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Rapid Cycle Deliberate Practice in Resuscitation: Time to Completion of Critical Actions

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prevention (TRVP) interventions at an urban Level 1 Pediatric Trauma Center and Emergency Department.

Methods: We surveyed 70 health providers working in a Level 1 pediatric emergency department over a 6-month period. All participants completed a 12-item survey to assess knowledge, usage, importance, and efficacy of TRVP resources (N=70). A psychometric 5-point scale was used to assess knowledge, usage, importance, and efficacy while free responses captured data on “existing resources, resource barriers, and TRVP areas of improvement”.

Results: The 70 participants consisted of 53 physicians, 12 nurses, 2 ED technicians, and 3 other staff. Of physicians, 74% were residents with 47% in EM residency and 47% in pediatrics. Participant awareness of existing TRVP resources was low, 80% scored a ≤3 (of 5). Overall, 67% of participants indicated a moderate to frequent use of TRVP resources. However, nearly 41% of participants reported feeling slightly to not at all confident in activating existing resources. Most participants (90%) agreed that providers should incorporate TRVP into standard youth medical care. Over 88% of participants identified resources as minimally effective at preventing reinjury.

Conclusion: Providers agree that TRVP use should be standard care of for assault injured youth. However, they have limited awareness of resources, low confidence in utilizing resources, and low efficacy rating for existing resources. Further work is needed to train providers on TRVP resources to improve provider utilization.

45 Rapid Cycle Deliberate Practice in Resuscitation: Time to Completion of Critical Actions

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Background: Simulation training is often used in graduate and undergraduate medical education programs to teach procedural and clinical skills. Rapid cycle deliberate practice (RCDP) is a simulation strategy that utilizes iterative practice and immediate feedback to achieve skill mastery. The impact of RCDP training on adult resuscitation education has yet to be studied.

Objective: Compare the time to completion of advanced cardiovascular life support (ACLS) actions between trainees who have completed immersive sim vs. RCDP sim for ACLS.

Methods: This study was a prospective, randomized, controlled, curriculum evaluation in which 55 ACLS certified Internal Medicine and Emergency Medicine interns were randomized to either RCDP sim or immersive sim. Time to initiating critical ACLS actions was compared between groups. Metrics included time to first pulse check, first chest compression, backboard placement, first rhythm analysis,

first defibrillation, first epinephrine, pause duration, and amiodarone administration. Performance was evaluated and timestamps recorded during an additional immersive sim.

Results: Residents were randomized to instruction by RCDP sim (28) and immersive sim (27). Immersive vs. RCDP groups demonstrated seconds to first pulse check 5.6, 4 (p=0.09), first chest compression 15.2, 12.4 (p=.18), backboard placement 193.4, 40.4 (p=.14), pad placement 74.8, 66.4 (p=.46), initial rhythm analysis 111.2, 73.6 (p=.09), first defibrillation 150.6, 93 (p=.11), first epinephrine 158.2, 131.6 (p=.36), pause duration 14.2, 6.2 (p < 0.05), and amiodarone 376.6, 438.8 (p=.34), respectively.

Conclusions: RCDP learners trended towards earlier completion of ACLS actions compared to their immersive peers in all categories (Chart 1, 2), with a statistically significant reduction in pause duration. Results are limited by the sample size, but given the overall trend, RCDP-trained residents appear to complete ACLS actions more quickly than immersive trained peers.

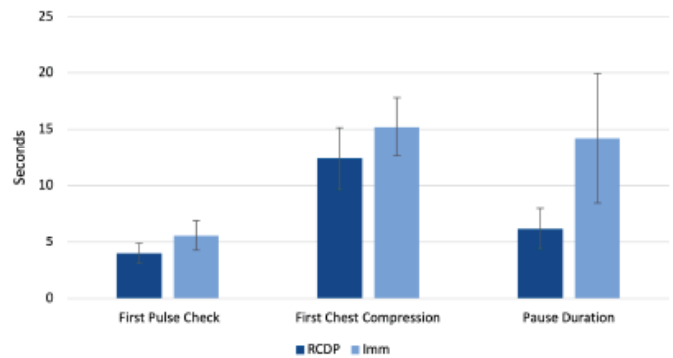


Figure 1. Chart 1: RCDP versus immersive time differences.

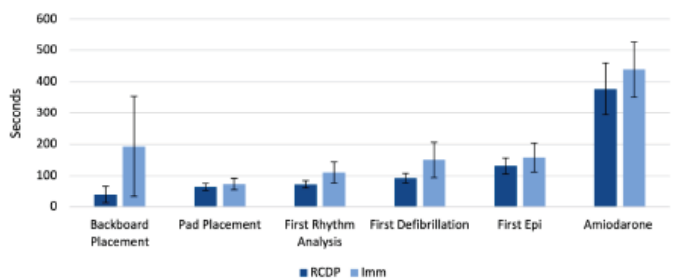


Figure 2. Chart 2: RCDP versus immersive time differences.

46 Rapid Cycle Deliberate Practice vs Traditional Simulation Methods in Trauma Team Resuscitations

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Background: Rapid cycle deliberate practice (RCDP)