



The Teaching Physician

for those who teach students and residents in family medicine

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POEMs for the Teaching Physician

Guideline for Management of GERD (ACG)

Clinical question: What is the best way to manage gastroesophageal reflux disease (GERD)?

Setting: Various (guideline)

Study design: Practice guideline

Synopsis: Although intended for “all health care providers who address GERD,” the recommendations seem weighted toward a specialty audience seeing patients with more-severe disease. Regarding diagnosis, endoscopy is recommended for patients with alarm symptoms, poor response to empiric therapy, and severe or long-duration symptoms putting the patient at risk for Barrett’s esophagus (BE). Of course, the value of Barrett’s surveillance is unproven, and the risk of progression in patients with short-segment BE who lack dysplasia is similarly very low. The authors acknowledge that histamine-2 receptor antagonists (H2RAs) have a role: symptomatic relief occurs in 27% of patients given placebo, 60% given an H2RA, and 83% given a proton pump inhibitor (PPI). PPIs should be given prior to meals, and dosing before the evening meal should be considered for patients with nighttime symptoms. Limited support is given for higher-than-normal dosing, and the authors note that there is reasonable evidence that many patients taking higher doses of PPIs can be tapered to standard doses over time, and many of those patients can

be tapered to an H2RA or even no medication. No clinically important differences are noted between different PPIs. The guideline advocates chronic maintenance therapy for patients at whatever dose is needed to control symptoms, noting that some patients do well on a reduced dose, such as 10 mg omeprazole per day. Antireflux therapy is effective and is an option; it appears to be most effective for younger patients and for those in whom medical therapy was completely successful (which begs the question of why you would want to do surgery in a patient who is well controlled with medical therapy).

Bottom line: This guideline provides recommendations for management of gastroesophageal reflux disease. Endoscopy is recommended only for patients with alarm symptoms, poor response to therapy, or severe or long-term symptoms. H2 blockers or PPIs are effective in most patients, and many can be tapered to low doses or off treatment altogether. (LOE=1A)

Source article: DeVault KR, Castell DO. Updated guidelines for the diagnosis and treatment of gastroesophageal reflux disease. *Am J Gastroenterol* 2005;100:190-200.

Oral Rehydration Effective in Children

Clinical question: In patients presenting to an emergency department who are acutely dehydrated because of viral gastroenteritis, is oral rehydration as effective as intravenous fluid replacement?

Setting: Emergency department

Study design: Randomized controlled trial (single-blinded)

Allocation: Concealed

Synopsis: Although oral rehydration therapy is recommended by several groups, it is rarely used in emergency departments because of perceived parental expectations, a fear that it will be time-consuming, and peer pressure (ie, “What will my colleagues think?”). This study compared oral rehydration with intravenous (IV) normal saline 40 mL/kg. The 73 children between the ages of 8 weeks and 3 years were randomized, using concealed allocation to receive either IV or oral hydration. To mask the evaluators in the study, children receiving oral therapy had a sham IV taped to their hand, including an IV board, and even a sham

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bandage on the other hand to give the appearance of two IV attempts. Oral rehydration used a conventional solution (Pedialyte) administered every 5 minutes by parents, a total of 50 mL/kg if mildly dehydrated or 75 mL/kg if moderately dehydrated. Patients were weighed and evaluated for dehydration status after 4 hours using a dehydration score, weight gain, and production of urine. Using intention-to-treat analysis, there was no difference between the two groups in the percentage of children adequately rehydrated at 4 hours (55%–56%). The time to initiate therapy was an average 21.2 minutes faster with oral rehydration ($P<.05$), but other measures—hospitalization rate, parental preference for therapy, and a return emergency visit within 72 hours—were similar between the

two groups. Most of the children in the oral rehydration group (92%) took the prescribed amount. When analyzed according to treatment received, successful rehydration rates were similar in both groups, although fewer children receiving oral rehydration were hospitalized (22.7% versus 50%, $P<.05$). The study had the power to find at least a 5% difference in the rate of successful rehydration (beta=80%, one-sided alpha=.05). The success rate for getting the kids to drink the Pedialyte was higher than is typical in the clinical setting, maybe because the children were taking part in a study and the parents were more motivated not to take no for an answer.

