tive risk was 0.5%, so only 200 patients are needed to prevent 1 additional infection. If the real difference in risk in orthopedic surgery is 2% (which it might very well be, given this data), then it would only be necessary to provide 50 patients a full-day course of cephazolin, at a cost of $250, to prevent 1 surgical site infection. From a cost-effectiveness standpoint, considering the cost of treatment of surgical site infections, cephazolin is a worthwhile investment.

In my opinion, these data do not support changing to a 1-dose regimen at this time. In fact, the data are inconclusive. In addition, the additional lack of randomization and lack of information about the demographics and distribution of potential confounding risk factors in the 2 groups make the results of this study even more difficult to interpret and generalize. This article does not provide ample evidence to support widespread changes in perioperative antibiotic protocols.

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***In reply***

*We read with interest the comments by Dr Schmidt and feel that there are some points to consider. Our study was not aimed to prove that 1-dose prophylaxis is as effective as a 24-hour regimen. In fact, the objectives of this study were to demonstrate how to implement a 1-dose regimen in a general hospital. The fact that 1-dose prophylaxis reduces surgical site infections as effectively as a 24-hour regimen had already been demonstrated in innumerous trials, such as the one published by Scher.[1] One-dose prophylaxis is a widely approved recommendation published in several guidelines,[2] some of them cited in our article.*

*Many hospitals have tried to implement appropriate prophylaxis programs with different success rates.[3] There are many published articles showing a great disparity between guidelines and real antibiotic use by the hospitals. A report from a recent audit in 34 133 patients derived from 2965 American hospitals showed that 44% of patients did not receive the antimicrobial within 1 hour of incision and 59% of patients received antibiotics for more than 24 hours.[4] With administrative measures and the important encouragement by the clinical director, we reached a compliance rate of 99%, and this is an important accomplishment. In our hospital, surgical prophylaxis is a subject concerning not only the surgeons, but also anesthesiologists, infection control personnel, and administration.*

*We also agree with Dr Schmidt that a surgical site infection involving an orthopedic prosthesis is a catastrophic event. Our disagreement is that, in our understanding, it has not been proven that a 24-hour regimen is more effective than single-dose prophylaxis. A large randomized control trial with 2651 patients undergoing hip replacement found no significant difference in wound infection rates between regimens with 1 or 3 doses of prophylactic antibiotic.[5]*

*On the other hand, overuse of antibiotics may be much more expensive than the cost of the drug itself. Resistant organisms, potential allergic reactions, and other adverse events related to antibiotic use will certainly cost much more than a $5 vial of cephazolin. Evans and colleagues[6] reported recently that the median cost of treating a patient with a resistant Gram-negative rod infection in a surgical intensive care unit was $80 500 compared with the median cost of treating a patient with a sensitive Gram-negative rod infection, which is $29 604 (*P*<.001). The authors concluded that "efforts to control overuse of antibiotics should be pursued."*

*We believe that single-dose prophylaxis is a safe way to decrease costs in a hospital. We may change our views provided that, in the future, well-designed trials prove otherwise.*

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## Volunteerism in General Surgical Residency: Fostering Sustainable Global Academic Partnerships

My grandmother is perhaps the most brutally honest person I know. She has a grasp neither of current affairs nor of contemporary trends, but the intuitive analysis of her immediate environment and her common sense have never failed to impress. Three years ago, she commented on what she perceived as my worsening grammar when speaking our tribal language, Luo, a western Kenyan tribal dialect. She speculated that my "living abroad" had affected my spoken Luo. I did not respond. Provocatively, she probed further. What kind of medicine was I learning abroad that had taken so long to teach? Why was it that I had not cured her


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backache yet, and when would my ancestral village see any fruits of my "expensive foreign education?"

I was halfway into my explanation of the Halsted model of general surgical training when it dawned on me that these were rhetorical questions in an attempt to spur me into action. Any action. Action that would specifically allow my training to benefit the people who, in her opinion, needed it the most. "I will be back to help as soon as I can," I replied in broken Luo. She smiled a gentle toothless smile. "Utakaporudi, tuletee huo utibabu ugeni." She deliberately switched from the Luo language to the national one, Swahili, knowing that I spoke it somewhat better than I did Luo; she was unwilling to risk my misinterpretation of what she had to say. "When you do return, you had better bring some foreign healing back with you."

