

University of Washington Orthopedic Resident Experience and Interest in Developing an International Humanitarian Rotation

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ABSTRACT

An academic orthopedic residency program can have a significant impact on the burden of musculoskeletal disease in low- and middle-income countries. Such an exposure may also enhance the education of a resident.

A 17-question electronic survey was developed to quantify the interest of orthopedic residents in pursuing an elective international rotation. The survey, which gathered resident demographic data and interest in pursuing an elective international orthopedic rotation, was sent to (and completed by) all 38 University of Washington orthopedic residents during academic year 2007–2008.

More than 60% (23/38) of residents indicated they would be willing to commit to an international rotation; an additional 24% (9/38) indicated they would be *very interested*. Almost 40% of residents had participated in international medical volunteerism before entering residency.

Among residents, there is a clear interest in pursuing an international rotation to complement their education in the United States.

The musculoskeletal burden of disease is one of the most underappreciated impediments to low- and middle-income countries (LMICs).¹ Although global data are lacking, a 2003 population-based study in Ghana found that 0.83% of the population suffered from injury-related disability, with extremity injury accounting for the vast majority (78%) of the burden.² Many of these affected people would benefit from low-cost orthopedic intervention and rehabilitation.

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Surgical health care systems in LMICs need to be radically improved. Prevention, emergency response, clinical-surgical intervention, and rehabilitation systems are nonexistent or severely lacking in most LMICs. Personnel from surgical nongovernmental organizations and other health care organizations provide valuable surgical intervention to these populations. Although extremely important, care is often provided sporadically, and there is little information regarding the interventions and outcomes. Furthermore, short-term delivery of surgical care in LMICs has a limited effect on the overall burden of disease and may even hasten consumption of valuable resources that could be better used in other health care sectors.

We believe that academic orthopedic residency programs can have a positive impact on the growing and overwhelming burden of musculoskeletal disease in LMICs. University of Washington (UW) orthopedic residents appear to be increasingly interested in pursuing these ends. We envision a rotation that would focus on collaborative teaching and learning in resource-constrained settings. A survey was developed in an attempt to quantify this presumed interest.

METHODS

A 17-question electronic survey was sent to all 38 UW orthopedic residents during academic year 2007–2008. The questionnaire was designed to elicit information on resident personal assets and, most important, on resident interest in pursuing an elective international orthopedic rotation. The UW institutional review board granted a certificate of exemption for these data.

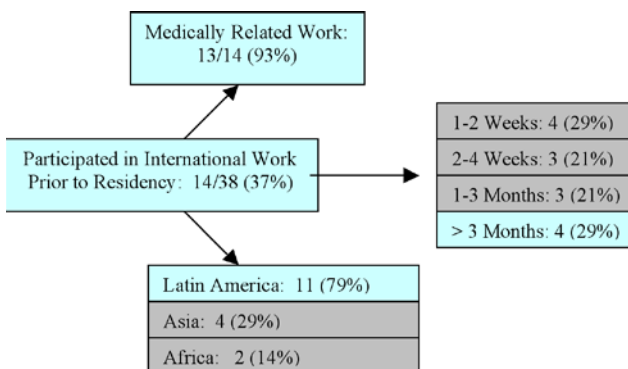


Figure 1. Almost 40% of respondents performed international work before entering residency. Most of this was medically related work (93%) performed in a Latin American country (79%).

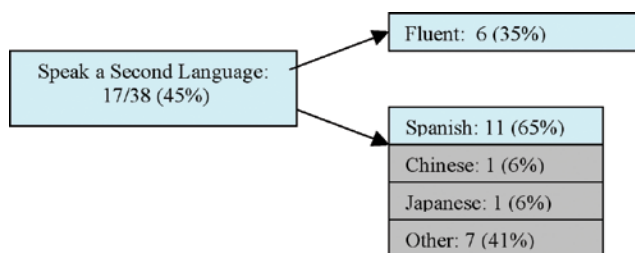


Figure 2. Forty-five percent of respondents indicated they speak a second language. Of these, 6 (35%) considered themselves fluent in that language. The language cited most often (65%) was Spanish.

RESULTS

All 38 residents completed the survey, yielding a 100% response rate. The results are highlighted in Figures 1 to 3.

