



The Teaching Physician

for those who teach students and residents in family medicine

Volume 6, Issue 2

April 2007

Information Technology and Teaching in the Office

The Family Medicine Digital Resources Library (FMDRL)—www.fmdrl.org

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

In May of 2005, the Family Medicine Digital Resources Library (FMDRL) went live online, supported by a grant from the National Library of Medicine. It was first opened up to STFM members at the Annual Spring Conference in New Orleans. Its mission has been to support and enhance the sharing and collaborative development of educational resources among family medicine educators for all levels of family medicine education. What are some of the ways that FMDRL can be useful to you as a preceptor?

Conferences

You may not have the time and funding to attend some of the STFM

conferences. But now, the plenary addresses and many of the PowerPoint presentations and conference sessions' handouts are being uploaded to FMDRL. Most, if not all, plenary speakers post their slides on FMDRL. In fact, John Bachman's slides from his plenary at the 2006 Annual Spring Conference on "The Heroes Journey" have been downloaded more than 280 times. This allows you access to the ideas of our leaders and visionaries without leaving home and losing valuable practice time and income. Use the browse function on the left side of the screen to browse by the actual conference or by conference submis-

sion categories (including plenary addresses).

Office Practice

There is now a yearly Conference on Practice Improvement: Health Information and Patient Education that has presentations that can help you practice better medicine.

Here are some of the topics that have materials on FMDRL:

- Ask and Act: A Practical Approach to Helping Patients With Tobacco Cessation
- Diabetes A1C Handout
- Group Office Visits
- Home Visits in the Age of the Internet
- Teaching Patients How to Use the Internet
- Wellness Group Visits: Development and Implementation
- Transforming the Office Management of Heart Failure Using the Chronic Disease Model

(continued on page 2)

Clinical Guidelines That Can Improve Your Care

Good Guidelines That Say "Don't Test"—Part II

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

In July 2004, we first provided in this column the updated list of recommendations from the United States Preventive Services Task Force (USPSTF). There have been no changes in those recommendations, and the list can be found on the Family Medicine Digital Resources Library (FMDRL) (www.fmdrl.org) by searching under the term USPSTF Recommendations). Here, after almost 3 years, is the next list of updated recommendations. (A pocket version, published in October 2006, can be found at <http://www.ahrq.gov/clinic/pocketgd.htm>.) The Task Force

continues to be the most conservative of guidelines makers. Their criteria are strict and clear-cut. They will not recommend a service without good evidence, and they weigh the total evidence of benefit versus harm. Many, if not most, of the recommendations are "I" for insufficient and "D" for "recommends against" (see Table 1).

These recommendations sometimes go against the latest suggestions of the popular women's magazines or even the "health" magazines. Take the example of aspirin or nonsteroidal anti-

(continued on page 3)

April 2007
Volume 6, Issue 2

The Talkative Patient With Many Symptoms	6
FPIN HelpDesk	7
POEMs for the Teaching Physician.....	8
Encouragement: Giving "Heart" to Our Learners in a Competency-based Education Model	10

(continued from page 1)

The Family Medicine Digital Resources Library

The Future of Family Medicine Project also has visibility on FMDRL, with increasing numbers of materials being posted that relate to this vision for the future of our specialty.

Teaching

Let's say you want to improve your teaching skills in one area. FMDRL can provide you with existing PowerPoint presentations, recommended Web sites with multimedia materials, and other curricular ideas. For example, if you want to improve the way you teach the knee exam, you could find the Wisconsin Web site with a fully developed Knee Curriculum, including a: Knee Exam Video with Video Clips of Knee Exam Maneuvers and a PowerPoint Teaching Seminar on the History and Physical Exam of the Injured Knee. There is even a Faculty Assessor Form for Knee History and Physical Exam. This resource has been used more than 420 times from the FMDRL site since it was posted.

Materials Specific to Preceptors

In the browse area, you may browse by learner type. One of the types is preceptor. Also, you may find materials meant for faculty members, residents, or students.

Promotions and Tenure

Family medicine does not have a long history of publishing abstracts from conferences. FMDRL provides you the opportunity to electronically publish your posters and other presentation materials for academic credit. As our culture becomes increasingly more dependent on the Internet and electronic information, promotion and tenure committees will recognize these works as valuable contributions to be counted.

FMDRL citations should be presented in the International Committee of Medical Journal Editors style (National Library of Medicine): Jones L. Teaching in the Ambulatory Setting. Family Medicine Digital Resources Library, 2005. Available from www.fmdrl.org/203. (The year is the year it was published on FMDRL and the ID # can be found at the end of the URL when you are looking at your resource

online.) The number of times your materials are downloaded is counted online and can serve as a rough estimate of impact.

