

Clinical Teaching Tips

Resources for Royal College Specialists in Community Practices

Prepared for the College of Medicine
University of Saskatchewan

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Table of Contents

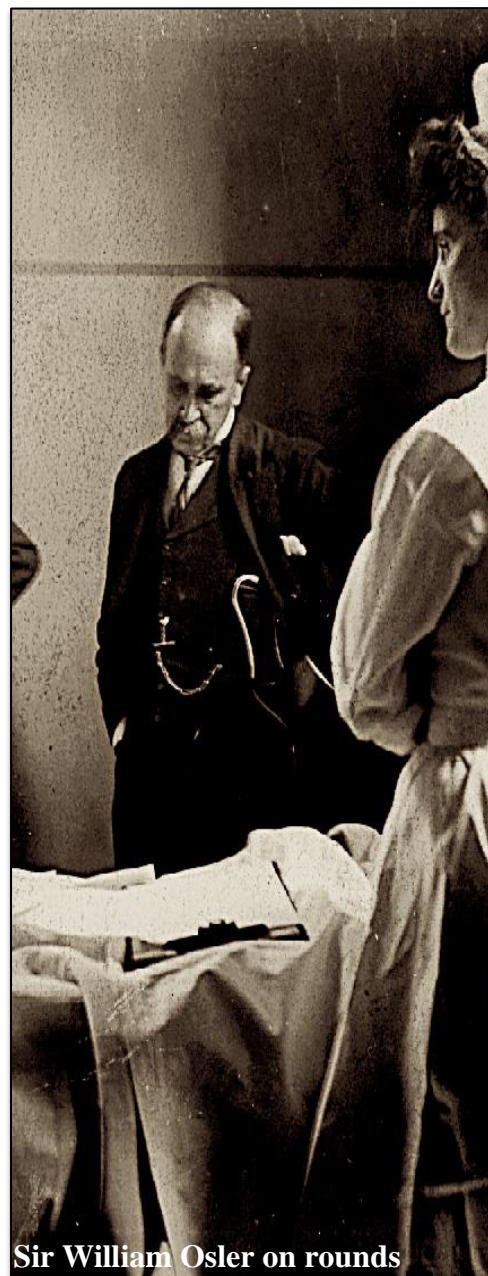
Introduction – the Before, During, After Framework	3
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Before:	5
• Find out about the program expectations	5
• Prepare your practice	6
• Orientation – share expectations	7
• Selection & priming	9
• Ongoing needs assessment	10

During:	
• Authentic responsibility	11
• Granting responsibility for patient care	13
• Relationship building	17
• Case-based teaching & learning	18
• Case presentation	18
• Discussion & coaching	20
• The One-Minute-Preceptor model	23
• The SNAPPS framework	25
• More about feedback	25
• Tips on questioning techniques	28

After:	
• Time for reflection	30
• Other teaching opportunities	31
• Assessment & grading	31
• What to do if your learner is not doing well	31
• Reflection on your teaching	33
• Other resources	33
• Websites about teaching & learning	35

Appendices:	37
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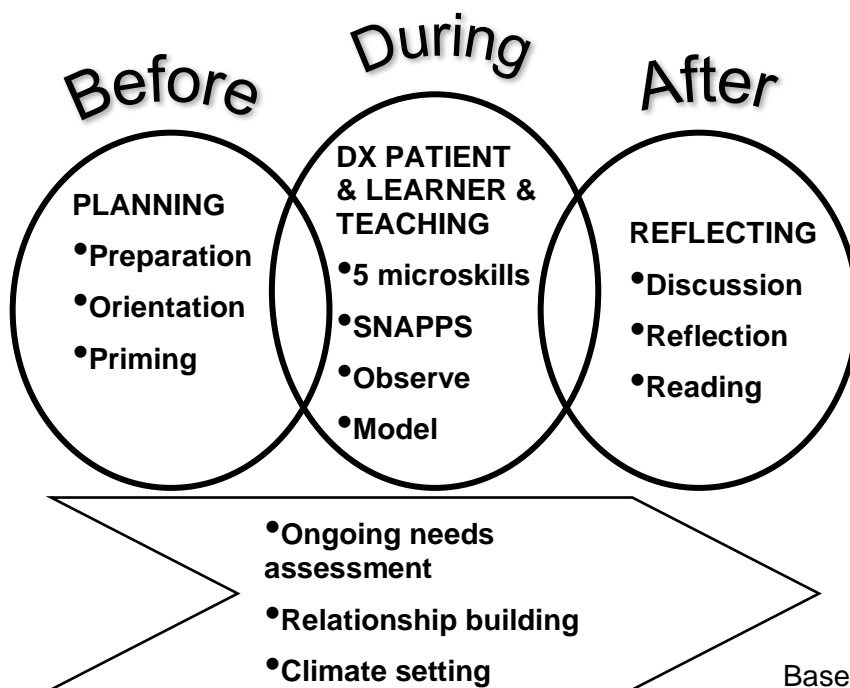
Sir William Osler on rounds

Introduction

The following outline has been prepared as a practical guide for clinical teachers in community practices. It covers the following topics:

- *Before* – how to prepare your practice and orient your learners;
- *During* – how to help students and residents learn from their interactions with patients;
- *After* – reflecting on your experiences as teachers and helping your learners to reflect on their learning experiences;
- *Ongoing activities* – climate setting, needs assessment and relationship building;
- *Resources* – links to many useful articles and websites, including video demonstrations of clinical teaching methods, for more practical information on several topics that might interest you.

Clinical Teaching – a Framework



This framework is based on a study of distinguished clinical teachers by David Irby. See Irby DM, Bowen JL: Time-efficient strategies for learning and performance. *The Clinical Teacher*. 2004;1(1):23-28. Available [HERE](#)

Over 90% of community preceptors are very satisfied or satisfied with their experience as community preceptors.¹ Reasons for teaching include: giving back to the profession, demonstrating community practice, enjoyment of teaching, keeping up to date, a sense of renewed importance in the work, helping recruit students into their specialty and recruiting future partners.

Fitting students into an already hectic schedule is challenging. Some research has indicated that the presence of a learner in a practice increases the workload by about 45 minutes per day.² But it depends on the office set-up and the level and skill of the learner. Recent Australian studies show that, when the students have their own consulting room to see patients on their own before being joined by their preceptor, there is no increase in workload.³ Supervising residents may increase the number of patients the practice can see each day.⁴ Preceptors handle the challenge of teaching junior students in different ways. Some schedule a few less patients on days with students, e.g., leaving a few blank spots during the day for catch-up time. Others schedule more spots for walk-in acute problems. They are often more interesting and appropriate for students. Others just work longer. Sharing the teaching with colleagues allows you to catch up on days when you don't have a student. Throughout this guide I have provided tips to fit into a busy practice.

Sometimes new clinical teachers wonder if they have anything worthwhile to teach students and residents – these young people seem to know so much and may be more up to date than we are. But they often have trouble applying all that “book learning” to real patients. Students, and even residents, may feel lost in the uncertainties, fast pace and complexities of ambulatory care. They greatly appreciate learning the practical tips you have acquired from years of working in “the trenches” and value the opportunity to watch an expert clinician deal with a difficult problem. Typically, your teaching will be short 5-minute moments focused on practical issues rather than longer lectures on abstract concepts. “Students in a community-based setting see more patients, are exposed to a wider variety of patient problems, provide more acute care, evaluate more patients in the emergency

“Medicine is a calling, a call to service. The patient-centred curriculum reflects this noble tradition of commitment to individual patients, their families and community. The physician's covenant is a promise to be fully present to patients in their time of need - to ‘be there’, even when the physician can offer no cure, to provide relief whenever possible, and always to offer comfort and compassion.”

– Curriculum Philosophy.
Schulich School of
Medicine and
Dentistry.

¹ Latessa R, Colvin G, Beaty N, et al: Satisfaction, motivation, and the future of community preceptors: what are the current trends? *Academic Medicine*. 2013;88(8):1-7. Abstract available [HERE](#)

² Vinson DC, Paden C, Devera-Sales A: Impact of medical student teaching on family physicians' use of time. *The Journal of Family Practice*. 1996;42:243-249. Abstract available [HERE](#)

³ Walters L, Worley P, Prideaux D, Lange K: Do consultations in rural general practice take more time when practitioners are precepting medical students? *Medical Education*. 2008;42:69-73. Abstract available [HERE](#)

⁴ Kelly L: *Community-based Medical Education: A Teacher's Handbook*. London: Radcliffe Publishing, 2012.

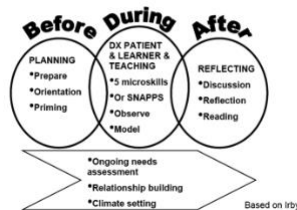
department, and perform more procedures than students assigned to traditional hospital-based clinics.”⁵

It may help to remind yourself what it was like as a clerk or new resident constantly changing rotations. Just as you got comfortable working up patients on internal medicine, you were moved to obstetrics or surgery. You were constantly trying to sort out what was expected – it was like starting a new job every month. Being greeted in a friendly manner and welcomed into your practice goes a long way in reducing the anxiety of starting out in another new setting.

Some of the tips may work well for many of you and not so well for others. We welcome your suggestions about how to make teaching in your offices more effective and efficient. Please send your suggestions to me at wweston@uwo.ca.



Clinical Teaching – a Framework



FIND OUT ABOUT THE PROGRAM EXPECTATIONS:

- The list of objectives or competencies of the medical school and of your department are the guideposts for your teaching and provide a standard for assessing your students. The Royal College of Physicians and Surgeons of Canada also provides a number of important educational documents related to Competence by Design:
 - [CanMEDS Interactive](#) [HERE](#) provides information about the CanMEDS 2015 competencies and milestones as well as tips on teaching and assessing each of the CanMEDS Roles. The OTR Special Addendum updated December 2016 [HERE](#) focuses on major new content areas in the CanMEDS 2015 framework.

⁵ Alguire PC et al: *Teaching in Your Office*, 2nd edition. Philadelphia: ACP Press, 2008.

- CanMEDS Faculty Development Resources [HERE](#). This site lists a large collection of publications related to CanMEDS available for purchase from the Royal College.
- Information about Postgraduate Medical Education at the College of Medicine, University of Saskatchewan is available [HERE](#).
- The Postgraduate Medical Education Resident Handbook, revised June 2019, is available [HERE](#).
- In September 2016, the Association of Faculties of Medicine of Canada produced the Entrustable Professional Activities ([EPAs](#)) for the Transition from Medical School to Residency. This is a list of 12 core activities that medical students should be able to perform upon graduation with only indirect supervision.
- With experience, you will soon know what you can expect of learners at different levels. If you are not sure if your student measures up, ask the appropriate Coordinator or Director in your department or school.

