(Continued from page 98)

cular specialties, one can discern an obvious gender imbalance and advancement disparities. If we open our eyes and recognize that vascular clinical trials routinely enroll fewer than 30% of women in our typical underpowered, poorly controlled clinical trials, then we might feel aghast.

There is a well-developed and published knowledge base that describes the basis of these gender disparities. Generally speaking, we know that men focus on their own needs and compete. We know that women often serve as caregivers for others and place their own needs as a lesser priority. We also know that when such disparities are highlighted, an informed society can quickly resolve the challenge. So, please ask me: "Why did we have to wait until 2012 for a 'Call to Action' to prioritize vascular research and care for women?" Now that this article has challenged every clinician and vascular scientist to acknowledge these gender-based disparities, what actions will be immediately taken to overcome them?

How would you describe the impact of organizations like the Vascular Disease Foundation and the PAD Coalition in spreading PAD awareness throughout the medical community and the public at large?

It has always been my hope that health care professionals would, as a moral mandate, work to protect the health and autonomy of each patient. Yet, to achieve this goal would mean that we would take seriously the charge to inform the "at-risk" public of realistic vascular risks. We would provide to the public, at no or low cost, tools to avoid these risks. This approach is how we sustain safe roads, airspaces, and schoolyards.

Yet, I think it is rather evident that the vascular community spent at least a few decades without such a focus. Instead, "self focus" on what we do in our clinics was deemed more important than empowering the public to be adequately informed and thus able to avoid our diagnostic tests, medications, and procedures. The creation of the Vascular Disease Foundation in 1998 ensured that the public could be well served by an amazing cross-section of vascular specialists at low cost, high efficiency, and without bias. For those of us old enough to be able to compare 1990 and 2012, it seems to me that a remarkable shift of awareness has been achieved. Nearly all of my heroes in vascular care have worked hard to ensure the success of the Vascular Disease Foundation, and yet again, there is so much more to do before we can assure that the incidence of arterial, venous, and lymphatic disease is lowered and outcomes are ideal.

What do you believe is the most important update included in the 2011 PAD Guidelines? How might this affect the way patients are treated going forward?

I apologize for loving all of my children equally. There is no single key recommendation in the 2011 PAD Guideline Update that I believe is *most* important. This evidence-based guideline rightly does not prioritize the potential positive impacts of (1) appropriately aggressive PAD detection via use of the ankle-brachial index, (2) best use of antiplatelet medication and smoking cessation therapies, (3) improved patient selection for open or endovascular abdominal aortic aneurysm repair, or (4) improved respect for use of both open surgical and endovascular methods to treat critical limb ischemia. I will reverse the question and pose back: "Which recommendations have the greatest potential to lower human suffering and improve vascular outcomes but will likely be ignored?" I suspect that most individual clinicians and health systems will succumb to cynicism and ignore the mandate to offer carefully prescribed smoking cessation interventions. Because of this, tens of thousands of legs will be needlessly amputated, and many patients will die. Cynicism and passivity are mortal behaviors.

How do you think social media (eg, Twitter, Facebook) is best used in the vascular community? How has it impacted your ability to communicate with fellow physicians, industry, and patients, respectively?

Social media can serve as a useful tool for rapid communication of ideas that help us steer our daily lives. Twitter and Facebook can create human links that are small, comfortable, and supportive of our common mission. I use my own Twitter account (@alanthirsch) to provide a common vascular-focused resource for colleagues and friends who seek rapid updates on what's new in clinical care, clinical research, and in our growing vascular market. At the University of Minnesota, we are exploring how social media can be used to support the behavioral interventions that should ideally be used in tandem with invasive interventions.

These opportunities acknowledged, I share the widely held caution that social media cannot replace the benefits of conversation among colleagues, which is key at clinical and scientific meetings, and these direct nondigital forms of communication are better for creating real friendships, trust, and discussion. ■

Alan T. Hirsch, MD, is Professor of Medicine, Epidemiology and Community Health, Cardiovascular Division and Lillehei Heart Institute, and Director, Vascular Medicine Program, University of Minnesota in Minneapolis, Minnesota. He has disclosed that he has no financial interests related to this article. Dr. Hirsch may be reached at hirsc005@umn.edu.

1. Hirsch AT, Haskal ZJ, Hertzer NR, et al. ACC/AHA 2005 Practice Guidelines for the Management of Patients With Peripheral Arterial Disease (Lower Extremity, Renal, Mesenteric, and Abdominal Aortic): Executive Summary: A Collaborative Report From the American Association for Vascular Surgery/Society for Vascular Surgery,* Society for Cardiovascular Angiography and Interventions, Society for Vascular Medicine and Biology, Society of Interventional Radiology, and the ACC/AHA Task Force on Practice Guidelines (Writing Committee to Develop Guidelines for the Management of Patients With Peripheral Arterial Disease): Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation; National Heart, Lung, and Blood Institute; Society for Vascular Nursing; TransAtlantic Inter-Society Consensus; and Vascular Disease Foundation. Circulation. 2006;113:1474-1547.

