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Peer-Guided Lightning Electrocardiogram Curriculum

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Table 1: Relative value of topics for inclusion in EM curriculum, according to residents

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	TOTAL
Palliative Care in the ED	0.00% 0	3.33% 1	6.67% 2	60.00% 18	30.00% 9	30
Quality Improvement and Patient Safety	0.00% 0	0.00% 0	0.00% 0	63.33% 19	36.67% 11	30
Resident as Teacher	0.00% 0	0.00% 0	13.33% 4	43.33% 13	43.33% 13	30
Professionalism	0.00% 0	3.33% 1	10.00% 3	50.00% 15	36.67% 11	30
Journal Club	0.00% 0	0.00% 0	3.33% 1	53.33% 16	43.33% 13	30
Billing and Coding	0.00% 0	0.00% 0	13.33% 4	63.33% 19	23.33% 7	30
Medicolegal	0.00% 0	0.00% 0	3.33% 1	60.00% 18	36.67% 11	30
Business of EM	0.00% 0	6.67% 2	20.00% 6	53.33% 16	20.00% 6	30
EMS	0.00% 0	3.33% 1	16.67% 5	63.33% 19	16.67% 5	30
Communication Skills	0.00% 0	6.67% 2	0.00% 0	53.33% 16	40.00% 12	30
Event Medicine	0.00% 0	0.00% 0	43.33% 13	46.67% 14	10.00% 3	30
Advocacy in EM	0.00% 0	0.00% 0	20.00% 6	60.00% 18	20.00% 6	30
Wilderness Medicine	0.00% 0	3.45% 1	27.59% 8	62.07% 18	6.90% 2	29
Sports Medicine	0.00% 0	3.33% 1	26.67% 8	63.33% 19	6.67% 2	30
Self Assessment and Coaching	0.00% 0	3.45% 1	20.69% 6	51.72% 15	24.14% 7	29
Evidence-Based Medicine	0.00% 0	0.00% 0	0.00% 0	33.33% 10	66.67% 20	30
Research Skills	0.00% 0	0.00% 0	26.67% 8	56.67% 17	16.67% 5	30
Ethics in EM	0.00% 0	6.67% 2	13.33% 4	53.33% 16	26.67% 8	30
Team Management	0.00% 0	0.00% 0	0.00% 0	53.33% 16	46.67% 14	30
Systems Based Practice	0.00% 0	3.33% 1	0.00% 0	63.33% 19	33.33% 10	30
Wellness	0.00% 0	6.67% 2	10.00% 3	43.33% 13	40.00% 12	30
Time Management	0.00% 0	0.00% 0	6.67% 2	50.00% 15	43.33% 13	30

Table 2: Relative value of potential CORD curricular toolkits according to faculty

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	TOTAL
Palliative Care in the ED	0.00% 0	4.08% 2	20.41% 10	42.86% 21	32.65% 16	49
Quality Improvement and Patient Safety	0.00% 0	5.77% 3	11.54% 6	38.46% 20	44.23% 23	52
Resident as Teacher	0.00% 0	1.92% 1	23.08% 12	46.15% 24	28.85% 15	52
Professionalism	0.00% 0	7.69% 4	30.77% 16	36.54% 19	25.00% 13	52
Journal Club	0.00% 0	15.38% 8	38.46% 20	28.85% 15	17.31% 9	52
Billing and Coding	0.00% 0	1.92% 1	19.23% 10	32.69% 17	46.15% 24	52
Medicolegal	0.00% 0	1.96% 1	25.49% 13	29.41% 15	43.14% 22	51
Business of EM	0.00% 0	1.92% 1	21.15% 11	36.54% 19	40.38% 21	52
EMS	0.00% 0	9.62% 5	46.15% 24	32.69% 17	11.54% 6	52
Communication Skills	3.85% 2	3.85% 2	28.85% 15	36.54% 19	26.92% 14	52
Event Medicine	7.69% 4	21.15% 11	36.54% 19	26.92% 14	7.69% 4	52
Advocacy in EM	0.00% 0	13.46% 7	36.54% 19	28.85% 15	21.15% 11	52
Wilderness Medicine	7.69% 4	13.46% 7	44.23% 23	25.00% 13	9.62% 5	52
Sports Medicine	1.92% 1	13.46% 7	34.62% 18	32.69% 17	17.31% 9	52
Self Assessment and Coaching	1.96% 1	3.92% 2	37.25% 19	33.33% 17	23.53% 12	51
Evidence-Based Medicine	3.92% 2	5.88% 3	21.57% 11	35.29% 18	33.33% 17	51
Research Skills	3.92% 2	7.84% 4	19.61% 10	49.02% 25	19.61% 10	51
Ethics in EM	0.00% 0	6.00% 3	26.00% 13	52.00% 26	16.00% 8	50
Team Management	0.00% 0	3.92% 2	25.49% 13	43.14% 22	27.45% 14	51
Systems Based Practice	1.96% 1	7.84% 4	31.37% 16	47.06% 24	11.76% 6	51
Wellness	1.96% 1	9.80% 5	25.49% 13	43.14% 22	19.61% 10	51
Time Management	0.00% 0	3.92% 2	35.29% 18	27.45% 14	33.33% 17	51

Innovations Abstracts

1 Peer-Guided Lightning Electrocardiogram Curriculum

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Background: Electrocardiogram (ECG) competence is widely recognized as an important and necessary component of emergency medicine (EM) training, but there is no standard educational curriculum. Residents are neither confident nor accurate in their ability to interpret ECGs.

Educational Objectives: We aimed to evaluate the effectiveness of a novel educational curriculum to improve EM interns' ECG interpretation competence and confidence.

Curricular Design: EM interns (n = 18) were randomly assigned two specific ECG topics to review and discuss during a month-long educational orientation (total of 36 topics). Subjects were instructed to prepare a "lightning talk" (< 10 minutes) for each of their assigned topics, highlighting the salient features of at least five ECGs, and to distribute them beforehand. In this manner, traditional classroom lectures were replaced with peer discussions. A baseline examination was administered prior to the orientation month, followed by another immediately after completion of the curriculum. A third examination was administered six months later. The three examinations were administered in a proctored classroom using the web-based RoshReview application, each with 20 questions of equivalent difficulty. We used a paired t-test to compare the scores of participants who completed all three examinations. Surveys using a visual analog scale (VAS, 0-100) assessed interns' confidence in ECG interpretation before and after completion of the curriculum. We analyzed survey results using the Mann-Whitney U test.

Impact/Effectiveness: Fifteen interns completed all three examinations (83.3%). The mean baseline, post-orientation, and six-month scores were 72.5%, 88.8%, and 81.1%, respectively. Both the post-orientation and six-month scores were significant higher than baseline (16.3%, 95% confidence interval [CI], 6.82 to 25.84; p = 0.002; 8.6%, 95% CI, 2.11 to 15.08; p = 0.013). Six-month scores were significantly lower than the post-orientation scores (-7.7%, 95% CI, -14.9% to -0.6%, p = 0.036). Fourteen interns completed both surveys (78%). ECG interpretation confidence was significantly greater after completion of the curriculum (median VAS 80 vs 45, p = 0.01). This study provides preliminary evidence for the effectiveness of a non-traditional, peer-guided, "lightning talk" educational curriculum for improving the ECG interpretation skills and confidence in EM interns.