Letters to the Editor

The Journal welcomes letters to the editor. If found suitable, they will be published as space allows. Letters should be typed double-spaced, should not exceed 400 words, and are subject to abridgment and other editorial changes in accordance with Journal style. All letters that reference a recently published Journal article are sent to the original authors for their reply. If no reply is published, the authors have not responded by date of publication. Send letters to Paul M. Fischer, Editor, The Journal of Family Practice, 519 Pleasant Home Rd, Suite A-3, Augusta, GA 30907-3500, or Fax (706) 855-1107.

MORE PEARLS

To the Editor:

I thoroughly enjoyed your editorial, "Pearls," in the January issue (*Fischer PM. Pearls [editorial]. J Fam Pract 1995; 40:19–20*). I would like to offer a couple which I have found quite useful.

- Never accept a "no" answer to the question of alcoholic beverage intake without an explanation. I can't take credit for this. I came across it years ago in some journal long forgotten, but it has been one of the most useful pearls that I use. Many patients who state that they never drink often are recovering alcoholics, adult children of alcoholic parent(s), or alcoholics who are abstinent but not into "recovering." These diagnoses often help elucidate the presenting complaint and can save a lot of time. I have even been able to get some of the "dry drunks" to consider entering ongoing therapy just because I did not simply record "does not drink."

- "If I could fix only one of your symptoms, which one would it be?" Incredibly useful for the patient with a long list of complaints, or acute illness with multiple symptoms. It is also a real patient pleaser as well, as I can usually treat what is bothering them the most, or explain why I cannot.

I hope these are useful. Keep up the good work. I enjoy *The Journal of Family Practice* and look forward to it every month.

Walter J. Griffiths, MD, CMD
Ambulatory Family Medicine
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To the Editor:

I read your editorial with great amusement, and I assure you that I will divulge your secrets—to the medical students in our problem-based learning course here at Wayne State. In pondering the opportunity or dilemma of patient interviewing and teaching it to students, I have used a particular analogy from time to time with some success. This seems to be most effective for students who have yet to interview a "real patient" and who aren't sure if they have the prerequisite skills.

1. Have you ever been on a date? (Yes.)
2. What is the purpose of going on a date? (Varying answers, a few smirks and giggles about sex.)
3. Would you agree that the purpose of a date is to form an intimate (not necessarily physically sexual) relationship with a total stranger? (Usually yes.)
4. How do you show your date that you're interested in him or her? (A long list of behaviors and verbal patterns that convey interest.)
5. Talking to patients uses these same skills, and the goal is to form a professional relationship with someone who is now a stranger, but who will become a member of a mutually trusting relationship in which intimate subjects will be discussed.

This seems to relate an experience with which they are familiar (dating) with one about which they have considerable self-doubt.

Louis B. Jacques, MD
Wayne State University
School of Medicine
Royal Oak, Michigan

To the Editor:

Your editorial entitled "Pearls" struck a chord with me. We all give lip service to the interview as the most important part of doctoring, but it is often undervalued and misunderstood by physicians and patients alike. It is frequently delegated to support staff or relegated to a questionnaire, where it cannot possibly live up to its potential as a powerful diagnostic and therapeutic tool.

I agree that a history is not "taken." This would imply that the patient arrives with the history fully assembled, ready to be "given." On the contrary, patients arrive with bits and pieces of the history and dump them out like blocks onto the table. Allowed to tell their story, they will usually build a reasonable depiction of the problem. If they get stuck, we can offer encouragement, hints, or even some of our own blocks that look like they might fit. Some the patients will accept and add to the structure, while others they will reject. In the end, on the table will be a tower that both patient and physician can agree represents the situation. Diagnosis is about to begin; therapy has already started.

In teaching residents and students, I try to convey the attitude that questions are to us as instruments are to a surgeon. I have many questions, or "pearls," each designed for a specific purpose and useful in a specific context. I offer some of them below:

- "What's the very, very first thing that went wrong?" This can get me back to the beginning of a nebulous illness. I find it helpful to look at the sequence of symptoms, not just the nature of the symptoms. Dysuria and frequency followed by fever and flank pain implies pyelonephritis, while sudden onset flank pain followed by fever and dysuria implies an impacted ureteral stone leading to infection.