DISCUSSION

Our survey documents a clear decision among current UW orthopedic residents to pursue an international elective rotation. Moreover, many UW residents have already participated in global health medical missions, and a large number consider themselves fluent in another language. Our data are consistent with data collected by other academic departments and thus call for collaboration.^{3,4} The UW Department of Anesthesiology, which produced similar data, is already actively pursuing these ends.³ Through partnerships at UW and abroad, we hope to become involved in the growth of a safe and effective surgical global health care workforce.

Residents' desire to participate in an international clinical experience does not in itself warrant such an undertaking, but massive need coupled with humanitarian and educational benefits inherent to such an exposure do. In LMICs, the leading cause of death of people ages 5 to 45, and the leading cause of disease burden among children ages 5 to 14, is falls and road-traffic injuries.⁵ These numbers become particularly staggering when we consider that, for each person who dies from trauma, 3 to 8 more become permanently disabled.^{1,6} Addressing this burden in an underserved context, an academic residency program can promote patient care, medical knowledge, interpersonal/communication skills, and professionalism, all of which are general competencies recognized by the Accreditation Council for Graduate Medical Education (ACGME).

Incorporating an international rotation into orthopedic residencies poses numerous challenges—financial pressures, compliance with ACGME and residency review committees, acceptance by local populations, and the need to ensure the physical and legal safety of all participants. However, there may be no better way to carry out the academic mission of preserving, advancing, and disseminating knowledge.

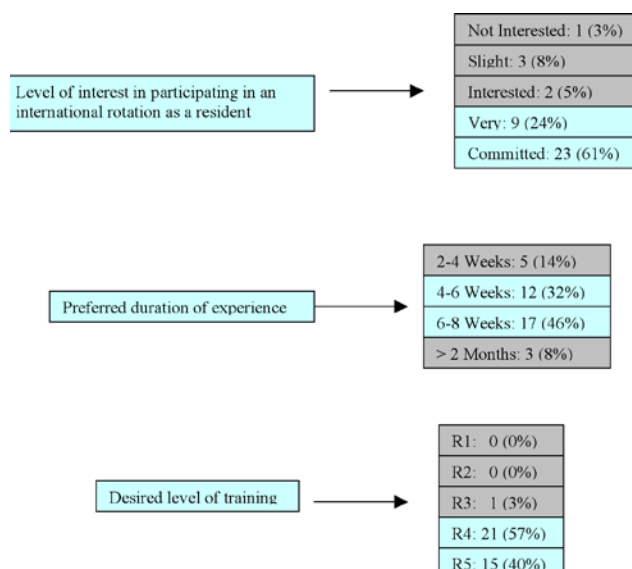


Figure 3. Ninety percent of respondents indicated they were interested in participating in an international rotation during their residency. Most indicated they would prefer a 1- to 2-month rotation and a rotation during their more senior years.

The need to develop orthopedic knowledge worldwide seems intuitive but is often difficult to quantify and address. The World Health Organization (WHO), through its Department of Violence and Injury Prevention and its Department of Emergency and Essential Surgical Care, is attempting to meet this challenge systematically. WHO recently created the Integrated Management for Emergency and Essential Surgical Care (IMEESC) project, a set of guidelines for providers and officials interested in creating or improving surgical systems in LMICs. IMEESC offers strategies for improving disaster management, emergency and trauma care, splinting and casting techniques, closed treatment of fractures, management of open fractures and soft-tissue wounds, and traction techniques. Furthermore, IMEESC addresses musculoskeletal injury issues such as hand washing, antibiotic and tetanus prophylaxis, medical records, patient consent, equipment sterilization, wound management, safe-anesthesia protocols, preventing the spread of the human immunodeficiency virus, postoperative care, and pain relief.⁷ We believe that IMEESC is invaluable for creating a safe minimum standard for any institution or organization trying to improve surgical systems in LMICs.

Although WHO seems positioned and willing to lead this campaign, a massive increased global surgical workforce is needed to assist in efforts to develop safe and efficient surgical systems throughout LMICs. We believe that academic orthopedic residency programs, in coordination with other departments and schools in the United States and abroad, can play an integral role in this mission.

The UW mission, to provide care for underserved populations in Washington, Wyoming, Alaska, Montana, and Idaho, can easily be adapted to the global underserved community. Perhaps this mission, combined with

access to modern technology and the expanding local focus on global health, have attracted residents who are particularly interested in such endeavors. More research is needed to determine if UW orthopedic residents are typical of their peers in other specialties and other academic institutions.

AUTHORS' DISCLOSURE STATEMENT AND ACKNOWLEDGMENT

The authors report no actual or potential conflict of interest in relation to this article.

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