Residents as Educators: A Modern Model

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Education during surgical residency has changed significantly. As part of the shifting landscape, the importance of an organized and structured curriculum has increased. However, establishing this is often difficult secondary to clinical demands and pressure both on faculty and residents. We present a peer-assisted learning model for academic institutions without professional non-clinical educations. The "resident as educator" (RAE) model empowers residents to be the organizers of the education curriculum. RAE is built on a culture of commitment to education, skill development and team building, allowing the upper level residents to develop and execute the curriculum. Several modules designed to address junior level residents and medical students' educational needs have been implemented, including (1) intern boot camp, (2) summer school, (3) technical skill sessions, (4) trauma orientation, (5) weekly teaching conferences, and (4) a fourth year medical student surgical preparation course. Promoting residents as educators leads to an overall benefit for the program by being cost-effective and time-efficient, while simultaneously promoting professional development of residents and a culture of education. (J Surg Ed 72:949-956. © 2015 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

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INTRODUCTION

The landscape of surgical resident education at most institutions has changed substantially over the last few decades, owing to a myriad of factors including work-hour restrictions, attending responsibilities, patient expectations, curriculum oversight, and accreditation guidelines. Ward teaching, apprenticeship modeling, and grand rounds have historically been the building blocks of the surgical curriculum. The Accreditation Council for Graduate Medical Education now mandates that programs have a "comprehensive, effective and well-organized educational curriculum; ensure that conferences be scheduled to permit resident attendance on a regular basis, and resident time must be protected from interruption by routine clinical duties."[1] Constraints on faculty time, including requirements for relative value units, increased documentation, and in the case of academic faculty, research productivity, have severely limited the amount of faculty time that can be devoted to resident education. These evolving pressures have put a strain on the educational environment of modern surgical residency programs, necessitating change. Many institutions have addressed these demands by relying on ancillary staff and nonclinical educators who receive salary support to provide resident education. We present a model for academic institutions without salaried professional nonclinical educators.

The "resident as educator" model (RAE) was introduced at Vanderbilt University in 2008, empowering residents to serve as the organizers and, often, the teachers of the educational curriculum. Peer-assisted learning is defined as individuals of similar training levels who are not professional teachers who help each other learn and as a result learn by teaching.[2-5] The model that follows was presented in 2012 as a workshop at the annual meeting for the Association for Program Directors in Surgery (APDS).[6] As surgery residencies at academic centers are often seven years in length, considerably longer than other specialties, many of these years in training are at the equivalent of attending status in some specialties. Prior work has shown that both faculty and students have indicated that residents are highly valuable for clinical and surgical education.[7,8] Also, many residents come to training with significant teaching exposure or experience, having served as teaching assistants for anatomy or other courses while in medical school, some having even participated in formal students-as-teachers training programs.[9,10] There have been limited formal studies investigating the use of peer learning in resident education.[11,12] However, these studies confirmed that peer teaching, as in the RAE model, can be effective in the resident population.[4,11,12] Residents

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provide a unique and beneficial perspective on effective education given their shared proximity to the learners training level. Therefore, surgical residents at academic institutions are a strong, sustainable, and often already well-trained option to bridge the gap in faculty availability.

From an administrative perspective, promoting residents as educators leads to an overall total benefit for the program and department, increases efficiency in curriculum, and is both cost effective and time efficient. We outline these aspects later in the article as they pertain to intern and junior resident education.

BACKGROUND

Resident education has historically been based on a large lecture-teaching model or clinical teaching. Accordingly, resident education at Vanderbilt before a curriculum revision in 2007-2008 was largely centered on weekly Grand Rounds conferences. Other educational opportunities included a faculty-led teaching session following grand rounds and educational discussions centered on cases presented at weekly morbidity and mortality conferences (J.L.T., personal communication). No organized curricula were in place other than intermittent, industry-sponsored events. In 2007, a group of residents attended the American College of Surgeons (ACS)–sponsored Residents as Teachers and Leaders conference, a course designed for mid- to senior-level surgery residents to address "the skills necessary to be more effective teachers and more successful leaders."[13] Following the conference and the resident discussion that ensued, the educational curriculum at Vanderbilt transitioned to a resident-organized model.

