Chapter 7

Teaching in the Ambulatory Setting

"A single conversation with a wise man is better than ten years of study." Chinese Proverb.

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OBJECTIVES

After studying this chapter, the reader should be able to:

- describe the RIME continuum for level of student function
- discuss how to prime the learner for the clinical encounter teaching session
- identify clinical scenarios in which to use the following techniques for effective teaching in a brief clinical encounter: One-Minute-Preceptor, modeling problem solving, pattern recognition, activated demonstration, and SNAPPS models
- describe the difference between shadowing and activated demonstration
- list at least one method to incorporate observation into the ambulatory setting

INTRODUCTION

The outpatient setting is an exciting and challenging milieu in which to teach. It is a fertile venue for instruction in basic clinical skills. According to McGee and Irby, the outpatient clinic offers a forum for teaching preventive medicine, medical interviewing, and psychosocial aspects of disease. In the ambulatory setting, teacher and learner usually work one-on-one to teach, learn, and solve clinical problems, all at the same time. After reviewing the literature, McGee and Irby concluded that medical students generally rate their outpatient experiences better than their inpatient experience, although formal testing revealed no differences in acquired knowledge.

Much of ambulatory teaching is molded by the brief and episodic nature of the patient contact and focuses on the teaching moment. Time is usually limited, and the ambulatory teacher must address the concerns of each patient while that patient is still in the clinic. Lesky and Borkan suggest that ambulatory teaching needs to accommodate brief, impromptu opportunities, and techniques for doing this include focusing on a limited teaching agenda for each encounter, using questions, role modeling, observing, and providing feedback.

THE PRECEPTOR

In the ambulatory setting, the teacher usually functions as a preceptor. Dictionaries offer several definitions of the word, “preceptor.” The first definition is usually simply “a teacher or tutor.” An alternate definition is “an expert or specialist, such as a physician, who gives practical experience and training to a student, especially of medicine or nursing.” In the clinical setting, the term “preceptor” implies certain specific conditions. First, the preceptor has a close, usually one-to-one, relationship with the learner, although this does not preclude the teacher from working with more than one learner during a given period of time. Another key feature is that the learning experience revolves around real patients for whose care the learner and preceptor share responsibility. Although demonstration can be a valid part of the preceptor’s teaching strategy, simply shadowing the preceptor is not a valid educational experience for a learner in the clinical years or beyond. Finally, the preceptor must be qualified in the area in which he is teaching. In summary, the preceptor is a clinician-educator who teaches one-on-one about, and with, a real patient. It is easy to see how precepting fits into the ambulatory milieu.

Sometimes preceptor and learner meet only once, perhaps in clinic or the emergency department, and sometimes the relationship is relatively long term, with multiple contacts, e.g. daily contact for a month or once a month contact for a year. The functionalities and accomplishments for these two relationships are quite different. For example, only with repeated contacts is it possible to establish a curriculum, complete an in-depth evaluation of the learner’s knowledge and abilities, judge the learner’s improvement, and evaluate the effectiveness of the preceptor’s teaching.

Table 10.
Characteristics of Single versus Multiple Ambulatory Teacher-Learner Encounters

	Teaching	Assessment and Evaluation
Single encounter	Content and analytic skills relevant to a single sign, symptom, or disease.	Narrow and focused. Difficult to know if a deficiency is isolated or part of a pattern.
Multiple encounters	Broad spectrum of complaints, findings, and diseases. Opportunity to build on prior teaching.	Can assess a variety of abilities, knowledge across a spectrum of disorders, and attitude in a range of circumstances. Opportunity to assess response to feedback.

Serving as a preceptor is not limited to full-time academic faculty. More and more physicians in private practice are becoming actively involved in medical teaching (Barazansky). One reason for this is the emphasis that many medical schools place on primary care and the attempts by these schools to get their students into the community early in their training. Additionally, a number of residency programs utilize community sites and private offices for continuity clinics as well as for elective block rotations.