Although it is important to provide opportunities for your students and residents to master the competencies expected for their stage of learning, it is also important to remember that medical education is about much more than learning a huge amount of knowledge and skills – medical education transforms lay people into physicians. Through reflecting on their experiences of caring for patients, working as a member of a team of health professionals and with your guidance as a mentor and role model, our students and residents learn to think and feel like physicians. This can be exciting and it can be terrifying; they need teachers who care for them as people as they navigate this life-changing journey.

“Professional identity formation – development of professional values, actions and aspirations – should be a major focus of medical education. It should build on an essential foundation of clinical competence, communication and interpersonal skills, and ethical and legal understanding, and extend to aspirational goals in performance excellence, accountability, humanism, and altruism.”⁶

It is important for you to know what your Department expects your learners to be able to do as a result of their time with you. The list of objectives or competencies provided by your Department, as well as related documents from the RCPSC, are a good guide. The assessment is another important guide to what you should teach. The new EPAs are a nice short guide to what students should be able to do at the end of medical school.

PREPARE YOUR PRACTICE:

The following suggestions for preparing your staff and patients for the arrival of students or residents go a long way in creating a welcoming climate for learners which will reduce their stress in starting in a new

⁶ Cooke M, Irby DM, O'Brien BC: *Educating Physicians – A Call for Reform of Medical School and Residency*. San Francisco: Jossey-Bass, 2010, p6.

setting. The sooner they can settle in and feel like a member of your team, the more confident they will feel and the more they will learn. “An effective workplace teacher is someone who can simultaneously support students and challenge them in a way that builds practical competence and a positive state of mind.”⁷

Let your office staff know about your involvement in training young physicians and about the students’ role with your patients so that they can help prepare patients to see a student or resident and answer any questions about this process. Also let your patients know – usually they will be proud to know that you have been selected for this important role. It may be helpful to post a sign in the waiting room about your involvement with the medical school. You could even post the name of your student or resident in the waiting room near the reception area to remind patients of their name to make it more likely that they will follow-up with the same resident. You might consider having someone in your office write an article for the local newspaper about the clinic’s involvement in teaching. Clerks are given significant responsibility for patient care and are not “fifth wheels” on the clinical teams – they are important members of the teams with important responsibilities for gathering information, developing a differential diagnosis, suggesting investigations, weighing the evidence for and against the treatment options, and communicating with the patients and their families. Although it is helpful for them to observe their teachers interacting with patients, they usually learn more by “hands on” involvement. You will need to assess each student’s abilities early in the rotation to determine how much you can safely ask them to do. **Students must be appropriately supervised in clinical settings** [UGME Clinical Supervision Policy](#).

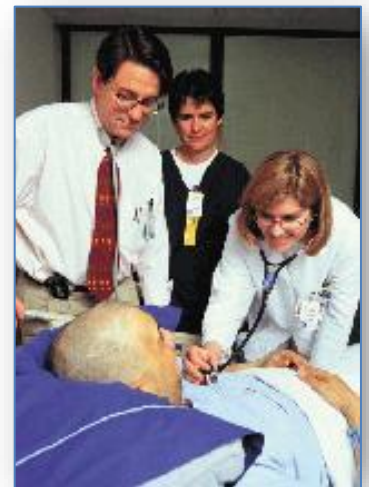
ORIENTATION – SHARE EXPECTATIONS:

You can mail or email your student or resident before he or she arrives to provide information about your practice and community and what they can expect when learning with you. Ask the learner to fill you in on their background and especially about what they have done so far in the clerkship or residency. It is helpful to provide a map to your office and to let them know where and when to show up on the first day (including where they can park if they are coming by car).

When the student or resident first arrives, find out about their previous clinical experiences and their special interests. What do they hope to learn from you? What areas of medicine do they find difficult or confusing? What

Post a sign in
your office

We are proud to
be a training site
for medical
students and
residents.



An orientation can help get your learner off to a good start by clarifying expectations and preventing or correcting misconceptions. It will save time in the long run.

⁷ Dornan T, Boshuizen H, King N, Scherpbier A: Experience-based learning: a model linking the processes and outcomes of medical students’ workplace learning. *Medical Education*. 2007;41:84-91. Available [HERE](#)

skills do they want to practice, e.g., using the ophthalmoscope, doing pelvic exams, doing procedures, etc.? Students are often reluctant to admit any area of weakness until they feel more comfortable with you and trust that you won't use this against them in their evaluation. Also, ask for something about them outside of medicine. See [Appendix A](#) for an example of a form you can use to gather this information from the student ahead of time.

Your staff can be a big help in the orientation.

Next, spend a few minutes orienting them to the office or hospital. Introduce them to your staff. Let them know how they will be assessed. Make sure they understand what is expected of them, e.g., responsibility for patient care, punctuality, dress code etc. Making these issues clear at the start can prevent problems later on. Tell them about your community and the special attractions they might enjoy during their time off. Find out if they will be absent for holidays, conferences or other approved activities. You may find it helpful to have a checklist or handout for the student or resident outlining the key points in the orientation. For an example of a checklist, see [Appendix B](#).

Unprofessional behaviour by students and residents is one of the most challenging issues for teachers. Often such behaviour is a result of not knowing what is expected. Role modelling the behaviour you hope for and sharing the list of educational objectives for professionalism in CanMEDS [HERE](#) will go a long way to preventing problems. The [UGME Professionalism Procedure](#) can provide guidance if there are any concerns about medical student professional behavior.

Some suggestions to help with orientation in a busy practice:

- Make sure your receptionist and other staff are aware when a student or resident will be with you so that they can adjust your schedule, book some patients for them and welcome them when they arrive.
- Ask your staff to assist with the orientation, e.g., tour of the office (including where to keep lunch), overview of the community (e.g., local restaurants, fast food outlets, opportunities for recreation, etc.), dress code.
- A good orientation will save a lot of time in the long run. One study showed that it took students up to two weeks to figure out how to focus their work-ups, write up charts, and present cases.⁸
- Don't try to cover everything on the first day – it may be overwhelming. The important thing is for the new learner to feel welcome and have a clear idea of how they will fit in.

⁸ Kurth RJ, Irigoyen M, Schmidt HJ: A model to structure student learning in ambulatory care settings. *Academic Medicine*. 1997;72:601-606. Abstract available [HERE](#)

- If you use an electronic health record, learners will need an orientation to it. Provide tips on how to use the EHR in ways that include the patient. A short manual on the EHR can be invaluable. [HERE](#) is a brief outline of how to enhance patient-centred care while using an EHR.
- If you teach students or residents regularly, it will save time to develop a brief handout about your office and community, your approach to teaching and supervision and your expectations of learners. Then you can spend your time responding to questions after they have reviewed the handout.
- Some practices have learners go through the office as a patient, registering with the receptionist, sitting in the waiting room, being taken to an examining room by the nurse and then going to the lab. This provides a first-hand experience of what it is like to be a patient in your office.
- In addition to the rotation objectives, you can ask student to write out a few additional goals they have for their time with you. Introduce the idea and give them a few days to complete. Then post the list for everyone who will be teaching the student to see.

More tips for incorporating students into your practice, including the “wave” schedule are [HERE](#).

SELECTION OF PATIENTS AND PRIMING:

A team “huddle”⁹ at the start of each clinical session is often helpful – the physician, nurse and student gather around the patient list to identify which patients a student will see and briefly outline the reasons for their visit. If the student has time, he or she could quickly look up information about the patients’ problems in order to be better prepared. Identifying patients and their problems the night before would give students a strong incentive to prepare. The “huddle” is also an opportunity to clarify the nurse’s role with each patient and whether or not additional equipment might be needed for particular visits. Often the nurse has had contact with patients between visits and this is an opportunity to share that information.

While most patients are suitable for involvement with students, there are some issues worth considering. First, some patients prefer not to see a patient – they may have a very difficult personal issue to discuss; they may have seen students several times before and need a break from teaching; they may be in a rush and not have the extra time required to be seen by a student. Next, the student’s ability needs to be considered. An inexperienced student at the start of clerkship may be overwhelmed by a patient with several complex problems and may not be able to deal with some patients

⁹ Walsh A, Moore A, Everson J, DeClaire K: Gathering, strategizing, motivating and celebrating: the team huddle in a teaching general practice. *Education for Primary Care*. 2018;29(2):1-7. Abstract available [HERE](#)

who are abrasive or uncooperative. It may be best to start these students with more straightforward cases, e.g., friendly patients with typical examples of one or two problems.

“Priming” (a.k.a. “briefing”) involves spending a minute or two preparing the student for the encounter with a patient. Without priming, students may spend too much time with patients collecting every piece of information that might be important especially if they have just come off an inpatient medicine rotation. They need guidance in preparing for the encounter – help them define what questions they will need to be able to answer at the end of their assessment, e.g., what is the differential diagnosis, or what investigation or management is indicated. Be clear about your expectations re how much time they should spend doing the work up and what they should focus on, e.g., “Take 20 minutes to find out all the issues on the patient’s agenda.” Or, “Determine the patient’s priorities and explore the top two.” Or, “Take a detailed history of these two issues and conduct a targeted physical exam.” Or, “Come up with a differential diagnosis and a plan for investigation and management.” Once you have primed the student several times, this process becomes much quicker. Experienced students and residents will soon be able to prime themselves by reviewing the chart before seeing the patient.



If you have a slow student (they might be very knowledgeable but overly meticulous, disorganized or writing copious notes), provide them with clear guidance:

- Give them a definite time limit: “Take 15 minutes to conduct the history and physical and think about the investigation and management. But come out with whatever you have in 15 minutes.”
- If the student does not come out, go into the room and join them.
- Advise them to take briefer rough notes.

But remember – the patient might have a very different idea about the purpose of the visit. Remind the student that they might need to change their plans after asking the patient about their concerns and priorities.

ONGOING NEEDS ASSESSMENT:

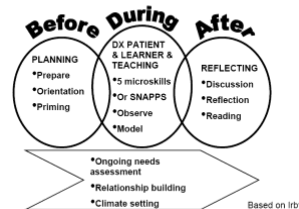
This is one of the most important teaching tasks and one that is often neglected. It simply means finding out what the student is good at and what they need more help with – this is important so that you can concentrate your teaching on what they need rather than on what you like to teach whether they need it or not. Teachers can guess at the student’s needs based on other students they have taught at the same level

The needs assessment is key to effective teaching. It helps you focus your teaching on what the student needs to learn rather than repeating what they already know.

but student variability is so great that it is essential to assess each student individually. You can begin the needs assessment during your initial orientation of the student but you will continue to learn about the student's needs during every case presentation and discussion with the student. Recognizing that the needs assessment is ongoing encourages you to update your goals for the student as you learn more about their strengths and areas that need more attention.

DURING:

Clinical Teaching – a Framework



Students learn best by having real responsibility for patient care combined with tailored supervision. All patients seen by students must also be seen by a physician.