- "What do the people around you think about all this?" The patient is allowed to define "people around you" however he or she wishes. With this question, I can subtly introduce a family systems perspective. I can explore the fears and worries of those who are close to the patient. Often, I discover a previously unknown "family health expert": the grandmother, the company nurse, or the brother-in-law who is the BSNY (Big Specialist in New York). Even if I don't agree with their opinions, failure to acknowledge their existence can undermine my interventions.

- "Is there any violence going on in your household?" Domestic violence often goes unrecognized. This question is open-ended enough to accommodate the possibility that the patient is the victim, the perpetrator, or the witness.

- "Do you drink alcohol?" If the patient says no, then I follow with, "Is there any particular reason that you don't?" This approach frequently reveals alcoholics in recovery or adult children of alcoholics.

- "Are you worried about anyone's drinking?" This is another way of discovering alcoholism somewhere in a family.
- "Does the roof of your mouth itch?" This one is derived from my own experience with allergic rhinitis. Puritis of the palate is a frequent but rarely-inquired-about symptom of allergic rhinitis that can shed some light on an otherwise nebulous collection of symptoms. Patients are pleasantly surprised and suitably impressed when I ask about it.
- "What would you have to do to my head to make it feel like yours?" With headache patients who have difficulty describing their symptoms, this question can yield some colorful and useful replies, such as "Set your hair on fire!" or "Poke your left eye with a knife!"

These questions, and many of my others, have not been the subjects of placebo-controlled, double-blind, randomized clinical trials, but I hope they will serve others as well as they have served me.

Christopher W. Ryan, MD
Wilson Family Practice Residency
Johnson City Family Care Center
Johnson City, New York

To the Editor:

At checkout rounds each day, the faculty at our program sit down with residents and discuss "interesting cases." I have observed closing rounds in at least three different programs and have always been struck with the fact that the most "stimulating" discussions are the ones in which interviewing techniques or better ways of doing something are bounced around. The art of family practice is still important to residents (even if they sometimes do not acknowledge it), and experience is difficult to replace with anything else that will teach as well.

Your idea for the "Pearls" editorial was excellent (whether you use my suggestions or not). Anything we can do to further our ability to interact with patients on new and nonthreatening levels brings us closer to the way William Carlos Williams felt about the patient encounter:

> I lost myself in the very properties of their minds: for the moment at least I actually became *them*, whoever they should be, so that when I detached myself from them at the end of a half-hour of intense concentration over some illness which was affecting them, it was as though I were re-awakening from a sleep. For the moment I myself did not exist, nothing of myself affected me. As a consequence I came back to myself, as from any other sleep, rested. ("The Practice," in *The Autobiography of William Carlos Williams.* New York, NY: New Directions, 1967.)

Pearls are really just shortcuts to the patient's true self, and I wholeheartedly agree that we should be "making" histories rather than "taking" histories. I offer a few of my own pearls that you might want to consider:

- "Do you work in the home or out of the home?" This question helps avoid the appropriately vexed answers we get when we ask the more traditional questions about where someone (usually a woman) works.
- If the answer to the question "Do you drink alcohol?" is yes, and if the patient has been casually approached with questions about smoking and caffeine consumption, the next question should be nonchalantly asked: "How much do you drink on a bad day? Two or three six-packs?" The problem drinker usually answers either "Oh, I don't drink beer" or "Yeah, about that." (The occasional drinker or the abstainer will nearly always give a surprised response). My yield for uncovering alcoholism went up dramatically when I changed the way I ask the question.
- "How tall are you?" followed by "How much would you like to weigh if you could get there?" is a nonthreatening way to get the patient involved in acknowledging that there is a weight problem. The ensuing discussion is usually honest and not laden with guilt on the patient's part.

For children:

- Is there a rabbit in your ear? "No." "Which ear do you think it is in?" This exchange catches patients off-guard nearly 100% of the time and before they can even think about it, they have offered the ear for you to examine.
- "Breathe big." This request gets much better results than telling small children to take a deep breath.
- "Before I ask you to step out for a minute, is there anything else you want to add?" This is a nonthreatening way to get a parent of a teenager out of the room during an examination that may require more pointed questions.
- "Thank you for waiting for me." Up-front acknowledgment of our tardiness can go a long way toward telling patients that we think their time is important too.
- "Would your family say that you are depressed?" Patients can sometimes be more candid when they view themselves through the eyes of their family.

These were the "pearls" that jumped to mind. I'm sure there are others, but then, you'll be getting lots of mail about this, I suppose.

