



# The Teaching Physician

for those who teach students and residents in family medicine

Volume 4, Issue 4

October 2005

## POEMs for the Teaching Physician

### Herpes Zoster Vaccine Safe and Effective for Older Adults

**Clinical question:** Can a vaccine prevent herpes zoster and post-herpetic neuralgia?

**Allocation:** Concealed

**Setting:** Outpatient (any)

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

**Synopsis:** Patients with herpes zoster (shingles) feel miserable, and PHN—which complicates about 10% of cases—makes them feel even worse. This study identified adults older than 60 years (47% were older than 70 years) who had either a history of varicella or were presumed to have one because they had lived in the United States for at least 30 years. A total of 59% were men, 95% were white, and they had a generally good baseline health status. Patients were randomized (allocation concealed) to either 0.5 mL of live attenuated Oka/Merck varicella-zoster virus vaccine (n=19,270) or placebo (n=19,276). The vaccine is 14 times stronger than the vaccine used to prevent primary varicella infection in children. Groups were balanced at baseline, and analysis was by intention to treat. Patients were followed for a median of 3.1 years, and 95% of patients completed the study, which is excellent. The primary outcomes were the number of episodes of herpes zoster and post-herpetic neuralgia (PHN); cases within 30 days of vaccination and second episodes were excluded.

Fewer patients in the vaccination group developed herpes zoster (11.1 versus 5.4 episodes per 1,000 person years,  $P<.001$ , number needed to treat [NNT] = 175 per year). Patients in the vaccinated group also had a somewhat shorter course (21 versus 24 days,  $P=.03$ ) and were less likely to develop PHN (.48 versus 1.38 per 1,000 person years,  $P<.001$ , NNT=1,111). The benefit was more pronounced in patients ages 60 years to 69 years than in older patients. Safety is an important issue in prevention studies since we are treating otherwise healthy patients. Safety was monitored in two ways: by patient or physician report for the entire population and by diary entries for a subset of 6,716 patients. For the entire study population, there was no difference in mortality between groups and no difference in possible vaccine-related adverse events, either during the first 42 days or for the duration of the 3-year study. For the adverse event substudy group, one or more adverse events—primarily erythema, pain, swelling, or pruritus at the injection site—occurred more often during the first 42 days. As noted above, this is a higher-potency vaccine; the current vaccine used for children should not be used for adults.

**Bottom line:** Herpes zoster vaccine is safe and effective for the prevention of herpes zoster and PHN in older adults. The NNT is quite large on an annual basis, particularly for PHN. Even if the NNT of 1,111 is linear for a 10-year period, one would have to vaccinate 111 older patients to prevent one case of PHN during that period.

The NNT to prevent a case of herpes zoster is 175. Given the strength of this vaccination and the target population, long-term follow-up studies are needed to identify any unexpected but serious complications that may appear down the road. (LOE=1b)

Source article: Oxman MN, Levin MJ, Johnson GR, et al, for the Shingles Prevention Study Group. A vaccine to prevent herpes zoster and postherpetic neuralgia in older adults. *N Engl J Med* 2005;352:2271-84.

### MRI More Sensitive Than Mammography in High-risk Women

**Clinical question:** In women at high risk of breast cancer, is MRI alone or in combination with mammography better at detecting cancers than mammography alone?

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**Setting:** Outpatient (any)

**Study design:** Cohort (prospective)

**Synopsis:** Women were eligible to participate in this study if they were asymptomatic, aged between 35 years and 49 years, known carriers of genetic mutations linked with breast cancer (BRCA1, BRCA2, or TP53), first-degree relatives of someone with one of these genetic mutations, or if they had a strong family history of breast or ovarian cancer. The women had annual mammography and contrast-enhanced breast magnetic resonance imaging (MRI), each of which were read independently by two pairs of radiologists. Each pair was unaware of the results of the other test. The gold standard for this study was based on histopathology or the absence of a new cancer in the year following the test. The absence of cancer at 1 year is the commonly accepted definition of a true negative. Of 649 women screened, 13% had a mutation of BRCA1 and 6% of BRCA2. By the end of the seventh year of the study, 35 cancers were found. It is important to point out that not all women got both the MRI and