AUTHENTIC RESPONSIBILITY:

- Students may wish to observe you with patients on the first day, especially early in the clerkship. But they will learn more by being actively involved in working-up patients on their own followed by a case presentation and discussion.¹⁰ If the first morning is quite hectic, have your staff provide an orientation to the practice and then have the student actively observe you with patients. Then review their background and your expectations at noon and get them more involved in seeing patients on their own in the afternoon. It is important that they have real, meaningful responsibility for patient care. They need to be doing more than simply practicing their interviewing and physical exam skills – what they do should make a positive difference to the care of patients.
- Give them relatively straightforward cases to start with. Observe them for a few minutes with each case until you feel confident in their ability to do a good work-up on their own. Make sure they realize the importance of being honest about any areas of ignorance and that your relationship is comfortable enough that they will tell you. Otherwise you may not be aware of important gaps in their assessments. Most students, especially in the second half of the year, are excellent data collectors. Where they need most help is with differential diagnosis, investigation and management. Some students may continue to need closer supervision and feedback on their interviewing throughout the year.

[Choosing Wisely Canada HERE](#) is an excellent resource for guiding our decisions about care. See “The Lists” tab for a list of things physicians and patients should question broken down by specialty and topic.

¹⁰ Steven K, Wenger E, Boshuizen H, Sherpbier A, Dornan T: How clerkship students learn from real patients in practice settings. *Academic Medicine*. 2014;89(3):469-476. Available [HERE](#)

- Your nurse or staff should check with patients for consent to see a student. Suggest that they ask in a positive way, e.g., “How would you like to be a teacher today?” or “Would you be willing to see our student to help him/her learn more about medicine? We are involved with teaching in order to encourage new doctors to come to our community.” Make sure your staff is aware of your enthusiasm for teaching and try to get them enthusiastic too. This enthusiasm will rub off on patients. If the staff sees this as an added chore, then they will convey a negative attitude and patients will refuse to see students. Make sure you thank patients for being involved in the teaching program.
- Focus on one teaching point with each patient. In clinical teaching in a busy office, *less is more* – they will learn more in the long run by focusing on one key point per patient rather than hearing a long dissertation on your favorite topic or being subjected to your war stories. And it will be quicker.
- Have the student record the note for the visit. Provide clear guidelines for charting so that you don’t have to re-do them.
- Students can make follow-up phone calls to patients about the results of lab tests or to find out how they are doing. Patients like the extra attention and will be more willing to see students again.
- Use handouts. Provide access to the Internet and bookmark good websites. Note the excellent online library resources available for all faculty members from your medical school, e.g., Current Medical Diagnosis and Treatment, the Cochrane Library, Harrison’s Online, Essentials of Clinical Geriatrics, and hundreds of individual journals such as the New England Journal of Medicine, JAMA, Lancet, BMJ, Journal of General Internal Medicine and journals of each major specialty.
- Members of the Canadian Medical Association have free access to over 1000 medical textbooks across 30+ specialties and a collection of 600 journals across 30+ medical specialties, CPS online, etc. Log on at <https://joulecma.ca>. Then click on Clinical and then Clinical Key.
- If you don’t know the answer to a clinical question, show them how you deal with uncertainty, e.g., looking up the answer in a textbook or on the Internet or talking to a colleague. If you don’t need the answer right away, consider having both of you look up the answer and sharing results the next day. Or, you could take turns.
- The student will see some patients while you see others. See the “wave” schedule [HERE](#). If the patient you are seeing has interesting clinical findings, bring the student in briefly to demonstrate.
- If you get way behind, tell the learner to work on charts, or on a project, or to read up on some of their cases until you can catch up. Let the student know at orientation that you might use this strategy so they are not caught off guard and will be able to use the time effectively.

“Less is more!”

As a U of S faculty, you (and your learners) have access to many clinical resources through the [U of S Library](#)

GRANTING RESPONSIBILITY FOR PATIENT CARE:

New clinical teachers are often unsure how much responsibility to give to their learners. They know that students learn best when they must make their own decisions about patient care rather than simply following the suggestions of their teacher. Granting too much responsibility may overwhelm a resident who is not ready and places patients at risk. But not granting enough responsibility holds residents back and reduces their learning. Residents need to learn how to apply their skills when they are facing the stress of being responsible for the well-being and the lives of their patients. But preceptors also recognize their responsibility to assure patient safety. This balancing act can be challenging. Often, clinicians assume a level of competence in their learners based on their year of training. Although that approach provides a rough estimate of a learner's capabilities, it is often inaccurate.

Recently, Olle ten Cate (2006)^{11,12,13} has proposed the concept of entrustable professional activities (EPAs) to guide clinical teachers in this important decision. The long lists of individual competencies in CanMEDS and similar documents can be challenging when trying to decide how much supervision a student or resident requires. EPAs describe every day clinical tasks that may be entrusted to learners who have demonstrated that they can be trusted to safely carry out these activities without direct supervision. With experience, clinical teachers develop an intuition to make such judgments based on an assessment of three overlapping sets of abilities or traits that are considered in granting increased responsibility.



All EPAs are granted based on appropriate personal qualities and basic clinical skills; specific EPAs will relate primarily to context and content specific abilities. Typically, an EPA will be granted in stages, e.g., taking a history, then performing a focused physical examination, then developing a differential diagnosis and finally generating a treatment plan. Different domains of practice will have their own EPAs since they require different specific abilities.

¹¹ Ten Cate O: Trust, competence and the supervisor's role in postgraduate training. *BMJ*. 2006;333(7571):748-751. Abstract available [HERE](#)

¹² Ten Cate O, Hart D, Ankel F, et al: Entrustment decision making in clinical training. *Academic Medicine*. 2016;91(2):1-8. Available [HERE](#)

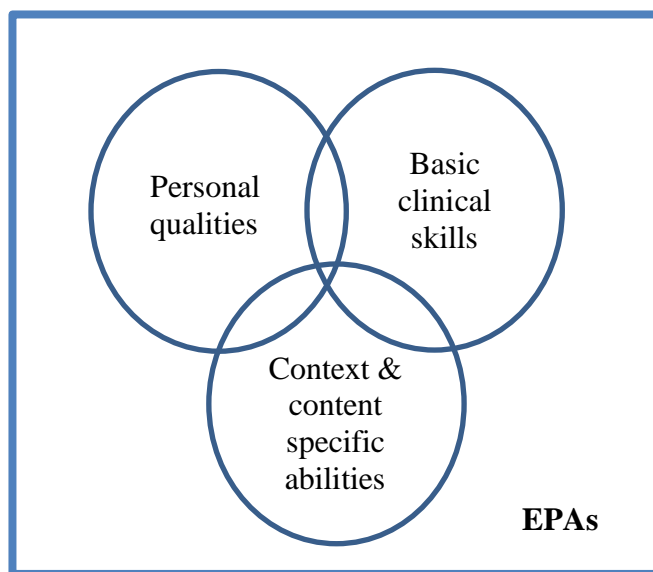
¹³ Ten Cate: Competency-based education, EPAs and the power of language. *Journal of Graduate Medical Education*. 2013;5(1):6-7. [HERE](#)

1. *Personal qualities:*

Three personal qualities are essential to protect patient safety before allowing residents to see patients independently – truthfulness, conscientiousness and discernment (Kennedy et al, 2008)¹⁴. Most residents are conscientious and most will be truthful unless their teachers criticize them for admitting their uncertainties and their inability to conduct impossibly complete assessments in the short time available. Most residents are not very accurate in self-assessment but should be able to sense when they need to slow down, rethink their assessment or ask for help. Medical education tends to encourage a “macho” approach of trying to get by without needing any assistance. It is important for preceptors to dispel this false ideal and replace it with the ideal of getting help when needed to assure patient safety.

- *Truthfulness:* Trust that what they said or recorded are accurate reflections of what they actually did. They are honest about their confusion or lack of knowledge. They do not modify their presentations simply to impress their teacher.
- *Conscientiousness:* They go the extra mile for patients when necessary and take responsibility for their actions. They don't cut corners in ways that might compromise patient welfare. They do what is right even when no one is looking.
- *Discernment:* They are aware of their limits and when they need help and will take appropriate steps to get assistance. They are effective at seeking out assessment, knowing that it is important for their own learning. Patient welfare is their first concern and is more important than “looking good” in the eyes of their supervisor. They are aware of personal beliefs, attitudes and emotions that may impair their judgement.

Before granting permission to see patients without direct supervision, make sure learners are conscientious, know their limits and will report their findings truthfully.



2. *Basic clinical skills:*

Basic clinical skills are essential for adequate assessment of patient's problems and concerns. Effective patient-centred interviewing is important to set patients at ease and involve them in setting the goals for the visit and incorporating their values and preferences in treatment. Unless patients are comfortable with the resident they may not disclose some of their concerns. And, if they are not involved in decisions about management they may not follow through on the treatment plan. Skills

¹⁴ Kennedy TJT, Regehr G, Baker GR, et al: [Point-of-care assessment of trainee competence for independent clinical work](#). Academic Medicine. 2008;83(10 Suppl.):589-592. Available [HERE](#)

in history taking, physical examination and clinical reasoning are obviously essential for safe patient care. The following description of competencies outlines the many abilities that teachers look for in their residents but their final decision is more often based on a gut reaction than on a detailed analysis of this long list of competencies. The following describes the abilities of a master clinician. Students, and even residents, will still be developing some of these skills but, as long as they have the three personal qualities listed above, and adequate skills in the other two areas, they can be granted appropriate responsibility.

- *Interviewing:* They apply the patient-centred clinical method in all consultations with patients. They are particularly effective in putting patients at ease, not interrupting the patient's opening monologue, using open-ended inquiry, reflective listening and empathy. They explore the patient's unique illness narrative to understand their ideas about what might be causing their concerns, how they feel about them, how they affect their daily function and what they expect (or hope) the physician will do to help them. (The acronym FIFE is a helpful memory aid for these skills.) They explore how the patient's illness is interfering with their ability to achieve what really matters to them.^{15,16} They involve patients in setting the goals for the encounter and in decisions regarding investigation and treatment. They use the electronic medical record to enhance collaboration with patients.
- *History-taking skills:* They quickly review the problem list, medication list and last visit note before seeing the patient. They determine all of the patient's concerns and, together with the patient, decide whether or not they can all be addressed at this visit and then set priorities. They explore each concern appropriately recognizing when it is important to supplement the patient's history with information from family, other physicians and the medical record. They recognize which historical features have high predictive value. Their data gathering is guided by their search for a differential diagnosis as well as to clarify treatment issues, e.g., simply knowing the diagnosis is not adequate for planning management; treatment may be quite different for a chronic stable condition compared to an acute exacerbation. They are also skilled at exploring patient's

FIFE is a helpful acronym to remind students to ask patients about their feelings & ideas about the illness, how it interferes with their function and what they are expecting from their physician.