Serving as a Reviewer or Editor

There are new opportunities to contribute to our field as a reviewer for FMDRL. You will obtain experience and mentoring as a reviewer. Your CV will reflect that you are actively involved in the peer-review process and dissemination of new knowledge. All the FMDRL peer reviews and editorial decisions are entered online and can be done quickly. It is a great place to start if you are new to the review process.

There are close to 800 resources published on FMDRL. We can all be proud of how quickly we have adopted this new technology to advance family medicine education. Visit FMDRL today at www.fmdrl.org!

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

Thomas Agresta, MD, University of Connecticut, Coeditor

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

STFM Web site: www.stfm.org

Managing Publisher: Traci S. Nolte (tnolte@stfm.org)
Editorial Assistant: Jan Cartwright (fmjournal@stfm.org)
Subscriptions Coordinator: Jean Schuler (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

Family Physicians Inquiries Network (FPIN) HelpDesk
Jon Neher, MD, editor—ebpeditor@fpin.org

For the Office-based Teacher of Family Medicine
William Huang, MD, editor—williamh@bcm.tmc.edu

Information Technology and Teaching in the Office
Richard Usatine, MD, editor—usatine@uthscsa.edu
Thomas Agresta, MD, coeditor—Agresta@nso1.uchc.edu

POEMs for the Teaching Family Physician
Mark Ebell, MD, MS, editor—ebell@msu.edu

Teaching Points—A 2-minute Mini-lecture
Alec Chessman, MD, editor—chessmaw@musc.edu
Betty Gatipon, PhD, coeditor—bgatip@lsuhsc.edu

(Continued from page 1)
**Good Guidelines That Say
 “Don’t Test”—Part II**

inflammatory medications (NSAIDs) for the prevention of colon cancer. Details behind the recommendations can be found by clicking on an individual topic from the directory page of the Web site (<http://www.ahrq.gov/clinic/uspstf/uspstfstopics.htm>). There is fair to good evidence that aspirin and NSAIDs at higher doses for longer periods prevent adenomatous polyps, but there is good evidence that low-dose aspirin does not lead to a reduced incidence of colorectal cancer. The dose of aspirin that prevents colorectal cancer is higher than that recommended to prevent coronary artery disease. There is also good evidence that aspirin increases the incidence of gastrointestinal bleeding in a dose-related manner and that NSAIDs increase gastrointestinal bleeding and renal impairment. So overall, there is at least moderate evidence that the harms

outweigh the benefits for the prevention of colorectal cancer.

Other recommendations here are not only in conflict with conventional wisdom, they are in direct conflict with what we have all been taught for years. Can we imagine not doing checks for developmental dysplasia of the hip (DDH) on infants? The task force found insufficient evidence to recommend for or against the practice. The rationale for this recommendations states that “There is evidence that screening leads to earlier identification; however, 60% to 80% of the hips of newborns identified as abnormal or as suspicious for DDH by physical examination and >90% of those identified by ultrasound in the newborn period resolve spontaneously, requiring no intervention.” There are real harms from the treatment of DDH, both surgical and nonsurgical, specifically, an increased risk of avascular necrosis of the hip, reported in an (admittedly highly variable) rate of 0%–60%. It’s important to remember that an “I” recommendation does not

mean that testing should stop, only that there is still a question about the true value of such a test.

We have to use our best judgment for the C and I recommendations, but should really take notice of the A, B, or D recommendations. Table 2 is a quick paper reference to have available in your office. For those of you who use Inforetriever®, there is a great little calculator under “Overall mortality and screening” called Individualized Screening Guidelines (USPTF). This calculator allows you to enter an age and gender and risk factors and get a list of recommended guidelines. There is also PDA software that can be downloaded from the USPSTF site itself at <http://epss.ahrq.gov/PDA/index.jsp> that will give similar information. Both of these programs are excellent tools for teaching medical students about evidence and guidelines. As we said 3 years ago, if teachers of family medicine don’t follow the evidence-based guidelines for prevention, who will?

Table 1

Task Force Ratings—Strength of Recommendations

A—The USPSTF strongly recommends that clinicians provide [the service] to eligible patients. The USPSTF found good evidence that [the service] improves important health outcomes and concludes that benefits substantially outweigh harms.

B—The USPSTF recommends that clinicians provide [this service] to eligible patients. The USPSTF found at least fair evidence that [the service] improves important health outcomes and concludes that benefits outweigh harms.

C—The USPSTF makes no recommendation for or against routine provision of [the service]. The USPSTF found at least fair evidence that [the service] can improve health outcomes but concludes that the balance of benefits and harms is too close to justify a general recommendation.

D—The USPSTF recommends against routinely providing [the service] to asymptomatic patients. The USPSTF found at least fair evidence that [the service] is ineffective or that harms outweigh benefits.

