi-annual or annual ratings of resident performance
2. **Focused Observation and Evaluation** - Supervisor/attending observation of individual resident-patient encounters, operations, specimen preparation, etc., and concurrent (same day) evaluation
3. **360 Assessments** - Evaluation by MDs (supervisors, residents, medical students) and non-MDs (nurses, technicians, social workers, PAs) using the same or similar evaluation forms
4. **Evaluation Committee** - Evaluation of resident performance in a small group discussion format, e.g., Evaluation Committee
5. **Structured Case Discussions** - An informal structured mini-oral exam consisting of a small set of pre-determined questions; the exam occurs during a resident's case presentation to his/her supervisor
6. **Stimulated Chart Recall** - Uses a resident's patient records in an oral exam-like format to explore decisions made and patient management; is conducted "after the fact" using patient charts to stimulate memory of the case
7. **Standardized Patient** - The resident provides care to an SP as if (s)he were a real patient and is evaluated concurrently by the SP or another trained observer; the SP is a well person or actual patient trained to present a case in a standardized way
8. **OSCE** - A multi-station exam of simulated clinical tasks, which might include SPs, anatomical models, X-ray interpretation, lab test interpretation, etc.; a resident performs the tasks and is evaluated concurrently by a trained observer
9. **High Tech Simulators/Simulations** - Residents' performance of procedures on a high-tech simulator (e.g., Harvey) is evaluated; this may involve built-in evaluation by the simulator or observation and concurrent evaluation.
10. **Anatomic or Animal Models** - Residents' performance of procedures on non-computerized, 3-dimensional models that replicate the properties of human anatomical structures is observed and evaluated concurrently
11. **Role-play or Simulations** - Residents are evaluated based on their performance on assigned responsibilities in a staged replica of a potentially real situation, e.g., mobilization of medical team in a multi-victim accident, confrontation of an "impaired" colleague, negotiation with administration regarding facilities and equipment upgrade
12. **Formal Oral Exam** - "Mock" oral exam in which an examiner asks residents questions about what to do in a clinical scenario presented verbally or role played by the examiner
13. **In-training Exams** - A multiple-choice exam developed by an external vendor
14. **In-house Written Exams** - A multiple choice exam developed by residency program faculty
15. **Multimedia Exam** - A computer based multiple choice or branching question exam in which authentic visual and auditory patient information is presented as question information
16. **Practice/Billing Audit** - Educational equivalent of physician profiling; this data-based process benchmarks individual resident billing data against peers in the office, hospital, or managed care setting
17. **Review of Case or Procedure Log** - Review of number of cases or procedures performed and comparison against minimum numbers required
18. **Review of Patient Chart/Record** - Involves abstraction of information from patient records, such as tests ordered, and comparison of findings against accepted patient care standards
19. **Review of Patient Outcomes** - Aggregation of outcomes of patients cared for by a resident and compared against a standard
20. **Review of Drug Prescribing** - Systematic review of drug prescribing for selected conditions to determine adherence to protocol
21. **Resident Project Report (Portfolio)** - Evaluation of resident work products, such as reports of research studies, practice improvement, or systems-based improvement
22. **Resident Experience Narrative (Portfolio)** - Evaluation of performance based on residents' narratives of critical incidences or other experiences, usually accompanied by reflection on the event, e.g., what happened, why, what could have been done differently
23. **Other Portfolio** - Evaluation of resident performance based on other work/performance products not included above, e.g., audiotapes, slide presentations