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Table 2: Backup Systems: Policy Prevalence, Structures, Make-Up Rules and Burden-Reduction Strategies

Variable	Category	n (104)	%
Formal Backup? (Q6)			
	Yes	83	79.80%
	No	21	20.20%
Backup structure (Q7)*			
	Resident assigned to 24-h backup	57	54.80%
	Split 24-h backup (12+12 h)	2	1.90%
	Resident assigned to specific site	12	11.50%
	Resident assigned to specific shift	5	4.80%
	Volunteer to cover without pay	15	14.40%
	Residents receive financial compensation	11	10.60%
	Residents receive future shift reduction	52	50.00%
	Faculty covers open shift	6	5.80%
	Advanced practice clinician covers open shift	6	5.80%
	Shift left unstaffed if resident calls out	35	33.70%
	Backup for a week (new theme)	6	5.80%
	Rearrange schedule instead of calling backup (new theme from comments)	2	1.90%
Make-up shift required? (Q8)			
	Case-by-case approval by program leadership	33	32.35%
	Yes - always require make-up shift	31	30.39%
	Other	22	21.57%
	No - make-up shift never required	16	15.69%
Burden reduction strategies (Q9)*			
	Evenly distribute backup shifts	60	57.70%
	Provide financial compensation	9	8.70%
	Make backup optional	2	1.90%
	Allow residents to request specific backup days	7	6.70%
	Rearrange the schedule to avoid calling backup	60	57.70%
	Limit the number of activations per resident	13	12.50%
	Home electives include backup coverage	34	32.70%
	Required rotations include backup	45	43.30%
	Other	8	7.70%

*Survey respondents were allowed to choose more than one option, if applicable

Regarding make-up shifts, decisions may be case-by-case (32%), always required (30%), never required (15%), or follow other customized rules (21%).

Conclusions: This study is the first exploration of backup systems in ACGME-accredited EM residency programs in the United States, providing valuable insights into the various approaches and challenges faced by these programs.

67 Rapid Cycle Deliberate Practice Improves Time to Critical Actions in Trauma

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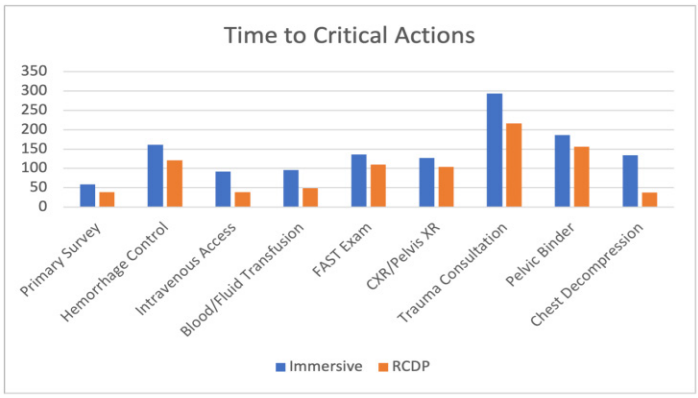
Background: Simulation-based trauma education is integral to developing early competence in advanced trauma life support (ATLS). Immersive simulation (IS) offers experience but provides limited opportunities for feedback and deliberate repetition. Prior research in procedural education supports Rapid Cycle Deliberate Practice (RCDP)'s effectiveness in the acceleration of time-critical actions, but data specific to ATLS is limited.

Objectives: To compare the performance of fourth-year medical student trauma teams trained using RCDP versus IS, examining time to completion of key ATLS actions.

Methods: This prospective, randomized study was conducted at a single academic medical center. Fourth-year medical EM clerkship students participated in team-based simulated trauma resuscitations using either IS or RCDP. In a subsequent assessment case, times to completion of ATLS tasks were recorded: primary survey, hemorrhage control, intravenous (IV) access, blood/fluid transfusion, FAST, Chest/pelvis x-ray, secondary survey, trauma consultation, pelvic binder application, tranexamic acid (TXA), and chest decompression. Mean times for each task were compared between groups using the Mann–Whitney U test.

Results: Ten team simulations were analyzed (Immersive = 5; RCDP = 5). Mean completion times (seconds) for RCDP versus IS were as follows: Primary survey (36.5 vs 56.4; p = 0.14), Hemorrhage control(121.3 vs 159.6; p = 0.72), IV access (39.5 vs 92.9; p = 0.14), Blood/fluid transfusion(51.0 vs 102.8; p = 0.18), FAST exam (114.8 vs 146.7; p = 0.56), Chest/pelvis x-ray(119.8 vs 121.4; p = 1.0), Secondary survey(189.5 vs 138.8; p = 0.063), Trauma consultation(229.3 vs 316.3; p = 0.19), Pelvic binder(162.5 vs 188.5; p = 0.62), TXA(144.7 vs 220.5; p = 0.80), Chest decompression(37.8 vs 152.3; p = 0.016).

RCDP teams demonstrated faster mean performance across nearly all domains, with chest decompression achieving statistical significance and IV access and transfusion trending toward significance.

Conclusions: RCDP simulation yielded faster execution of ATLS tasks compared with IS, reaching significance for chest decompression and near-significance for IV access and transfusion. Despite a limited number of simulations, the trend across tasks suggests meaningful educational benefit, meriting further study.