

## 48 Medical Student, Senior Residents, and Unscheduled 72 Hour Return in the Emergency Department

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**Background:** An integral part of medical student education are sub-internship rotations where medical students take on the role of residents and assume the bulk of the patient contact, documentation, order entry and diagnostic test followup. This also plays an important role in evaluating prospective candidates to emergency medicine residency. This however should not come at the cost of patient safety.

**Objectives:** To determine if medical student care is associated with higher rate of unscheduled 72 hour return compared to senior resident physicians in the emergency department (ED).

**Methods:** This is a retrospective study from an urban academic tertiary care center with an EM residency with a primary outcome of unscheduled 72 hour return to an ED. The variable of interest is whether the primary provider was a medical student (MS) 4 or postgraduate year-3 (PGY). All Patients presenting to the ED between 07/01/2010 to 06/30/2013 were eligible. Those who were not formally discharged (e.g. admission, AMA, eloped etc.) or told to return were excluded. Logistic regression was used to test for significance and to control for confounders such as age and sex. Odds ratios (OR) with 95% confidence interval (CI) were used as the primary effect estimate.

**Results:** We collected a total of 93834 patients. Of these 5099 (5.4%) returned to the ED within 72 hrs. The OR of a MS4 with a 72 hour return is 1.01 with a 95% CI (0.84-1.22), and for PGY3s, it is 0.87 with a 95% CI (0.78-0.97). PGY3 was statistically significant ( $p=0.01$ ). Age and gender were also significant with a  $p$ -value of  $<0.01$ . However MS4s and ESI were not significant ( $p=0.92$  and  $p=0.41$ , respectively).

**Conclusions:** While it appears that MS4s have a stronger association with unscheduled 72 hr return compared to PGY3s, the 95% CIs of these covariates overlap indicating that this difference is not significant. It appears that medical student sub-internships in the ED with attending supervision are safe, using unscheduled 72 hr return as a proxy for patient safety.

## 49 Novel Cardiovascular Emergency Rotation for First Year Emergency Medicine Residents

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**Introduction:** The ability to recognize and treat cardiovascular (CV) emergencies is an essential aspect of emergency medicine (EM) education. There is an educational need to standardize these concepts in a meaningful way early in an EM residents training. Leaving this large topic to spontaneous exposure during residency may lead to an undesirable knowledge gap.

### Educational objectives:

- Hone clinical skills regarding the direct care of patients with acute cardiac emergencies
- Become skilled in exercise stress testing protocols and interpretation
- Receive exposure to advanced imaging protocols and interpretation
- Gain experience in basic echocardiography for the diagnosis of CV emergencies
- Become proficient in procedures germane to cardiovascular emergencies
- Read and interpret landmark articles useful for clinical practice
- Receive formalized electrocardiography (ECG) interpretation training

**Curricular Design:** Our 1 month CV emergencies rotation is designed for first year residents. Interns work two 8-hour emergency department shifts and four 8-hour days per week in the Cardiology department rotating on the different subspecialties. Students attend daily Cardiology conference. Weekly assignments are accessed through an online compendium. Assignments are made up of text, journals, cases, social media and computer based ECG course. Pre/post-tests are administered. Course director fills out final evaluations.

**Impact/Effectiveness:** This type of novel curriculum enhances learning in multiple ways. The curriculum is standardized for every intern. The online compendium has the benefit of asynchronous learning and completion tracked by the course director. The curriculum embraces active learning and exposes the student to a wider scope of CV concepts in a shorter period of time without excessive service tasks. Appendix A shows marked improvement in post-test scores (23% increase). By having first year residents complete this rotation; we can effectively establish a strong foundation early in their training.

**Table 1.** Appendix A.

Learner	Pre-test(%)	Post-test(%)	Change(%)
1	67	77	10
2	72	90	18
3	49	91	42
4	87	95	8
5	50	87	37
Average	65	88	23