mammogram, so the authors only report data on those who had both. This has the potential for introducing biases into the study, especially if the order of MRI and mammography wasn't random. For all women in the study, MRI was slightly better at ruling out cancers than mammography (negative likelihood ratio [LR-] for MRI=0.28, 95% CI=0.12–0.5, LR- for mammogram=0.65, 0.44–0.83), and mammography was slightly better at ruling in cancers (positive likelihood ratio [LR+] for MRI=4.1, 3–5.3, LR+ for mammogram=5.7, 3–11.6). The overall sensitivity was 77% for MRI and 40% for mammography, and the specificities were 81% and 93%, respectively. MRI was much better at detecting cancers than mammography among women with BRCA mutations or with first-degree relatives with BRCA mutations (sensitivity=92% versus 23%) but was less specific (79% versus 92%). This means that MRI produces more false-positives, as well. In this study, the combination of MRI and mammography was much better than either alone.

**Bottom line:** Among women at high risk for breast cancer, MRI detects more cancers than mammography. The combination of both, however, is most accurate. But, please be careful with this information. This study doesn't tell us if high-risk patients have better outcomes with MRI, mammography, or both. (LOE = 2b-)

Source article: Leach MO, Boggis CR, Dixon AK, et al, for the MARIBS study group. Screening with magnetic resonance imaging and mammography of a UK population at high familial risk of breast cancer: a prospective multicentre cohort study (MARIBS). *Lancet* 2005;365:1769-78.

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

### *Optimizing Students' Use of Handheld Computers at the Point of Care*

By Thomas Agresta, MD, University of Connecticut, with clinical case written by David Henderson, MD, University of Connecticut

Imagine this common clinical scenario:

One busy afternoon you are working with a medical student who has access to a handheld computer with several evidence-based medicine (EBM) and drug database software programs loaded up and ready to use. The student sees and then presents a 55-year-old female patient with a recent history of atrial fibrillation and a chief complaint today of dysuria, urgency, and frequency who has had two *E. coli* culture positive urinary tract infections (UTIs) in the past 4 years successfully treated with Bactrim. The student correctly identifies an uncomplicated cystitis as the likely diagnosis and reports that the patient had asked whether she could be treated over the phone should these symptoms occur again. Instead of answering directly, you ask the student a few simple questions designed to facilitate self learning: (1) Do you think there is any evidence to support the telephone management of uncomplicated cystitis? (2) What are the best treatment options for this patient?

While you are performing the physical exam, the student quickly looks up UTI in InfoRetriever® and quickly retrieves information suggesting that telephone management is an appropriate management option for this patient. You ask, "What is the level of evidence?" and the student replies, "Level 4." You explain to the patient (and student) that while this may be a reasonable option for her should these symptoms recur, this information was not of the highest quality and briefly review that there are five levels, with "1" being the best. The student then

suggests that Trimethoprim/Sulfamethoxazole for 3 days is mentioned as one of the good first choice medications in another section of the search she has done on her handheld. She has already looked up the correct dosing for this medication and is ready to write a prescription. You agree with the student that this is true for most patients but ask her to consider whether this is the best alternative for this woman. You point out that with her new diagnosis of atrial fibrillation, she started taking warfarin on a regular basis. The student quickly jumps to the drug interaction calculator and finds that there is a significant interaction between these two medications. You take the time to briefly discuss the importance of warfarin and the many food and drug interactions with the patient. Meanwhile, the student independently jumps back to the EBM and drug interaction programs and reports that another appropriate type of medication would be a fluoroquinolone and that they do not interact significantly with warfarin and offers the appropriate prescribing instructions.

