

15 “I Heart ECGs: A Novel ECG Curriculum Designed for Adult Learners”

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Introduction/ Background: Emergency Medicine residents learn more from interactive, case-based, self-directed, and experiential learning strategies over traditional lecture-based didactics. Integration of an ECG curriculum grounded in these adult learning principles can facilitate a learning environment that maximizes engagement and skill acquisition.

Objectives: We implemented an ECG curriculum tailored to adult learners to meet our residents’ needs. We hypothesize this will bolster residents’ confidence in ECG interpretation skills.

Curricular Design: A problem-centered general needs assessment found that our residents lacked confidence in ECG competency and were dissatisfied with the ECG curricula. A multifaceted targeted needs assessment uncovered residents’ knowledge gaps. We designed the “I Heart ECGs” curriculum to address identified needs. On Mondays, residents receive an ECG, case vignette, and 2-3 open-ended questions. During weekly conference, residents and faculty openly discuss appropriate triage, potential diagnoses, and optimal management. Faculty then unveils the diagnosis and leads a debrief on recognition, management, and clinical insights.

Impact: “I Heart ECGs” has gained popularity with residents and enhanced confidence in ECG interpretation, yielding benefits at both Kirkpatrick levels 1 and 2. Residents completed a 5-point Likert scale survey before curriculum implementation and one year after. Pre-implementation, 76% strongly agreed that an interactive ECG curriculum would be beneficial for their education. This rose to 100% post-implementation. Pre-implementation, only 19% of residents reported confidence in ECG interpretation skills. Post-implementation, this surged to 100%. Similar improvements were seen in confidence identifying and managing various ECG subcategories, showcasing advancement in learning. Future research will explore the curriculum’s impact on resident ECG competency and patient outcomes (Kirkpatrick levels 3 and 4).

16 Documentation Curriculum for Emergency Medicine Residents

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Introduction/ Background: Documentation is a key skill for emergency medicine (EM) physicians and part of Accreditation Council for Graduate Medical Education (ACGME) milestones. Much literature on resident

documentation curricula focuses on billing and coding and does not incorporate 2023 American Medical Association (AMA) Current Procedural Terminology (CPT) coding changes. We sought to fill the need for comprehensive and updated resident documentation training by creating a curriculum addressing documentation around 2023 AMA CPT codes, defensive documentation, and medical decision-making (MDM).

Educational Objectives: By the end of our curriculum, residents will be able to: 1. Correctly code EM charts 2. Analyze charts for defensive documentation elements 3. Report increased confidence in documentation for billing and coding, defensive documentation, and MDM 4. Evaluate self and peer charts for documentation best practices

Curricular Design: Our needs assessment showed residents felt least confident documenting for MDM, defensive documentation, and billing and coding and preferred case-based learning. Our curriculum featured case-based synchronous sessions on 2023 AMA CPT codes with simulated charts and on high-risk documentation areas with historical medicolegal cases. We also included longitudinal asynchronous chart review with new self and peer chart assessment forms. This promoted active learning, which is integral to successful resident documentation curricula.

Impact/Effectiveness: Pre/post-session surveys showed statistically significant increases in self-confidence in our targeted documentation areas. A majority of residents felt the case-based format promoted learning. Residency leadership accepted the chart assessment forms as a formal part of program requirements. Future plans include sessions tailored for interns and assessment of chart review compliance. This curriculum can be implemented broadly to help train EM residents in documentation.

Table 1. Average Likert Scale ratings of agreement on pre-/post didactic surveys

	Pre-survey (n = 14)	Post-billing and coding session (n = 14)	Post-medicolegal session (n = 10)
I feel confident in my ability to document for different levels of billing and coding.	2.2	4.1*	NA
I feel confident in my ability to document my medical decision making.	2.5	3.9*	3.4*
I feel confident in my ability to document defensively.	2.4	NA	3.3*
This session added to my documentation skills as an emergency medicine physician.	NA	4.4	4.6
The format of this session was conducive to my learning about documentation.	NA	4.6	4.6
The duration of this session was appropriate for the content.	NA	4.5	4.3
I would recommend having this session again next year.	NA	4.5	4.7

Likert statements were rated on a 5-point scale with 1 = strongly disagree and 5 = strongly agree.