¹⁵ Weston WW, Brown JB, Stewart MA: Patient-centred interviewing. Part I: Understanding patients' experiences. *Canadian Family Physician*. 1989;35:147-151. Available [HERE](#)

¹⁶ Bush B: The Beginning of the Interview: Patient-Centered Interviewing. Ch 3 in Fortin AH, Dwaamena FC, Frankel RM, et al: *Smith's Patient-Centered Interviewing: An Evidence-Based Method*, 4th edition. Available [HERE](#)

narratives and integrating information related to disease with the meanings derived from the narrative.

- *Physical examination skills:* Their physical examinations are organized and conducted skillfully. They are able to distinguish normal variants from abnormalities. They are skilled in appropriately draping patients to protect their modesty
- *Clinical reasoning:* They are able to apply both analytic and non-analytic approaches to clinical reasoning and recognize the inherent risks of error of each approach. They consider both probability and payoff in developing an appropriate differential diagnosis and recognize red flags. They are able to manage uncertainty appropriately and can recognize when it is appropriate to reassure the patient or use time as a diagnostic tool or when it is important to investigate more intensively, or to act quickly or refer. They are able to prioritize problems. They recognize that patients consult physicians for many reasons, not just disease and can modify their approach to address the particular needs of their patients. They are able to make appropriate decisions regarding their patients' predicaments even when they cannot make a definitive diagnosis.
- *Case presentation:* Their case presentations are clear, well-organized and include the key information on which they based their decisions including important negative findings. Their case presentations also include a summary of the patient's illness experience and how patient preferences are incorporated into the treatment plans.
- *Record keeping:* Their medical notes are a concise, well-organized and accurate record of their findings and decision-making.

Because most clerkships are in a hospital setting, students might be uncomfortable working up patients in an ambulatory setting.

3. *Content and context specific abilities:*

The first two sets of qualities and abilities are somewhat general and apply to a wide range of patients and their problems. But the third domain is highly content and context specific. For example, residents may be very skilled in the assessment and treatment of patients with asthma but limited in their abilities with patients with diabetes. This is largely a reflection of their prior experience with patients with specific conditions. Because of this, it is important for clinical supervisors to assess their residents' abilities with a range of clinical presentations and not assume that, because they were skilled in managing the last patient with angina, they will be equally skilled with the next patient suffering with dementia. However, once the supervisor has seen a resident perform well in managing several patients with a range of conditions, it is reasonable to assume that they will do well with the next patient. As long as the resident will seek assistance when they feel out of their depth, then patient safety can be assured. The supervisor will take into account a number of factors related to the patient when considering how

much independence is appropriate. The seriousness of the patient's condition, complexity of multiple co-morbidities, challenging behavioural or social factors may all merit more careful supervision and affect the level of responsibility given.

A competent resident will demonstrate the following abilities:

- They are able to apply disease-specific knowledge in assessment by appropriately modifying their approach to the history and physical examination.
- They are skilled in applying principles of the behavioural sciences appropriate to the patient's presentation.
- They are skilled in applying their competencies in different settings – in a family practice office, in the emergency department, on a hospital ward or in a patient's home. (Skill in one setting does not necessarily transfer to skill in another.)
- They are skilled in caring for patients across the life cycle and across diverse populations.

RELATIONSHIP BUILDING:

This is another vital skill – the research indicates that the teacher-learner relationship is a crucial factor in clinical supervision explaining roughly half of the variance in the effectiveness of teaching.¹⁷ Continuity over time is very helpful in the development of an effective relationship. Behavioural change can occur relatively quickly as a result of supervision whereas changes in thinking and attitude take longer. This is particularly important where there are frequent changes in supervisor¹⁸. It is appropriate to involve your colleagues as co-teachers to fill in when you are away or to provide additional experiences that will enrich the students' learning. But, it is important that the bulk of their time will be with one teacher. Students need to feel comfortable with you and need to respect your clinical skills and feel that you care about their learning. Unless the climate is comfortable, students will be less willing to say what they really think and will be hesitant to ask questions in case they sound like "dumb questions". Let them know that you think the only dumb question is the one the student wonders about but never asks. You are a powerful role model for every student you teach and they will tend to pick up your attitudes and values without realizing it. This is even more important than all

See the article on the role of the student-teacher relationship in the formation of physicians – [HERE](#).

¹⁷ Haidet P, Stein HF: The role of the student-teacher relationship in the formation of physicians. *Journal of General Internal Medicine*. 2006;21(Supplement 1):16-20. Available [HERE](#)

¹⁸ Kilminster SM, Jolly BC: [Effective supervision in clinical practice settings: a literature review](#). *Medical Education*. 2000;34:827-840. Available [HERE](#)

the facts and skills they learn from you and has a great bearing on the kind of doctor they become.

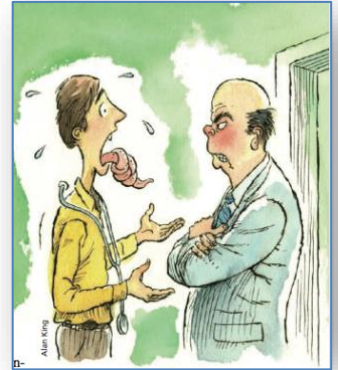
CASE-BASED TEACHING AND LEARNING:

- Provide brief instruction before, during or after a patient visit focusing on one main teaching point. Jot down a note about any other points you would like to make and review these later in the day, e.g., over lunch or in the car on the way to the hospital.
- Encourage students to keep a record of questions to review when you both have more time for discussion.
- Encourage students to use your library of books, journals, and Internet access to learn from each case on their own. Tell them you expect them to spend some time in the evenings reviewing patient cases and reading around the problems they presented.

CASE PRESENTATION:

- Presenting a case in a well-organized manner that includes only the information needed for assessment and management is a complex skill that is gradually learned by most clerks as they progress through the clerkship. One of the challenges for students is the lack of any standard format – every teacher seems to want a different approach. Most teachers like to start with basic demographic information: e.g., “Mary Smith is a 64-year-old married white female...” But there is little agreement about what comes next. Some teachers prefer to have the student present a complete problem list followed by a list of presenting complaints. Others want to hear more about the personal situation of the patient, e.g., living situation, job etc. Some like a problem-oriented format, others a more traditional outline. Let the student know how you would like the case to be presented. Having a short handout for the student is very helpful.
- Freeman has developed a *patient-centred case presentation* that is valuable for reinforcing the patient-centred clinical method by giving “primacy to the patient and the total experience of the illness and associated pathology.”¹⁹ In addition to providing a summary of the information needed to make a diagnosis, the case presentation should describe who the patient is and how their medical condition is interfering

Be clear about how you want cases presented. See [Appendix D](#) for a helpful handout.



When preceptors are perceived as threatening, performance deteriorates. Effective preceptors have high expectations and provide strong support and guidance.

¹⁹ Freeman TR: The case report as a teaching tool for patient centered care. In: Stewart M, Brown JB, Weston WW, McWhinney IR, McWilliam CL, Freeman TR: *Patient-Centered Medicine: Transforming the Clinical Method*. 3rd edition. Abingdon, Oxon, OX: Radcliffe Medical Press, 2014.

with their ability to pursue what really matters to them.²⁰ Suggesting to students that their case presentations should include information about the patient's life situation, their ideas about what is wrong with them and their preferences for management gives a strong message about the importance of using a patient-centred approach in their care.

Consider having students present their findings in front of the patient.

- While listening to the case presentation, you may quickly recognize a familiar disease pattern. Or you may be developing hypotheses about the patient's diagnoses and considering what should be done next. You may have many questions to explore your differential diagnosis but it is best to save these until after the presentation. From the students' perspective, the ideal presentation is one that is not interrupted too often – interruptions may confuse them and are often seen as criticisms of their presentation.²¹ Students also tend to downplay uncertainty, considering it a sign of weakness, whereas teachers need to know when the student is uncertain in order to explore these areas in more detail. Interruptions may be valuable to help the student stay on track or get back on track, to explore important areas omitted by the student, and to make a teaching point. Be careful that these “detours” don't sidetrack the presentation leading to major sections being left out, e.g., when a student presents a patient with diabetes, it is tempting to launch into your favorite teaching script on diabetes. As time passes and you start to get behind schedule, you may decide to proceed to seeing the patient before the student has told you about her chest pain and depression.
- It is often valuable to have students present their findings in front of the patient.^{22,23} This saves time, many patients like it better, and it may provide information about the interaction between the student and patient and facilitates teaching about clinical skills. It also gives the patient an opportunity to correct any misinformation and reassures the patient that you have heard the whole story. But, caution the student to warn you if the patient has very personal issues or a potentially serious condition. In this case, you might wish to discuss the case first away from the patient. Sometimes it is useful to discuss the case separately from the patient to facilitate an exploration of the student's clinical

When time is short, consider using some of the teaching strategies in [the](#) article by David Irby & LuAnn Wilkerson [HERE](#)

²⁰ Boudreau JD, Cassell E, Fuks A: A healing curriculum. *Medical Education*. 2007;41:1193-1201. This article describes the new McGill curriculum based on the single goal of improving the well-being of a sick person. Abstract available [HERE](#)

²¹ Lingard L, Schryer C, Garwood K, Spafford M: 'Talking the talk': school and workplace genre tension in clerkship case presentations. *Medical Education*. 2003;37:612-620. Abstract available [HERE](#)

²² Rogers H, Carline JD, Paauw DS: [Examination room presentations in general internal medicine clinic: patients' and students' perceptions](#). *Academic Medicine*. 2003;78:945-949. Available [HERE](#)

²³ Erlich DR: Triangle method: teaching the student in front of the patient. *Academic Medicine*. Published ahead of print, January 2019.

reasoning. Also, some students lack confidence and feel very uncomfortable presenting in front of patients. In this case it may be best to let them present privately until they gain confidence. But they usually get more comfortable presenting in the presence of the patient by doing it.

- Students should be able to present cases without reading their clinical notes. But, novice learners may need to use cue cards to keep themselves organized and not leave out important information. It is important for students to learn to present in a manner that “makes the case” for their diagnosis rather than in the same order in which they collected the data. For learners who have trouble providing a concise case presentation, you could suggest: “Summarize the patient’s situation in three sentences.” This can be a great strategy for getting them to hone their skills in case presentation and prepares them for telephone case presentations that often need to be very brief. See [Appendix D](#) – Format for Case Presentation.

The [Aunt Minnie](#) model of clinical teaching available [HERE](#) is a great method for teaching pattern recognition.