2. Bronas UG, Hirsch AT, Murphy T, et al; CLEVER Research Group. Design of the multicenter standardized supervised exercise training intervention for the claudication: exercise vs endoluminal revascularization (CLEVER) study. Vasc Med. 2009;14:313-321.

3. Murphy TP, Cutlip DE, Regensteiner JG, et al; CLEVER Study Investigators. Supervised exercise versus primary stenting for claudication resulting from aortoiliac peripheral artery disease: six-month outcomes from the claudication: exercise versus endoluminal revascularization (CLEVER) study. Circulation. 2012;125:130-139.

Alan T. Hirsch, MD

The Director of the Vascular Medicine Program at the University of Minnesota shares his thoughts on the role of exercise therapy in treating PAD, as well as spreading PAD awareness to the public, specifically, the underserved population of women.

Supervised exercise has been shown to be effective in treating peripheral artery disease (PAD). What benefits can adding a supervised exercise program to a hospital or cardiovascular practice offer besides those seen in the black-and-white data?

There is no controversy whatsoever regarding the efficacy and safety of supervised exercise as a claudication treatment. Thus, one would assume that all clinicians who provide compassionate care for individuals with PAD and claudication would do everything within their power to universally offer this treatment. In this context, it would also seem evident that a hospital or cardiovascular practice that claims to offer quality outcomes, and that defends patient choice, would offer the best possible supervised PAD exercise training program. The "benefit"—beyond the black-and-white data—would be preservation of our health care credibility as being "patient focused." When we have to ask ourselves to define "benefits beyond the black-and-white data," we should then acknowledge that most of us are not practicing evidence-based vascular medicine.

Supervised exercise programs improve claudication symptoms, quality of life, and atherosclerosis risk factors. These programs provide an unprecedented opportunity to ensure that patients have access to a care environment in which they learn to care for their own disease. We vascular clinicians have been incredibly slow to learn that health literacy is key in managing chronic diseases, such as PAD. Such health literacy is not achieved in the endovascular suite. It can be achieved in the PAD rehab environment. Rehab is also an intervention.

Do you have any tips on how to best implement a supervised exercise program (ie, a few elements that each should include)? On the other hand, are there any elements that perhaps do not work?

The key elements of a successful supervised exercise program are well outlined and are immediately available in at least three places. First, in the 2006 intersocietal PAD guideline,[1] second, in the CLEVER study exercise methods paper,[2] and third, key elements are outlined on the Vascular Disease Foundation website, where all clinicians can download the PAD Exercise Training Toolkit (www.vdf.org/rehab-toolkit). This toolkit was cocreated with the American Association of Cardiovascular and Pulmonary Rehabilitation.

The only element that seems not to work is the one most often used by clinicians who do not understand exercise or take the evidence seriously and who simply tell the patient to "go home and walk." In this century, this is not even defined as "conservative care" but is effectively "no care." Although home exercise can be theoretically beneficial if provided within a focused clinical research setting, it is ineffective in real life. Any clinician who offers this advice alone, without a real exercise prescription, is offering nothing of true value and is misleading the patient.

In the CLEVER study, what might explain the patient-reported quality-of-life outcomes, which were higher among patients who received stents even though they had significantly lower rates of improved walking times?

Clinical research, when carefully designed, can provide robust answers to only prespecified hypotheses. CLEVER again demonstrates the robust power of supervised exercise to improve all claudication outcomes, spanning treadmill walking, quality of life, and atherosclerosis risk factors. The superior quality of life measures associated with stent treatment of inflow stenoses when compared to exercise training, evaluated as a secondary endpoint, exists without a physiological explanation. The primary CLEVER outcomes manuscript[3] provides a list of possible explanations, which are speculative, but I note that numerous invasive therapies have been associated with self-reported symptom improvement in the absence of physiologic improvement. This has occurred with orthopedic procedures for lumbar disease or laparoscopic knee surgery, atrial fibrillation ablation procedures, Parkinson's cell therapy interventions, and cardiac surgery. We humans are human. We feel and report feelings based on a myriad of internal signals and environmental cues. If I listen to you, you will feel better.

Regarding your recent call to action on PAD in women, why do you think men are currently receiving treatment more consistently than women, even though many reports show that the prevalence is higher, functional decline is more rapid, and awareness is greater in the female population?

This is a fascinating question to pose in a world in which women face considerable ongoing discrimination in the workplace and earn lower wages. If we look at our own vas-

(Continued on page 97)