I—The USPSTF concludes that the evidence is insufficient to recommend for or against routinely providing [the service]. Evidence that [the service] is effective is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

USPSTF—United States Preventive Services Task Force

Table 2
USPSTF Recommendations August 2004–October 2006

The US Preventive Services Task Force (USPSTF):	Strength of Recommendation
Recommends one-time screening for abdominal aortic aneurysm (AAA) by ultrasonography in men ages 65 to 75 who have ever smoked.	B
Makes no recommendation for or against screening for AAA in men ages 65 to 75 who have never smoked.	C
Recommends against routine screening for AAA in women.	D
Concludes that evidence is insufficient to recommend for or against routine screening for iron deficiency anemia in asymptomatic children ages 6 to 12 months.	I
Recommends routine screening for iron deficiency anemia in asymptomatic pregnant women.	B
Recommends against the routine use of aspirin and nonsteroidal anti-inflammatory drugs (NSAIDs) to prevent colorectal cancer in individuals at average risk for colorectal cancer.	D
Recommends against routine referral for genetic counseling or routine breast cancer susceptibility gene (BRCA) testing for women whose family history is not associated with an increased risk for deleterious mutations in breast cancer susceptibility gene 1 (BRCA1) or breast cancer susceptibility gene 2 (BRCA2).	D
Recommends that women whose family history is associated with an increased risk for deleterious mutations in BRCA1 or BRCA2 genes be referred for genetic counseling and evaluation for BRCA testing.	B
Found insufficient evidence to recommend for or against screening adults for glaucoma .	I
Recommends that clinicians screen all sexually active women, including those who are pregnant, for gonorrhea infection if they are at increased risk for infection (that is, if they are young or have other individual or population risk factors). ¹	B
Found insufficient evidence to recommend for or against routine screening for gonorrhea infection in men at increased risk for infection. ¹	I
Recommends against routine screening for gonorrhea infection in men and women who are at low risk for infection. ¹	D
Found insufficient evidence to recommend for or against routine screening for gonorrhea infection in pregnant women who are not at increased risk for infection. ¹	I
Strongly recommends prophylactic ocular topical medication for all newborns against gonococcal ophthalmia neonatorum .	A
Recommends against routine genetic screening for hereditary hemochromatosis in the asymptomatic general population.	D
Recommends against routine serological screening for herpes simplex virus (HSV) in asymptomatic pregnant women at any time during pregnancy to prevent neonatal HSV infection.	D
Recommends against routine serological screening for HSV in asymptomatic adolescents and adults.	D
Concludes that evidence is insufficient to recommend routine screening for developmental dysplasia of the hip in infants as a means to prevent adverse outcomes.	I
Recommends against the routine use of combined estrogen and progestin for the prevention of chronic conditions in postmenopausal women .	D
Recommends against the routine use of unopposed estrogen for the prevention of chronic conditions in postmenopausal women who have had a hysterectomy.	D
Strongly recommends that clinicians screen for human immunodeficiency virus (HIV) all adolescents and adults at increased risk for HIV infection. ²	A
Makes no recommendation for or against routinely screening for HIV adolescents and adults who are not at increased risk for HIV infection. ²	C
Concludes that evidence is insufficient to recommend for or against routine screening for elevated blood lead levels in asymptomatic children ages 1 to 5 who are at increased risk.	I
Recommends against routine screening for elevated blood lead levels in asymptomatic children ages 1 to 5 years who are at average risk.	D
Recommends against routine screening for elevated blood lead levels in asymptomatic pregnant women.	D
Concludes that the evidence is insufficient to recommend for or against routine screening for overweight in children and adolescents as a means to prevent adverse health outcomes.	I
Recommends against routine screening for peripheral arterial disease (PAD) .	D
Concludes that the evidence is insufficient to recommend for or against routine use of brief, formal screening instruments in primary care to detect speech and language delay in children up to 5 years of age.	I

USPSTF—United States Preventive Services Task Force

¹ Gonorrhea Risk Factors: Women and men under the age of 25—including sexually active adolescents—are at highest risk for genital gonorrhea infection. Risk factors for gonorrhea include a history of previous gonorrhea infection, other sexually transmitted infections, new or multiple sexual partners, inconsistent condom use, sex work, and drug use. Risk factors for pregnant women are the same as for non-pregnant women. Prevalence of gonorrhea infection varies widely among communities and patient populations. African Americans and men who have sex with men have a higher prevalence of infection than the general population in many communities and settings.