While preceptor-based teaching can take place in either the inpatient or outpatient setting, classically, it has been associated with the ambulatory setting, where the patient is more likely to be seen by one learner and one teacher in immediate sequence. On the inpatient service, the patient may be seen by a student, intern, supervising resident, fellow, and multiple consultants, and the attending physician often sees the patient long before or after the learner. On the ward, communication between teacher and learner, unfortunately, may be by phone or by notes in the medical record, whereas in the ambulatory setting it is almost always face to face.

The preceptor can teach knowledge, ability (skill), and attitude. Ability includes not only how to perform a history and physical examination, but also how to analyze and interpret clinical and laboratory data. It also may include performing physical procedures ("psychomotor skills"), such as venipuncture or suturing. One model for teaching specific skills is demonstration-observation-feedback. It is important to provide appropriate practice opportunities and supervision, so that learners can grow and develop their abilities.

Knowledge is probably the easiest area to teach and attitude the hardest. Standard methods for teaching knowledge include direct instruction, mini-

lectures, and discussions. But we also can teach knowledge by giving the learner assignments which we then review. Such assignments foster self-learning.

George and Doto described a five-step method for teaching psychomotor skills. In the first step, the learner comes to understand the cognitive elements of the skill, from purpose to tools to technique. Next, the preceptor demonstrates and the learner observes the procedure or skill from start to finish, without narration or discussion. This gives the student a mental image of the procedure. Following this, the preceptor again demonstrates the skill, this time while narrating and discussing the procedure. Finally, the student performs the procedure with the teacher carefully observing and providing coaching and feedback. Following a successful attempt, the student should practice until achieving the appropriate level of competency.

A preceptor can teach attitude by role modeling and pointing out what he did and why. A preceptor also can discuss attitudes with the learner and foster reflection on clinical encounters and management decisions.

A useful model for one-on-one teaching is to assess-teach-assess. One assesses by observing and asking the learner questions. These steps can sometimes be combined by the use of role-playing. The preceptor says, “Pretend that I’m a high school basketball player with Osgood-Schlatter disease and you have to tell me to stop sports for a while.” The preceptor responds to the learner as would a real patient.

If possible, the preceptor should select appropriate cases for the learner, providing a diversity of diseases and a spectrum of complexity and difficulty. Initially, the preceptor may need to protect the learner from too heavy a clinical load and from responsibilities for which he is not ready. In some circumstances, the preceptor may need to introduce the learner to the patients.

All the characteristics of a good teacher (see Chapter 2) apply to the preceptor, but some are especially important. It is vital that the preceptor establish rapport with the learner. The preceptor needs to be able to evaluate and correct the learner while remaining unbiased and non-judgmental. The preceptor should be easily approachable, and if this is not a one-time encounter, the preceptor should be available and accessible between sessions.

If the preceptor has multiple teaching encounters with the learner, he can evaluate the learner’s level of function and help the learner progress to a higher level. Pangaro et al have described a model (RIME) for evaluating the learner’s level of function in the ambulatory case-presentation setting. At the lowest level, the learner acts simply as a ***R****eporter*, obtaining data (history, physical, and laboratory), recording it in the medical record, and presenting it to the preceptor. As the learner progresses to the next level, he learns to ***I****nterpret* the data, analyzing, assessing, and judging the information. He makes and evaluates diagnostic hypotheses. At the next level, the learner functions as a ***M****anager*, utilizing what he has interpreted so as to generate a diagnostic or

therapeutic plan. Finally, at the highest level, the learner becomes an **E**ducator. He searches the literature for new evidence pertinent to the patient and teaches the patient and other health care professionals. The effective preceptor judges where along this continuum the learner is and helps him advance to the next level.

Reflection exercise #1. Answer at end of chapter.
You have just spent the day precepting a third year medical student. He is very good at gathering data from the patient and presenting it to you in an organized manner. He is also able to analyze and assess the data collected and is beginning to be able to formulate management plans. According to the RIME model described by Pangaro, at what level is this student functioning?

