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Retrospective Review of Third-Year Medical Students' Clinical Evaluations via Entrustable Professional Activities

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assessments for non-checklist (NCL) SO and 697 for the CL cohort. Increasing numbers of SO patients correlated with increased SO duration (Pearson $r = 0.74$, $P < 0.0001$). CL did not impact the mean number of SO patients per minute (CL mean \pm standard deviation [SD] = 0.86 ± 0.31 , NCL mean \pm SD = 0.86 ± 0.23). VAS assessment of SO improved to 8 (range 2.5 to 10; $P < 0.0001$) for CL compared to 7.5 (0.5 - 0.95) for NCL. Important aspects of SO improved with implementation of CL (see Table): tasks, disposition, and necessity of attending clarification. Overall, comparison of oncoming and departing attending physician global assessment SO scores manifested low interobserver agreement (intraclass correlation coefficient = 0.39; 95% confidence interval, CI -0.26 to 0.70). Oncoming and departing attendings perceived significantly improved SO global VAS assessments for the CL cohort (CL mean \pm SD = 8.3 ± 0.55 ; NCL mean \pm SD = 7.0 ± 1.2 ; $P < 0.0001$ and CL mean \pm SD = 7.6 ± 1.1 ; NCL mean \pm SD = 7.0 ± 1.1 ; $P = 0.05$, respectively).

Conclusion: Although assessments demonstrated inconsistent interobserver agreement, CL utilization improved oncoming and departing attendings' perceptions of residents' SO quality compared to unstructured SO.

Table. Impact of checklist on sign-out (SO) quality.

	No-Checklist	Checklist	P value
Total N	548	697	
Total Attending Assessment of SO Quality VAS (10 cm range)	7.5 (0.5 - 9.5)	8.0 (2.5 - 10)	< 0.0001
Oncoming Attending Assessment of SO Quality VAS \pm SD	7 \pm 1.2	8.3 \pm 0.6	< 0.0001
Departing Attending Assessment of SO Quality VAS \pm SD	7 \pm 1.1	7.6 \pm 1.1	= 0.05
+ Diagnosis	1 (714/727, 98.2%)	1 (522/527, 99.1%)	= 0.1
- Diagnosis	12/727, 1.7%	5/527, 0.9%	
+ "Task"	578/686, 84.3%	482/493, 97.8%	< 0.0001
- "Task"	60/686, 8.7%	8/493, 1.6%	
+ Disposition	683/703, 97.2%	518/521, 99.4%	< 0.004
- Disposition	14/703, 2%	3/521, .6%	
+ Admit Team	392/584, 67.1%	321/421, 76.2%	< 0.03
- Admit Team	83/584, 14.2%	35/421, 8.3%	
+ Code Status	45/505, 8.9%	52/357, 14.6%	= 0.13
- Code Status	295/505, 58.4%	187/357, 52.4%	
+ Attending Add	100/427, 23.4%	39/345, 11.3%	< 0.0001
- Attending Add	327/427, 76.6%	306/345, 88.7%	

VAS, visual analog scores; SD, standard deviation; cm, centimeters.

11 Retrospective Review of Third-Year Medical Students' Clinical Evaluations via Entrustable Professional Activities

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Background: Emergency medicine (EM) is not a required third-year (M3) clinical clerkship for medical schools per Liaison Committee on Medical Education accreditation

standards. National Board of Medical Examiners (NBME) subject exams in other core clerkships suggest students' medical knowledge improves with increased clinical exposure. Consequently, no M3 EM-specific grading tool exists for this student cohort. At our institution, Entrustable Professional Activities (EPA) have been adopted for M3 clerkship evaluations, yet have not been longitudinally studied in relation to EM student performance.

Objectives: In absence of an M3 NBME exam to assess EM learners' development, this study reviewed M3 EPAs over one academic year. We hypothesized that EPA scores would improve temporally as students gained more clinical experience.

Methods: This was an observational, retrospective review of 123 students rotating in three EM clerkship blocks from July 2017–June 2018 at the University of Kentucky. Standardized EPA scoring on a scale of 1-4 (graded 65%, 75%, 85%, and 95% respectively) for differential diagnosis, diagnostic plan, and oral presentation were reviewed for every patient encounter-based faculty evaluation. Faculty and students were instructed on grading criteria prior to clerkship.

Results: Of 2917 total EPA scores reviewed, 81 did not receive grades and were excluded from analysis. One EPA was excluded due to an absent faculty signature. We analyzed the remaining 2835 EPAs by rotation block. Statistically significant differences were found for all assessment categories and overall average scores. The mean differential diagnosis scores for rotations 1-3 were 3.11, 3.13 and 3.25, respectively.

Conclusion: Our results suggest that overall student clinical EPA evaluations increased over time during the M3 year as well as within the individual categories of differential diagnosis, diagnostic plan, and oral presentation. Further study is needed to identify comparability at other institutions as well as the influence of M3 clerkship experiences prior to the EM rotation.

12 Impact of Ambient Background Noise on Sign-Out in the Emergency Department

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Background: Elevated emergency department (ED) noise levels can impact physician communication during physician sign-out (SO).

Objectives: To assess the impact that time of day, background music, background discussion, and SO have on ambient noise in an emergency department's physician charting area.

Methods: This prospective observational study monitored ambient noise levels in an emergency physician charting area