² HIV Risk Factors: A person is considered at increased risk for HIV infection (and thus should be offered HIV testing) if he or she reports one or more individual risk factors or receives health care in a high-prevalence or high-risk clinical setting. Those at increased risk (as determined by prevalence rates) include: men who have had sex with men after 1975; men and women having unprotected sex with multiple partners; past or present injection drug users; men and women who exchange sex for money or drugs or have sex partners who do; individuals whose past or present sex partners were HIV-infected, bisexual, or injection drug users; persons being treated for sexually transmitted diseases (STDs); and persons with a history of blood transfusion between 1978 and 1985. Persons who request an HIV test despite reporting no individual risk factors may also be considered at increased risk, since this group is likely to include individuals not willing to disclose high-risk behaviors.

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

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

- **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. 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 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. 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.

Teaching Points—A 2-minute Mini-lecture

The Talkative Patient With Many Symptoms

By D. Todd Detar, DO, 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 Detar (Dr D) works with a third-year student (MS3) who sees a woman who presents a list of concerns.

Dr D: Let me give you a heads-up before you go in this room. She is a bit talkative. I want you to realize that you're not going to be able to fix everything. OK?

MS3: Yeah, I guess.

Dr D: I want you to limit the amount of time you spend in there. So, I might even knock on the door and pull you out no matter what you're doing. Shoot for coming out in 15 minutes, OK?

MS3: OK.

(20 minutes later)

Dr D: So how did it go? What brings Mrs Smith in today?

MS3: Well, she had a long list of concerns. I have them right here. I promised her we would go over them all. She has some epigastric pain, worse at night. Hasn't awakened her. She has been having what she thinks is a sinus headache, with mild pressure over her cheeks and forehead, intermittently over the past week or so. And she continues to have this odd burning feeling in her feet. It sounds like the description is identical to last time you saw her. And her high blood pressure isn't great today at 154/94. But she says it's because she had macaroni and cheese last night, she did

not take her medication today because she was coming to the doctor, and it always goes up when she's here. She's concerned that she might have diabetes, because she's thirsty. I tried to reassure her that it's hot right now, and she might be dehydrated.

Dr D: OK. That is a long list. We'll go back in and see her together in a second, after I hear a little more. When we go back in, watch me, and give me feedback after we're done. I like Mrs Smith a lot, and I do have to redirect her a good bit.

(after the visit is over)

Dr D: So, what did you notice?

MS3: Well, you tried to get her to pick the most important reason for the visit.

Dr D: Yes, how did that go? She never really picked a reason, did she?

MS3: (smiles) That seemed to help her focus her concerns a little. And you explained to her that we only had time to focus on a couple of her concerns fully today. And you thought that she should come back in 2 weeks to cover some other issues.

Dr D: Right. And that worked a little bit?

MS3: Yeah. I think it helped.

Dr D: So I used a couple of techniques to help organize her concerns. What else was I trying to do, besides moving the visit along?

MS3: I think you were trying to make sure you addressed at least a couple of her problems well.

Dr D: By fully focusing on them. OK. And I was also trying to have her feel that she didn't need any new symptoms to come see me. I made her an appointment in a couple of weeks to spend some time together, and to reconnect with each other, without her having to convince my front desk personnel that she is "sick enough" to be seen. But, one more thing. How did it feel when you were with her? During the first part of the interview?

MS3: I felt kind of under water. Confused.

Dr D: Overwhelmed?

MS3: Almost drowning.

Dr D: Exactly! How is your feeling connected to her situation?

MS3: I don't understand.

Dr D: Well, we often pick up feelings from our patients. And these feelings are like physical exam findings that we pick up.

MS3: Oh, well, I guess she might feel the same way I do—overwhelmed?

Dr D: So the way we feel often mirrors how the patient feels inside. You were picking up on how she feels—confused and overwhelmed. And we're not just responding to each item on her list. We are trying to respond to the diagnosis, not the symptom. Our job is to figure out why she has a list—what is the true or inherent meaning of the list, not just what each item on the list indicates.

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

Family Physicians Inquiries Network (FPIN) HelpDesk

Does Keeping a Surgical Wound Dry for the First 48 Hours After Repair Improve Outcomes Compared With Letting the Wound Get Wet?

By David White, MD, Columbia, Mo

Evidence-based Answer

No evidence has shown that allowing repaired surgical wounds to get wet in the 24 to 48 hours after repair increases the risk of either infection or wound dehiscence (SOR A, based on randomized trials).

