



# The Teaching Physician

for those who teach students and residents in family medicine

Volume 5, Issue 4

October 2006

## Teaching Points—A 2-minute Mini-lecture Is My Patient Drinking Too Much?

By Robert Mallin, MD, 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 Mallin (Dr M) works with a third-year student (MS3) who has seen a man who may be drinking too much.

**MS3:** This is a 42 year-old male whose chief complaint is: "My wife thinks I'm drinking too much." He said that his wife made the appointment and pushed him to come. He does not see drinking as a big problem, though. He drinks three to four beers each evening after dinner and up to 12 a day on weekend days. He says he never gets drunk. On the CAGE (Cut down, Angry, Guilty,

Eye-opener) questions, he scored 0 out of 4 at first, but, with a little encouragement, he admitted to getting annoyed with his wife's constant attention to his drinking.

**Dr M:** OK. Well, what do you think? Does he drink too much?

**MS3:** Well, it doesn't seem to be causing him any problems.

**Dr M:** Let me put it another way. What is a safe level of drinking? Or what is "moderate drinking?"

**MS3:** There is a consensus report that recommends that men drink no more than two drinks daily and women only one.<sup>1</sup>

**Dr M:** Right. OK. So, is your patient drinking more than that?

**MS3:** One beer is the same as a glass of wine is the same as a mixed drink?

**Dr M:** 14 grams of alcohol per drink, right; 12 ounces of beer, 6 ounces of wine, or 1.5 ounces of liquor.

**MS3:** Well, yes, then he is drinking too much.

**Dr M:** Is this alcohol abuse?

**MS3:** He is drinking too much, and I think he needs to have one area of his life affected by the alcohol. I'm not sure, but I think at least his marriage is being affected by his drinking.

**Dr M:** I agree. How do you know if he is an alcoholic, which means "alcohol dependence?"

**MS3:** He would have withdrawal symptoms if he were truly addicted to alcohol.

**Dr M:** That's not actually true. Withdrawal means physical dependence, which is a separate process.

*(continued on page 2)*

## Clinical Guidelines That Can Improve Your Care Screening for Skin Cancer: A Clinical Practice Guideline

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

Here in New Jersey, it is not uncommon for a patient to make an appointment to "get a referral" for cancer screening at the dermatologist. I have always deferred and provided the service myself, explaining to the patient that there was not a great deal of evidence about the practice, but she had usually read in a magazine somewhere that "good" cancer screening included a total body exam. It's not the case.

Here is a guideline with excellent "evidence-based" credentials. It comes from Cancer Care Ontario and the Program in Evidence-based Care (PEBC) out of McMaster University in Ontario,

Canada.<sup>1</sup> McMaster's is the hometown of evidence-based approach. The PEBC is very clear about their approach, their use of the evidence, and their review process.

This guideline is set up to answer four fairly simple questions in regard to the screening of melanoma, basal cell carcinoma, or squamous cell carcinoma of the skin:

(1) Should primary care providers routinely perform total-body skin examination on members of the general population?

*(continued on page 3)*

October 2006

Volume 5, Issue 4

FPIN HelpDesk..... 4

POEMs for the Teaching Physician..... 4

Teaching the New Competencies  
Using the Gap Analysis Report ..... 7

(Continued from page 1)  
**Is My Patient Drinking Too Much?**

**MS3:** Oh, OK, then. He would need some consequences in health, social, or job. But he keeps drinking.

**Dr M:** Yes! There must be consequences in multiple areas of the patient's life: family (marital difficulty), social (isolation), occupational (job loss), health (hepatitis), legal (driving under the influence [DUI]). These consequences provide evidence for a loss of control regarding alcohol consumption and continued use despite these consequences would indicate that alcoholism would be the correct diagnosis.

**MS3:** So, what are we going to tell him to do?

**Dr M:** That's what I'm supposed to ask you! (smiles) OK, here's my approach. If you believe your patient has alcohol abuse, then he should retain control, and you can advise him to cut down to the recommended two drinks daily. You might tell him that if he is unable to cut down to a safe or moderate level

of drinking, you may have to change the diagnosis to alcohol dependence.

If you believe you have sufficient evidence to make the diagnosis of alcoholism (alcohol dependence), it would be best to tell him that he should make a decision to become abstinent from alcohol and that he may need assistance to do that. If your patient is reluctant to accept this advice, you may consider a compromise.

