



RESIDENT EDITOR'S LETTER

The EM Resident as Teacher

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It's the start of your shift, and every bay is full. There are 37 patients in the waiting area. A bright-eyed third year medical student runs up to you and tells you that he has a new patient. "He's a 40-year old with lung cancer with a chief complaint of fever and chills. He says he has a cough and hasn't been eating well at home and also has some abdominal pain after his chemo. On his physical exam, he had some

abdominal tenderness and guarding. I think he has some kind of viral syndrome or pneumonia or sepsis. I'm not sure what to do but I think we should get some labs."

Whoa! All kinds of thoughts run through your head. How sick is this guy? Is he neutropenic with a fever? Does he have a surgical abdomen? What kind of differential is that: viral syndrome or sepsis? This patient is too sick, you decide. I need to take over myself. So you thank the med student and go see the patient yourself. The student doesn't know what he's doing, you decide. It's a busy shift, and you don't have time to teach.

As we transition from interns to junior to senior residents, a growing part of our responsibility is leadership and teaching. During residency, all of us teach medical students. Even if we don't stay in academics, teaching is still a critical skill, because we will continue to teach physician extenders, nurses and our patients. Learning how to teach also enables us to become better lifelong learners.

Yet, of all of the skills we learn in residency, learning how to teach is something we are just expected to know how to do. Few programs provide specific training on how to teach—which is unfortunate, because educators know that teaching, like practicing medicine, is a skill that requires training, focus and commitment. This article is by no means sufficient as a guide to teach, but I will provide some tips and a simplified model for you to teach in the ED.

"But I don't have time. The ED is busy enough as it is. It's faster to have a student tag along with me than for the student to see the patient by himself. Besides, I don't know enough to teach."

It's probably true that you can see patients faster on your own. Our attendings can probably see patients faster on their own, too. If everyone thought that way, no one would ever learn! As for knowledge, you will see as we go along that you know far more than you think you do.

Tip #1: Set goals and expectations

Have a quick talk at the start of your shift. Ask them where they are in their clinical training (third vs fourth year, how many rotations they've done, etc.) and what their goals are from this rotation (first rotation of third year vs sub-internship wanting to learn procedures, etc.). Give basic expectations on your end. These might include talking to you before signing up for patients so you can assign them specific people; coming to find you immediately if there are concerning vital signs or any sign of the patient being unstable; and

presenting to you within 15 minutes of seeing the patient. Let them know that your first and foremost goal in the ED is patient care, but you are also committed to teaching—and the two can happen together, even in the busy ED setting.

Tip #2: Enforce the three-minute presentation

Before the student presents the patient to you, make sure the student understands that being concise and focused is key. As such, they should aim to give a presentation of no more than three minutes. This three-minute presentation model was adapted for EM by Davenport, et al, as a way to train students to the EM-presentation style and also help teachers provide specific feedback. Let the student know this is your expectation. Keeping the presentation to three minutes allows you more time to teach the student, as well as get on with your work.

Tip #3: Teach by the one-minute preceptor model

Neher and colleagues developed a five-step interactive teaching process called the one-minute preceptor model. Initially designed for the outpatient setting, it works equally well for the ED. I'll show how it applies to the example at the beginning.

Step 1: Get a commitment

"So what do you think is going on? Does the patient look very sick? Viral syndrome is very different from sepsis."

Step 2: Probe for supporting evidence

"What were his vital signs? You said he has a fever, but his heart rate and blood pressure are normal. What do these vital signs tell you about whether he is in sepsis?"

"Where do you think his fever is coming from? What about from the abdomen—tell me about the belly exam again?"

Step 3: Teach a general principle

This could be a good time to talk about fever in cancer patients. You can talk about sepsis and the criteria for sepsis. You can talk about the abdominal exam. If you are strapped for time, choose one teaching point and focus on that.

Step 4: Reinforce what was done

"I'm glad you came to get me as soon as you saw the patient. He could be very sick."

Step 5: Correct learner's errors and make recommendations for improvement

"It's important to include vital signs in your presentation. Saying that someone has guarding is very serious, so make sure to do a thorough abdominal exam and provide an accurate description of it."

Tip #4: Model professionalism

Maybe you're an intern and you don't have formal teaching responsibilities in the department yet. Maybe you're rotating at a hospital without students. No matter what, you are a leader, and

continued on page 29



Resident Journal Review - continued from page 28

validated clinical decision rules or risk scores to predict subsequent adverse outcomes. The quality of the decision rules as well as the quality of the individual studies was assessed by two independent reviewers. Data from studies that used the same clinical decision rule was pooled for the final meta-analysis, and between-study heterogeneity was assessed. Eighteen studies, representing nine clinical decision rules, were identified in the initial search. Of those, only 12 studies, representing five clinical decision rules, had enough quantitative data to undergo full quantitative analysis. Of the five clinical decision rules, only two were validated - the San Francisco Syncope Rule (SFSR) and the Osservatorio Epidemiologico sulla Sincope nel Lazio risk score (OESIL), the others were derived but lacked further validation.

Of the clinical rules, the most studied is the San Francisco Syncope Rule, which was evaluated by nine of the 12 studies included in this meta-analysis. It is the only clinical decision rule that evaluates adverse outcomes within seven days of the initial ED visit. In this meta-analysis, the pooled sensitivity and specificity for the SFSR was lower than in the original study (sensitivity 86% vs 96%; specificity 49% vs 62%, respectively).

The findings of the initial OESIL derivation study showed that abnormal electrocardiogram (ECG), history of cardiovascular disease, lack of prodrome, and age greater than 65 predicted deaths at one year. The results were replicated in the initial validation cohort, but subsequent validation studies did not reproduce this result. Again, sensitivities and specificities differed markedly between the original study and the pooled data (sensitivity 100% versus 95%, specificity 22% versus 33%, respectively).

After evaluating multiple clinical decision rules for syncope, the authors of this meta-analysis concluded that all clinical decision rules need further development prior to being routinely incorporated into clinical practice. Most of these rules have not been validated, and the ones that have show a high degree of variability between the individual studies. In an attempt to explain this variability, the subgroup analysis suggested that differences in study design and differences in ECG interpretation may account for the differences between the studies' outcomes. This is important to note because it bares consequences on how to correctly apply these rules in a wide variety of ED settings.

Clinical decision rules are desirable to assist complex decision-making such as that required in evaluation of patients with syncope. However, the current data warns that they should be applied with caution and should not be substituted for clinical experience and judgment. The methodological quality analysis in the current study suggested that, in order to increase their utility, clinical decision rules must contain clear definitions in order to be interpreted and applied correctly.

Resident Journal Review articles are now being translated to Spanish! AAEM would like to thank Fernando Soto, MD; Roberto Portela, MD FACEP; Cesar Andino, MD; Manuel Colón García de la Noceda, MD FACEP; Vanesa Torres Navarro, MD; Edgardo Torres, MD; and Dorcas Ruiz, MD, for their work on translating the article. To see the full translated Resident Journal Review article, please go to <http://www.aem.org/international/>.

Resident Editor's Letter - continued from page 24

part of your responsibility is to serve as a role model for others. You can always model professionalism and teach by example to those around you.

As one of my mentors says, the ED is the modern home of diagnosis. We see the entire breadth of patient problems across the entire range of acuity. The ED is THE place for medical students to hone their history and physical skills and to learn to develop their differential and plans. It is a challenging, but fulfilling, place for residents to learn how to teach. We should all strive to become better teachers—a skill that will serve our students, our profession and ourselves.

I welcome comments to my articles. Please email: wen.leana@gmail.com.

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