Edward M. Thompson, MD
Harrisburg Family Practice Residency
Mechanicsburg, Pennsylvania

To the Editor:

I really enjoyed your recent editorial "Pearls." As with many physicians, it made me think of several of my key phrases I try to teach residents to be efficient and effective historians. You will probably be flooded with valuable phrases. Here are three or four of my favorites:

- "You've got a really bad virus, and even worse, there's no good treatment for it." Patients need to know there's a reason they feel so bad, not that they "just have a cold." They also need to know how to take care of themselves when ill: lots of rest, regular balanced meals, etc. I tell them they need to let their immune system fight it off, and how long this process should take. I rarely get requests for antibiotics when I support them in this way.
- "Oh, good—you brought a list. Let's start with the three most important things, then we'll see if we have time for the rest." Tackling a list head-on usually goes very rapidly. We usually get through the whole list, and patients feel that they really have had a thorough visit.
- "It's healthier to be a chubby nonsmoker than a thin smoker." People who want to lose weight before stopping smoking may never get to the smoking issue because it's so hard to

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lose weight. The risks from smoking are much higher than the risks from obesity.

- "Do you think you have a drinking problem?" It's amazing how rarely we ask patients this simple question, even when we think it's true. The negative answer will show us the level of denial, and the positive answer may surprise us by revealing how close the patient is to wanting help. The CAGE questionnaire is very helpful. For the patient in denial, I follow with the statement: "Even though you don't think there's a problem, your drinking levels concern me. Please think about it, and let's talk about it again at your next visit." Above all, advise no driving while drinking.

Thank you for a thought-provoking and engaging editorial.

Sandra Miller, MD
Good Samaritan Regional Medical Center
Family Practice Center
Phoenix, Arizona

To the Editor:

I found your most recent editorial, "Pearls," to be absolutely delightful! So much so, that I've taken the liberty of circulating it to all residents and faculty.

My suggestion for adding to the list is a simple one: "How can I help you today?" This is my favorite opening statement that serves a number of purposes. It is cheerful, open-ended, and task-oriented. It does not imply that the patient *must* have a disease in order to come to the office, as does the question "What seems to be the problem?" Finally, it avoids the occasional concrete response that some of our patients give to questions such as "What brought you here today?" which is sometimes answered with "The mini-bus."

I love the questions you list in your editorial, and have used many of them myself for many years. I plan to "borrow" a good number of the others, and I hope that my suggestion might be interesting to other readers.

Ken Grauer, MD
Family Practice Residency Program
College of Medicine
University of Florida, Gainesville

To the Editor:

I thoroughly enjoyed your "Pearls" editorial. I am delighted that you emphasized history-taking as the pearls, rather than the more traditional diagnostic signs. As we all know, the art of history-taking is the crux of the art of medicine.

At your invitation, I would like to provide some of my most important pearls. I try to remember the following three questions as the most important ones to ask with many patients:

- "What do you think is wrong?" There is a cliché in medicine that if you want to know the diagnosis, just ask the patient. The timing of this question during the medical interview is very important. It should not come too early in the interview, for the patient may think that you are lazy or simply unwilling to expend your own mental energy in coming up with a diagnosis. After exploring the symptoms in some detail, however, it is nice to ask this question before committing your own impression to the patient. Often we are able to agree with the patient's self-diagnosis and are given clues as to why the patient is actually here.
- "Is there anything that you're worrying about?" The actual reason for coming is often manifest not in the presenting symptom but in the worry that is behind it. Patients are often hesitant to reveal their worries spontaneously, usually out of fear and embarrassment. Many patients rationalize that you're the doctor and it is your job to discover the diagnosis. If their real worries go undiscovered, they may leave wondering whether you are a good enough doctor to "uncover" their worries. By asking this question, again not too early in the interview, their real fears of cancer or other serious disease may be revealed and addressed.
- "How can I help you?" Illness is a wound to the human spirit, and successful therapy often takes many forms. The correct medication may not be effective in relieving suffering if the suffering also involves loneliness and fear. Patients often give surprising answers to this question, such as "Just help me get out of the house and back to dancing."

The final pearl I would like to share is the delicate task of recommending a therapist (mental health professional). Patients are often hesitant because of embarrassment when this recommendation is made directly. I often say, "In this complicated world we live in, I believe everybody needs a therapist. Who is yours?" When the answer is, "Well, I don't have one," I say, "I can recommend a good one for you." The patient then sees the lack of having a therapist as a deficit that needs to be filled, rather than a need that exists because of the patient's weakness.