Ask him to show you (and himself) that he still has control over alcohol by remaining abstinent for the next 3 months. If he returns stating that he has been successful in this endeavor, you might revise your diagnosis to alcohol abuse. Very few patients with a correct diagnosis of alcoholism will be able to remain abstinent for 3 months.

Depending on your level of confidence in your patient's honesty level, you may want to monitor him with intermittent carbohydrate deficient transferrin (% CDT) levels or urinary ethyl glucuronide (EtG) to ensure that his reports of abstinence are accurate.

If he has alcoholism and is prepared to accept help, and does not appear to be physically dependent upon alcohol, referral to an outpatient treatment program followed by aftercare and involvement in Alcoholics Anonymous will give him the best chance of recovery.

There are also several medications that have been approved for use in the treatment of alcoholism. Disulfiram is the oldest of these but also has the least evidence to support its efficacy. Naltrexone and acamprosate have both been shown to be effective in assisting patients to recover from alcoholism.

#### REFERENCE

1. US Department of Health and Human Services. Dietary guidelines for Americans. 2005. [www.health.gov/DIETARY-GUIDELINES/dga2005/documnet/html/chapter9.htm](http://www.health.gov/DIETARY-GUIDELINES/dga2005/documnet/html/chapter9.htm). Accessed September 17, 2006.

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

*The Teaching Physician* is published by the Society of Teachers of Family Medicine, 11400 Tomahawk Creek Parkway, Suite 540, Leawood, KS 66211. 800-274-2237, ext. 5420. Fax: 913-906-6096. [tnolte@stfm.org](mailto:tnolte@stfm.org)

*STFM Web site:* [www.stfm.org](http://www.stfm.org)

*Managing Publisher:* Traci S. Nolte ([tnolte@stfm.org](mailto:tnolte@stfm.org))  
*Editorial Assistant:* Jan Cartwright ([fmjournal@stfm.org](mailto:fmjournal@stfm.org))  
*Suscriptions Coordinator:* Jean Schuler ([jschuler@stfm.org](mailto:jschuler@stfm.org))

*The Teaching Physician* is published electronically on a quarterly basis (July, October, January, and April). To submit articles, ideas, or comments regarding *The Teaching Physician*, contact the appropriate editor:

#### **Clinical Guidelines That Can Improve Your Care**

Caryl Heaton, DO, editor—[heaton@umdnj.edu](mailto:heaton@umdnj.edu)

#### **Family Physicians Inquiries Network (FPIN) HelpDesk**

Jon Neher, MD, editor—[ebpeditor@fpin.org](mailto:ebpeditor@fpin.org)

#### **For the Office-based Teacher of Family Medicine**

William Huang, MD, editor—[williamh@bcm.tmc.edu](mailto:williamh@bcm.tmc.edu)

#### **Information Technology and Teaching in the Office**

Richard Usatine, MD, editor—[usatine@uthscsa.edu](mailto:usatine@uthscsa.edu)  
 Thomas Agresta, MD, coeditor—[Agresta@nso1.uchc.edu](mailto:Agresta@nso1.uchc.edu)

#### **POEMs for the Teaching Family Physician**

Mark Ebell, MD, MS, editor—[ebell@msu.edu](mailto:ebell@msu.edu)

#### **Teaching Points—A 2-minute Mini-lecture**

Alec Chessman, MD, editor—[chessmaw@musc.edu](mailto:chessmaw@musc.edu)  
 Betty Gatipon, PhD, coeditor—[bgatip@lsuhsc.edu](mailto:bgatip@lsuhsc.edu)

(Continued from page 1)  
**Screening for Skin Cancer**

(2) Should primary care providers routinely counsel members of the general population to perform the exam on themselves?

(3) Should individuals at high risk be offered surveillance by a physician, including total-body skin examination and counseling to perform skin self-examination?

(4) What characteristics should clinicians assess to determine the risk?

As you might expect, there is little evidence on this. As of last spring, there were no prospective studies that have evaluated the impact of screening on survival or quality of life. There were also no studies that evaluated morbidity from the treatment for skin cancer or the adverse effects of screening. But this evidence-based group is not one that simply makes no recommendation. They “reviewed key papers on

risk and identified groups of patients who might be expected to benefit from increased surveillance for skin cancer.” So the best use of “evidence” here is to go with their expert opinion based on scant literature. Sometimes that’s the “best evidence.”