Sound too complicated to happen quickly or smoothly? Not really. This case actually arose out of real patient encounters. The entire clinical encounter can take place in less than 10 minutes. Reflect on how empowering to the patient and learner this can be. The patient witnesses that you have evidence behind what you recommend and that you are willing to review the currency of your knowledge and the safest way to treat them. They also witness you teaching a student at the same time as you are educating them. The student learns a valuable

skill—to look up clinical information and treatment options in a comfortable mentored environment at the point of care. Student and preceptor pairs who have some common ground rules about how to use handheld computers in the exam rooms can make the experience more educational, patient and learner centered, and fun. The practiced use of these skills can ultimately enhance the quality of the care and teaching we provide. In 2005, it is estimated that approximately 50% of clinicians are using handheld computers. The percentage of students and residents who use these tools is already past that threshold.

#### **Suggestions for Successful Use of Handheld Computers in the Office and Hospital Settings**

What follows are some tips on how to optimize the use of handheld computer tools for this process. The details about what programs, hardware, and software to use are covered elsewhere in the literature. It is also wise that you stay abreast of the individual schools' requirements for students or residents that you are associated with.

- Be familiar with the specific handheld computer and programs that your students or residents are required/suggested to use.

This includes the goals and objectives that the learners have received with regard to clinical use of handheld computers. This is important if you want to have things run smoothly. It will take some work on your part. I would recommend loading the programs that are suggested and/or provided. Most institutions with a handheld requirement/suggestion will also have some information that can also be shared with the clinical preceptors. It would be wise to practice using the device on your own in a graduated manner so that you feel comfortable. At first you can use the handheld outside of the clinical environment and then in your solo clinical encounters outside the exam room. Next, I would suggest that you practice in front of patients for common problems, then

more-difficult clinical scenarios. In this manner, you will become familiar with the programs available and when and how to best use them.

- Encourage the learner to be the one to look up the data.

This can be done in a manner that allows you to simultaneously work on a separate part of the clinical encounter to remain efficient. Learners can replace time you would spend finding information (drug doses, side effects, interactions). Learners can also use the devices to access information that augments your care of a patient (best test for patient care, patient education resources, clinical practice guidelines for dental prophylaxis, etc). Allowing students to be active learners also is a better educational strategy for them as adults and helps cement new clinical information and/or skills (drug interaction of Coumadin and Bactrim, brief clinical information on presentation/treatment of poison ivy).

- Be prepared to demonstrate your own use of the handheld tool regularly.

This can reinforce the value of point-of-care information access as good medical care. It also keeps you current about how to use this tool in patient encounters that are not with learners

- Don't forget to use the handheld computer in different settings.

The clinical case depicted above is only one of many settings where immediate access to information is valuable when you get comfortable in one fashion, try various other options. These can include (1) in front of patient and family, (2) outside of exam room,

(3) rounding in the hospital, (4) in morning report and others. Share your experiences and what works/doesn't work with your peers. This keeps it fun.

- Have your student try and teach you, your partners, and or office staff something new.

Our learners will often be able to show us new tricks with the software we have. They may also have access to or have tried additional medical or other content that we would find valuable if we knew about. Ask the student to show you something new on the handheld once a week at lunch-time or before the office session. This will encourage the learner to keep expanding his/her skills and can make the entire process more rewarding for you as well.

- Remind students about patient-centered use (high tech and high touch).

After all, the most significant reason to use a handheld computer for most physicians will be to enhance patient care. It is important to remember that the addition of a computer, even a small one, can change the focus from the patient to the cool (or frustrating) device. Remind learners to avoid medical jargon in the exam room, using language that patients can understand even when presenting what they are reading from the software. This can significantly improve what patients also learn during an encounter. It is a good idea to also try to share the screen with the patient when appropriate. This again puts the patient at the center of the care and automatically reminds the caregivers of why we are looking

up information. It is wise to also not encourage disturbing or controversial information to be discussed in front of the patient at the same time it is being looked at for the first time. Have a strategy by which you will communicate this to a learner. ("This will likely be a complicated search with controversial information. Let's look that up later and share it with Mrs X when we have had a chance to better understand it.")