Accepted guidelines indicate that patients who have had repair of surgical wounds should keep the wound site covered and dry for 24 to 48 hours.¹ Literature supporting this recommendation is limited, however. In an early case series, 100 consecutive patients who had undergone excision of a skin or soft-tissue lesion that was subsequently repaired with nylon monofilament were asked to wash the wounds with soap and water twice daily, starting the morning after surgery. No wound infections or wound dehiscence were observed in any of the patients.²

In another early study (prospective cohort), two groups of 100 patients who had undergone repair of clean surgical or traumatic wounds of the head and neck received two different sets of instructions. One group was told to wash the wound with soap and water within hours of the repair, whereas the other group was told to keep the wound dry until the sutures were removed. No differences were found between groups

for the outcomes of wound infection or wound healing.³

Recently, the results of the first randomized controlled trial in a primary care setting testing whether letting wounds get wet was detrimental were published.⁴ All patients who presented to 1 of 16 participating general practitioners in Australia for “minor skin excision,” except for skin excisions on the face, were eligible to participate in the study. Patients were randomly assigned to receive “wet” or “dry” wound care instructions from a study nurse. The wet group was told to remove the dressing within 12 hours of the procedure and to bathe as normal until the sutures were removed. The dry group was advised to leave their dressing on and to keep the wound dry for the first 48 hours, after which they could bathe as normal. All patients were advised to avoid antiseptic washes and soaps. The primary outcome was the incidence of wound infection. Using results from earlier research, the investigators calculated that they would need 357 patients in each group to be 80% certain of detecting at least a 5% difference in infection rates between the groups. A total of 415 in the wet group and 442 in the dry group were available for follow-up (98.5%). The study was not blinded, but the analysis was intent to treat. Patients assigned to the

wet group actually had a slightly lower infection rate than patients in the dry group (8.4% versus 8.9%, $P < .05$).

Thus, the available evidence demonstrates that the standard recommendation to keep surgically repaired wounds covered and dry for the first 24 to 48 hours may not be justified. In fact, early bathing of wound sites appears to be safe, and may possibly even decrease infection rates compared with the conventional approach.

REFERENCES

1. Mangram AJ, Horan TC, Pearson ML, Silver LC, Jarvis WR. Guideline for the prevention of surgical site infection, 1999. Hospital Infection Control Practices Advisory Committee. *Infect Control Hosp Epidemiol* 1999;20:250-78.
2. Noe JM, Keller M. Can stitches get wet? *Plast Reconstr Surg* 1988;81:82-4. [LOE 4]
3. Goldberg HM, Rosenthal SA, Nemetz JC. Effect of washing closed head and neck wounds on wound healing and infection. *Am J Surg* 1981;141:358-9. [LOE 2b]
4. Heal C, Buettner P, Raasch B, et al. Can sutures get wet? Prospective randomised controlled trial of wound management in general practice. *BMJ* 2006;332:1053-6. [LOE 1b]

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

New Biomarkers Add Little to Current Predictors for CAD

Clinical Question: Do new biomarkers improve our ability to predict whether a patient will have an initial cardiovascular event?

Setting: Population-based

Study Design: Cohort (prospective)

Funding: Government

Synopsis: There is increasing attention in the popular media and among some physicians and their patients to new biomarkers for the prediction of cardiovascular risk. However, it is important to ask two questions: does a biomarker significantly improve our ability to predict risk over existing risk factors, and does this knowledge help us choose interventions that can modify risk? The authors of this study identified 3,209 men and women with a mean age of 59 years who were participating in the Framingham Offspring Study. Fasting levels of 10 biomarkers (C-reactive protein, B-type natriuretic peptide, N-terminal pro-atrial natriuretic peptide, aldosterone, renin, fibrinogen, D-dimer, plasminogen-activator inhibitor type 1, homocysteine, and the urinary albumin-to-creatinine ratio) were measured, and patients were followed up for a median of 7.4 years. During that time, 207 patients died and 169 had a first major cardiovascular event (myocardial infarction, prolonged angina with electrocardiographic changes, heart failure, or stroke). A pair of multivariate models were developed to predict the risk of death and initial cardiovascular event. The model developed to predict risk of death included C-reactive protein, B-type natriuretic peptide, urinary albumin-to-creatinine ratio, homocysteine, and plasma renin; the model for initial cardiovascular event included only B-type natriuretic peptide and urinary albumin-to-creatinine ratio.

The “multimarker scores” generated by these models were stratified into three groups: low risk (bottom 40%), intermediate risk (middle 40%), and high risk (top 20%). The models were then adjusted for conventional risk factors like age, sex, cigarette use, cholesterol level, and diabetes. The multimarker scores accurately predicted cardiovascular risk, with a relative risk of death that was four times greater in the group with high scores than in the group with low scores. The researchers then compared risk prediction using only conventional risk factors, with risk prediction using conventional risk factors plus the multimarker scores. Using the C-statistic and the area under the receiver operating characteristic curve, two overall measures of predictive accuracy, the authors found no significant difference between these sets of models (eg, C-statistic=0.76 for conventional risk factors versus C-statistic=0.77 when you add the multimarker score to predict cardiovascular events).