Bottom line: In the emergency setting, oral rehydration therapy is as effective

as intravenous rehydration in children with moderate dehydration. Administered every 5 minutes by parents, oral rehydration resulted in fewer hospitalizations. Most children (92%) who were placed in the oral rehydration group were able to drink the prescribed amount. (LOE=1b)

Source article: Spandorfer PR, Alessandrini EA, Joffe MD, Localio R, Shaw KN. Oral versus intravenous rehydration of moderately dehydrated children: a randomized, controlled trial. *Pediatrics* 2005;115:295-301.

LOE—level of evidence. This is on a scale from 1a (best) to 5 (worst). 1b for an article about treatment is a well-designed randomized controlled trial with a narrow confidence interval.

Mark Ebell, MD, MS, Michigan State University, Editor

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Information Technology and Teaching in the Office

Your Practice, Students, and an Electronic Health Record

By Heidi Chumley, MD; Madelyn Pollock, MD; and Alison Dobbie, MD;
University of Kansas

The New Model of Family Medicine calls for advanced information systems, including electronic health records (EHRs). Just as an EHR alters the roles and responsibilities of your office staff, it changes how a medical student functions in your office. These changes are particularly significant for third-year medical students, who are learning to conduct an entire patient visit and document that encounter. Integrating a student into your EHR involves some planning, but here are three good reasons to take the time.

First, when the medical student can do the majority of documentation on the patients that he/she sees, you will save time. Second, the student can see a patient more efficiently if he/she has access to information in the EHR such as the vital signs, medications, and lab reports, which will benefit your office flow. Third, if the student documents in the EHR, you have a clean record of the student's involvement in the patient's care if questions arise at a later date. As medical school faculty, we send students into private medical offices that offer a variety of interactions with the EHR. Some students shadow the preceptor without active involvement in patient care, some interview patients without information from the EHR, some document on paper, and others document in the EHR. With a little planning, students can be integrated into all aspects of your office, even your EHR.

John, a third-year medical student, arrives in your office today, where he will spend 4 days a week with you over the next 6 weeks. John's clerkship office knows you have an EHR and arranged John's password prior to

his first day with you. John arrived 30 minutes early to meet with your office manager and learn how you want him to document in the EHR. He goes to see a patient with multiple chronic medical problems on 10 medications. He notes her vital signs. He adds to her medication list a medication that was started by an emergency room physician. He reviews her laboratory work. After 20 minutes, John comes to present to you. He believes that a couple of her chronic problems are not optimally controlled and has suggestions for her management based on his "on the spot" on-line review of the latest guidelines. He noted that her new medication interacts with one of her other medications and alerts you. You repeat key portions of the history and physical and agree with most of John's recommendations. John drafts the visit note while you see your next patient, on time.

Creating this type of student involvement in your EHR requires planning but can be achieved. Whether you are currently using an EHR or are planning to implement an EHR, considering these five issues will help integrate your medical students into your EHR-enhanced office:

Passwords

Each student must have an individual password that can be turned on when he/she starts and turned off when he/she completes the time in your office. Ask your technical support how to do this. Consider letting the clerkship office know who to contact so this can be arranged before the student arrives.

License

Ask if you have a limited number of licenses, ie, number of people who can be logged into your EHR at the same time, to avoid any problems with assigning students' passwords. This is more important in larger practices with many students concurrently. You may also want to become familiar with the effects on the final record of "turning off" access by users. In some systems, a generic "student" sign on will work best. If you choose this method, keep a careful record of the dates that each student works in your office for future use in identifying students.

Level of authority

Set an appropriate level of authority for your student. We recommend that third-year medical students be allowed to enter but not sign updates to problem lists, medication lists, flowsheets, etc. This will save time for the physician or physician's office staff but will allow alterations prior to final signing.

Documentation

This differs for Medicare and non-Medicare patients.

- Medicare (and Medicaid in some states) guidelines do not allow the use of student documentation for billing purposes except for the past medical, social, and family histories and review of systems. If your EHR system tracks all entries by individual user, and you can readily produce that data, you need only assure that you follow the guideline. Some, like ours, don't store each data point by individual user. When we introduced our EHR, the hospital compliance authority in our hospital recommended that we use a system that makes it overtly clear right in the note which information was documented by the student and by the physician. Each EHR is different; for example, students may be able to enter a free-text note that does not count for billing. Although entering free text takes longer than the menu-driven options, it does allow the student to practice documentation and leave a record of his/her involvement in the care.