DISCUSSION & COACHING:

Traditional clinical teachers are powerful, sometimes intimidating, authority figures. Some seem to believe that fear is needed to motivate students to try their best. But most students and residents are already trying their best and frightening them decreases their learning. It is more effective to tell your learners that you will act like a coach helping them to fine tune their skills. The coaching metaphor is helpful in framing feedback as guidance to help them improve rather than as an evaluation or marks on an exam. No one would hire an expensive golf coach to only tell them nice things about their golf swing. We would all want to know how we could make our swing better. When learners see you as a coach, they will expect regular feedback on their performance and may find it less intimidating.

See yourself as a [coach](#) helping your students and residents to hone their skills by praising their good performance and giving them tips on how they can be even better. See [THIS](#) article on coaching and mentoring.

This approach emphasizes the learner’s strong points and reframes their weaknesses as learning goals or things to work on rather than as deficiencies or personal faults. Start by asking the learner what they think they did well. Often they are hesitant, feeling embarrassed that it will sound like bragging. Encourage them by explaining the importance of developing skills in reflection and self-assessment so that they can continue to assess their learning needs after graduation. After their comments, add your own description of the effective behaviours that you observed. Some students and residents are overly critical of themselves and may not be aware of the skills they have achieved so your genuine praise will be very encouraging. Next, ask the learner to describe one or two things they might have done even better. Then add your own comments. Often this will simply be affirming what the learner said and together coming up with a plan for how you can help them to improve.

Additional tips for coaching:

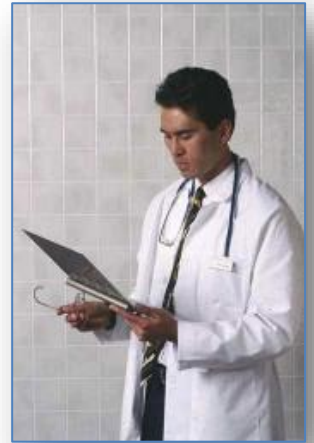
- You can focus on one aspect of the interview for a day such as the initial gathering of all the patient's concerns (by asking the patient, "Is there anything else you wanted to discuss? And repeating the question until they have the full list of the patient's concerns. Then they will need to negotiate with the patient which concerns there is time to address on that visit.) Getting the full list of a patient's concerns up front in the interview prevents "door-knob" comments at the end of the visit. Another topic for coaching is how well the resident explains the treatment plan to patients. Or how well they find common ground with patients. Focusing on one skill for a whole day fits nicely with what we know about deliberate practice^{24,25} – concentrating on a very specific task and repeating it over and over again with continuously available feedback until it is mastered.
- In coaching about clinical reasoning, ask "What else could this be?" and "Why do you think that?" Sometimes strong residents get so confident that they start taking too many short cuts. Their experience is usually not good enough to be relying solely on pattern recognition.
- Use a monitor, connected to a video camera in the exam room, to view a resident-patient interaction. This is a good strategy for giving the resident a greater sense of being on their own and being responsible for patient care decisions. It is particularly valuable for monitoring communication and relationship skills.
- Alternatively, you can sit in on a resident's consultation. Advise the resident to explain to the patient that they will be conducting the visit with you sitting in to provide teaching. Using this method, it is important to sit in a corner of the room out of direct vision of the patient. Avoid looking at the patient which might be perceived as an invitation for the patient to direct their comments or questions to you. This first-hand observation of residents provides better information about their skills than listening to their report of what happened.
- Address issues dealing with uncertainty. It is important to help residents, especially in 2nd year, learn how to deal with the discomfort of decision-making in conditions of uncertainty. They need to learn how to differentiate uncertainty related to their own learning needs from uncertainty inherent in the patient's condition

²⁴ Issenberg SB: Clinical skills training – practice makes perfect. *Medical Education*. 2002;36:210-211.

²⁵ Overbeck M, Butts C, Casey J, Grossman C: Education Theory Made Practical: Deliberate Practice. *International Clinical Educators Blog*. June 12 20018. Available [HERE](#).

and they need to recognize when they need help. They need to learn how to evaluate the seriousness of a patient's condition even when they cannot make a diagnosis.

- Use “What if” questions to challenge strong residents, e.g., What if this patient with pneumonia had been travelling in California or Arizona recently? What if this was a rural (or inner city) setting? What if the patient was a child, or a senior, or a recent immigrant or refugee? What if you were practicing in a remote location? Encourage learners to review the chart before seeing patients so that they are better prepared for the encounter. This can be very helpful for understanding the context of any new problems, alerts them to existing problems that might need to be addressed and patients appreciate not having to retell their past history.
- Demonstrate aspects of the P/E on the resident e.g., how hard to push over the sinuses to determine tenderness or over costochondral junctions to diagnose costochondral pain. Remind residents to tell patients when to return for their next appointment even for stable chronic conditions. Residents may need to be reminded to consider all patients in perpetual follow-up even if the next appointment is in one year.
- Ensure that the patient-centred clinical method²⁶ is included in all case presentations e.g., including FIFE along with the HPI. If discussion of communication skills is left out of the case presentations it gives a message that they are not important.
- Give the residents more responsibility. They will learn more, compared to when you take over, if they have to take more responsibility for decisions about patient care and not rely too much on their teacher to bail them out. Pushing the resident to make his/her own decisions teaches them a lot more than if they had just watched the teacher passively.
- If there is time, consider providing an immediate opportunity for the student to practice a skill they have just learned, e.g., if you have coached them in providing instructions to a patient about management, it will help to consolidate their learning if you give them another chance to practice these patient education skills with you playing the role of the patient. This may take only 2-3 minutes but will pay dividends in their learning. Another valuable use of role-play is rehearsal just before the learner sees a patient, e.g., you can coach them about how to ask about treatment adherence or about how to break bad news and then ask them to try it out with you role-playing the patient.



²⁶ Weston WW: Informed and shared decision-making: the crux of patient-centred care. *Canadian Medical Association Journal*. 2001;165(4):438-439. Available [HERE](#)

THE ONE-MINUTE PRECEPTOR MODEL:

Clinical teaching must be quick. There is reasonable evidence that the “One-Minute Preceptor Model” (also referred to as the “Five Microskills” Method) is an effective approach.²⁷ This is a set of basic teaching skills that can be used when reviewing a case that the learner has just seen. They provide a simple set of skills that are effective in many teaching situations. But they should not be used as a recipe – in some situations, other skills should be used. In this monograph I have incorporated these five microskills into a more comprehensive framework. Some or all of these skills can be applied after a student has presented a case to enhance their learning:

1. *Get a commitment* – this means getting the student to commit themselves to an opinion about the diagnosis or about investigation or management. They need to feel comfortable enough with you to be able to “stick their neck out” in making the commitment. By making a commitment, they feel more responsible for their own learning and are more motivated to learn.
2. *Probe for supporting evidence* – Ask the student to provide a rationale and evidence for their commitment – how they came to their conclusions. This provides important insights into their knowledge base, reasoning skills and learning needs. This is an important part of your ongoing needs assessment of the student. Of course, you will also be forming an opinion about the student’s strengths and weaknesses during the case presentation and subsequent questioning.
3. *Teach general rules* – what is the “take home” message from this experience. E.g., “When a patient’s hypertension is poorly controlled, ask about adherence to medication and alcohol intake.” Or it may be a recommendation to read up on a particular topic. General rules enhance the likelihood that the student will be able to apply what they have learned to another similar case. Sometimes there will be time to provide a mini-lecture – a brief outline of a clinical pearl that may be hard to find in a textbook. Having a file of articles or notes allows you to provide handouts to reinforce and amplify what you have taught. It is also helpful to have good websites bookmarked for later reference by the student. Having a

These FIVE microskills can be performed quickly after the student has presented a case. They improve the effectiveness of clinical teaching. Click [HERE](#).



²⁷ Aagard E, Teherani A, Irby DM: [Effectiveness of the One-Minute Preceptor Model for Diagnosing the Patient and the Learner: Proof of Concept](#). *Academic Medicine*. 2004;79(1):42-49. Available [HERE](#)

small up-to-date library of core texts is also valuable for reference when clinical questions arise although this is less necessary now that so many online resources are available including whole textbooks through university library systems and the Canadian Medical Association. Good clinical pearls are based on evidence. Case discussions can be opportunities to highlight one of the recommendations of the Choosing Wisely Project. Or they can stimulate discussion of an up to date guideline. Be careful with your own homespun pearls that might be based on idiosyncratic experiences rather than evidence.

4. *Reinforce what was right.* Students are sometimes unsure of themselves, even when they are right. They may be unaware of their strengths. It helps them to have their knowledge and skills affirmed.
5. *Correct mistakes.* These last two important elements of the One-Minute-Preceptor model are further discussed in the section on “Discussion and Coaching” above and in “More About Feedback” below.

See the section on questioning below for examples of how to ask about the student’s commitment and underlying reasoning.

Some teachers would add two more skills – “*set expectations*” and “*reflection and integration*”. *Set expectations* means being clear about what you expect the student will learn over the whole rotation and also setting specific expectations before each patient – “priming” the student before they go in to see the patient. *Reflection and integration* are important to encourage the student to think about their own learning and to reflect on their experiences over the day or over several days and to put their learning into perspective. This is also an opportunity to think about their learning plan – other things the student or resident needs to learn about.



For another video demonstrating the microskills approach, full of practical tips, click [HERE](#).

Click [HERE](#) for an example of SNAPPS in action.

The SNAPPS^{28,29} Framework:

This framework is particularly useful for a confident student or resident who is ready to take more responsibility for their own learning. In this approach the learner takes control of the discussion around the case presentation.

SNAPPS is an acronym for the following 6 steps:

S – Summarize briefly the history and findings. This should take no more than 50% of the time of the presentation and discussion.

N – Narrow the diagnosis or management to 2-3 relevant possibilities – make a commitment.

A – Analyze the reasoning by reviewing the findings or examining the evidence – compare and contrast the possibilities.

P – Probe the preceptor by asking questions about uncertainties.

P – Plan management.

S – Select a case-related issue for self-directed learning.



Some teachers would add another S – Solicit feedback.

As you can see, there are many similarities with the One Minute Preceptor Model – except in this approach, the learner leads the process and the teacher may be relatively silent until probed about the learner's uncertainties. However, the teacher may be quite actively involved in the conversation if the learner is struggling, e.g., in guiding the learner to consider other possible diagnoses or management options or in correcting any errors. The teacher may need to coach learners initially but should quickly encourage them to take over the lead role. The teacher's main role is to act as a guide.

MORE ABOUT FEEDBACK:

Feedback is essential for learning. Imagine trying to learn archery and never knowing where your arrows landed! Of all the techniques a teacher can use, feedback has the greatest effect on learning.^{30,31}

Without feedback, the learner can practice over and over again without ever knowing if they are doing it right.³² Unfortunately, feedback is provided too infrequently and is often done poorly with the result that

Feedback is information intended to improve learning and performance not to criticize or judge. It is a comparison between a learner's observed performance and a standard.