TIME LIMITS AND THE TEACHABLE MOMENT

Keeping within time limits

One of the biggest challenges of being a preceptor is that time is usually limited. It is a busy clinic and you have two other learners waiting to check out their patients, a social worker returning your page, and two drop-ins to be accommodated. You and the learner may have literally only a few minutes. Do not try to fit a quart of teaching into a one-ounce container. It will not work. You can only touch on the most important points. You may want to end with a suggestion for reading, or if practical, with a promise to go into more detail at the end of the clinic after all the patients have been taken care of, but be sure to keep that promise!

If you and the learner have a full five minutes, it will seem luxurious, and ten minutes is almost a session rather than just a *moment*. You have time to explore in detail what the leaner thinks about the patient or knows about the topic, and time to carefully decide what you need to teach. And you have time to ask the learner to summarize the key points of the discussion.

What is lost by the limited *quantity* of time can be made up by the *quality* of the time. Adult learners are problem oriented and most strongly motivated when trying to solve problems. Immediacy and relevance are built into teaching moments. Melding instruction and supervision, the teaching moment can be a paradigm of educational efficiency. An organized 5 minutes is better than a disorganized 30 minutes.

The teachable moment

Neither Medline nor Google searches could clarify when the terms "teachable moment" or "teaching moment" entered the medical vocabulary. Most clinician-educators consider a teaching moment as a brief, spontaneous, patient-centered teaching opportunity. James C. Leist, an Associate Dean for Continuing Education, wrote, "The teachable moment is the time when a learner is ready to accept new information for use conceptually or in practice." Thus,

the teachable moment is an opportunity for teaching that can be utilized by the teacher to maximize the probability of learning. Much of the literature about the teachable moment deals with *patient* education, for example, the opportunity to talk to a patient about smoking cessation or healthful nutrition. In this book, the teachable moment refers to the opportunity to use a patient encounter to teach a *student, resident, or other learner* clinical medicine. The patient encounter is the reason the student is ready to learn. Therefore, a teaching moment is a relatively brief teaching encounter focused on a real patient with whose care the teacher and learner are involved.

Of course, in addition to patient-focused moments, the consummate clinician- educator teaches whenever and wherever he can. The dedicated clinician-educator will never pass up an opportunity to teach—while the first patient gets checked in, during a lull in the clinic, or on the way to the laboratory or to diagnostic imaging. The consummate teacher always manages to drop some pearls, correct some misconceptions, or fill in some missing information. It only takes a pause in the conversation or an overheard question to trigger the teaching reflex and launch the consummate clinical-educator into instruction mode.

Table 11.
CATPAC: An Acronym for Structuring the Teaching Moment*

Acronym	Meaning
Capture	Capture the learner's attention and get his commitment.
Assess	Assess the learner's knowledge and understanding.
Teach	Teach, especially general rules. Explain. Give information. Encourage the learner to get further information.
Provide	Provide positive feedback about the learner's understanding, decision making, or anything else he did correctly.
And	And
Correct	Correct any errors or deficiencies in a constructive manner.

* Based on Neher et al, A five-step "microskills" model of clinical teaching.

ORGANIZING THE AMBULATORY TEACHING ENCOUNTER

Case-based teaching in a time-restricted or a hectic environment is difficult, and to do it well takes experience and dedication. It is not sufficient simply to talk quickly, and it is generally disconcerting for the learner to be the target of rapid-fire questions. The teaching moment, however brief, needs structure, and the teacher must continuously assess where the learner is and what he needs to learn. Time is a budget, and the teacher needs to set priorities and plan carefully. The learner needs to know enough to diagnose and treat the patient, but he does not need to know all the biochemical pathways involved or every rare complication of the disease.

Priming

Grover defined priming as orienting the learner to the patient and to the task that will be requested of him, prior to his entering the patient's room. Priming sets clear and realistic expectations based on the learner's level of experience. Priming is especially important for medical students who don't have the experience to recognize diagnostic patterns and therefore are not able to efficiently organize the history and physical examination. Sometimes the clinic schedule will permit the teacher to assign the student a patient who is not yet in a room and ask that student to read or search the Internet about that patient's diagnosis or complaint while waiting for the patient to be checked in.