- Review briefly lessons learned from the search.

As an educator, a one-line review of what a student has just looked up can significantly increase the impact it will have on their future patient care and learning. Areas that are good for you to comment on expand beyond the medical issues. They also include the search strategy that a learner chooses and how to optimize that as well as the quality, depth, and reliability of the information found. Remember that positive feedback in this endeavor will go a long way to helping our learners use these tools more effectively.

The Future of Family Medicine is calling on all of us to be patient centered and evidence based. Using some of the strategies mentioned in this article may help move us forward a little in this goal.

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

**Thomas Agresta, MD, University of Connecticut, Coeditor**

# Clinical Guidelines That Can Improve Your Care

## Toward an Evidence-based Treatment of Fibromyalgia

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

“Guideline for the Management of Fibromyalgia Syndrome Pain in Adults and Children” is the first guideline we have reviewed from the American Pain Society.<sup>1</sup> The Society panel performed a review of the existing literature, Cochrane collaborative, and special commissioned reports. I could not identify a family physician, general internist, or general pediatrician on the panel, but there was an accountant! However, I think it’s safe to say that fibromyalgia, or more appropriately fibromyalgia syndrome (FMS), is something we all could use a little help with. They rate the evidence in a “generous” manner; in other words, they are not as rigid with “A” or “B” evidence as some guidelines might be. But they clearly label the way in which they rated the evidence, and the “A” and “B” recommendations (listed in Table 1) are from multiple types of studies that are “generally consistent” in their results (“C” and “D” evidence was lumped together as “Panel Consensus”). Those of you who are real evidence sticklers might want to read the original guideline summary.<sup>1</sup> We have to take the best evidence that we can find, and for fibromyalgia, this is probably it. The complete 109-page guideline is available for a price, but I recommend a sister article in *JAMA*.<sup>2</sup>

The guideline includes a clear-cut prohibition against using nonsteroidal anti-inflammatory meds. There is also no evidence to support trigger point injection and flexibility exercise. The authors also recommend an evaluation of fatigue, sleep disturbance, and any mood or cognitive disorders. A validated evaluation tool for ongoing assessment has been published (<http://depts.washington.edu/pha/cpe/SCJC/FIQ.pdf>). Actually, they recommend

Table 1

### Evidence-based Recommendations for the Management of Fibromyalgia

#### Diagnosis and Assessment

1. Base the clinical diagnosis of FMS on the presence of widespread pain, defined as pain in all four body quadrants and axial pain, for at least 3 consecutive months. The only physical examination criterion for the diagnosis of FMS is the presence of excess tenderness to manual palpation of at least 11 of 18 muscle-tendon sites obtained through the manual tender point examination. (B)
2. Focus pain assessment on type and quality of pain, source, location, duration, time course, pain affect, and effects on quality of life. Use self-report as the primary source of pain assessment, and use the same pain measurement tool at subsequent visits. (B)

#### Interventions

3. Use multiple strategies and include both pharmacologic and nonpharmacologic therapies in the management of FMS. (A)

#### Pharmacologic Therapies

4. For initial treatment of FMS, prescribe a tricyclic antidepressant for sleep, in particular 10 to 30 mg amitriptyline or cyclobenzaprine at bedtime. (A)
5. Use selective serotonin reuptake inhibitors (SSRIs) such as fluoxetine, alone or in combination with tricyclics, for pain relief. (B)
6. Do not use non-steroidal anti-inflammatory drugs (NSAIDs) as the primary pain medication for people with FMS. (A)
7. Use tramadol (50 to 100 mg two or three times daily) for pain relief in people with FMS. The dose of tramadol should be increased slowly over time and should be tapered gradually when discontinued. Tramadol can be used alone or in combination with acetaminophen. (B)
8. Use sleep and anti-anxiety medications such as trazodone, benzodiazepines, nonbenzodiazepine sedatives, or L-dopa and carbidopa in FMS, especially if sleep disturbances such as restless leg syndrome are prominent. (A)
9. Do not use corticosteroids in the treatment of FMS unless there is concurrent joint, bursa, or tendon inflammation. (A)