*Statistically significant difference compared to pre-survey data at p < 0.05

Table 2. Post-didactic narrative feedback.

Post-billing and coding session	"Real notes and why they got down coded would be helpful. Very helpful!"
	"Actually ways for PGY 1 to know how to write an MDM like the different ways and what's best for efficiency and billing. Great session!! Truly helpful"
	"Incredibly done!!"
	"Let's brainstorm some note templates together that would at their most basic, cover these standards!"
Post-medicolegal session	"We need more time! Great topics and worth more time for discussion"
	"Having a session to understand more about what goes into MDM especially as PGY1's having a session where we create a templates for chief complaints would be great too"

17 Procedure Passports: The Journey to Procedural Competency

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Background: Competency in bedside procedures is crucial in emergency medicine. Frequently changing teams and variable levels of direct observation make assessment and subsequent entrustment challenging. Additionally, the ACGME CLER process recommends that staff have easy access to determine when trainees are entrusted to independently perform bedside procedures. To our knowledge, there are no prior efforts to create a standardized process for assessing, determining, and broadcasting entrustment on bedside procedures in EM residents.

Educational Objectives: We implemented a procedure passport for PGY1 EM residents to enhance direct observation and feedback to the learner and provide an objective indicator of competency to supervising physicians and staff.

Curricular Design: By consensus, senior educators identified 8 procedures that PGY2 EM residents could perform without direct supervision for all portions of the procedure. Previously developed and validated local checklists or published validated checklists were adapted via an iterative process and compiled into Qualtrics. All 15 PGY1 EM residents were given a badge buddy with the procedures as a punch card and a QR coded Qualtrics link (Figure 1). Supervising physicians completed the checklists while directly observing the learner in the clinical environment. Each assessment with all checklist items marked as 'done correctly' received a punch. Residents were considered entrustable after 3-5 punches, depending on the procedure. Interns and supervisors were surveyed on their opinions after 4 months.

Effectiveness: Implementation was successful; all residents completed at least 1 assessment, and several are entrusted on multiple procedures. Overall interns and supervisors found it helpful (Table 1). Potential changes

moving forward include improving access to written feedback and increasing awareness amongst nursing staff.

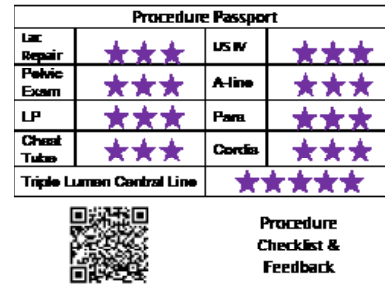


Figure 1. Procedure passport.

Table 1. Representative survey comments.

Intern Comments	Supervisor Comments
"A good way to get good feedback and gain confidence in procedural skills"	"It ensures interns have adequate supervision especially given that they are coming from different medical schools"
"Improved the quality of feedback received on procedures"	"The procedures are very important and reminds you that not every learner starts off being great at any procedure (even lac repairs)"
"A great vessel for procedural observation"	"A good reminder of what steps to ensure are done when you are supervising someone"

18 Constructing a Cloud-Based End-of-Shift Entrustable Professional Activity Assessment System

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Background: The use of competency based entrustable professional activities (EPAs) is transforming the approach to resident assessments across medical disciplines. However, as programs consider transitioning to EPA based assessments, they face the important problem of how to collect and monitor data to promote usage and ensure quality. The solution must be efficient, secure, and support ACGME Milestone reporting.

Objectives: Construct a secure and digital end-of-shift assessment system to increase the frequency and timeliness of feedback to residents; provide an efficient and accessible format to faculty; and include a backend infrastructure to translate EPA data to ACGME Milestones for use by the Clinical Competency Committee.

Design: Utilizing a set of 22 EPAs developed for EM, we designed a resident assessment system using Microsoft's SharePoint cloud platform (Figure). This was chosen for its ease of use and secure sign on capability. QR codes posted in charting rooms enabled access to a Microsoft Form on mobile devices. To assess a resident, faculty members select an EPA on the form and enter the required level of supervision and free text feedback on strengths and areas for improvement.