• Non-Medicare payers usually allow the use of student documentation. However, it is still important to know whether the student or the physician entered the information. In our clinic, we can select an option that documents who entered the information in the note. For example, if a student types the history of present illness and the physician agrees with the documentation without edits, the student's name appears below the text. If the physician needs to alter the information, he or she clicks a button and electronically signs the changes, indicating that he or she entered the information.

Training

Students will need some basic training with the EHR. In our setting, however, we were pleasantly surprised at how easily they navigated our EHR. Increasingly, students will have contact with an EHR prior to coming to your office. Nonetheless, it is important for students to understand how you have addressed documentation. Having someone in your office spend 30 minutes to 1 hour going through documentation will save you an enormous amount of time. Your office staff may also need some orientation to the role of the student as they interact with the EHR.

If you already have an EHR in your practice, make some inquiries about what it would take to allow student access. If you are planning for an EHR, consider how you will work with students. As we all move toward the New Model of Family Medicine, with advanced information systems, we want to show it off to our medical students.

Richard Usatine, MD, University of Texas Health Science Center at San Antonio, Editor

Are You Looking for Proven Examples of How to Incorporate the Future of Family Medicine New Model Into Your Practice?

The Society of Teachers of Family Medicine (STFM) is offering a proceedings set from a valuable Future of Family Medicine (FFM) workshop held at the STFM Annual Spring Conference that provides practical guidance as you implement the New Model into your own practice.

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Clinical Guidelines That Can Improve Your Care

Incontinence: Two Guidelines Give Us a More Complete Picture

By Caryl Heaton, DO; UMDNJ-New Jersey Medical School

We turn now to sunny Scotland and a set of guidelines that are called SIGN, for the Scottish Intercollegiate Guidelines Network. The SIGN guidelines are based on comprehensive systematic reviews and excellent methodology. Their only drawback is that they sometimes include medications that are not available in the United States. The recommendations are clearly categorized, and you get some good information.

I say some good information because, like many guidelines with good methodology, they don't go far enough in giving you a complete picture of what to do—after all, there isn't good evidence for many of the specifics of day-to-day treatment. So, in this article, I will try to supplement an evidence-based guideline with a good consensus-based guideline to give a more comprehensive approach. The consensus-based guideline comes from a pretty good source for “expert” opinion: Brigham and Women's Hospital.

The topic is incontinence, and the sources are *Management of Urinary Incontinence in Primary Care. A National Clinical Guideline* (www.sign.ac.uk/pdf/sign79.pdf), the SIGN guideline,¹ and *Urinary Incontinence: Guide to Diagnosis and Management*² (www.brighamandwomens.org/medical/handbookarticles/urinaryincontinence.pdf).

High-quality management should start with case finding. An estimated three out of 10 women have some trouble with incontinence, and this increases

with age. The first recommendation is that “Clinicians should be aware of and take into consideration the potentially serious adverse effects that even mild urinary incontinence has on a patient's quality of life.” They recommend an objective validated assessment but then, unfortunately, do not reference one that is free. I found a good assessment from the American Geriatric Society at www.sui.com/pdf/incont_quest.pdf that was not copywritten. The next step is to distinguish between stress, urge, mixed, and overflow incontinence. I think we all do a pretty good job of that. Overflow incontinence presents with continuous dribbling and elevated post-void residuals; the guidelines both recommend referral of overflow incontinence to a secondary source of care.

The initial assessment also includes urinalysis and a voiding diary (also called a frequency volume chart) in both men and women and a post-void residual (<100cc is normal) in men. A voiding diary from the American Urogynecologic Society is available at www.augs.org/files/public/vdiary.pdf. Specifics of assessment and management are described in Table 1. Stress incontinence should be first treated with pelvic floor muscle reeducation in both men and women. A good source for patient education on Kegel exercises is www.nlm.nih.gov/medlineplus/ency/article/003975.htm. In the SIGN guideline, a next choice is Duloxetine (Cymbalta® in the United States and not yet indicated for stress incontinence), which has an “A” rec-

ommendation (the highest). A 4-week trial of duloxetine is recommended.