²⁸ Wolpaw TM, Wolpaw DR, Papp KK: SNAPPS: A Learner-centered Model for Outpatient Education. *Academic Medicine*. 2003;78:893-898. Click [HERE](#) for the article.

²⁹ The last S was added by students in the course on Teaching and Learning in the Health Sciences taught by Wayne Weston for the Graduate Studies Program at the University of Western Ontario, 2007.

³⁰ Hattie J, Timperley H: The power of feedback. *Review of Educational Research*. 2007;77:81-112. Available [HERE](#)

³¹ Norcini J: The power of feedback. *Medical Education*. 2010;44:16-17.

³² Anderson PAM: Giving feedback on clinical skills: are we starving our young? *Journal of Graduate Medical Education*. June 2012:154-158. Available [HERE](#)

learning is diminished. Teachers sometimes avoid giving feedback because they have been too busy to observe the learner and don't have any direct information about how they are doing. Another reason is the fear that pointing out a learner's deficiencies might harm their relationship and the learner's self-esteem. Sometimes the feedback is too general to be of value, e.g., "You're doing fine." A valuable framework for providing feedback, from the Institute for Healthcare Communication, is **WWW.EBY** - "what went well" and "even better yet". This puts a positive spin on those areas that still need improvement. Also, it emphasizes the fact that, even if the behaviour was done well, it often could be even better. It is this belief in constantly striving to do better that leads to excellence. It is important that feedback focuses on behaviour not the person. When students or residents perceive the feedback as a personal criticism, they are likely to reject it. Learners need to feel that their supervisor cares about them and is interested in helping them to be the best clinician they can be and has their best interests at heart before they will accept feedback about areas needing improvement. Without a positive relationship with their supervisor, learners may disregard their feedback.

Guidelines for providing feedback:

- Feedback should answer three questions:
 - Where am I going? (What are the goals?)
 - How am I doing? (What progress is being made towards the goals?)
 - Where to next? (What activities need to be undertaken to make better progress?)
- Feedback can be very brief, e.g., "You were very effective in the way you explained the diagnosis, avoiding jargon and giving the patient lots of opportunities to ask questions." And it should be done frequently. The research indicates that students and residents don't get enough feedback.
- Time feedback as close to a performance as possible so that you and your student can still remember the details of what happened.
- Ideally, feedback is part of a conversation between the preceptor and learner. Both should be actively involved in exploring what happened, what made it effective and what could have been even better. Start by asking the learner to assess their own performance. Many students will be harder on themselves than you will be and that makes it easier for you to provide honest feedback. Also, it will tell you how aware they are of their strengths and areas needing improvement. Unfortunately, weak students often think they are better than they are because of poor insight.

"Constructive feedback is the art of holding conversations with learners about their performance."

- Mohanna K, Cottrell E, Wall D, Chambers R: *Teaching Made Easy*. 3rd edition. Oxford: Radcliffe Medical Press, 2010.



- Use notes to help you recall the points you wish to make – this helps you to be more specific. E.g., “When the patient said you changed the subject and later the patient brought it up again. Then you picked up nicely on his question and expressed empathy by saying...” By recording exactly what was said you are able to remind the resident about the interaction.
- Comment favourably on what was done right. They may not realize how good it was. Reinforcing this behaviour makes it more likely they will keep doing it.
- Describe the observed behaviour not the person. It is usually best to avoid making assumptions about motives – just describe what you observed. In describing their behaviour, be as specific as possible. Don’t “beat around the bush” in an attempt to sugar coat areas needing improvement – the risk is that they will not understand your comments and not realize they had made a mistake. Or, they may know by your tone of voice or facial expression that they did something wrong but not know what it was.
- End the feedback with a discussion about what the learner can do to improve any deficiencies. Start by asking the student what ideas they have for further learning.
- Follow up with positive feedback and praise when improvements are noted.
- Sometimes it helps to be explicit about providing feedback because learners often underestimate the amount of feedback they actually receive, thinking it was just a discussion. You could say, “Let’s discuss how that last interaction went. I will give you some feedback about what I think but I’d like to work together with you and find out first what you think.”

The University of Edinburgh provides a video demonstrating feedback using the ALOBA (Agenda-Led Outcomes-Based Assessment) model [HERE](#).

Constructive feedback has several identifiable qualities, including:

Quality	Good example	Poor Example
It is descriptive not evaluative	"I notice you didn't make much eye contact with the last patient during the interview."	"You were not interested in the patient."
It is specific rather than general	"You were able to convey empathy and understanding during the interview, e.g., when he looked upset discussing his recent divorce, you..."	"You did a good job."
It is focused on issues the learner can control	"When taking the history, it would help to speak slower and check for understanding."	"My patients cannot understand you because of your accent."
It is well-timed	Provided regularly throughout the learning experience, and as close as possible to the events stimulating the feedback.	Provided only at the end of the rotation.
It is limited in amount	Focused on a only a few important points each time.	Learner overwhelmed with too much feedback.
It addresses learner goals	Addresses learning goals identified by the learner earlier in the rotation.	Learner's goals are ignored.

See the London Deanery website [HERE](#) for valuable tips on how to give feedback.

Columbia University provides a quick summary of the Ask-Tell-Ask Model of providing feedback [HERE](#).

TIPS ON QUESTIONING TECHNIQUES:

Questions are the teachers' primary tool for stimulating thinking in learners and they help you uncover gaps in their knowledge or errors in reasoning.

Some of the most useful questions you can ask are the following:

- "What do you think is going on with this patient?"
- "How did you reach that conclusion?" Or "What's the evidence for that conclusion?"
- "What was it about the patient's presentation that led you to that diagnosis?"
- "What else could it be?"
- "How is this affecting the patient's life?"

- “What are the patient’s ideas about the problem?”
- “What are the patient’s expectations for this visit?”
- “What do you think we should do next?”
- “How would you explain that to the patient?”
- “What are you feeling right now about this patient?”
- “What is it about the patient that makes you feel this way?”
- “In what ways can you be helpful and comforting to the patient?”

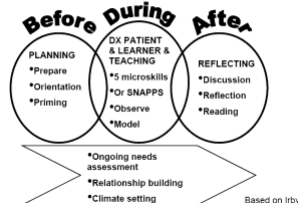
Common errors in asking questions:

- Interrupting the student’s case presentation too often with questions (students may find it distracting and intimidating).
- Asking questions that only require memory but not thought, e.g., “What is the starting dose of pravastatin?” This is a rather trivial question that can easily be looked up.
- Playing “Guess what I’m thinking.” This happens when you are perceived as asking for one particular answer to a question – you are asking the student to guess the answer *you* are thinking about rather than to probe their understanding.
- Not waiting long enough for an answer. Waiting only a few seconds longer will increase the likelihood of a student answering and will result in better answers.
- Avoid leading questions – questions that imply a particular answer, e.g., “Don’t you think that he is more likely to have heart failure, given his chest findings and gallop rhythm?”
- Putting students down for not knowing the answer. When this happens you lose the students’ respect and they become fearful and learn less. Even a wrong answer may be partially correct. You can respond in this way: “You are partly right, but there is another aspect that we need to consider...”

Create a comfortable environment in which anyone can say, “I don’t know” even the teacher.

Hypothetical questions are valuable to challenge learners, e.g., “What if the patient were 75 instead of 30, how would that change your differential?”

AFTER:



Learning from experience requires time for reflection. Make sure your students have time to think and wonder.

TIME FOR REFLECTION:

While it is important for students to be actively involved in patient care during the clerkship, it is equally important for them to have time for reflection and reading in order to consolidate what they are learning, to relate it to what they have already learned, and to “make it their own”.³³ Without such reflection, there is the risk that they simply learn “recipes” for care without a deeper understanding of the rationale for the approach and without knowledge of the evidence supporting it. Tell students that you expect them to read around the cases they see. Periodically ask them to review a topic and provide a summary the next day. In addition, they need time to reflect on their emotional responses to their experiences with patients. Clerkship is a time when they may first encounter death and the terrible unrelenting suffering that some patients endure and they need time to come to terms with the intense feelings these experiences may stimulate. Otherwise, in self-defense, they may close off their emotional reactions. It is important to be sensitive to student’s reactions to patients, especially dying patients and “difficult” patients. Being open about your own reactions may make it easier for students to discuss their feelings. Becoming a physician is a profound life-changing process that can be challenging and frightening for some students. There are several excellent books by physician authors, describing their experiences in medical school or residency, that provide valuable insights about the experience of becoming a physician and the personal struggles this entails.^{34,35,36}

[HERE](#) is a powerful and inspiring TED talk by Abraham Verghese, an American infectious diseases specialist commenting on the importance of the Doctor’s Touch. It will make you reflect on your role as a physician.

³³ Wear D, Zarconi J, Kumagai A, Cole-Kelly K: Slow medical education. *Academic Medicine*. 2015;90(3):289-293. Available [HERE](#)

³⁴ One of the best recent examples, in this genre, is Ofri D: *Singular Intimacies – Becoming a Doctor at Bellevue*. Boston: Beacon Press, 2003.

³⁵ A good anthology is: Kaminsky L (editor): *Writer MD – the Best Contemporary Fiction and Nonfiction by Doctors*. New York: Vintage Books, 2012.

³⁶ Pulse – Voices from the Heart of Medicine. Subscribers to Pulse receive a weekly publication by email of a first-person – often moving – story or poem about health care. Available [HERE](#)

OTHER TEACHING OPPORTUNITIES:

Many days there will be a few minutes to discuss topics of interest, e.g., over lunch, while driving to the hospital, office or on a house. Some preceptors like to spend 15 – 20 minutes at the end of the day reviewing the most challenging cases or picking up on one key topic that came up during the day. You could ask, “Who was the most interesting patient this afternoon?” or “Did anything surprise you today?” or “How is your experience different from what you expected?” You might end the day discussing learning objectives with the student. Ask them what they would like to learn about that evening – they need to be specific and realistic and should outline what resources they will use (journal articles, course notes, texts, point-of-care online resources). Encourage them to get adequate sleep which has many health benefits and also is important for long-term memory. And make sure they also have some time off for recreation each week.

ASSESSMENT AND GRADING:

All learners are understandably very interested in how they will be assessed. Each Department has its own method of assessing students and residents with a variety of tools such as: performance check lists, multiple choice exams, oral exams, observed physical exams, projects, etc. Consult the Clerkship orientation materials or Residency Handbook or the relevant department coordinator for details about the assessment process in your discipline. Each department is also interested in identifying outstanding students for awards. If you think your student deserves an award, please notify your department Clerkship Coordinator and/or add a note to the performance checklist.

