

Orthopaedic Surgery Residency Rotations and Correlation With Orthopaedic In-Training Examination Performance

Aaron I. Karlen, MD,* Erik J. Solberg, MA, Med,* Deborah S. Quanbeck, MD,† and Ann E. Van Heest, MD*

*Department of Orthopaedic Surgery, University of Minnesota, Minneapolis, Minnesota; and †Department of Pediatric Orthopedics, Gillette Children's Specialty Healthcare, St. Paul, Minnesota

OBJECTIVE: The Orthopaedic In-Training Examination (OITE) is administered annually and is used to assess medical knowledge of orthopedic surgery residents. Beginning in the 2013 to 2014 academic year, the ACGME expanded the postgraduate year (PGY)-1 curriculum from 3 to 6 months of orthopedic surgery rotations. The purpose of this study is to evaluate the effect of increased PGY-1 orthopedic surgery exposure on medical knowledge as measured by the OITE.

DESIGN: From 2011 to 2013, 24 PGY-2 residents completed 3 months of PGY-1 orthopedic training (Group 1). From 2014 to 2016, 24 PGY-2 residents completed 6 months of PGY-1 orthopedic training (Group 2). The effect of an initial PGY-2 pediatrics rotation (Sub-group A), compared to a trauma rotation (Sub-group B) was also analyzed. The hypothesis of this study is that Group 2 scores higher on the OITE than Group 1.

Raw percentage and overall percentile scores for all PGY-2 residents from 2011 to 2016 for the pediatrics subsection, the trauma subsection, and for the overall OITE test in our program were recorded. Group 1 versus Group 2, and Sub-group A versus Sub-group B were compared (Student's *t*-test).

SETTING: University of Minnesota (Institutional, Tertiary); Gillette Children's Hospital (Institutional, Tertiary); Regions Hospital (Institutional, Tertiary).

PARTICIPANTS: 48 PGY-2 residents from 2011 to 2016 were included in the study.

Level of evidence: Prognostic—Level 2. The residents are assumed to be subjects; they are studied prospectively with IRB approval as exempt. A blinded (biomechanical) standard is applied.

Correspondence: Inquires to Ann E. Van Heest, MD, Department of Orthopaedic Surgery, University of Minnesota, 2450 Riverside Avenue South, Suite R200, Minneapolis, MN 55454; e-mail: vanhe003@umn.edu

RESULTS: Group 2 achieved higher raw and percentile scores on the OITE during their PGY-2 year than Group 1. Sub-group B scored higher than Sub-group A on all OITE subsections and overall.

CONCLUSIONS: This study suggests that raw percentage and percentile OITE scores improve with an additional 3 months of orthopedic training in the PGY-1 year. Clinical exposure, specifically in orthopedic trauma, correlates with higher OITE performance in our residency program. (J Surg Ed ■■■■-■■■. © 2018 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: in-training examination, OITE score, postgraduate year, orthopedic surgery, resident, intern

COMPETENCIES: Medical Knowledge, Practice-Based Learning and Improvement

INTRODUCTION

Background

The Orthopedic In-Training Examination (OITE), published by the American Academy of Orthopaedic Surgeons, is one of the principal methods of assessing the medical knowledge of an orthopedic surgery resident. In the United States, orthopedic surgical residents sit for the examination each November. The OITE is subdivided into several sections of orthopedic knowledge based on subspecialty.

As a benchmark for identifying strengths and weakness in orthopedic education, our program has used the OITE in reflecting on and refining education throughout the orthopedic training process. In June of 2013, the Accreditation

Council for Graduate Medical Education (ACGME) adopted a national policy that expanded the postgraduate year (PGY)-1 curriculum from 3 to 6 months of orthopedic training. The goal of our study was to identify the effect, if any, on OITE performance after an additional 3 months of orthopedic training during the PGY-1 year. Additionally, as a sub-group analysis, we compared OITE performance between groups of PGY-2 residents who had completed either a trauma or a pediatrics rotation prior to taking the OITE in their second year of orthopedic training.