The PEBC developed three categories of risk and recommendations for each. These are summarized in Table 1. It is the physician’s responsibility to identify patients at high risk and make the appropriate recommendation. Patients should be counseled to do monthly self examination if they are at high or very high risk. There are two studies that suggest that people are more likely to perform a skin examination if they have undergone a whole-body skin examination by a physician.<sup>2,3</sup> So it makes sense for the high-risk patients to get one full-body examination by a physician and then be encouraged to do the exam on their own. Patients with average or low risk can go ahead and do

skin self-surveillance if they would like, but the recommendation is clear; for the average population it is not the duty of physicians to do the exam or counsel everyone to do it on themselves.

REFERENCES

1. Screening for skin cancer: a clinical practice guideline L. In: Marrett L, Johnston M, Mai V, et al, and the Skin Cancer Screening Guideline Panel. A quality initiative of the Program in Evidence-based Care (PEBC), Cancer Care Ontario (CCO). March 15, 2006. www.cancercare.on.ca/pdf/pebc15-1s.pdf.
2. Aitken JF, Elwood JM, Lowe JB, Firman DW, Balanda KP, Ring IT. A randomised trial of population screening for melanoma. *J Med Screen* 2002;9(1):33-7.
3. Azizi E, Flint P, Sadetzki S, et al. A graded work site intervention program to improve sun protection and skin cancer awareness in outdoor workers in Israel. *Cancer Causes Control* 2000;11(6):513-21.

**Caryl Heaton, DO, UMDNJ-New Jersey Medical School, Editor**

Table 1

**Skin Cancer Screening**

<i>Risk Category</i>	<i>Screening Recommendations</i>
<p><b>Very High Risk of Skin Cancer</b>                      Individuals with any of the following risk factors have a very high risk of skin cancer (approximately 10 or more times the risk of the general population):</p> <ul style="list-style-type: none"> <li>• On immunosuppressive therapy after organ transplantation</li> <li>• A personal history of skin cancer</li> <li>• Two or more first-degree relatives with melanoma</li> <li>• More than 100 nevi in total or 5+ atypical (dysplastic) nevi</li> <li>• Have received more than 250 treatments with PUVA for psoriasis</li> <li>• Received radiation therapy for cancer as a child</li> </ul>	<p>Individuals at high risk should be identified by their primary care doctor and offered total-body skin examination (site of radiation therapy in the case of childhood cancer survivors) by a dermatologist or trained health care provider. They should also be counseled about skin self-examination and skin cancer prevention. <b>Patients should be seen at least twice a year for total skin examination</b> and taught to do monthly skin examinations.</p>
<p><b>High Risk of Skin Cancer</b>                      Individuals with two or more of the main identified susceptibility factors are at a high risk for skin cancer (roughly five times the risk of the general population):</p> <ul style="list-style-type: none"> <li>• A first-degree relative with melanoma</li> <li>• Many (50–100) nevi</li> <li>• One or more atypical (dysplastic) nevi</li> <li>• Naturally red or blond hair</li> <li>• A tendency to freckle</li> <li>• Skin that burns easily and tans poorly or not at all</li> <li>• Received radiation therapy as an adult</li> </ul>	<p>Individuals at high risk should be identified by their primary care doctor and counselled about skin self-examination (specifically focused on the site of radiation for those having had therapeutic radiation) and skin cancer prevention. <b>Patient should be seen at least once a year by their primary care provider</b> and taught to do monthly skin examinations.</p>
<p><b>Average Risk of Skin Cancer—General Population</b>                      Individuals are those not included in the increased risk groups described above.</p>	<p>Routine total-body skin examinations by primary care providers is not recommended.                      Routine counseling on skin self-examinations by primary care providers is not recommended.</p>

PEBC—Program in Evidence-based Care  
 PUVA—Psoralen and ultraviolet A therapy

## Family Physicians Inquiries Network (FPIN) HelpDesk

### What Is the Best Treatment for Venous Stasis Ulcers?

By Minal Patel, MD, Baylor College of Medicine

#### Evidence-based Answer

Treatment for venous stasis ulcers with compression bandaging produces more rapid healing than “usual care” with topical medication or absorbency dressings (SOR B, based on a large randomized controlled trial (RCT) and a systematic review of heterogeneous studies).

