



# Symposium on Educational Excellence 2024

## Advancing entrustability through rigorous observations (AERO) med: a flipped classroom model for transport education.

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### Keywords

Transport medicine; Standardized curriculum assessment; Entrustability; Critical Illness; Patient Care

### Abstract

The use of specialty transport teams is known to improve outcomes for critically ill or injured patients compared to those transported by non-specialized teams (Orr, Pediatrics, 2009). The American Board of Pediatrics (ABP) content outline for pediatric critical care medicine (PCCM) calls for comprehensive training in the management of these patient transports. The goal is to graduate intensivists with a strong knowledge of transport physiology and local/regional systems who can provide skilled online medical control for specialty teams. The end result, we hope, is better & safer patient care prior to arrival at tertiary centers.

PCCM fellows, both at our institution and nationally, are known to learn transport medicine and other core procedural skills in variable & unstructured ways – “on the job.” A recently published needs assessment of central venous catheter placement training (Boyer, PCCM, 2019) highlighted this variability, and called for a more standard curricular approach. While work is ongoing at a national level (APPD Subspecialty Pediatrics Investigator Network, SPIN; EPIC Investigators) to try to correlate self-assessments, clinical competency committee milestone assessments, and scores of entrustability (EPAs) for individual fellows’ procedural skills, a majority of PCCM fellowship program directors agree that standardized curricula and assessments are sorely needed. Fellows and faculty alike feel “thrown in” to this learning process, and thus default to personal styles and preference (ranging from micromanagement to under-supervision, with both extremes being problematic.) As a result, it is difficult to evaluate fellows’ true procedural competence, or track their progress.

Our targeted needs assessment of our PCCM transport curriculum reveals a much larger degree of concern for our systems-related challenges (geographic complexities, capacity limitations, supervision structures), with less concern for deficits in education surrounding flight physiology/pathophysiology. EPA scores seem to align more closely with how well the fellow is doing in other skill areas – which we presume stems from faculty biases in scoring. Further, criticisms of fellows’ transport performance appear more related to how well they provide customer service and closed-loop communication to referring providers, and less to how well they understand the nuances of flight physiology and/or system limitations.

Our aim is to reduce subjectivity and bias in this specific area of procedural evaluation, with the expectation that fellow entrustability can increase in a more linear fashion over time with more rigorous coaching and observation. Secondly, we hypothesize that dedicated attention to some more “basic” communication/customer-service skills will correlate with increases in EPA scores for transport direction.

We are starting from near-scratch, with largely no structured transport curriculum at the start of this curricular project – with the exception of a 2-hour introductory lecture during the first year Orientation. Cases are being compiled & refined for use in a series of flipped-classroom modules (including audiotaped case examples), with compendium questions and structured assessments that highlight important systems & customer service learnings. Knowledge check assessments (quizzes) are being developed to track absorption of curricular components over time.

## Learning Objectives

1. Gain appreciation for the importance & value of highly-skilled pediatric specialty transport teams, which must be accompanied by skilled online medical control.
2. Recognize the variability and lack of standardization in procedural training across PCCM programs, including for transport medicine/transport direction skills
3. Highlight the strong biases in current evaluative practices, and how these may improve over time with more rigorous coaching & observation
4. Demonstrate that fellows' ability to master key customer service skills may be more impactful for their level of entrustability than their wrote knowledge of transport medicine.