

***Effectiveness of Case-Based Learning Curriculum on Emergency Medicine Resident Self-Efficacy Related to Management of Radio Medical Communications.***

**First Author:** Linh Nguyen

**Classification:** EM resident

**Additional Authors:** Lindsay Wencel, MD (EM resident)  
Danielle DiCesare, MD (Attending)  
Christine Van Dillen, MD (Attending)

**Affiliations:** Orlando Health

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**Mailing Address of First Author:** 86 W Underwood St  
Orlando, FL, 32806

**Email Address of First Author:** ltnguyen.309@gmail.com

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Title: Effectiveness of Case-Based Learning Curriculum on Emergency Medicine Resident Self-Efficacy Related to Management of Radio Medical Communications.

Study Objectives: Cases commonly occur where Emergency Medical Services (EMS) personnel must seek real-time physician orders for direction outside of existing protocol. Despite being a core skill for emergency physicians, there is a paucity of published education materials aimed at training physicians to give medical direction over the radio. The purpose of this study was to assess the effectiveness of a case-based learning curriculum focused on familiarizing Emergency Medicine providers with managing radio communications with Emergency Medical Services (EMS) providers. Secondary objectives included assessing subgroup effectiveness of the curriculum on attending physicians and residents by PGY years.

Methods: 39 participants at an academic, Level One Trauma Center completed self-assessments before and after undergoing a novel case-based curriculum aimed at familiarizing Emergency Medicine residents with handling prehospital radio communications involving complex topics such as termination of resuscitation, determination of patient capacity, handling of pediatric cases, and authorization of medication and procedures beyond protocol. The responses were retrospectively reviewed for self-reported levels of comfort, as reported on a 5-point Likert scale. A homoscedastic T-test was used to compare the pre and post-responses.

Results: Participants ranked the overall helpfulness of the experience as 4.82/5. Strong statistical differences in pre-course and post-course data were found in all areas of evaluation: termination of resuscitation ( $T = -6.26$ ,  $p < .00001$ ), patient refusal ( $T = -6.14$ ,  $p < .00001$ ), medical incapacitation ( $T = -7.20$ ,  $p < .00001$ ), and use of non-protocol medications ( $T = -5.95$ ,  $p < .00001$ ).

Conclusions: The five-part case-based learning curriculum was determined to have a positive impact on participant self-efficacy, who reported significant differences in self-efficacy regarding the idea of handling prehospital radio calls after completing all the cases. Our study shows that this innovative training equipped and empowered emergency medicine providers at all levels to manage online medical control calls.

Further studies could include implementation at other residency programs naive to taking medical communications in the Emergency Department to aid in the validation of this curriculum.