Bottom Line: Novel biomarkers predict cardiovascular risk but do not add to our current ability to predict risk using conventional risk factors like age, sex, cholesterol level, diabetes, tobacco use, and blood pressure. The new biomarkers should not be routinely used, given their cost and the fact that we do not know whether modifying these risk factors improves patient outcomes. (LOE = 1b)

Source article: Wang TJ, Gona P, Larson MG, et al. Multiple biomarkers for the prediction of first major cardiovascular events and death. *N Engl J Med* 2006;355:2631-9.

Folic Acid Supplementation Does Not Reduce CVD Risk Nor Mortality

Clinical Question: Does folic acid supplementation decrease morbidity or mortality from cardiovascular diseases?

Setting: Various (meta-analysis)

Study Design: Meta-analysis (randomized controlled trials)

Funding: Government

Synopsis: These investigators searched MEDLINE, reference lists from relevant studies, and contacted experts in the field to identify trials investigating the effect of folic acid supplementation on cardiovascular disease risk. No language restrictions were applied. Inclusion criteria included randomized controlled trials of folic acid supplementation with a duration of at least 6 months. Two investigators independently performed the search and identified reports meeting inclusion criteria. Discrepancies were resolved by consensus discussion with a third investigator. From an initial pool of 165 potentially relevant studies, the authors included a total of 12 trials representing data from 16,958 patients with preexisting cardiovascular or renal disease. The dosage of folic acid in the intervention groups ranged from 0.5 mg per day to 15 mg per day. All trials reported a reduction in homocysteine levels. However, compared with control patients, there was no significant reduction in the risk of total cardiovascular disease events, stroke, or all-cause mortality among patients using folic acid supplementation. A formal analysis found no evidence for publication bias or significant heterogeneity among the various trials (no significant differences in reported outcomes among the various individual trials). The longest follow-up period for any of the individual trials was 5 years, so it is possible that a benefit could occur with more prolonged use. Multiple large trials are currently underway addressing this issue.

Bottom Line: The available evidence does not support the use of folic acid supplementation as secondary prevention of cardiovascular disease events, stroke, or all-cause mortality among patients with preexisting vascular diseases. (LOE = 1a)

Source article: Bazzano LA, Reynolds K, Holder KN, He J. Effect of folic acid supplementation on risk of cardiovascular diseases. A meta-analysis of randomized controlled trials. *JAMA* 2006;296:2720-6.

Mifepristone Effective Treatment for Bleeding Due to Fibroids

Clinical Question: Does treatment with mifepristone improve the quality of life for women with symptomatic fibroids?

Setting: Outpatient (specialty)

Study Design: Randomized controlled trial (double-blinded)

Funding: Government

Allocation: Concealed

Synopsis: Observational data have suggested that mifepristone (Mifeprex, RU-486), an antiprogesterin, reduces leiomyoma size, pain, and uterine bleeding. In this small randomized controlled double-blind trial, women were given mifepristone 5 mg daily or placebo for 6 months. Eligible women were otherwise healthy, older than 18 years and premenopausal, and not pregnant or planning pregnancy in the next 6 months. The women also must have reported at least moderately severe leiomyoma-related symptoms, had uterine volume by ultrasound of at least 160 mL with at least one fibroid of 2.5 cm or larger, and not recently used hormonal medications. A total of 42 women were included, and 37 completed the study. The number of dropouts were equivalent between groups, and there were no reports of any dropouts due to adverse effects. Most women taking mifepristone guessed that they were taking the active medication (95% versus 53% of those taking placebo who guessed correctly). Response was measured using a validated instrument, the Uterine Fibroid Symptom and Quality of Life Questionnaire (range=0–100, with higher scores being more favorable). Mean scores improved significantly in the treated group versus the placebo group (50-point versus 17-point improvement; $P<.001$). Bleeding was significantly reduced in the treated group, with 41% of women amenorrheic by the end of the study. Approximately half the women had a hemoglobin level of less than 12 at baseline; at the end of the study, two of 22 treated women versus 12 of 20 control women were anemic by that criterion ($P<.001$). Uterine volume decreased a mean 200 mL in the treated group and increased a mean 73 mL in the placebo group. The improvements in pain scores in the treated group were not statistically significant. The differences in global physical health and

mental health also were not statistically significant, suggesting that the benefits of mifepristone are confined primarily to leiomyoma-specific symptoms.

Bottom Line: Treatment of uterine fibroids with mifepristone in premenopausal women reduces uterine volume, bleeding, and improves leiomyoma-related quality of life. Larger and longer studies are needed. Long-term effects on other patient-oriented outcomes of interest, such as fertility, should be assessed. (LOE = 1b)

Source article: Fiscella K, Eisinger SH, Meldrum S, Feng C, Fisher SG, Guzick DS. Effect of mifepristone for symptomatic leiomyomata on quality of life and uterine size. *Obstet Gynecol* 2006;108:1381-7.