The single largest RCT to address this issue compared four-layer bandaging with continuation of usual care for venous ulcers. Inclusion criteria were venous ulcers caused by venous disease alone and an ankle-brachial index of 0.9 or higher. Patients were randomized to treatment with four-layer bandaging (intervention group, n=100) and continuing current treatment (control group, n=100). Current treatment included a variety of topical dressings, absorbency dressings, low-pressure bandages, elasticated support, or laser therapy (one patient). Five usual care patients had compression applied for

some time during the study period. By the end of the 12-week intervention, healing was noted in 54% of ulcers in the four-layer compression group and in 34% of the control group ( $P=.006$ ).<sup>1</sup> A systematic review identified six studies (not including the above RCT) that compared multiple forms of compression for venous stasis ulcers with no compression. Three of these trials compared use of compression provided by an Unna’s boot with use of surface dressings alone. The three other trials compared different forms of pressure bandages—short stretch, two-layer and four-layer bandages—with no pressure bandaging. A total of 260 patients were enrolled in these six trials, and the numbers of patients in each trial ranged from 13 to 84 patients. The data from these six trials were not pooled due to their heterogeneity: inconsistent inclusion criteria and different forms of compression, settings, populations, and follow-up periods. However, two of the three Unna’s boot trials found a

higher proportion of healed ulcers with compression. The third study showed an increase in ulcer healing that was not statistically significant. The three other studies that compared different forms of compression with no compression showed that healing improved with compression.<sup>2</sup>

#### REFERENCES

1. O’Brien JF, Grace PA, Perry IJ, Hannigan A, Clarke Moloney M, Burke PE. Randomized clinical trial and economic analysis of four-layer compression bandaging for venous ulcers. *Br J Surg* 2003;90:794–8. [LOE 1b]
2. Cullum N, Nelson EA, Fletcher AW, Sheldon TA. Compression for venous leg ulcers. *Cochrane Database Syst Rev* 2001;2:CD000265. [LOE 2b]

SOR—strength of recommendation  
LOE—level of evidence

**Jon O. Neher, MD, University of Washington, Editor**

HelpDesk answers are provided  
by *Evidence-Based Practice*,  
a monthly publication of the  
FPIN Consortium  
(www.ebponline.net)

## POEMs for the Teaching Physician

### High-dose Gabapentin = Estrogen for Hot Flashes

**Clinical Question:** Is high-dose gabapentin as effective as usual-dose estrogen for the treatment of postmenopausal hot flashes?

**Setting:** Outpatient (primary care)

**Study Design:** Randomized controlled trial (double-blinded)

**Funding:** Government

**Allocation:** Concealed

**Synopsis:** These authors recruited menopausal women ages 35 years to 60 years with at least 50 moderate to severe hot flashes weekly for at least 2 months. Any treatments for hot flashes, including hormones, were discontinued for at least 1 month prior to enrollment. Sixty women were randomized to either gabapentin at a dose of 2,400 mg daily, conjugated equine estrogens 0.625 mg daily, or placebo. The gabapentin was titrated up over a 12-day period to a total of two 400-mg capsules three times daily. Women recorded their hot flashes in a diary and indicated the severity of each hot flash on a visual analog scale (1=mild, 4=severe). The number of hot

flashes was multiplied by the severity of each over the course of a week to obtain a composite hot flash score. The hot flash composite scores at 12 weeks were compared with baseline. The gabapentin group had a mean reduction of 71%, the estrogen group had a mean reduction of 72%, and the placebo group’s score dropped 54% ( $P<.017$  for each active treatment versus placebo). There was no statistical difference between the gabapentin and estrogen groups. Five women dropped out during the study, including one in the gabapentin group, because of side effects.

**Bottom Line:** In this small study, high-dose gabapentin (Neurontin) was as effective as the usual dose of conjugated equine estrogens (Premarin) for the treatment of menopausal vasomotor symptoms. Larger studies are needed to confirm this result. (LOE=1b)

Source article: Reddy SY, Warner H, Guttuso T, et al. Gabapentin, estrogen, and placebo for treating hot flashes: a randomized controlled trial. *Obstet Gynecol* 2006;108:41-8.