The treatment and containment of urge incontinence should include reduced caffeine intake (although this never comes with a clear-cut level of recommendation and is only mentioned in the Scottish document), an attempt at bladder retraining, and anti-muscarinic medication. A 6-week trial is needed to assess the benefit of anti-muscarinic therapies. The Brigham guideline gave specifics on urge suppression, bladder retraining, and prompted voiding (Table 2). The SIGN guidelines urge that we not prescribe “products” (pads or diapers) until a full assessment and therapeutic trial has been completed for any kind of incontinence. This makes sense, although it would seem reasonable to suggest using continence control pads as the workup proceeds.

Using these two guidelines together gives a much better idea of what to do for our patients with incontinence. Neither one was complete in itself. Writing a synthesis of these two was much like writing a review article. The literature search was done, and evidence was put in a hierarchy that I could trust by the SIGN. The fine details that one would get in an “ask the expert” column were added by the consensus recommendation from Brigham and Women's Hospital. I think that it works pretty well.

REFERENCES

1. Scottish Intercollegiate Guidelines Network (SIGN). Management of urinary incontinence in primary care. A national clinical guideline. Edinburgh, Scotland: Scottish Intercollegiate Guidelines Network (SIGN), 2004;Dec. (SIGN publication no. 79). [128 references]
2. Bengtson J, Chapin MD, Kohli N, Loughlin KR, Seligson J, Gharib S. Urinary incontinence: guide to diagnosis and management. Boston: Brigham and Women's Hospital, 2004. [16 references]

Table 1 Incontinence Guidelines		
Scottish Intercollegiate Guidelines Network and Level of Recommendation		American College of Physicians No Level of Recommendation Given
Screening and Case Finding		
Health care practitioners should consider using a validated quality of life and incontinence severity questionnaire to evaluate the impact of urinary symptoms and to audit the effectiveness of any management strategy.	B	Recommends the screening question: "Do you ever lose control of your urine and wet yourself?"
Health professional should be vigilant and adopt a proactive approach in consultations with patients who are at greatest risk of developing urinary incontinence through factors including age, the menopause, pregnancy and childbirth, high body mass index (BMI), and experience of continence problems in childhood.	B	Recommends the DIAPPERS acronym to find reversible causes: D=Delirium I=Infection A=Atrophic urethritis or vaginitis P=Pharmaceuticals; alpha-adrenergic agonists, anticholinergics, opiates, alpha blockers, or ACE inhibitors E=Excess excretion as in heart failure, diabetes, or diuretics R=Restricted mobility S=Stool impaction
Initial Assessment		
Initial assessment of a male patient with urinary incontinence should include completion of a voiding diary, urinalysis, estimation of post-void residual volume, and digital rectal examination. Initial assessment of a female patient with urinary incontinence should include completion of a voiding diary, urinalysis, and, where symptoms of voiding dysfunction or repeated urinary tract infections (UTIs) are present, estimation of post-void residual volume.	D	Exclude serious pathology such as treatable neurologic or lower urinary tract lesions.
Stress Incontinence		
Pelvic floor muscle exercises should be the first choice of treatment offered to patients suffering from stress or mixed incontinence. Exercise programmes should be tailored to be achievable by the individual patient.	A	<ul style="list-style-type: none"> • Suggests urethral compression with a large-size tampon before exercising • Describes Kegel exercises as: involves contracting the muscles that close the urethra 10 times, at least three times daily, holding contractions for count of 10. Patients should not practice Kegels by routinely starting and stopping flow of urine as this may disrupt micturition reflex. Contractions can be performed with assistance of vaginal cones, which are teardrop-shaped weights. The cone is placed in vagina and held in place while patient ambulates for 15–20 minutes, about three–five times per week, using progressively heavier weights of the same size and shape.
Surgery is not discussed, only referral if symptoms do not improve		Describe as Most Effective Treatment <ul style="list-style-type: none"> • Bladder neck suspension is effective in 85%–90% of women • Sling procedure also 80%–95% effective, but more voiding problems • Minimally invasive needle vaginal suspensions are 40%–80% effective but are done transvaginally
Duloxetine should be used only as part of an overall management strategy in addition to pelvic floor muscle exercises and not in isolation.	A	Estrogen cream or Estrogen-containing vaginal ring, imipramine, pseudoephedrine, and Duloxetine (although they mention that it not yet FDA approved).
Pelvic floor muscle exercise treatment should be considered for patients following radical prostate surgery.	B	This guideline does not address post-prostatectomy stress incontinence but does describe pessaries as appropriate in some cases
Urge Incontinence		
Review caffeine intake—but no level of recommendation was made		
Bladder retraining should be offered to patients with urge urinary incontinence.	C	Urge suppression, bladder retraining, and prompted voiding should be offered to patients with urge incontinence (see Table 2)
A trial of Oxybutynin, Propiverine (Propantheline), Tolterodine, or Trospium (Santura) should be given to patients with significant urgency with or without urge incontinence. The dose should be titrated to combat adverse effects.	A	Oxybutynin (Ditropan)— may take up to 2 weeks to be effective, immediate release, must be taken BID or TID but is much less expensive Tolterodine (Detrol)—causes less dry mouth than oxybutynin Propantheline—Must be taken on an empty stomach Dicyclomine (Bentyl)—Very cheap Imipramine—Not recommended for older patients
Mixed Incontinence		
Review caffeine intake, conduct bladder retraining, conduct pelvic floor muscle reeducation (Kegels) and muscarinics		Early referral
Referral		
Patients with voiding dysfunction (men or women) and patients with pelvic organ prolapse Patients who fail treatment as described above	D	Recommends double voiding for patients with increased post-void residual—patient should void, dress and leave the bathroom for less than 5 minutes, and then try again. If no voiding a second time, apply pressure to the suprapubic area