I hope that your "call for pearls" creates a long and rich trail of such in many issues of *The Journal.*

Joseph E. Scherger, MD, MPH
Sharp HealthCare
San Diego, California

THE "FAMILY" IN FAMILY MEDICINE

To the Editor:

I was pleased to see Dr Gabriel Smilkstein[1] re-raising the banner of the family! Having personally experienced the passion of our "founding fathers" around this topic, I can hardly overstate its significance as a part of my personal professional value system.

However, I believe that "The Family" can be a distraction, and to some extent at least, a misguiding goal for our commitment to incorporate the biopsychosocial model into our clinical and academic teaching practices. Long may Doherty and Baird[2,3] prosper, and along with them, all others who would champion family diagnosis and management in family practice, but this is just one small part of a larger mission. The essence of family medicine is its systemic approach to the patient and its emphasis on relationship-centered care. A recent monograph published by the Pew Foundation describes this perspective most effectively[4] and identifies the need for health care professionals to "develop healing relationships with themselves, with their peers, with other health professionals, with their patients and with communities." Thus, the task before us embraces a great deal more than merely family, albeit true that focusing on the family reveals principles and lessons that have much broader application. It is also clearly true that our immediate families have the most influential and far-reaching impact on our individual behavior in health and illness.

My personal concern is our failure to implement the practice of behavioral medicine. Starting with a focus on the

learner,[5] we should be emphasizing the importance of personal insight and communication skills, and then prioritizing an improved understanding of health and illness behaviors and the behavioral factors influencing patient compliance. Last but not least is our effectiveness as primary care clinicians in the diagnosis and management of the common affective disorders, an area in which our skills continue to be challenged.

Family practice is currently riding a wave created by political pragmatists who see generalist medicine as a major part of the solution to escalating health care costs. Pressured by this utilitarian philosophy, family medicine must readdress its ideological roots and ensure that its fundamental precepts and principles are not only maintained but advanced. Now is the time for a renewed emphasis on behavioral medicine in family practice, for the establishment of behavioral divisions within academic departments of family medicine, for a renewed commitment to the systems approach epitomized by the biopsychosocial model. The concept of "The Family" is an important but small piece of the whole, and like all icons, it can loom larger than the greater truth that it represents.

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To the Editor:

I was saddened to read some of the comments made in Dr Fischer's editorial about the role of family in family medicine (*Fischer PM . . . And again. J Fam Pract 1994; 39:533–4*). While he acknowledges that the role of the family cannot be escaped in family medicine, he says that no one understands how families operate, that family skills are learned by trial and error, and that no family assessment tools or models are practical for the busy clinician. He concludes that family cannot be held as the "unassailable center" of family medicine.

For more than 9 years now, I have made it my business to help medical students and family medicine residents increase their understanding about interpersonal and family dynamics. I encourage them to look beyond the boundaries circumscribed by their personal experiences as family members, especially considering the diversity of family life in today's world. I have taught and shown them the practical usefulness of genograms, family life cycles, and family systems theory. I often point proudly to the central role ascribed to families in family medicine as an enlightened goal worth striving toward. I have been privileged to work with physician faculty who have been supportive of these efforts. I have been encouraged to see more progressive views held by students and residents regarding the need to consider and understand properly the role of family in medicine.

Russell Williams, MSW
University of Arkansas for Medical Sciences
Fort Smith, Arkansas

To the Editor:

I was pleased that in response to my editorial on the family in family medicine,[1] Dr Fischer[2] recognized the importance of addressing the needs of family members at the bedside of the individual patient. Yet, it seems to me that he missed the mark when he stated that ". . . no one understands how they [families] operate."

There is an enormous volume of literature available to practitioners to clarify issues related to causes of family dysfunction and the social support resources that may aid in healing. When patients or family members are in crises as a result of one or more stressful life events, why shouldn't our family physicians be trained to assess the stressors and social support, and come forward with recommendations for problem resolution? The biopsychosocial model, when properly applied, would have us address biomedical or psychosocial problems, or both, according to their impact on the health of the patient. Family physicians use the scientific method to manage biomedical problems. I would argue that the same scientific method may be applied to psychosocial issues. We can do better than a "trial and error" method for resolving family-related problems. Mother's advice is usually sound, but chicken soup isn't always the answer.