#### Non-pharmacologic Therapies

10. Provide all patients with basic information on FMS and treatment options and educate them about pain management and self-management programs as an initial part of treatment. (A)
11. Incorporate cognitive-behavioral therapy into a multimodality treatment approach to reduce pain, enhance self-efficacy, and improve function. (A)
12. Encourage and support people with FMS to perform moderately intense aerobic exercise (60%–75% of age-adjusted maximum heart rate [210 minus the person’s age]) two to three times per week. (A)
13. Advise people with FMS to avoid exercise-induced pain by stretching to the point of slight resistance, not to the point of pain. This is especially important in a subgroup of individuals who have joint hypermobility. (B)
14. Encourage people with FMS to perform muscle-strengthening exercise two times per week. (B)
15. Encourage ongoing exercise to maintain exercise-induced gains. (B)
16. Offer clinician-assisted treatments such as clinical hypnosis and biofeedback (B), acupuncture (C), chiropractic manipulation, therapeutic massage (B), and balneotherapy\* (A), which may be helpful for pain relief.
17. Use multidisciplinary approaches that incorporate two or more strategies to decrease pain and improve function in FMS, especially in people who have not responded to simpler approaches. (A)

\* According to Wikipedia (<http://en.wikipedia.org>), the definition of Balneotherapy is: the treatment of disease by bathing.

FMS—fibromyalgia syndrome

For definitions of the A, B, C, D, recommendations, go to [www.guideline.gov](http://www.guideline.gov) and under search, type in “fibromyalgia APS” and go to pages 4 and 5 of the Guideline.

referral of anyone with “suspected mood disorder,” but this was written by specialists, and it was a Panel Consensus recommendation.

Multiple strategies have proven to be more effective for patients who have not responded to single modalities alone. Tramadol or Fluoxetine are recommended for pain, and amitriptyline or cyclobenzaprine should be used for sleep. Cognitive-behavioral therapy and exercise are recommended as the cornerstone of non-pharmacologic treatment. The exercise level should be gradually but progressively increased to a moderately intense level. The authors warn that too rapid a progression

can produce post-exercise pain and discontinuation of the program.

The panel also made recommendations on the care of children and adolescents with FMS. None of the recommendations were well studied enough to receive anything higher than a Panel Consensus rating. Juvenile fibromyalgia syndrome (JFMS) should be diagnosed using history, observation, physiologic clues, and assessment of functional status. Special attention should be paid to mood disorders, anxiety, and school attendance. Treatment options are similar to those used for adults, such as exercise, restorative sleep, and cognitive-behavioral

therapy. Fluoxetine, clearly the most studied for this condition in both adults and children, was specifically recommended for treatment of depression but only “with extreme caution and extensive parental education.”

#### REFERENCES

1. [www.guideline.gov/summary/summary.aspx?doc\\_id=7298&nbr=004342&string=fibromyalgia+AND+APS](http://www.guideline.gov/summary/summary.aspx?doc_id=7298&nbr=004342&string=fibromyalgia+AND+APS) or go to [www.guideline.gov](http://www.guideline.gov) and under search, type in “fibromyalgia APS.”
2. Goldenberg DL, Burckhardt C, Crofford L. Management of fibromyalgia syndrome. *JAMA* 2004;292(19):2388-95.