Table 2 Non-pharmacologic Treatment of Urge Incontinence—No Level of Recommendation	
Urge Suppression Training	Instruct patient to: <ul style="list-style-type: none"> • Stay put when you get the urge • Squeeze pelvic floor muscles quickly several times (Kegel exercises) but do not relax fully in between squeezes • Relax the rest of your body. Try to focus on another task to distract yourself • When the urge subsides, see how long you can wait before going to the toilet, then increase this time. For example, try to hold for 30 seconds the first time and then a minute the next time
Bladder Retraining	<ul style="list-style-type: none"> • Bladder retraining can take several weeks before effects are appreciated • Can be more successful at decreasing incontinence than medication Instruct patient to: <ul style="list-style-type: none"> • Time voids to occur at regular intervals (six–eight times during the daytime) and gradually increase interval length by 30–60 minutes until able to void every 3-4 hours while awake • Concentrate on suppressing the urge to urinate between voids (see above)
Prompted Voiding	<ul style="list-style-type: none"> • Should occur every 2–3 hours • Is effective in patients with cognitive impairment • Is successful in patients who do not void more than four times in a 12-hour period or are continent 75% of the time • Requires a great deal of effort on the part of the caregiver

Teaching Points—A 2-minute Mini-lecture

A Teenager Using Steroids

By Peter Carek, MD, MS, Medical University of South Carolina

Editor's Note: The process of the 2-minute mini-lecture is to get a commitment, probe for supporting evidence, reinforce what was right, correct any mistakes, and teach general rules. In this scenario, Dr Carek (Dr C) works with a third-year student (MS3) who has seen a teenager with elevated blood pressure and increased muscle mass.

MS3: You know this patient. You saw him a week ago with elevated blood pressure, and you asked him to come back. That's about it. He feels fine. He has no symptoms. You wrote in the chart that you were concerned about steroid use.

Dr C: Right. I remember. So what are some clues to anabolic steroid use in a teenager?

MS3: Elevated blood pressure?

Dr C: Good. So elevated blood pressure in a teenager—consider steroid use. Another clue is weight gain, and

he has had a weight gain of about 25 pounds over the summer. A third clue is cystic acne, especially over the trunk. Let's say you suspect steroid use. How do you ask about it?

MS3: I'd say, "A lot of teenagers take steroids to improve their performance. Are you?"

Dr C: I try to do that, too—I suggest that it's fairly common to use performance-enhancing drugs. I also say something like, "I've noticed that you've gotten bigger, and your blood pressure is high. When I see that in someone your age, I think it has to be one of the two most common causes—use of performance-enhancing drugs or use of alcohol. So which of these two is it?"

MS3: That's direct. Does he have to have drug tests in college?

Dr C: All Division 1 schools require random drug testing on athletes. There are negative consequences if the school

finds out he's taking performance-enhancing drugs. But, what are the medical consequences?

MS3: I don't know.

Dr C: The medical consequences aren't known. There have been case reports of adverse events but nothing to prove a causal relationship. There are studies that show negative effects of taking anabolic steroids for greater than 6 months, but these studies focus on patients who are taking the steroids for a medical purpose and who are taking them daily. Athletes tend to cycle or "stack" the dose and don't tend to take the steroids daily.