Reflection exercise #2. Answer at end of chapter.
Think about a particularly complicated patient you have seen in the recent past. Describe how you would prime a learner for his clinical encounter with this patient.

The microskills or one-minute-preceptor (OMP) model

Neher et al proposed a five-step *microskills* model for teaching in a time limited setting: get a commitment, probe for supporting evidence, teach general rules, reinforce what was done right, and correct mistakes. This approach has been incorporated into a model called "the one-minute-preceptor" (Raskind, Sarkin).

The first microskill is to capture the learner's attention. "What do you think is going on?" "So, why do you think this child is… " This gets the learner to buy in to the discussion and gives the teacher a chance to assess the learner's current knowledge and understanding. If there is more than one learner, get them all involved. "Let's hear what Charles thinks and then what the rest of you can add."

The second step is to probe for supporting evidence. Give the learner an opportunity to explain his reasoning or justify his conclusions.

Third, teach general rules, emphasizing reasoning, focusing on concepts, and filling in any information the learner needs in order to care for the patient

properly. If possible, articulate a bottom-line or take-home message. Encourage the learner to reflect on the patient encounter and to learn more on his own.

Fourth, provide positive feedback and reinforcement for things done well. Furney found that in brief patient-oriented teaching encounters lack of feedback was the most common deficiency reported by learners. Identify and praise specific accomplishments. "That was a well organized presentation." "Very complete differential." "Excellent plan."

And fifth and finally, correct errors or deficiencies in the learner's thinking in a supportive and constructive manner. "It was great that you recognized the significance of the headache. Now you need to expand your differential diagnosis of headache to more than brain tumor." "You missed that end-expiratory wheeze, but that will come with more experience. Meanwhile you need to listen carefully throughout the breathing cycle, and there are some resources for auscultation on the Internet that can help you with this." To avoid undermining the learner's relationship with the patient, and to foster the supportive non-threatening environment necessary for effective feedback, extensive discussions about diagnosis or treatment should generally occur outside the patient's room.

Although getting all of this into 60 seconds is a near-impossible challenge, it is a useful way of organizing the patient focused teaching encounter. The term, "the one-minute-preceptor," should not be taken literally. Some of the same authors (Usatine et al) who coined the term, "one-minute-preceptor," found that the average time just for a student to present his case in an ambulatory setting was 2.2 minutes. Add to this the preceptor's input and some two-way discussion, and you are well past the five-minute mark. Furney et al reported that use of the OMP model improved resident teaching as perceived by medical students. Irby found that the OMP model shifted teaching away from generic clinical skills towards disease-specific teaching. Interestingly, this is in keeping with the recognition that clinical reasoning is context specific (Bowen).

Modeling problem solving

Sometimes, a case may be too complicated for the learner's skill level or you do not have enough time to allow the learner to progress through the steps of the OMP. A technique you could use in such a situation is to model your problem solving approach. This method involves the preceptor "thinking out loud" about the patient. The teacher discusses the differential diagnosis, the evidence that supports one diagnosis over another, and the rationale for the management plan. The disadvantage of this model is that it does not actively involve the learner in problem solving. However, it does provide role modeling of this skill by the preceptor. In a review article, Bowen et al. reported that clinical diagnostic reasoning requires both knowledge and experience. They recommend increasing content knowledge by modeling the thinking process.

Modeling how the teacher sees the patient's problem allows the learner to develop a repository of content-specific information that can be retrieved and utilized the next time the learner sees a patient with the same problem.

The SNAPPS model

Wolpaw et al developed a model (SNAPPS) for ambulatory teaching in the case presentation format. SNAPPS is not only learner-*centered*, it is learner-*driven* and pushes the learner beyond the reporter level of the RIME model. First, the learner briefly **S**ummarizes the results of the history and physical examination. Then the learner **N**arrows the differential diagnosis to three possibilities and **A**nalyzes these by comparing and contrasting them. Next, the learner **P**robes the teacher (rather than the reverse) in regard to any questions or uncertainties he has and for alternative diagnoses or explanations. Then the learner develops a **P**lan for management of the patient, and finally, the learner **S**elects an issue related to the case for self-directed learning.