WHAT TO DO IF YOUR STUDENT OR RESIDENT IS NOT DOING WELL:

Our first responsibility is to discuss our concerns with the student or resident to determine if they have insight into their problem and to try to figure out the nature of the problem. Tell the student: “I am concerned that you are not doing well *and that you might fail this rotation* if your performance does not improve.” It is natural for us to feel uncomfortable discussing such concerns and we tend to put it off hoping the student is “just having a bad day” or similar excuse to avoid confronting



them. The sooner you talk to the student the better. Don't avoid the "f" word with vague comments such as: "You aren't doing as well as I hoped" or "You need to work harder". These comments do not convey the seriousness of the problem.

It may be helpful to ask your colleagues, who have been teaching the student, for their opinions. Does the student have poor study habits; are they overwhelmed by the vastness and uncertainties of clinical medicine; do they have problems with unprofessional behaviour; do they have a physical or mental illness; do they have personal problems? They may need to be referred to a faculty member with special skills in working with students in difficulty. Finally, provide clear and specific advice to the student about what they need to do to improve.

This should be tailored to their particular learning needs. E.g., if their problem is poor clinical reasoning, they need to read up on the cases they are seeing by reading about two or three common related problems. If they saw a patient with shortness of breath, they should read about congestive heart failure, COPD and asthma and focus on the similarities and differences in the presentations of each so that they will be able to assess patients with shortness of breath more effectively. Coaching is especially important to help students improve their clinical reasoning – have them debrief cases frequently and provide feedback on what they did well and where they got off track in their reasoning. The One-Minute-Preceptor or SNAPPS models are valuable teaching strategies. If their problem is poor interviewing skills, it would be helpful to observe several short segments of their interviews e.g., the opening minutes and end-of-interview explanations to patients, and provide specific feedback on how they could improve. Role-playing with you being a patient is another helpful strategy. If their problem is related to professional behaviour, e.g., frequent lateness, inappropriate dress, or arrogant behaviour with allied staff, we tend to become more uncomfortable.³⁷ But the principles are the same. You need to discuss your concerns as soon as you notice the problem. Ask the student about their perception of the professionalism lapse, why they think it happened and how their behaviour might adversely affect others. Clarify any uncertainty they have about what is expected of a professional and ask them how they think they can remedy the problem. Carefully monitor their behaviour to be assured that they are making appropriate changes. If their behaviour does not improve, you should involve your department in getting help.

If the student is not meeting expectations, tell them clearly and directly. Then provide, or arrange, additional help for them to correct their deficiencies.

Don't try to "go it alone" with a faltering or failing student. As soon as you recognize a problem, contact your Department Coordinator to discuss your concerns.

³⁷ Kirk LM: Professionalism in medicine: definitions and considerations for teaching. *Proceedings of the Baylor University Medical Center*. 2007;20(1):13-16. Available [HERE](#)

As soon as you recognize a student who is not doing well, consult your department Program Director (PD) or Undergraduate Coordinator for advice. They will contact the appropriate people in the Dean's office. The Dean's Office needs to know about students who are struggling in order to provide additional help if needed and to address the student's problems in the context of the whole clerkship. It is important to provide clear and direct feedback to students about their deficiencies as soon as possible to give them a fair chance to correct the problems before the end of that rotation. If they still do not meet the objectives of the rotation, then a sub-committee, including the Rotation Coordinator, will determine if it is a failed rotation. The sub-committee will need information from you about the student to assist with their decision-making. It is very helpful to provide detailed information about the student's performance in writing with examples.

This useful article provides an outline of how to approach a learner in difficulty [HERE](#).

REFLECTION ON YOUR TEACHING:

At the end of the day, think about your teaching for a few minutes and identify a teaching interaction that was effective or ineffective. Then ask yourself two questions:

1. "Why was this approach effective or ineffective?" and
2. "What, if anything, would you (the preceptor) do differently next time and why?"³⁸

When you try out new teaching methods it may feel awkward at first and you will be tempted to stick with what you are used to. But, if you stick with a new skill for about 21 days, the new approach becomes more comfortable and maybe even second nature. It's best to try out one new thing at a time until you make it your own and then add another new technique.

OTHER RESOURCES:

- In 2003, and updated in 2010 and 2017, the BMJ produced a series of excellent articles on the ABCs of Learning and Teaching. Click [HERE](#) for a copy of the 2nd 2010 series. Compared to the 2017 edition, the 2010 edition has fewer chapters and some chapters are by different authors but both editions are up to date and worth reading..
- The following journal articles are also valuable for teachers in a community setting:
 - Telio S, Regehr G, Ajjawi R: Feedback and the educational alliance: examining credibility judgements and their

³⁸ Ferencik G, Simpson D, Blackman J, DaRosa DA, Dunnington GL: [Strategies for efficient and effective teaching in the ambulatory care setting](#). *Academic Medicine*. 1997;72:277-280.

- consequences. *Medical Education*. 2016;50:933-942. Available [HERE](#)
- Sheu L, Kogan JR, Hauer KE: How supervisor experience influences trust, supervision, and trainee learning: a qualitative study. *Academic Medicine*. 2017;92(9):1320-1327. Available [HERE](#)
 - Heidenreich C, Lye P, Simpson D, Lourich M: The search for effective and efficient ambulatory teaching methods through literature. *Pediatrics*. 2000;105:231-237.
 - Epstein RM, Cole DR, Gawinski BA, Piotrowski-Lee S, Ruddy NB: How students learn from community-based preceptors. *Archives of Family Medicine*. 1998;7:149-154.
 - Goertzen J, Stewart M, Weston W: Effective teaching behaviours of rural family medicine preceptors. *Canadian Medical Association Medical Journal*. 1995;153:161-168. Available [HERE](#)
 - Iedema R, Brownhill S, Haines M, et al: 'Hands on, hands off': a model of clinical supervision that recognizes trainees' need for support and independence. *Australian Health Review*. 2010;343:286-291.
 - Byrnes PD, Crawford M, Wong B: Are they safe in there? Patient safety and trainees in the practice. *Australian Family Physician*. 2012;41(1/2):26-29. Available [HERE](#)
 - Miller L, Halpern H: Speed supervision. *The Clinical Teacher*. 2012;9:14-17.
 - Vinson DC, Paden C, Devera-Sales A: impact of medical student teaching on family physicians' use of time. *The Journal of Family Practice*. 1996;42:243-249.
 - Kurth RJ, Irigoyen M, Schmidt HJ: A model to structure student learning in ambulatory care settings. *Academic Medicine*. 1997;72:601-606. Available [HERE](#)

There are several excellent journals of medical education and many of them are available full text online through your medical school Library. Some of the journals include:

- Academic Medicine
- Advances in Health Sciences Education: Theory and Practice
- BMC Medical Education
- Clinical Teacher
- Evaluation and the Health Professions
- Journal of Continuing Education in the Health Professions
- Medical Education
- [Medical Education Online](#)
- Medical Teacher
- Teaching and Learning in Medicine

- The Faculty Development Office at McGill provides brief descriptions and links for medical education journals [HERE](#).

WEBSITES FOR MORE INFORMATION ABOUT TEACHING AND LEARNING:

Click on the **Bolded** titles to go to the websites.

- The University of British Columbia ([UBC](#)) provides several valuable teaching resources including teaching learners to think, effective lecturing, teaching skills for community based preceptors, learner-centred teaching, time-saving tips for clinical teaching, workplace-based assessment, etc.
- [Competency by Design](#) – a website provided by the Royal College of Physicians and Surgeons of Canada with many resources on developing a competency-based residency program, e.g., getting started, faculty development, workplace-based assessment, understanding EPAs, competence by design coaching model, etc.
- [“Practical Prof”](#) is an educational resource for rural clinical teachers developed by the Alberta Rural Physician Action Plan, authored by Dr. Hugh Hindle with assistance from Dr. Shirley Schipper and Diane Lu. It has several very practical video clips on the One-Minute Preceptor, SNAPPS, giving feedback, questioning, and the use of chart stimulated recall.
- [London Deanery](#) – Teaching and Learning in Clinical Contexts: A Resource for Health Professionals. This is a fabulous resource with E-learning modules on needs assessment, setting learning objectives, giving feedback, involving patients in teaching and supervision and much, much more.
- The Association of Professors of Gynecology and Obstetrics – Teaching [Tips](#) includes tips on engaging learners, providing feedback, assessing medical students, role modeling, bedside teaching etc.
- Columbia University Pediatrics Clerkship online manual for students and faculty [HERE](#).
- The Future of Medical Education in Canada ([FMEC](#)) is a comprehensive suite of projects focused on ensuring that Canada’s medical education system continues to meet the changing needs of Canadians, both now and into the future. Three extensive reviews of medical education in Canada – undergraduate education (2010),

postgraduate education (2012) and FMEC MD 2015. These reports contain detailed analysis of the current state of medical education in Canada and recommendations for change. They also include extensive environmental scans of different aspects of medical education, e.g., generalism, IMGs, distributed education and distance learning, assessment, professionalism, resident wellness and work/life balance.

- A Faculty Development Program **for [Teachers of International Medical Graduates](#)** – a project of the Association of Faculties of Medicine of Canada in 2006. It contains seven modules - educating for cultural awareness; orienting teachers and IMGs; faculty development toolbox: assessing learner needs and designing individually tailored programs; delivering effective feedback; promoting patient-centred care and effective communication with patients; untangling the web of clinical skills assessment. Although targeted to teachers of IMGs, the modules address generic issues related to clinical teaching for all residents.
- University of Miami Miller School of Medicine, Department of Medical Education, Educational Development Office. This site contains excellent video recordings of education rounds by leading medical educators. Click [HERE](#).
- **[MedEdPORTAL](#)** – A project of the Association of American Medical Colleges. Loaded with valuable resources and tools for teaching e.g., Core Entrustable Professional Activities (EPAs) for Entering Residency. Their monthly newsletter will help you keep up to date on their new entries (requires password, no cost).

APPENDIX A

LEARNER BACKGROUND FORM

Learner: _____ **Preceptor:** _____

Personal Information (anything that will help the preceptor and practice get to know you better, including something outside of medicine):

Previous Clinical Experience:

Check the rotations you have completed:

- ☐ Medicine
- ☐ Surgery
- ☐ OBGYN
- ☐ Pediatrics
- ☐ Psychiatry
- ☐ Family Medicine

Describe your electives/selectives if applicable:

Clinical Interests.

Aspects of medicine you have particularly enjoyed or disliked so far and why:

Career interests at this point:

Special requests for this rotation.