MS3: What is the evidence that steroids do actually improve performance?

Dr C: Good question. Anabolic steroids do increase strength, as measured by the 1 Repetition Max. But that's about it. There is no evidence that steroids truly improve performance.

Alec Chessman, MD, Medical University of South Carolina, Editor

Betty Gatipon, PhD, Louisiana State University, Coeditor



Preceptor Basic Book List

Suggested Texts for Community Preceptors From the STFM Bookstore

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Excerpted from "For the Office-based Teacher of Family Medicine"

Strategies for Efficient Office Precepting

By Alison E. Dobbie, MD, Department of Family Medicine, University of Kansas; James W. Tysinger, PhD, Department of Family and Community Medicine, University of Texas Health Science Center at San Antonio; and Joshua Freeman, MD, Department of Family Medicine, University of Kansas.

(*Fam Med* 2005;37(4):239-41.)

Many family physicians teach because they enjoy the personal satisfaction of working with students and want to share their enthusiasm for family medicine while contributing to the education of the next generation of physicians.^{1,2} However, most office-based teachers are unpaid volunteers,³ and evidence indicates that time spent teaching can lengthen the preceptors' working day³⁻⁵ and/or decrease their clinical productivity.³ Fortunately, preceptors can use several strategies to minimize the added tasks of teaching while optimizing students' educational experience. Preceptors who use these strategies have reported practicing more efficiently with a student than without one.⁶ In this article, we summarize some practical strategies for efficient office-based teaching that are likely to be highly valued by preceptors and students.

Planning and Preparing

Agree on Daily Goals

The vast amount of potential learning material in each session can overwhelm both teacher and student. To better manage this learning material, spend 1 or 2 minutes before each session agreeing on mini-learning goals that relate to the clerkship objectives and are achievable that day. For example, it may be too time-consuming to observe a student conduct a complete physical exam, but it is practical to observe and give feedback on two abdominal exams in one session and ensure that the student has mastered this part of the physical exam. Achieving such mini goals over several sessions results in an impressive amount of clinical observation, teaching, and feedback.

Limit the Number of Patients That Your Student Sees

Seeing too many patients often prevents students from reflecting on how the clinical experience aids their learning. Depending on the number of clerkships completed, the clerkship's goals, and the patients' clinical complexity, third-year students should see between three and six patients for each 4-hour session.

Encourage "Just in Time" Learning

Between patients, students should review content related to the patients they see. For example, after seeing a child with a sore throat, students can use their handheld computers or the Internet to look up the risk factors for strep throat and determine the sensitivity and specificity of the "rapid strep" test. This "just in time" learning, especially when combined with formulating clinical questions, encourages students to seek and use evidence-based medicine. Such integration of evidence-based medicine into practice has been reported as one of the top three factors students associate with effective teaching.⁷

Debrief and Plan for the Next Session

At the end of each session, it is efficient to spend a few minutes debriefing on the teaching session, reviewing how well the student met the mini goals, agreeing on any homework, and planning for the next session.

Maximizing Learning Efficiency

Limit Presentation Time

Students must learn to give a focused 2–3 minute patient presentation that includes pertinent positive and negative findings and their assessment and plan. Students consistently report the opportunity to formulate assessments and plans as one of the top factors associated with high-quality clinical teaching.⁸

Use the Five Clinical Teaching Microskills

Most preceptors are familiar with the five microskills of clinical teaching⁹ but may not use them because they think that completing all steps after every patient is too time-consuming. However, all five microskills do not need to be completed for every patient. For example, if a patient presents with a sprained ankle, the preceptor can use the microskill "teach general rules" in discussing and demonstrating a proper ankle exam and use the microskills "reinforce what was done right" and "correct mistakes" in giving the student feedback about his/her actual exam of the patient's ankle. For other sprained ankle issues such as understanding why an X ray was or was not ordered, the teacher can direct the student to find the Ottawa ankle rules as "just in time" learning between patients and discuss their application in more detail later.