### Varenicline (Chantix) Effective for Smoking Cessation

**Clinical Question:** Is varenicline more effective than bupropion and placebo for smoking cessation?

**Setting:** Population-based

**Study Design:** Randomized controlled trial (double-blinded)

**Funding:** Industry

**Allocation:** Concealed

**Synopsis:** Varenicline is a nicotinic acetylcholine receptor partial agonist that may reduce the reinforcing effects of nicotine for maintaining smoking behavior. The investigators randomized (concealed allocation assignment) 1,025 generally healthy adult smokers, ages 18 years to 75 years, to receive varenicline (titrated to 1 mg twice daily), bupropion SR (titrated to 150 mg twice daily), or matching placebo for 12 weeks. All subjects received brief counseling and a self-help booklet for smoking cessation. Participants who completed the initial 12-week drug treatment period continued in a nondrug posttreatment follow-up phase for 52 weeks. Smoking cessation was determined by patient self-report and an exhaled carbon monoxide measurement. All individuals assessing outcomes remained blinded to treatment group assignment. Subjects withdrawing before study completion were assumed to be continued smokers. The 52-week study completion

rates were 60.5% for varenicline, 56% for bupropion SR, and 54% for placebo. Overall, using intention-to-treat analysis, continuous abstinence rates at 52 weeks were significantly higher for varenicline versus placebo (21.9% versus 8.4%; number needed to treat [NNT]=7; 95% CI=4-15). The difference in quit rates at 52 weeks between varenicline and bupropion (21.9% versus 16.1%) was not statistically significant. When reporting 52-week success rates (cumulative abstinence), the authors eliminated patients who failed for the previous reporting period. Therefore, the success rates at the end of 52 weeks reflected only those who were abstinent at 24 weeks; that is, the authors took the successful patients only and recalculated using this rate as a starting point. Thus, the overall success rates appear higher than if they had used every participant who began the study. Adverse events were similar for both varenicline and bupropion SR; nausea was the most common adverse event associated with varenicline. Mean weight gain and drop-out rates due to adverse events occurred similarly among all three groups. No sex differences in efficacy for varenicline were reported. The cost for 12 weeks of treatment with varenicline is similar to generic bupropion SR (\$396 versus \$372, respectively, at a local pharmacy in Charlottesville, Va).

An identically designed study conducted at another site published in the same issue (*JAMA* 2006;296:56-63) found similar results, except that the difference in abstinence rates at 52 weeks between varenicline and bupropion SR was statistically significant (23.0% versus 14.6%, NNT= 12, 95% CI=6-43). In a third study reported in the same issue (*JAMA* 2006;296:64-71), smokers who achieved abstinence at the end of 12 weeks of varenicline treatment and were then randomized to an additional 12 weeks of varenicline (instead of placebo) showed a significantly higher continuous abstinence rate at 52 weeks of follow-up (43.6% versus 36.9%, NNT=14, 95% CI=8-73). None of the subjects enrolled in any of the three trials had a history of

previous bupropion therapy, so success rates for varenicline in patients who have failed bupropion therapy are unknown.

**Bottom Line:** Varenicline (Chantix) therapy for 12 weeks is significantly more effective than placebo at maintaining smoking abstinence at 52 weeks. Varenicline may also be marginally more effective than bupropion SR. Reported success rates are likely to be higher than real-world settings. (LOE =1b)

Source article: Gonzales D, Rennard SI, Nides M, et al, for the Varenicline Phase 3 Study Group. Varenicline, an a4b2 nicotinic acetylcholine receptor partial agonist, versus sustained-release bupropion and placebo for smoking cessation. A randomized controlled trial. *JAMA* 2006;296:47-55.

### No Stirrups Preferred for Pelvic Exam

**Clinical Question:** Do women feel more comfortable and less vulnerable if stirrups are not used as part of a speculum examination?

**Setting:** Outpatient (primary care)

**Study Design:** Randomized controlled trial (nonblinded)

**Funding:** Foundation

**Allocation:** Concealed

**Synopsis:** The embarrassment and fear of discomfort of the speculum examination often prevents women from returning for routine cervical cancer screening. One problem might be the use of stirrups to support the legs of women undergoing a pelvic exam. Stirrups are usually used in the United States but not in other countries. The US authors of this study evaluated whether the use of stirrups increased pain and the feeling of vulnerability in 197 adult women presenting for a routine examination. The women were randomized, using concealed allocation, to an examination using either stirrups or no stirrups. The stirrups were used to hold the legs at a 30- to

45-degree angle off the table. Women in the no-stirrup group were placed at the very end of the table with their heels on the corners of a fully deployed extension of a standard examination table. Women in both groups were fully draped and underwent a standard pelvic examination including a cervical smear. Physical discomfort and sense of vulnerability—measured after the examination by a 100-mm visual analog scale—were significantly lower in the no-stirrup group: the mean physical discomfort score was 43% lower (17.2 versus 30.4) and the sense of vulnerability was 44% lower (13.1 versus 23.6). Sense of loss of control was not significantly different between the two groups. The quality of the smears were similar in the two groups. The researchers did

not report the comfort of the examiner with either method or how they avoided having the speculum handle hit the table extension. The study was unblinded: The women knew whether they were in stirrups or not. Most of the women had already had one or more speculum examinations; the study would have been better had they enrolled women who had never used stirrups during a pelvic examination.