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



## Preceptor Basic Book List

*Suggested Texts for Community Preceptors From the STFM Bookstore*

<b>Medical Teaching in Ambulatory Care: A Practical Guide/Rubenstein (M-134)</b> .....	<b>\$32.95</b>
<b>A Practical Guide to Clinical Teaching in Medicine/Douglas (P-73)</b> .....	<b>\$29.95</b>
<b>PEP2 Workbook—PEP2: A Guide for Teaching in Your Practice/STFM (P-127)</b> .....	<b>\$25.00</b>
<b>Precepting Medical Students in the Office/Paulman (P-114)</b> .....	<b>\$22.95</b>
<b>Procedures for Primary Care Physicians/Pfenninger (P-152)</b> .....	<b>\$99.00</b>
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## Teaching Points—A 2-minute Mini-lecture

### Head Injury

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 young male with headache after head trauma.*

**MS3:** The patient is a 13-year-old boy who was playing football earlier today, and his mother thinks that he was knocked out. He was running with the ball, and the tackler hit him in the jaw. He says that he felt “stunned” and “numb” for a few seconds, after getting knocked down. That’s about it. His physical exam was normal, including normal cranial nerves, reflexes, sensory, and strength exam. I’m not sure what else to do for him. He did have a mild frontal headache, but that’s gone now.

**Dr C:** OK. So let’s assume from this story that he may have lost consciousness very briefly. Any other symptoms you asked about, that he was experiencing then or now?

**MS3:** I asked if he had neck pain or numbness. Any changes in sensation or strength.

**Dr C:** Good. So you were asking about those symptoms because . . . ?

**MS3:** I wanted to know if he had had a concussion. And I wanted to make sure he didn’t have a neck injury.

**Dr C:** OK. I’m glad you thought about a neck injury. And you wanted to find out if he had actually had significant trauma to the brain. You asked about several neurologic symptoms. You could also ask about visual symptoms,

like blurry vision, photophobia, or double vision. You could ask about global symptoms like confusion, dizziness, nausea, vomiting, fatigue. But there are two big questions with head trauma—and the presenting complaint was one of them.

**MS3:** He lost consciousness?

**Dr C:** Loss of consciousness is one key symptom. And the other is memory loss or amnesia.

**MS3:** I don’t know about that symptom. I didn’t ask him.

**Dr C:** There are different classification systems for concussion. I use a simple one with three levels. Grade 1 is mild, with no loss of consciousness (LOC), and post-traumatic amnesia (PTA) is less than 30 minutes. Grade 2 (moderate) has LOC <5 minutes or PTA >30 minutes to 24 hours. And Grade 3 (severe) has either LOC >5 minutes or greater or PTA 24 hours or more.

Grade of Concussion	LOC	PTA
1 Mild	None	<30 min
2 Moderate	<5 min	>30 min to <24 hours
3 Severe	>5 min	>24 hours

So let’s say that you were there on the field, and you went to evaluate him. How would you assess for amnesia?

**MS3:** Well, in this case, he could remember the plays that were run, leading up to the injury. But he didn’t really remember the play when he got hit.

**Dr C:** Many players may not even know that they’ve had a significant concussion until they realize they

don’t remember the previous plays. So we think that he had what severity of concussion?

**MS3:** Well, I’m not absolutely sure whether or not he actually lost consciousness. He had at least a mild, and maybe a moderate, concussion.

**Dr C:** What difference does it make? I’m not asking you to be correct here. Just make a guess.

**MS3:** I would think that he might need a head CT if we were worried.

**Dr C:** That’s the test I would get, too, if we were worried. And the differential diagnosis includes what?

**MS3:** An intracranial bleed, like a subdural [hematoma]?

**Dr C:** Good. That’s one. There are four kinds.

**MS3:** A subarachnoid hemorrhage?

**Dr C:** Right. So a subdural hematoma or a subarachnoid hemorrhage. The other possible bleeds are epidural hematoma or intracerebral hematoma. You examined him and found a normal neurologic exam. In addition, he is completely asymptomatic. So it’s not likely that he had a bleed. And this concern relates to the differential diagnosis right now. We think he had a mild-to-moderate concussion. What do you say to him and his mom about returning to play?