Pattern recognition (The Aunt Minnie model)

Time is the most common barrier to teaching in the ambulatory setting. The "Aunt Minnie" model can be a time efficient and effective case based teaching method when the case is straightforward. The name was coined by Sackett et al. to describe a process of pattern recognition, i.e., if she walks, talks, and dresses like Aunt Minnie, then she probably is Aunt Minnie even if you cannot see her face. The learner performs a history and physical and then presents only the chief complaint and the most likely diagnosis. If the learner is at the level of formulating management plans, this is also presented. The learner is then asked to write the note while you evaluate the patient. If, after evaluating the patient, you agree with the learner's diagnosis and management plan, you can provide immediate feedback and ask the learner if he has any questions related to the case. These questions may be addressed immediately, if time permits, or they can be written down to be discussed at a later time. If however, you detect a discrepancy in the diagnosis or plan, you can take the learner through the OMP, or if time is short, you can give him feedback utilizing the modeling problem-solving case-based teaching method. With practice, the learner will be able to tell you whether the case is an "Aunt Minnie" or requires more discussion.

Pitfalls of case-based teaching

Case-based teaching is an indispensable part of the medical curriculum, but it needs to be done well. Here are five of the most common teacher errors in case-based teaching.

1. Taking over the case instead of probing further to find out what the learner knows. Under the pressure of a busy clinic, this is probably the most frequent error. It not only diminishes learner motivation, it deprives the learner of the

opportunity to articulate his thinking so that both he and the teacher can analyze it.
2. Not allowing sufficient time for the learner to respond to a question. Asking a question and answering it before the learner has a chance to do so is frustrating to the learner.
3. Giving information passively rather than stimulating problem solving and making the learner think. Monologues are less interesting than dialogues.
4. Focusing on questions that do not require problem solving or data synthesis. Knowledge is important, but so is the ability to reason and use that knowledge.
5. Pushing the learner past his ability. This can be recognized by observing the learner's verbal and non-verbal reactions to the question (e.g. like the stunned look of a deer in the headlights of an approaching automobile).

Demonstration and activated demonstration

Sometimes the learner will be an observer while the teacher models specific behaviors or skills. If there are insufficient numbers of patients, if the patient is too complex for the skill level of the learner, or if the preceptor needs to perform a procedure that the learner cannot or should not attempt, demonstration may be the best way to accomplish the educational goals. The student learns by observing the teacher.

The preceptor thinks out loud, points out clinical observations, and shares hypotheses, hunches, and insights. It is imperative for the teacher to explain what he is modeling and to identify the specific behavior he wants the student to observe. Reflective modeling means that both the learner and the teacher review and examine the experience. This requires the preceptor to be explicit regarding what is being modeled.

Even the inherently passive technique of demonstration can be made active, and several authors (Sarkin and Wilkerson, Boorman) have written about "activated demonstration." The process of activation begins before entering the patient's room by assessing the learner's knowledge and understanding relevant to the patient's problems. Then decide what the student should learn from the demonstration and share this with him. Provide the student with guidelines for his role and behavior during the demonstration. When you enter the room, introduce the learner, and include him in the examination of the patient and in any discussion with the patient. After leaving the room, discuss the patient's diagnosis and management and review the learning points of the demonstration. Finally, encourage further self-learning about the patient's signs, symptoms, or diagnosis.

Observation

Imagine that you are a piano instructor teaching a pupil how to play a specific melody. You would not ask him to go home, play the musical piece, and then come back and tell you how he did. You would need to observe his

movements on the keyboard and listen to him play in order to provide him with feedback on what he did well and how he could improve. It is no different for students learning to take a history, perform a physical examination, and interact with a patient. Unfortunately, researchers have identified lack of observation and feedback as the norm in medical education. Ferenchick et al. proposed a brief observation of the learner performing a specific skill (e.g. the HEENT examination) as an efficient strategy for observation in the outpatient setting. He titled this the "One Minute Observation." This method allows you to observe the learner without the commitment of large blocks of time. The first step is to discuss the purpose of the observation and the "modus operandi" or how the observation will take place. You also want to inform the patient of the purpose of the observation. Observe the interaction for a brief period of time as a "fly on the wall" then leave the room without disrupting the learner-patient interaction. After the learner is finished, provide immediate feedback and use the information gleaned from the observation as an agenda for future teaching. This kind of observation is different from bedside teaching (Chapter 9), where you generally do want to interact with the learner and patient in the room.