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

mental health also were not statistically significant, suggesting that the benefits of mifepristone are confined primarily to leiomyoma-specific symptoms.

Bottom Line: Treatment of uterine fibroids with mifepristone in premenopausal women reduces uterine volume, bleeding, and improves leiomyoma-related quality of life. Larger and longer studies are needed. Long-term effects on other patient-oriented outcomes of interest, such as fertility, should be assessed. (LOE = 1b)

Source article: Fiscella K, Eisinger SH, Meldrum S, Feng C, Fisher SG, Guzick DS. Effect of mifepristone for symptomatic leiomyomata on quality of life and uterine size. *Obstet Gynecol* 2006;108:1381-7.

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 2007

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

Encouragement: Giving "Heart" to Our Learners in a Competency-based Education Model

By Hershey S. Bell, MD, Lake Erie College of Osteopathic Medicine (Fam Med 2007;39(1):13-5.)

We have entered the era of competency-based education (CBE) in medicine.¹ Benjamin Bloom, an educational psychologist who made significant contributions to the classification of educational objectives and the theory of competency-based education, placed formative evaluation at the heart of his method.² Formative evaluation seeks to shape, grow, and develop an individual. It is distinct from summative evaluation, which summarizes progress made over a set period of time or course of study. Currently, in medical education, we tend to focus on summative evaluation (eg, end of rotation evaluations, quarterly reviews, and end-of-year decisions regarding promotion or graduation). As many of us have experienced, relying on summative evaluation alone can be risky. If a learner experiences dissonance with the information presented, he/she can react unexpectedly, and that reaction can interfere with the learning process, as the following example demonstrates:

Alicia, a first-year family medicine resident, met with her faculty advisor to discuss the results of her in-training examination. Alicia's scores were very low. The faculty advisor commented to Alicia that her scores demonstrated a "global deficit" in knowledge. Alicia reacted angrily to this assessment and demanded a change in advisors. Alicia and her first advisor had no ongoing dialogue throughout the remainder of her residency, thus depriving Alicia of that faculty member's expertise and depriving the faculty member of the experience of working with a challenging learner.

The advisor had been unaware of the fact that Alicia had been the

first person in her family to finish high school, attend college, and then medical school. Alicia worked extremely hard in medical school and successfully completed the curriculum without any failures. Throughout medical school and into residency, she experienced insecurity regarding her "worthiness" to be a physician.

In the current medical education system, faculty interpret and evaluate data to arrive at a summative sense of a learner's performance. Learners are expected to accept this interpretation and to move forward based on the faculty member's analysis.

Formative evaluation uses an alternate approach. In a formative system, data is presented to learners as feedback. Feedback is defined by the American Heritage Dictionary as "the return of a portion of the output of the process or system to the input, especially when used to maintain performance or to control a system or process."³ Faculty may help learners interpret and analyze the data; however, the primary task of the teacher is to present high-quality feedback to the learner in an effort to stimulate his/her self-evaluation process. The learner's task is to evaluate the meaning of the data as it relates to his/her specific pathway of development

The FED Mnemonic

Supplying feedback is required to stimulate a person's self-evaluative process; however, it is not sufficient. Two other ingredients are required as articulated by the FED mnemonic:

F: Feedback

E: Encouragement

D: Direction

When all three are active in a teacher-learner interaction, the teacher and learner have the best chance at achieving success in their educational pursuit. As discussed, feedback (F) requires giving highly valuable data to learners. Much of what we already use in summative evaluation can be reframed as data. For example, rather than interpreting low in-training exam scores as representative of a "global deficit," faculty can simply offer the scores to learners as objective results of a test. Given this data, the learner can then develop insights and disclose issues that may explain the level of performance. When the insights come from the learner, the chance of the learner experiencing dissonance is minimal, and the risk of shutting down learning is gone.

Direction (D) refers to the intention of teaching. In a competency-based education model, the direction or intended result of teaching is that the learner achieve the competencies. For example, an in-training examination is largely a measure of the medical knowledge and patient care competencies. By discussing the objective results of the test in the context of the relevant competencies, learners can then anchor their self-evaluation and strive to become a competent physician in those areas.

Encouragement

Perhaps the most overlooked task within the FED mnemonic is encouragement (E). Encouragement has its root in the French word for heart, "coeur."

To encourage another is to "give heart" to them. The antonym to encouragement is "dishearten." The implication is that the manner in which we provide F (feedback) and D (direction) is as critical as the content of that feedback and direction. When we create our own evaluations of data, and offer these evaluations to students, we run the risk of disheartenment. In contrast, when we share data with learners without our own interpretation and in a supportive manner, we encourage them.

