

## **UC Irvine**

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Development of a Emergency Department Operations and Throughput Curriculum for Resident Physicians

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preparedness of the session compared to traditional lecture reviews.

**Effectiveness:** Residents reported overwhelming agreement in all four domains. 20 of 25 (80%) residents completed the survey. High levels of agreement were reported for motivation (4.75, 95% CI=4.51-4.99), engagement (4.85, 95% CI=4.64-5.00), challenge (4.75, 95% CI=4.51-4.99), and overall exam preparedness (4.8, 95% CI=4.57-5.00) compared to traditional lecture-based review methods.

### 53 Development of a Emergency Department Operations and Throughput Curriculum for Resident Physicians

Bryan Stenson, David Chiu

**Introduction:** Emergency Departments (ED) across the country are facing ever increasing levels of crowding and boarding. As a result, it has become more and more difficult to generate throughput through the ED. Furthermore, as volume increases, resources are getting further constrained which leads to multiple bottlenecks in the progression of patients through the ED. There exists little formal education on this topic for ED resident physicians, even though this is a major aspect of the job of an ED physician and a significant contributor to physician burnout.

**Educational Objectives:** This curriculum introduces the basic concepts of queuing theory, human behavior, data analysis and process improvement methodology to teach ED resident physicians to be able to analyze congested EDs and propose changes to fix bottlenecks, increase throughput, better match staffing levels to ED volume.

**Curricular Design:** The curriculum was designed to be as interactive as possible and is composed a mix of lectures, small-group interactions/discussion, and question/answer sessions. Lectures were used to introduce basic concepts around resource bottlenecks, queuing theory, schedule optimization, process/change management. Prior to the session, each resident received a data set that reflects a real-world ED problem. Three case studies were used. One case around need for additional shift. Another around adjusts of the schedule to fit patient arrival. A third around analyzing delays in CT imaging. Participants were broken up into small groups to do their own analysis and present each case study as well as their own data analysis and their solutions to the problem.

**Impact/Effectiveness:** This curriculum has been given at two independent residency programs and has been met with positive feedback. Many commented on the significance of the topic, but little formal education/curriculum regarding it. The case studies were well received and made the session practical and interactive.

### 54 Emergency Medicine Neurocritical Care Bootcamp: A Collaborative Curriculum with Simulation Based Learning

James VandenBerg, Lauren Koffman, Dillon Warr, Penny Garcia, Jane Cripe

**Introduction:** Neurologic emergencies (NE) are a core component of emergency medicine (EM) training. We identified gaps in education of NE, which require identifying subtle physical exam findings that are challenging to reproduce in simulation. We believed using Standardized Patients (SP) in NE simulation cases would reinforce these exam findings, supplement our resident’s training, and add realism to the cases. We collaborated with our neurocritical care team to adapt a neurology simulation-based learning (SBL) bootcamp for EM residents.

**Educational Objectives:** The primary aim was to have EM residents National Institute of Health Stroke Scale (NIHSS) certified and improve knowledge and treatment of NEs.

**Curricular Design:** EM residents completed an educational needs assessment and weaknesses included: acute stroke, seizures, and meningitis. Neurocritical Care faculty prepared didactics on these topics. A previously created simulation-based learning (SBL) course designed by our neurocritical care team for neurology residents was adapted for EM residents, with cases

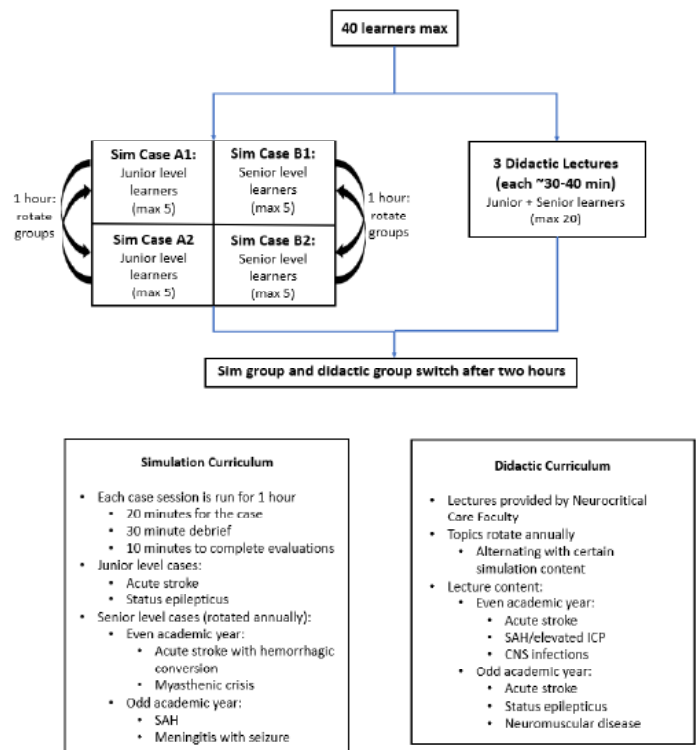


Figure 1. Curriculum overview.