The RAE model is built on a culture of commitment to education, skill development, and team building. Several modules were initially implemented, all designed at a level to address intern or junior-level residents. These included (1) intern boot camp, (2) summer school, (3) technical skill sessions, (4) trauma orientation, and (5) additional weekly teaching conferences. Later, a fourth-year medical student (MS) surgical preparation course was added to the curriculum. RAE acted as a focus group, reflected on learning deficiencies in their progression to that point, and designed initial curricula set forth on specific components. The modules designed for interns in their current form are organized throughout the academic year, and a timeline is shown in Figure 1.

We designated 2 residents in research or in some instances, senior residents for each module of the intern curriculum. The following outlines each of these modules.

Intern Boot Camp

Before the start of the academic year, incoming interns are immersed in small group sessions, simulation scenarios, and hands-on practice with partial task trainers, collectively referred to as "Intern Boot Camp" (Table 1). Faculty and residents in anesthesia, surgery, and interventional radiology teach these sessions. By focusing on the management of common conditions and the initial management of unstable

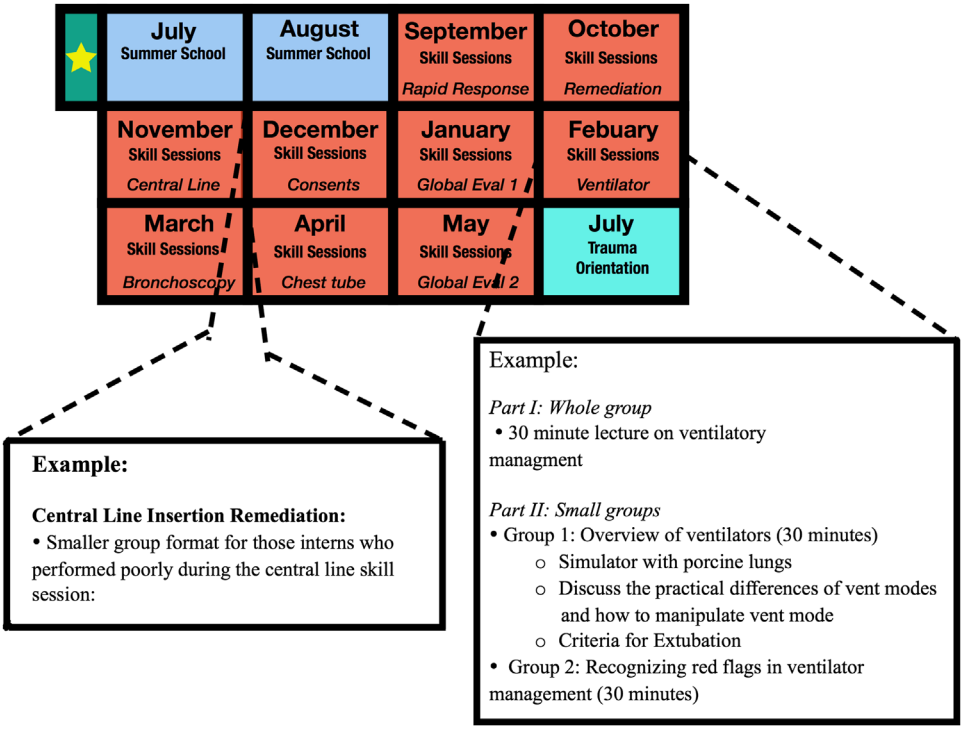

FIGURE 1. Curriculum schedule for the academic year with a detailed overview of the central line insertion remediation session and the ventilator management skill session.