To encourage another human being is to create an experience such that they believe that you are on their side and that you are a central part of their efforts toward success. An analogy that is useful is the idea of “rallying” in tennis. When two people rally, two goals simultaneously exist. First, rallying aspires to keep the ball in play. This differs from an actual game situation where the goal is to get the opponent out. Second, rallying involves pressing each other up against each person’s limits. In rallying, easy lobs are not served; rather, each player challenges the other with shots designed to further enhance the development and practice of higher levels of ability. When we encourage within a competency-based education model, we want to “keep the ball in play” by providing feedback and direction in a manner that inspires learners to self-evaluate and disclose the essence of their learning. We also want to press people up against their limits so that they are motivated to grow and develop.

Some people may associate encouragement with being “soft.” That is, they may be reluctant to press people up against their growth potential for fear that it may be uncomfortable for the person. However, Csikszentmihalyi⁴ describes a state of “arousal” rather than discomfort when humans are put into situations where their willingness to acquire new knowledge and skill slightly exceeds their current ability to demonstrate that knowledge and skill. When we encourage, we seek to create that perfect relationship between willingness and ability. If people’s willingness far exceeds their ability, they will be left with frustration. If people’s willingness is far below their ability, they will experience boredom. In both situations, learning is diminished. In the ideal flow state where willingness is slightly in excess of ability, students and residents are motivated to learn.

In addition to pressing learners slightly beyond the limits of their knowledge and skills, we can also encourage them by communicating that we are their partners as they experience

either moments of joy or moments of disappointment while maturing into competent physicians. Coloroso⁴ describes this aspect of encouragement in discussing how parents may encourage their children. She recommends phrases such as, “I believe in you,” “You are very important to me,” and “I know you can handle this.” What all of these phrases have in common is communicating that one person (the parent) is on the side of the other (the child). As teachers, we can use similar statements to assure medical students and residents of our interest and concern in their growth and development.

Using the FED Model

Consider Alicia’s situation again from a formative evaluation viewpoint.

Advisor: “Alicia, I have your in-training exam scores. Can you please review them? When you are ready, let’s discuss what you’ve discovered. (F—feedback)

Alicia: “I see that I have some pretty low scores here. I try so hard to do well that I find myself adding pressure during tests and exams. I feel that I may not be up to par with the other residents here.”

Advisor: “Let’s take a look at the medical knowledge and patient care competencies. I’d like you to evaluate your in-training exam performance relative to what these competencies call for. (D—direction)

Alicia: “I’ve always prided myself on the fact that I do search for the latest evidence-based standards in patient care and that I have a lot of compassion for my patients. I do realize that I probably look up information more than others do, but at least I try. I can’t do that during an exam.”

Advisor: “Alicia, it’s wonderful to hear that you value evidence-based medicine and compassion. Aspiring to these values will serve you well during your entire career. I also hear you saying that you recognize a need to look up information more than others. Again, I see it as a great positive that you see this in yourself, and you are working

each day to improve your skills. How can I support you in these efforts?” (E—encouragement)

Alicia: “Well, I sometimes feel like I could benefit from a plan for studying. I really get overwhelmed with all of the work we need to do in residency. I always felt that I was behind in medical school.”

Advisor: “Alicia, I’d be glad to help, and I have great confidence that you will be successful in your efforts.” (E—encouragement)

Summary

The shift in focus of medical education toward a competency-based model demands that teachers effectively utilize formative evaluation. Formative evaluation involves both a content conversation (the provision of feedback and direction) as well as an effective process in delivering that content. Encouragement is a tool that faculty can use to facilitate the effect transmission of formative content.

Correspondence: Address correspondence to Dr Bell, Lake Erie College of Osteopathic Medicine, Department of Family Medicine, 1858 West Grandview Blvd, Erie, PA 16509. 814-866-8458. Fax: 814- 866-8411. hbell@lecom.edu.

REFERENCES

1. Accreditation Council for Graduate Medical Education. General competencies. www.acgme.org/outcome/comp/compFull.asp. Accessed August 16, 2006.
2. Block JH, Anderson LW. *Mastery learning in classroom instruction*. New York: Macmillan, 1975.
3. Pickett JP, et al, eds. *The American Heritage Dictionary of the English language*, fourth edition. Boston: Houghton Mifflin, 2000.
4. Csikszentmihalyi M. *Flow: the psychology of optimal experience*. New York: HarperCollins Publishers, 1990.
5. Coloroso B. *Kids are worth it! Giving your child the gift of inner discipline*. New York: HarperCollins Publishers, 1994.

William Huang, MD, Baylor College of Medicine, Editor