Gabriel Smilkstein, MD
University of California–Davis
Davis, California

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1. Smilkstein G. The family in family practice revisited, again [editorial]. J Fam Pract 1994; 39:527–31.
2. Fischer PM. . . . and again [editorial]. J Fam Pract 1994; 39:533–4.

From Dr Fischer, in response to letters on the family in family medicine:

I remain unconvinced that there are specific theoretical models of family function or specific family "tools" (ie, genograms) that are sufficiently useful or efficient to be used on a daily basis by the average busy family physician. As to the role of "family" in family medicine, I readily acknowledge it as one important element of what we do. However, for very good reasons, it has not become the intellectual center of our discipline. I, for one, would be happy to be referred to as a general practitioner, or its younger cousin "generalist physician."

It is interesting that after chiding me, Dr Smilkstein goes on to talk about "psychosocial" issues rather then "family." Here, we are in complete agreement. Our discipline has clearly been *the* major force in counterbalancing the molecularization of medicine. While most of medicine has been enamored with transmitters, pathways, and chemical reactions, we have also paid attention to our patients' work, community, home, religion, hopes, fears, and families.

It is important what we call ourselves. In the case of "family medicine," we have chosen a name that too narrowly describes who we are. You could call us "biopsychosociologists," but "GP" is much easier to say.

Paul M. Fischer, MD
Editor
The Journal of Family Practice

PSEUDOEPHEDRINE AND BLOOD PRESSURE

To the Editor:

The article by Coates et al, which concluded that taking 60 mg of pseudoephedrine qid had no effect on blood pressure, makes a solid contribution to our understanding of pseudoephedrine and its lack of effect on heart rate and blood pressure in patients who are hypertensive and taking medication. Nevertheless, caution should be exercised before we prescribe or recommend sympathomimetic drugs such as pseudoephedrine for our patients with hypertension and other types of heart disease.

Recently, a 32-year-old white male patient without heart disease presented to our office with signs and symptoms of an upper respiratory tract infection of 10 days' duration. He stated that on day 2 of his illness, he had purchased an over-the-counter (OTC) medication, Efidac/24, a once-a-day long-acting formulation of pseudoephedrine containing 240 mg per dose. He stated that 4 hours after taking this medication he became very uncomfortable and developed a heart rate around 110 to 130 beats per minute. His normal heart rate was 70 beats/minute. On the next day of his illness, he once again took the medication and developed the same symptoms of discomfort, and his heart rate again was 110 to 130. At this point, he discontinued the medication.

In the study by Coates et al, the patients took two standard 30-mg tablets qid manufactured by Burroughs Wellcome Company. A review of the 1995 edition of the *Physicians' Desk Reference* (*PDR*) shows *113* different formulations containing pseudoephedrine.[2] The 1994 *PDR* for nonprescription drugs showed pseudoephedrine in 117 OTC products including Efidac/24.[3] The adult dosage for these products ranges markedly from 10 to 60 mg qid to longer-acting products, which include bid doses of 120 mg per tablet and the once-a-day Efidac/24 with 240 mg per tablet.

It is unclear whether our patient's reaction to Efidac/24 was secondary to a rapid absorption of the 240 mg tablet or increased sensitivity of the patient to pseudoephedrine.

Because of the multiple formulations and possible hypersensitivity of some patients to pseudoephedrine, we should continue to exercise caution when prescribing or recommending these medications to our patients who have hypertension or heart disease until further research confirms their safety.

B. Clair Eliason, MD
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1. Coates ML, Rembold CM, Farr BM. Does pseudoephedrine increase blood pressure in patients with controlled hypertension? J Fam Pract 1995; 40:22–6.
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3. Physicians' desk reference for nonprescription drugs. 15th ed. Montvale, NJ: Medical Economics Data Production Co, 1994.

The preceding letter was referred to Dr Coates, who responds as follows:

Dr Eliason's letter addresses an interesting concern about the number of preparations containing pseudoephedrine, available both over the counter and by prescription.