METHODS

After institutional review board exemption was determined, de-identified data were collected on 48 orthopedic surgery residents who had taken the OITE as PGY-2 residents between 2011 and 2016. Group 1 was residents who completed 3 months of orthopedic training as a PGY-1 (2011-2013). Group 2 was residents who completed 6 months of orthopedic training as a PGY-1 (2014-2016). We also had an equal number of residents who completed a pediatrics rotation (Sub-group A) or a trauma rotation (Sub-group B) as a PGY-2 before taking the OITE over the same 2011 to 2016 time period.

Before June 2013, all PGY-1 residents completed 6 weeks of orthopedic arthroplasty and 6 weeks of general orthopedic training in an academic setting. These rotations were preserved when the intern orthopedic training was extended from 3 to 6 months. Additionally, an extra month of orthopedic arthroplasty, a month of orthopedic trauma, and an additional month of general orthopedic training in an academic setting was added to the PGY-1 curriculum. With little variation, all PGY-1 residents completed the same rotations in a given academic year.

In our institution, the PGY-2 year includes alternating 3-month blocks of orthopedic trauma and pediatrics. As the OITE is usually taken in early November, PGY-2 residents will have completed their first 3-month block on either pediatrics (Sub-group A) or trauma (Sub-group B) and rotated onto their second rotation for the month before taking the OITE. Thus, while all PGY-2 residents have spent some time on both pediatrics and trauma, the majority of the pre-OITE PGY-2 year is spent on the first rotation of the academic year. No changes to the PGY-2 year occurred as a result of the increase in PGY-1 orthopedic training.

Data included number of months of orthopedic training during the PGY-1 year, whether the resident had completed a 3-month PGY-2 rotation on either trauma or pediatrics, and percentage correct scores as a PGY-2 for the pediatrics subsection, trauma subsection, and overall test. Percentages were collected as opposed to raw numbers correct because the amount of pediatrics and trauma subsection questions, as well as the number of overall graded questions, changes

on the OITE from year to year. Additionally, we collected data for each resident on the overall test for national percentile when compared against the national average for PGY-2 residents.

Statistical Analysis

Raw percentage scores in pediatrics, trauma, and the overall test, as well as national PGY-2 overall test percentile scores were compared between Group 1 and Group 2, as well as between Sub-group A and Sub-group B. Comparisons between groups were conducted using a Student's *t*-test using SPSS (v23) software.

Ethical Review

This retrospective study of existing data was exempted from review by our institutional review board under federal guidelines 45 CFR Part 46.101(b)(1), research conducted in an educational setting involving normal education practices.

RESULTS

Residents who completed 6 months of orthopedic training as a PGY-1 (Group 2) had higher average percentage correct than residents who completed 3 months of orthopedics as a PGY-1 (Group 1) for the overall OITE test (59.2% versus 55.0%, $p = 0.027$). This indicates a greater medical knowledge for orthopedic residents after completing 6 months of orthopedic surgery training during the PGY-1 year versus orthopedic residents after completing 3 months of orthopedic surgery training during the PGY-1 year. Group 2 also had a higher average national PGY-2 percentile than Group 1 (58.4 versus 53.6, $p = 0.551$) (Figure 1).

Residents who completed an initial PGY-2 orthopedic trauma rotation prior to the OITE (Sub-group B) had higher average percentage correct than residents who completed an initial PGY-2 pediatric orthopedics rotation

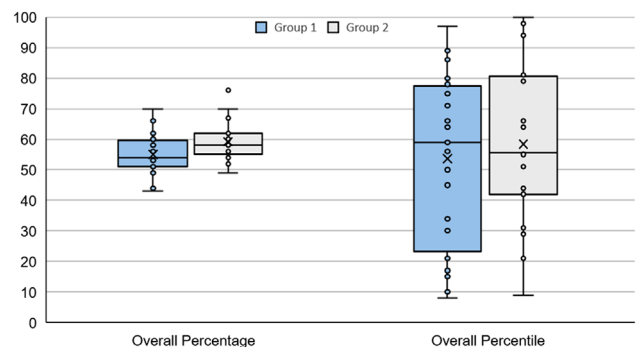


FIGURE 1. Overall percentages and overall percentile for 3 months (Group 1) versus 6 months (Group 2) of orthopedics as a PGY-1.

Download English Version:

<https://daneshyari.com/en/article/10222799>

Download Persian Version:

<https://daneshyari.com/article/10222799>

[Daneshyari.com](https://daneshyari.com)