When employing observation as a teaching tool, some instructors use a checklist to improve the reliability of the observation. This focuses the preceptor on those items relevant to the specific skill and setting. Typical items include, asking open-ended questions, performing complete examinations of various organ systems, and using lay terminology to explain diagnoses. One way to keep track of your observations if you do not use a checklist is to use pocket cards—3x5 or 5x7 inch note cards that can be kept easily in your coat pocket. These can be used for immediate feedback and also kept for later use when completing written evaluations of the learners.

Reflection exercise #3. Answer at end of chapter.
Identify the case-based teaching model that would be best to use in each of the following clinical scenarios.
a. A third year pediatric resident evaluating a patient for diaper dermatitis

b. A second year medical student evaluating a completely unfamiliar case

c. A second year pediatric resident who has never performed tympanometry is evaluating a patient to determine the patency of pressure equalizing tubes using this technique

d. A first year pediatric resident evaluating a complex case of abdominal pain and rash

e. A fourth year medical student evaluating a previously well patient with low grade fever, rhinorrhea, and cough

Planning for the teaching encounter

Teaching in the ambulatory setting provides a unique environment for learning. Focus is on the patient and on "just in time learning," learning that takes place in order to most effectively manage the patient and maximize the outcome at the time of the visit. Despite the many impromptu teaching moments that arise, you still need to plan your teaching activities so they are a scheduled part of the day. When will you observe your learner? When and how will you provide feedback? If at all possible, plan time in your day for debriefing with the learner. Do not leave learning to chance. When, where, and how teaching fits into the day will be different for each teacher and for each setting. Resist the urge to cover everything. Set priorities. Keep track of teaching points and questions to address as time permits. Ask the learner what topics he would like to discuss. Have the learner carry a card or a notebook to record questions or observations that can later be used to frame a discussion at the end of the clinic session. Consider reviewing some cases in the examining room in front of the patient, as appropriate. This can save you time and allow you to observe the student interacting with the patient, as well as provide an avenue to teach both the learner and the patient at the same time. Patients report that bedside teaching helps them understand their illnesses better (Lehman). They want their doctors to ask permission prior to the teaching encounter, and they want everyone to introduce themselves. Make sure to ask the learner to discuss any sensitive issues or diagnoses prior to entering or after leaving the room. During the interaction, if possible, the patient, teacher and learner should all be seated and the patient should be free to interrupt at any time to ask questions about words or concepts he does not understand.

Another method to balance the competing demands of patient care and teaching is to allow others in your practice to teach, e.g. practice partners, nurses, physician assistants, administrators, billing and coding specialists, and health educators. Other team members can provide a different perspective and potentially broaden the learners' knowledge and skill acquisition. Consider weaving a theme throughout the day as a focus for discussion. Observe and provide feedback to your learners, not only on their examination skills but also on written documentation and oral communication. Encourage the learners to go further and seek more information and, ultimately, a better understanding about the patients they are seeing. As a teacher, whether you are aware of it or not, you are constantly role modeling skills, behaviors, and attitudes. Learners observe what you say and do, both positive and negative, and integrate this learning into their own set of actions. Role modeling should therefore be brought to the attention of the learners through activated demonstration, verbal modeling of problem solving, and talking through the steps of procedures. In addition, reflection and discussion about beliefs, values, and biases, should be integrated into teachable moments. Use activated demonstration to promote learning for behaviors that are not intuitive for the learner, such as self-

improvement, professionalism, and communication strategies with other health care team members.

Reflection exercise #4. Answers at end of chapter.
A. Describe to a colleague the differences between shadowing and activated demonstration, using a clinical example.