Specific topics, skills, problems you hope to address during this rotation (please describe how you hope your interests might be addressed):

Areas in which you would like specific feedback during the rotation:

APPENDIX B

ORIENTATION CHECKLIST

Orientation to practice:

- ☐ Learner workspace
- ☐ Internet access
- ☐ Library resources
- ☐ Dress code
- ☐ Parking, phone system, email
- ☐ Introduce staff and their individual roles
- ☐ Unique learning opportunities in this setting

Orientation to community:

- ☐ Characteristics of the community
- ☐ Medical resources in the community
- ☐ Recreational resources
- ☐ Where to get lunch, buy groceries, do laundry

Overview of rotation:

- ☐ Objectives/competencies for the program
- ☐ Usual schedule – days/hours in the office, hospital rounds & other scheduled activities
- ☐ Opportunities for learning skills & procedures
- ☐ Others who will be involved in the teaching
- ☐ On call responsibilities
- ☐ Amount of reading expected
- ☐ Arrangements for when primary preceptor is off or away

Patient care:

- ☐ Expectation of professionalism – primacy of the patient, dress code, respect for patients and staff, honesty, punctuality, patient confidentiality
- ☐ Level of responsibility
- ☐ Length of time to spend with patients

- ☐ Show a typical exam room and where the equipment is kept
- ☐ Charting & EHRs
- ☐ Dictation
- ☐ Format for case presentation
- ☐ Feedback – when, how much, self-assessment first

Assessment:

- ☐ Grading policy
- ☐ **Mid-rotation feedback – schedule a time now _____**
- ☐ Show assessment form used

If a problem arises:

- ☐ How to notify preceptor in an emergency
- ☐ Importance of contacting preceptor or office if unexpected absence

Student expectations:

- ☐ Their personal situation – where they are from, marital status etc.
- ☐ Previous experiences in the pre-clerkship courses and in the clerkship
- ☐ Goals for the rotation (ask them to write them down over the first few days) e.g., skills they would like to practice, aspects of medicine they would like to learn more about
- ☐ How they learn best
- ☐ How they feel about the approach outlined above – anything they would like to modify to enhance their learning?

APPENDIX C

CLINICAL TEACHING – A LIST OF STRATEGIES

BEFORE:

1. Prepare the Practice or Ward:

- ☐ Prepare yourself – find out what is expected
- ☐ Objective/competencies for the program
- ☐ Prepare the staff
- ☐ Prepare the patients
- ☐ Set up a space for the students
- ☐ Provide library and Internet resources

2. Create a climate for learning:

- ☐ Supportive teacher-learner relationship
- ☐ Authentic responsibility for patient care
- ☐ Appropriate challenge

3. Orient the student:

- ☐ See checklist

4. Needs assessment – early and continuing

5. Select appropriate patients and prime the student before seeing them

9. Use one or more of the 5 microskills:

- ☐ Get a commitment
- ☐ Probe for underlying reasoning
- ☐ Teach general rules
- ☐ Reinforce what was right
- ☐ Correct mistakes

10. For a more confident student or resident you may prefer to use the SNAPPS framework:

- ☐ Summarize briefly the history and findings
- ☐ Narrow the diagnosis or management to 2-3 relevant possibilities – make a commitment
- ☐ Analyze the reasoning by reviewing the findings or examining the evidence
- ☐ Probe the preceptor by asking questions about uncertainties
- ☐ Plan management
- ☐ Select a case-related issue for self-directed learning
- ☐ Some teachers will add Solicit feedback

DURING:

6. Granting authentic responsibility

- ☐ Personal qualities
- ☐ Basic clinical skills
- ☐ Context and content specific abilities

7. Observe samples of student performance

8. Case presentation:

- ☐ Provide the student with a framework for presentations
- ☐ Have the student make the presentation in the presence of the patient if appropriate

AFTER:

11. Provide opportunities to practice using simulation or role-play

12. Provide opportunities for reflection and reading

13. Discussion

14. Reflect on your teaching

15. Read about teaching – see references

16. If there are problems, ask for help

Appendix D

Tips for Case Presentations

In presenting a case, you need to be prepared to give information about the patient's current concerns, other problems, medications, the patient's illness experience, their ideas and aspirations about their health, their life context, the physical examination, laboratory investigations, differential diagnosis and treatment plans. The focus should be on the main concerns of both patient and physician and any other problems that might influence the treatment of the main concern or are serious in their own right. Knowing something about the patient's ideas, preferences and their life situation are often essential for developing a realistic treatment plan acceptable to the patient. Many follow-up visits for patients with chronic conditions involve the assessment and management of several problems. Because many patients suffer from chronic diseases and multi-morbidity, students and residents need to become skilled in collaborating with patients in prioritizing the problems that require the most attention. Sometimes, other problems and concerns must be deferred to a follow-up visit.

Because different preceptors have different preferences for how students and residents should present a patient's story, the "Signpost Method" is a valuable approach. Start by outlining who the patient is and summarize what you have already done, e.g., "I just saw Roger Smith who was referred to us for assessment of his rheumatoid arthritis which has become difficult to control. I have completed a history of his present problem, relevant personal and social history, physical examination and I have a plan for investigation and treatment. What would you like to hear more about?" Then the preceptor will ask for more information about one or more aspects of your workup. For more about the Signpost Method, see the video [HERE](#) by Dr. David Keegan in Calgary.

Below is an outline of what might be expected for each area of the workup:

1. **Start with a summary of the patient and the reason for referral:** "Mr. Jones is a 75-year-old retired accountant, referred by his family physician regarding his type II diabetes which has become difficult to control in the past 6 months. His active problem list includes: BMI 32, depression, smoking, gout and osteoarthritis. His medication list includes: citalopram, allopurinol, metformin and naproxen."
2. **Present the patient's illness experience:** "Mr. Jones thinks that his diabetes is not well controlled because of his obesity and lack of exercise. His depression is making it hard to be motivated to make any changes in diet or activity. He asked if different medications might help the depression and blood sugar control and wonders about something to cut his appetite."
3. **Present the patient's ideas about his health:** "His idea of health is having more energy and being active with church activities and volunteer work. He hopes to get more involved again. I note that he has not had a flu shot this season."

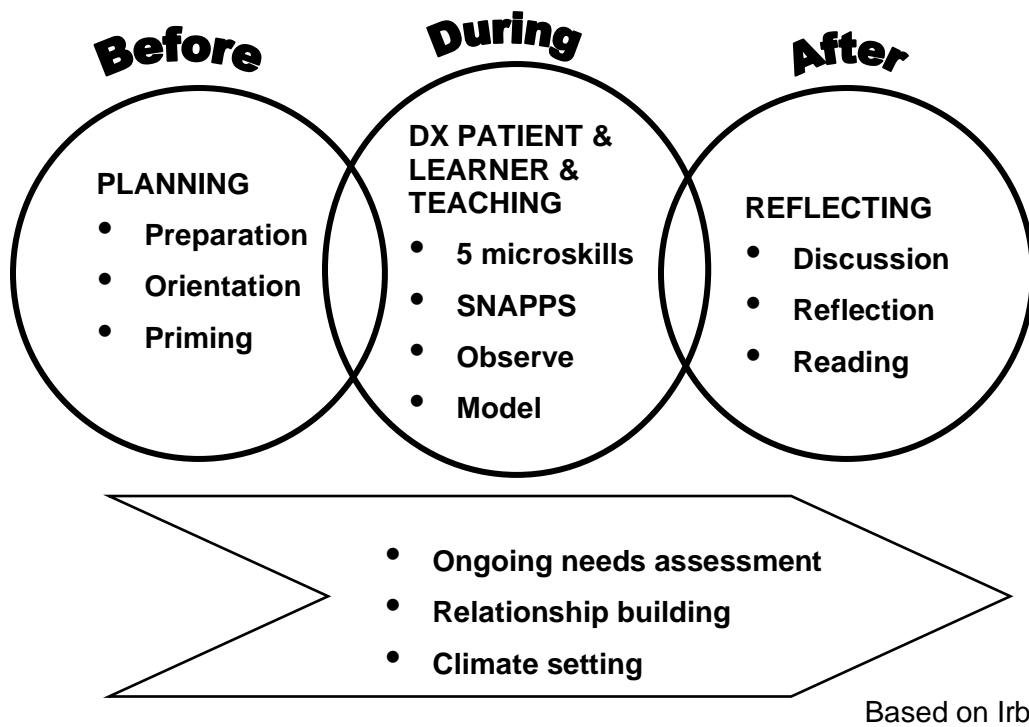
4. **Briefly present who the patient is:** “Arnold Jones was manager of a small firm of accountants for many years and retired 5 years ago when his firm went bankrupt. He was previously active in volunteer work with his church but since his wife died he has become quite isolated and inactive. He lives alone in a small apartment. His wife died a year ago and his 3 children live in the U.S. He rarely sees them.”
5. **Present the history and findings:** Instead of presenting the HPI (history of present illness), present the story of each of the active problems starting with the most relevant one. Present it based on how you have organized your thinking around it and not the sequence in which you collected the information when you took the history!!!! Time being short, you may not have time to deal with more than two or three problems. But, other problems that influence the main problem or that are serious might still need to be addressed, e.g., in the case of Mr. Jones, the poorly controlled diabetes and depression might be important in treating a chest infection. Do not present every piece of information you collected (i.e., you may say things like “the remainder of the ROS was negative”).
6. **Present the results of your physical exam and investigations:** It is appropriate here to also identify any areas of the exam or interpretation that you struggled with and wanted the preceptor to double check. Acknowledge areas where you got stuck (For example: “When we go in to see the patient, could you double check the ankle pulses and his fundi.”)
7. **For the main problem, and any related or serious problems threatening the patient’s life or health, now address:**
 - a. Presumptive diagnosis and differential diagnosis
 - b. Be prepared to analyze the differential by comparing and contrasting the possibilities
 - c. Present your diagnostic and or therapeutic plan commenting on the patient’s preferences and values
 - d. Probe your preceptor by asking questions about uncertainties, difficulties, or alternative approaches. Acknowledge areas where you got stuck (for example: “When we go in to see the patient, could you double check the JVP.”)

Note: Each preceptor has their own preference for format so be sure to find out what the expectation is. Some preceptors also prefer that you present the case in front of the patient. Be sure to pay attention to your use of “medical vs. layman” language in these situations and always acknowledge the patient as you present.

Appendix E

Schematic of the Before-During-After Framework

Clinical Teaching – a Framework



Appendix F

The One-Minute-Preceptor Model

1. Get a commitment, i.e., ask the student to commit themselves to a diagnosis or plan for investigation or management
2. Probe for supporting evidence – ask the student how they came to their conclusions
3. Teach general rules – what is the “take home” message from this experience
4. Reinforce what was right
5. Correct mistakes



Appendix G

The SNAPPSS Model

- S** – Summarize briefly the history and findings. This should take no more than 50% of the time of the presentation and discussion.
- N** – Narrow the diagnosis or management to 2-3 relevant possibilities – make a commitment.
- A** – Analyze the reasoning by reviewing the findings or examining the evidence – compare and contrast the possibilities.
- P** – Probe the preceptor by asking questions about uncertainties.
- P** – Plan management.
- S** – Select a case-related issue for self-directed learning.
- S** – Solicit feedback.