It is not clear in this case whether the long-acting preparation was more rapidly absorbed, causing the patient to receive more than the recommended dosage, or the tablet was broken up to give a bolus. Another possibility is an individual hypersensitivity reaction. The recent paper on pseudoephedrine and hypertension[1] evaluated the recommended qid dose of 60 mg. Again, this was a study of controlled hypertensive patients without known heart disease. It has been noted in previous studies that a single 60-mg dose of pseudoephedrine does not show any significant effect on heart rate in normotensive individuals.[2,3]

I agree with Dr Eliason's premise that we should proceed cautiously in patients with heart disease until further research confirms the safety of using preparations containing pseudoephedrine in these patients. At the present time, there is increasing evidence that patients with hypertension, especially those with controlled hypertension, can safely take the standard 60-mg pseudoephedrine qid. However, it is not known if this tenet translates to the longer-acting sustained-release preparations.

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HALTING HICCUPS

To the Editor:

Previous reports have mentioned that 80% of nonpathological hiccups can be eliminated by holding one to two teaspoons of granulated sugar in the mouth for as long as possible. The 20% who do not respond to sugar can stop their hiccups with the "sustained Valsalva maneuver." Take a deep breath and hold a Valsalva while tightening the abdominal muscles as firmly as possible. Repeat immediately after running out of breath. The hiccups will be gone.

Nayvin Gordon, MD
Oakland, California

URINALYSIS PREDICTIVE OF UTI

To the Editor:

I would like to commend Dr Boyd L. Bailey, Jr, for his very practical information about urinalysis being predictive of urine culture results (*Bailey BL. Urinalysis predictive of urine culture results. J Fam Pract 1995; 40:45–50*). However, I think that the presentation could be improved by use of more information about positive and negative predictive value and prevalence rather than sensitivity and specificity, which are not particularly user-friendly in clinical care. With his identified break points of 2+ bacteriuria, ≥10 WBC/hpf and nitrite positivity and a two-out-of-three combination, I was able to calculate a positive predictive value based on his data of 76%, negative predictive value of 83% at a prevalence of 38%. This means that at a prevalence of 38%, a positive two-out-of-three result would be a true positive 76% of the time while a negative would be a true negative 83% of the time.

I believe that a prevalence of 38% is relatively high for a typical family practice, and if the prevalence is decreased to 10% with the same specificity and sensitivity, the positive predictive value drops to 63% with a negative predictive value of 96%. Therefore, with this more typical practice situation, a negative is very helpful, whereas a positive is still 63% true positive but is not quite as good with the higher prevalence.

I encourage continued publication of clinically relevant and user-friendly information that can be put into *immediate* practical use without further calculations as were necessary from this article; however, I do think that this very practical information about urinalysis is appropriate and useful research.

Ellen G. Smith, MD
Harrisburg Family Practice Center
Harrisburg, Pennsylvania

The preceding letter was referred to Dr Bailey, who responds as follows:

Dr Smith raises the very important issue of presenting diagnostic study results in a user-friendly, ready-to-use format. The presentation of predictive values, positive and negative, was considered for this paper. However, the predictive value varies with prevalence, or pretest probability, and would have been only a snapshot of the isolated prevalence of positive cultures in the sample data. If these diagnostic results are to be applied in other settings where prevalence varies over a wide range, a more versatile mathematical tool than predictive value would be useful.

I think the likelihood ratio (LR) is the more useful tool. It is a single numerical value that can be quickly applied to the prevalence of the disease, or disease marker, in question. The calculation can be carried out by multiplying the LR by pretest probability in the *odds* format, and then by converting back to probability. If the test is positive, the result is the posttest probability of the disease, or the positive predictive value of the test. If the test is negative, the result is the posttest probability, or in this case the negative predictive value subtracted from the whole number one. All these cumbersome calculations can be avoided by using a simple nomogram, which allows the process to be quick, completely free of any calculations, and to work easily at any prevalence (*Jaeschke, R, Guyatt GH, Sackett DL, et al. Users' guide to the medical literature III. How to use an article about a diagnostic test B. What are the results and will they help me in caring for my patients? JAMA 1994; 271:703–7*). In short, the likelihood ratio allows one to accomplish efficiently what Dr Smith so nicely described with calculations of positive and negative predictive values.

Sensitivity and specificity are certainly not user-friendly, as Dr Smith pointed out, and they can be easily misunderstood. I hope to see future diagnostic studies across all disciplines gravitate toward more immediately practical results than that afforded by sensitivity and specificity alone. This, I believe, will be achieved through the routine presentation of likelihood ratios.

Boyd L. Bailey, Jr, MD
Selma, Alabama