**Bottom Line:** A woman undergoing a routine pelvic examination should be offered the option of simply resting her heels on an examination table extension. On average, women will find this position more comfortable and will feel less exposed than if they use stirrups. (LOE = 1b)

Source article: Seehusen DA, Johnson DR, Earwood JS, et al. Improving women's experience during speculum examinations at routine gynaecological visits: randomised clinical trial. *BMJ* 2006;333:171-3.

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**

POEMS are provided by  
InfoPOEMS Inc  
(www.infopoems.com)  
Copyright 2006.

## STFM Is Now an Amazon.com Associate

**IMPORTANT**  
Be sure to use the  
STFM Portal at

[www.stfm.org/  
bookstore](http://www.stfm.org/bookstore)

for STFM to  
receive credit  
for your purchases.

Thank you for  
your support  
of STFM.



Visit the STFM On-line Bookstore and Amazon Portal

[www.stfm.org/bookstore](http://www.stfm.org/bookstore)

- **Your Purchases Help STFM**

STFM receives a percentage of the total purchases (books, electronics, or anything that Amazon.com sells) made through STFM's portal at [www.stfm.org/bookstore](http://www.stfm.org/bookstore). These proceeds will help STFM to continue our financial commitments to important activities like the *Annals of Family Medicine* and *Future of Family Medicine* programs.

- **Great Selection and Service**

At [www.stfm.org/bookstore](http://www.stfm.org/bookstore) you will find the same great selection previously offered through STFM but with the added bonus of everything Amazon.com has to offer—books, electronics, apparel, housewares, and more. You will benefit from the advanced technology that Amazon.com uses to expedite and track shipments and recommend related books and other items.

- **Enhanced Marketing**

STFM will maintain its book review process that allows members to add new books to its recommended offerings listed at [www.stfm.org/bookstore](http://www.stfm.org/bookstore). STFM will also continue to market its members' books at its conferences and on the STFM Web site.

For more information, contact Traci Nolte, 800-274-2237, ext. 5420, [tnolte@stfm.org](mailto:tnolte@stfm.org).

**Excerpted from “For the Office-based Teacher of Family Medicine”**

## Teaching the New Competencies Using the Gap Analysis Approach

By Hershey S. Bell, MD, Faculty Development and Evaluation, Lake Erie College of Osteopathic Medicine; and Stanley M. Kozakowski, MD, Family Medicine Residency Program, Hunterdon Medical Center, Flemington, NJ. (*Fam Med* 2006;38(4):238-9.)

Medical education at every level has become increasingly focused on defining and ensuring that learners achieve a specific level of competency in a variety of areas. For residents, the Accreditation Council for Graduate Medical Education (ACGME) has defined general competency categories of patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice. For each general competency category, the ACGME has defined specific examples of competencies that residents should achieve during their residency.<sup>1</sup> For medical students, many schools are defining competencies that students should achieve by the end of medical school and at the end of different courses. Examples of competencies that students should achieve at the end of the preclinical curriculum and at the end of a family medicine clerkship have been published.<sup>2</sup> Research into the roots of medical error, coupled with a renewed focus on patient centeredness, has demonstrated that medical education must attend not only to the knowledge that physicians accumulate but to the entire spectrum of behaviors required of the high-quality practitioner.<sup>3</sup>

At the completion of a rotation, faculty must assess how well learners achieve a number of competencies. Using a clinical evaluation form used by the Lake Erie College of Osteopathic Medicine as an example, faculty must answer questions such as the following:

- Did this student/resident demonstrate that he/she was current with the medical knowledge in your field?
- Did this student/resident demonstrate that he/she was able to apply

his/her medical knowledge to the care of patients?