Action came 2 years later in July 2005 when the RJW foundation (http://www.rjwfoundation.org) was registered as a 501(c)3 nonprofit organization. As a Kenyan surgical resident, I founded the organization together with 3 Kenyan attorneys and an American radiology resident. The foundation's mission is to coordinate a faculty development program in general surgery by establishing a sustained academic collaboration between the United States and east Africa. This entails curriculum enhancement by creating a parallel syllabus taught by volunteering academic surgeons from the United States. The foundation will simultaneously facilitate external rotations in east Africa for US general surgery trainees with the intent of eventually establishing a bilateral exchange. The foundation's goals are to working with surgical trainees from institutions on both sides of the technological divide, bringing them together to establish a dynamic global surgical network and broadening the academic, cultural, and technological boundaries of teaching hospitals and contemporary general surgical residency programs. To this end, the foundation targeted the 2 teaching hospitals in Nairobi, Kenyatta Hospital of the University of Nairobi and Aga Khan University Hospital. A feasibility study readily identified structural and political support for the venture. There was an enthusiastic response from local politicians, faculty, and resident staff. Notably, between 1975 and 1999, a total of 285 surgeons were trained in Kenya[1] at the University of Nairobi, the only medical school in the capital city during that period of time. In a country whose infrastructure centers on the capital, this number likely represented the total number of surgeons trained during that time in Kenya, which had a corresponding population of approximately 28 million (currently estimated at 34 million with a life expectancy at birth of 44 years).[2] This underscores the difficulty of the current surgical training to keep up with the country's fast-growing population and surgical case burden and may strengthen the case for bilateral global training partnerships.

The concept of international rotations is not a new one. General surgery programs at Indiana University and Brown University have sent residents to Kenya for many years. To date, however, no Kenyan surgical residents have access to US teaching hospitals except for short periods of observation. Brown and Indiana still represent a minority of programs offering international rotations despite the growing wave of volunteerism manifest at the 92nd Annual Clinical Congress of the American College of Surgeons in October 2006. At that conference, Dr John Tarpley of Vanderbilt University was awarded the 2006 Surgical Volunteerism Award and the Pfizer Medical Humanities Initiative for his work and continued presence in Nigeria.

In an informal survey of the general surgery residents at Johns Hopkins Hospital and the University of Michigan, approximately 75% of general surgery residents at both institutions stated that they would be willing to travel to Kenya for an international surgical rotation even if that meant using a portion of their vacation time. It has previously been examined and demonstrated that it is possible to provide worthwhile educational residency rotations in the developing world. Hill and Woodfield[3] reported successes in training opportunities for Australasian trainees in gaining useful experience in a rural Kenyan environment in hospitals where appropriate surgical supervision was available. The Ptolemy Project, which is administered with assistance from the University of Toronto, has capitalized on the growing supply of broadband technology to make digital health information freely available to many surgeons in east and central Africa.[4] The advances in global surgical networking made by Operation Smile, Operation Shunt, and Operation Giving Back are well known and reported, but the RJW Foundation seeks to address partnerships in surgical training more specifically geared toward trainee education with the eventual additional benefit of telemedicine and telementoring.

The foundation created the RJW Visiting Professor Lecture series, comprising lectures given up to 5 times a year by various distinguished volunteers from surgical faculty in the United States. These lectures would classically be given as grand rounds followed by a short surgical symposium comprising case-based and research project presentations to allow for a multi-institutional discussion that would be broadcast live to all participating institutions. The visiting surgeon would then participate in a 5-day surgical workshop during which cases specific to the surgeon's specialty training would be performed by the local surgeons in partnership with the visiting professor. Dr Julie Freischlag, the William Halsted Professor and Surgeon-in-Chief at Johns Hopkins Hospital, graciously accepted the invitation to give the inaugural RJW lecture in Nairobi in October 2006. She delivered the address at both university hospitals and had meetings with her counterparts and the administrations of both medical schools, the head of local government, the vice president of Kenya, and the permanent secretary of health. The establishment of an exchange program took root with commitment from the 3 chairs of surgery at the Johns Hopkins, University of Nairobi, and Aga Khan teaching hospitals to setting up an exchange as early as the 2007 academic year. The American embassy in Nairobi pledged its support by offering accommodation, transportation, and immigration advice to visiting residents. Dr Freischlag was further honored at a reception hosted by the foundation in Nairobi for celebrating "professional women making strides in the 21st century" and received an award of recognition for her


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commitment to bridging the gap between academic surgery in the United States and Kenya.

There have been numerous reports recently examining disparities in health care administered in the United States. These disparities may not be as stark when comparing health systems on a global scale. Kenya has a life expectancy just over half that of the United States. With an approximate 80% literacy rate, the majority of the population earns less than a $1 a day, and the total health per capita expenditure is only $65.[2] Compare this to the United States, where the average salary is $36 764 and total health care expenditure is $5711.[2,5]

This provides a forum for discussing global health disparities among many others. The mark of a progressive society will always remain its ability to maintain concern for the disadvantaged portions of that society. As global satellite imaging and technology draw communities closer together, then so must our attention turn to the health of the rest of the world. There may be no better way to do this than by using, creating, and developing channels of education and training. In a clinical arena dominated by outcomes research, a commitment to improving the standards of surgical practice and care of the surgical patient may now assume a global definition. It is the belief of the foundation that a global surgical network can readily be established purely from volunteerism. But although it constitutes volunteerism for most surgeons, for some it may remain a justifiable act of personal obligation.

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## Correction

**Error in Table.** In the Original Article by Granderath et al titled "Impact of Laparoscopic Nissen Fundoplication With Prosthetic Hiatal Closure on Esophageal Body Motility: Results of a Prospective Randomized Trial," published in the July 2006 issue of the *Archives* (2006;141:625-632), an error occurred in the Table on page 626. In that table, the number of women vs men in the mesh group should have been given as 5/15.



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