**MS3:** Don’t get hit in the head?

**Dr C:** (smiles) So don’t play football? Why? And for how long?

**MS3:** I would think he might be more vulnerable now, after an injury?

**Dr C:** Ever hear of “second impact syndrome?” (Student shakes head) It can happen during this period of vulnerability. Even a minor blow, and even an injury to the body and not directly to the head, can send a sud-

den acceleration force to the brain. The athlete can remain dazed and standing for a few seconds to minutes, but then there is rapid progression to collapse, dilating pupils, and respiratory failure. The mechanism is thought to be due to loss of local autonomic regulation of the brain's blood vessels. There's swelling, increased intracranial pressure, herniation, and death can follow. So we will tell him to stay out of play according to the following guidelines (shows table to student):

The second concussion column tells me what to recommend if the athlete has a second concussion during the same playing season. Let's go give the bad news to him. Assuming that his headache stays away, he could play in 1 week, but he can't play in the game this weekend.

**Alec Chessman, MD, Medical  
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**Betty Gatipon, PhD, Louisiana State  
University, Coeditor**

<i>Grade</i>	<i>First Concussion</i>	<i>Second Concussion</i>
1	May return to play if asymptomatic* (or may return to play if asymptomatic for 1 week).	May return to play in 2 weeks if asymptomatic at that time for 1 week.
2	May return to play after asymptomatic for 1 week.	After minimum of 1 month, may return to play if asymptomatic for 1 week; consider terminating season.
3	After minimum of 1 month, may return to play if asymptomatic for 1 week.	Terminate season; may return to play next season if asymptomatic.

\* Asymptomatic means no headache or dizziness or impaired orientation, concentration, and memory during rest or exertion.

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

## **The Family Medicine Curriculum Resource: Utility for Office-based Teachers of Family Medicine**

By Paul Paulman, MD, Department of Family Medicine, University of Nebraska.

(*Fam Med* 2005;37(6):389-91.)

### **Description and Background**

The Family Medicine Curriculum Resource (FMCR, the Resource) is the end product of a 4-year contract between the Society of Teachers of Family Medicine (STFM) and the Health Resource and Services Administration (HRSA), a unit of the Department of Health and Human Services.

A group of educators in family medicine, internal medicine, and pediatrics developed the Resource, which contains educational resources, "best practices" in medical education, assessment strategies, faculty development materials, and names and contact information of medical education content experts. Medical student competencies are defined for different levels of medical school and special topics of interest. These competencies and other materials in the Resource are useful to family medicine educators, primarily those in full-time academic practice in medical schools, in developing curricula for students throughout all 4 years of medical school. In defining these competencies, the educators used the general competencies identified by the Accreditation Council for Graduate Medical Education (ACGME) Outcome Project<sup>1</sup> (Table 1) as an organizing structure.

### **Access**

The Resource is Web based and is available on-line at the STFM Web site ([www.stfm.org](http://www.stfm.org)). No password is required, and one can access the Resource by clicking on the "Contracts" button on the left menu of the STFM home page, clicking on the "Family Medicine Curriculum Resources Project" line on the next screen, and

finally clicking on the "Curriculum Resources Project—Web Site" line on the screen that follows.

### **Content**

The Resource is divided into five sections:

#### *(1) Introduction*

This section provides a brief history and description of the Resource. The process of developing and refining the Resource, including the choice of the ACGME general competencies as the supporting theoretical framework, is discussed in this section.

#### *(2) Collaborative Curriculum Project (Pre-Clerkship)*

A group of educators in family medicine, internal medicine, and pediatrics collaboratively developed this section, which contains resources for development of curricula in the first 2 years of medical school, catalogued by ACGME general competencies. For each ACGME general competency category, competencies for the pre-clerkship student to achieve prior to beginning clinical clerkships are delineated. Educational methods, resources, assessment strategies, and faculty development materials also are available.

This section also includes recommendations for areas that would benefit from greater emphasis in the first- and second-year medical school curriculum (Interviewing and Physical Examination Skills, Communication Skills, Professionalism, Lifecycle and Self-Awareness, Probabilistic Thinking, and Systems of Care). For each area needing greater emphasis, there

are recommended competencies, a rationale of why this area is important, a list of references, and suggested methods on how education leaders could increase the emphasis of this area in the curriculum.