Make Feedback Routine

Giving feedback challenges most preceptors because they see it as time-consuming and fear it may upset the student. Yet students report receiving high-quality feedback as one of the top two factors associated with excellent clinical teaching.⁸ Feedback that is based on observation, consistent, fair, routine, and given in a spirit of unconditional positive regard will be accepted and appreciated. For example, while observing the student perform an abdominal exam, a preceptor might say, "You correctly palpated all four quadrants superficially and deeply, but you forgot to observe and listen first! Remember: always observe the

abdomen first, listen to it second, and then palpate it.”

Teaching With Patients

Develop a Cadre of “Teaching Patients”

Every physician has patients who have interesting stories to share. If these patients have conditions that add to students’ learning, both student and patient usually enjoy spending extra time together. Such regular “teaching patients” can become familiar with students and may even learn to evaluate them and give informal feedback on students’ performance. Such patient feedback is particularly powerful for students.

Seize Unexpected Learning Opportunities

Besides planning in advance which patients the student will see, one should seize unexpected learning opportunities. For example, where a patient has a newly discovered goiter or heart murmur, the student may be briefly introduced to the patient simply to experience the abnormal sign.

Hear Presentations in the Exam Room

When all parties are comfortable and the clinical problem is suitable, it is efficient and mutually satisfying to have the student present his/her findings and for the preceptor to teach in the patient’s presence. Patients can then give immediate feedback on the accuracy and completeness of the student’s presentation.

Using Service Learning

Use the Students for Administrative Tasks

Many non-clinical tasks can aid student learning. For example, students

can learn a great deal by performing administrative tasks under the preceptor’s guidance and supervision. These tasks may include filling out lab requests, writing referrals, updating problem lists, and doing telephone callbacks.

Let Students Write Notes

Writing notes aids students’ learning and helps students present the patient’s issues to the preceptor in an efficient and organized manner. According to Health Care Financing Administration documentation guidelines, only a small portion of a student’s note is billable, and the preceptor must still write or dictate a note and personally document major aspects of the patient visit.¹⁰ However, preceptors can still save time by using the student’s note as a guide when dictating or writing their own note. In one study, students’ notes saved preceptors 3.3 minutes of charting time per patient.¹¹

Use Students to Teach Patients

Students learn a great deal by teaching patients about such topics as smoking cessation and weight loss. Teaching patients sharpens students’ communication and negotiation skills and makes them aware of the many reasons patients don’t comply with medical advice.

Conclusions

Using these simple strategies can help office-based teachers improve the teaching experience for themselves and their students. Devoting a few minutes each day to these activities can maximize the teaching session’s efficiency and minimize extra work for the preceptor.

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REFERENCES

1. Fulkerson PK, Wang-Cheng R. Community-based faculty: motivation and rewards. *Fam Med* 1997;29(2):105-7.
2. Starr S, Ferguson WJ, Haley HL, Quirk M. Community preceptors’ views of their identities as teachers. *Acad Med* 2003;78:820-5.
3. Vinson DC, Paden C, Devera-Sales A, Marshall B, Waters EC. Teaching medical students in community-based practices: a national survey of generalist physicians. *J Fam Pract* 1997;45:487-94.
4. Ricer RE, Van Horne A, Filak AT. Costs of preceptors’ time spent teaching during a third-year family medicine outpatient rotation. *Acad Med* 1997;72:547-51.
5. Vinson DC, Paden C. The effect of teaching medical students on private practitioners’ workloads. *Acad Med* 1994;69:237-8.
6. Usatine RP, Nguyen K, Randall J, Irby DM. Four exemplary preceptors’ strategies for efficient teaching in managed care settings. *Acad Med* 1997;72:766-9.
7. Elnicki DM, Kolarik R, Bardella I. Third-year medical students’ perceptions of effective teaching behaviors in a multidisciplinary ambulatory clerkship. *Acad Med* 2003;78:815-9.
8. Torre DM, Sebastian JL, Simpson DE. Learning activities and high-quality teaching: perceptions of third-year IM clerkship students. *Acad Med* 2003;78:812-4.
9. Neher JO, Gordon KC, Meyer B, Stevens N. A five-step “microskills” model of clinical teaching. *J Am Board Fam Pract* 1992;5:419-24.
10. Chappelle KG, Blanchard SH, Ramirez-Williams MF, Fields SA. Medical students and Health Care Financing Administration documentation guidelines. *Fam Med* 2000;32(7):459-61.
11. Usatine RP, Tremoulet PT, Irby D. Time-efficient preceptors in ambulatory care settings. *Acad Med* 2000;75:639-4.