- Did this student/resident communicate and interact with others in an effective way?
- Did this student/resident demonstrate values and behaviors consistent with medical professionalism?
- Did this student/resident demonstrate an understanding of the complexities of the health care system through his/her decisions and actions?
- Did this student/resident demonstrate that he/she was able to assess his/her practice pattern, identify learning issues, and apply his/her newfound knowledge?
- (For osteopathic students and residents) Did this student/resident demonstrate a philosophy of care and practice behaviors consistent with osteopathic philosophy and osteopathic manipulative medicine?

Ideally, in the clinical setting, learners should seek and/or receive feedback that helps them self-evaluate and determine their developmental issues relative to each of the questions listed above. “Gap analysis” can be used by faculty to facilitate effective self-evaluation. Gap analysis is a method borrowed from the world of strategic planning.<sup>4</sup> It contains the following steps:

- Articulate a desired future state.
- Describe the current state.
- Examine internal and external issues that must be addressed to progress from the current state to the desired future state.
- Delineate strategies and tactics that will ensure that the “gap” between current state and desired future state is narrowed.

At the Hunterdon Medical Center Family Medicine Residency Program in Flemington, NJ, gap analysis has been used to assist students and residents in their attainment of competency. In meetings with faculty, learners are asked to assess, on a scale of 0–100, where they believe they stand relative to performing one or more of the competencies. The faculty member then asks the learner to identify a physician, by name, who he/she believes is a “100” relative to the performance of that competency. Next, the faculty member encourages the student/resident to discuss and identify the specific behaviors that the “gold-standard” physician demonstrates to achieve this competency. Finally, the faculty member asks the learner to describe his/her own set of behaviors relative to the gold-standard physician and identify specific learning issues, or skill development issues, that are necessary for the learner to work on to lessen the gap between his/her own performance and the performance of the gold-standard physician.

### *Illustrative Example*

SR, a first-year resident, during her first performance review, said that she was lacking the confidence that she needed to be “convincing” with patients. Using the “patient care” and “interpersonal and communications skills” competencies, she was able to see that greater confidence in these competencies would improve her effectiveness in her doctor-patient relationships.

Using the gap analysis method, the faculty member drew a horizontal line with the two end points labeled “0” and “100,” representing “zero skill” and “mastery,” respectively.

SR was then invited to rate herself on the continuum and chose a rating of 70. The faculty member then asked her to think of a physician who represented her gold standard with respect to these competencies. She placed him on the continuum nearly at the 100 mark, adding that “No one is perfect.”

SR was asked to describe specific behaviors that this physician dem-

## REFERENCES

onstrated, and a list was created. SR acknowledged that she wanted to demonstrate behaviors more like this particular attending in terms of confidence. In the final stage in the gap analysis, SR developed an action plan for closing the identified gap. She discussed actions that she could take immediately that would help her become more and appear more confident relative to these competencies.

After approximately 2 weeks, she came to the revelation that she no longer wished to emulate her chosen gold-standard physician. "He is an extrovert, and I'm an introvert," she explained. She added that the process "got me thinking," and she realized that there was another attending, equally confident

and effective, whose personality was more similar to hers and was more in keeping with her "ideal" role model. She had already begun to think of ways that she could emulate this second attending physician's behaviors

In summary, gap analysis can be a useful tool for helping students and residents identify critical learning issues that can facilitate their journey toward competency and beyond. To date, gap analysis has not undergone a thorough evaluation of effectiveness. The authors look forward to that future evaluation.

*Corresponding Author:* Address correspondence to Dr Bell, Lake Erie College of Osteopathic Medicine, Faculty Development and Evaluation, 1858 West Grandview Blvd, Erie, PA 16509. 814-866-8458. Fax: 814-866-8411. hbell@lecom.edu.

1. Accreditation Council for Graduate Medical Education. General competencies. Available at [www.acgme.org/outcome/comp/compFull.asp](http://www.acgme.org/outcome/comp/compFull.asp). Accessed December 5, 2005.
2. Family Medicine Curriculum Resources Project. Available at: [www.stfm.org/curricular/index.htm](http://www.stfm.org/curricular/index.htm). Accessed January 5, 2006.
3. Greiner A, Knebel E. Health professions education: a bridge to quality. Washington, DC: Institute of Medicine, 2003.
4. Latino RJ, Latino KC. Root cause analysis: improving performance for bottom line results, second edition. Boca Raton, Fla: CRC Press LLC, 2002.

**William Huang, MD, Baylor College of Medicine, Editor**