B. List one method by which you could incorporate observation into your ambulatory teaching.

IMPROVING THE LEARNING EXPERIENCE

At the beginning of any learning experience, review the objectives of the session and ask the learners about their previous clinical experience. Identify the learners' goals for the session and encourage them to read about the clinical conditions to be seen and be prepared to propose a differential diagnosis and management plan based on their level of experience. Encourage the learners to explain the reasoning behind their decisions and to seek feedback, not only on these decisions but also on history taking, physical examination, and communication skills. Develop an environment that encourages reflection-on-practice by discussing what went well during the clinical encounter and what could be changed in the future to improve the quality of care provided. These discussions should also include your own clinical encounters, not just the learners', thereby role modeling life-long learning skills.

SUMMARY

Teaching in the ambulatory setting is difficult and challenging. It requires a balance between the needs of the patient and learner in a time-limited setting. Ambulatory teaching is predominantly case-based and focuses on the patient encounter. It provides the learner a unique window into aspects of care often not emphasized in the inpatient setting, such as preventive medicine, care of chronic health problems, patient relationships, and psychosocial aspects of disease. The teachable moment is defined as a brief, patient-centered teaching opportunity. Time is the limiting factor, but the experience still should be based on objectives, should be well organized, and should provide appropriate feedback. Preceptors should use a variety of models for effective teaching in a brief clinical encounter, such as the OMP, Aunt Minnie approach, SNAPPS, activated demonstration, and observation. The RIME continuum can be used to evaluate the level of student functioning. Priming the learner orients him to the patient and to the task that will be requested of him. Shadowing is a passive learning experience, where the student is an observer as the teacher demonstrates clinical skills, while activated demonstration is an active learning experience, whereby the teacher provides learning guidelines based on the

learner's needs and experiences during the observation and discusses these after the encounter. Observation of the learner is crucial in evaluating and improving his skills.

ACTION STEPS

- Estimate the available amount of time
- Decide which techniques and strategies you will use
- Assess the learner's current knowledge and understanding about the problem
- Set priorities
- Teach
- Provide feedback and correct any errors in a constructive manner
- Encourage the learner to go further and seek more information and better understanding

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- http://www.ucdenver.edu
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Answers to reflection exercises

1. Interpreter, although he is beginning to transition from an Interpreter to a Manager.

2. Jorge is here today for fever, rhinorrhea, and cough. He is a 5 year old male with partial DiGeorge syndrome and moderate persistent asthma. He is on an inhaled corticosteroid as well as a leukotriene inhibitor for prevention of asthma attacks and takes a bronchodilator as needed every two hours when he is experiencing acute symptoms. Due to his underlying immunosuppression and chronic asthma, he gets pneumonia frequently. I would like you to interview the patient and his family and complete a focused physical examination concentrating on the HEENT, cardiac and lung examinations and present your differential diagnosis for his current symptoms along with your management plan. Be able to defend your treatment plan based on the patient's history and your physical findings. We'll discuss this after you complete your examination.

3. a. Aunt Minnie, b. Modeling Problem Solving, c. Activated Demonstration, d. SNAPPS, e. Microskills model

4.
a. Shadowing is when you have the learner observe you performing a history and physical examination without any particular learning objective previously identified. Activated demonstration is when you have that same learner identify areas he would like to learn more about in regard to the history and physical, for example, obtaining a social history on a teenager using the HEADSS format (Home, Education, Activities, Drugs, Sexuality, Suicide). You first ask the learner what he knows about the HEADSS format and what experience he has had with the technique. Based on his answers, you may choose to instruct the learner to pay particular attention to the manner in which you ask the questions. You also may have him report on the specific tone you took with the patient and the general areas in which you inquired of the teenager's social history that correlate to the HEADSS mnemonic. After you demonstrate this skill, you will follow-up with the learner and discuss what he observed in the room based on the learning needs that were identified prior to the clinical encounter.

b. Once a day, you could observe your learner providing information to a patient or family, using a checklist that documents the learner's ability to avoid medical jargon, to explain the diagnosis and management plan, to solicit questions and concerns, and to probe for patient and family understanding.