#### *(3) Family Medicine Clerkship*

Predoctoral and residency educators in family medicine constructed this section of the Resource. This section contains educational resources for family medicine clerkships catalogued and searchable by 29 core diagnoses seen in family medicine, the ACGME general competencies, family medicine principles (context of care, continuity of care, comprehensive care, coordination of care, and the biopsychosocial approach), and family medicine clerkship themes (prevention and wellness, acute and chronic illness, community and population medicine).

Specific family medicine clerkship learning objectives are presented and organized by the ACGME general competencies and family medicine clerkship themes. In addition, for each of the 29 core diagnoses, specific learning goals and objectives are presented and organized by the ACGME general competency categories. Educational methods, resources, assessment strategies, and faculty development materials also are given.

#### *(4) Past Clerkship Training Resource*

Predoctoral and residency educators in family medicine also constructed this section of the Resource, which contains resources for curriculum design for the fourth year of medical school, catalogued by ACGME general competencies. For each ACGME general competency, the level of competency that students should attain prior to entering residency training is described. Educational methods, resources, assessment strategies, and faculty development materials also are included.

#### *(5) Special Topics*

Educators in family medicine, internal medicine, and pediatrics, as

Table 1

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**Accreditation Council for  
Graduate Medical Education  
General Competencies<sup>1</sup>**

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- Patient care
  - Medical knowledge
  - Practice-based learning and improvement
  - Interpersonal and communication skills
  - Professionalism
  - Systems-based practice
- 
- 

well as content experts, developed this section, which contains resources for curriculum design in areas of special interest to HRSA: end-of-life and palliative care; geriatrics; genetics; Healthy People 2010 objectives; informatics; substance abuse, including mental health; and oral health. For each special topic, competencies are defined and organized by ACGME general competency categories. Educational methods, resources, and assessment strategies for each special topic also are provided.

#### **Utility for Office-based Teachers of Family Medicine**

Since many office-based teachers of family medicine precept clerkship students, the Family Medicine Clerkship section of the Resource will likely be the most valuable Resource component for most office-based teachers of family medicine.

- As individual preceptors plan the educational experience for clerkship

students in their offices, they may find the educational goals and objectives discussed in this section helpful as they formulate their own goals and objectives for students. In addition, the list of specific competencies that students can achieve on a clerkship may be a useful guide for preceptors as they evaluate their clerkship students.

- Clerkship students and preceptors can use the Resource to access pertinent clinical information about the 29 family medicine core topics. Both published references and links to Web-based information are included.

- Faculty development resources for office-based teachers of family medicine are also available. Preceptors can learn how to improve their teaching of family medicine core topics through resources that are listed under those core topics. There also are faculty development resources on general teaching skills. (Click on the “Faculty Development” line on the left menu bar of the Clerkship section.)

Similarly, preceptors of preclinical students may find the Collaborative Curriculum Project (pre-clerkship) section valuable.

- Understanding the competencies that are desired of students prior to them beginning their clerkships gives preceptors different goals that they can help their preclinical students achieve.

- Learning resources and faculty development materials to help preceptors improve their teaching of these

preclinical issues also are available in this section.

#### **The Future**

Current plans for the Resource are to include it in the proposed on-line Family Medicine Digital Resource Library (FMDRL) being developed by STFM. There, it will continue to be updated and available to all office-based teachers of family medicine.

#### **Conclusions**

The FMCR is a Web-based resource designed to assist family medicine educators in designing curricula, but many segments may also be helpful to office-based teachers of family medicine in planning educational experiences for students in their office and understanding competencies that different levels of students can achieve. The Resource is easily accessible, and navigation and searching are straightforward. There are plans for the resource to continue to be available and periodically updated.

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#### REFERENCE

1. Accreditation Council for Graduate Medical Education Outcome Project. Available at [www.acgme.org/outcome](http://www.acgme.org/outcome). Accessed March 4, 2005.