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Does a Positive Delta from Step 1 to Step 2 Correlate with Board Passage?

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**Table 1.** Self-efficacy in Error Disclosure Among 15 Emergency Medicine Residents.

"How prepared do you feel to perform each variable during the disclosure of a medical error?"	Score* mean (SD)		Residents Improved n (%)	P value
	Pre	Post		
Know what to include	2.5 (0.6)	4.4 (0.7)	15/15 (100)	p < 0.001
Introduce the topic with a patient	2.9 (1)	4.3 (0.5)	13/15 (87)	p < 0.001
Deal with a patient's emotional response	3.1 (1)	3.9 (0.6)	10/15 (67)	p = 0.005
Express Empathy	3.9 (0.6)	4.2 (0.6)	8/15 (53)	p = 0.05
Respond to a patient's questions	3.1 (0.7)	3.9 (0.6)	10/15 (67)	p = 0.003
Address patient concerns about consequences of error	2.5 (0.9)	3.9 (0.7)	11/14 (79)	p < 0.001
Deal with legal questions	1.7 (0.7)	2.7 (0.9)	10/15 (67)	p < 0.001
Recognize your own emotions	3.6 (0.9)	4.1 (0.8)	7/14 (50)	p = 0.006
Keep your emotions in check	3.5 (0.8)	4.2 (0.7)	9/15 (60)	p < 0.001

\*Score ranges from 1 (lowest; not at all prepared) to 5 (highest; very well prepared), expressed in mean (SD), p value using paired t-test. Survey adapted from Bonneria R et al. / Grad Med Educ. Sep 2009;3(1):114

**Table 2.** Critical Action Checklist for Key Elements in Medical Error Disclosure.

Critical Action	Score		Score mean (SD)
	1 = very poor	5 = excellent	
Conducts explicit disclosure of error to patient	Does not explicitly explain that an error took place and the patient had suffered as a result	Describes the nature and source of the error and consequences of the error to the patient and/or family members	3.6 (0.6)
Responds forthrightly to patients questions about the event	Avoids direct responses to a family members question	Responds truthfully to the patient and/or family member's questions	4.0 (0.4)
Apologizes upfront and early in conversation	Does not apologize upfront	Apologizes to the patient and family member at the beginning of the disclosure conversation	4.4 (0.5)
Exhibits general communication skill with the patient	Remains aloof and distant to family member's emotional distress	Displays verbal and nonverbal empathy and support of the patient and family member	3.9 (0.5)
Conducts blame-free disclosure, acknowledges personal role	Blames a team member in front of the family member	Avoids blaming of other team members, resists patient and/or family members attempts to affix blame	4.1 (0.6)
Offers plans to prevent future errors	Does not address specific plans for preventing future errors	Explains to patient and/or family member what will be done to prevent such errors from occurring in the future	3.8 (0.7)
Plans follow up with patient	Does not offer to follow up with the family member	Offers to follow up with the patient and family member for other potential questions they may have	3.9 (0.6)

Adapted from Biberston K et al. Error Communication: Discover barriers, share best practices and lead change with simulation. IMSH 2016.

**Lightning Oral Presentations**

**1 Does a Positive Delta from Step 1 to Step 2 Correlate with Board Passage?**

*Dulani T, Guo U, Visconti A, Cabezon M, Jara-Almonte G, Gaeta T/New York Methodist Hospital, Brooklyn, NY*

**Background:** USMLE Step 1 has been reported to have correlation with successfully passing the boards. A low passing or below average Step 1 score is often a deterrent to residency directors. However, we also see residency applicants that have performed below average on their USMLE Step 1 but have shown significant improvement in their USMLE Step 2 scores. There are recent studies that suggest that Step 2 may be a better predictor than Step 1. Our study aims to evaluate if a positive delta, that is if the improvement from USMLE Step 1 scores to Step 2 scores, independently correlates to successful passage of the boards in Emergency Medicine (EM) on first attempt.

**Objectives:** To evaluate if step 1 scores, step 2 scores or a significant improvement (the delta) from Step 1 to Step 2 scores independently correlates with successful passage of the boards.

**Methods:** We performed a retrospective cohort study utilizing data from residents graduating between 1999 and 2015 at a three-year Emergency Medicine training program at an urban, community, university affiliated hospital. USMLE Step 1, Step 2 CK scores of graduates, and first-attempt ABEM qualifying exam passage were compiled and blinded for confidentiality. Percentile of USMLE scores was extrapolated from the national average and standard deviation for each exam year. The change in percentile between Step 1 and Step 2 was calculated and is termed the delta.

Residents who did not complete the residency, who did not take both USMLE Step 1 and 2, who had a history of failing USMLE Step 1 on first attempt and graduates with partial information on file were excluded. Correlation between each variable and the relative risk (95% CI) for success are reported (alpha <0.05).

**Results:** From 1999 to 2015, there were 122 graduates from the Emergency Medicine residency program. 30 were excluded because they met exclusion criterion.

A positive delta from Step 1 to Step 2 was found to be statistically significant when the value was 30 points or higher, 1.16 (1.07-1.26). Step 2 was found to be an independent predictor of passing the ABEM qualifying exam, 1.18 (1.02-1.31).

**Conclusions:** There was a positive trend in success rate with increasing delta. Step 2 was found to be an independent predictor of success for board passage. Our future studies will include a multi-center analysis with other emergency medicine residencies to further evaluate the significance of delta.

## 2 Does Video Playback Speed Affect Comprehension for Students Listening to Podcasts for Novel Curriculum Delivery?

*Song K, Chakraborty A, Dugan A, Adkins B, Dawson M, Doty C /University of Kentucky College of Medicine, Lexington, KY; Stanford University Department of Radiology, Palo Alto, CA*

**Background:** Medical education is a rapidly evolving field that has been utilizing new technology to enhance the learning of medical students. One new teaching modality is the video recorded lectures or podcasts. Recorded lectures not only allow the flexibility to pause and rewind, but also allows students to watch lectures at faster speeds. In a setting such as medical school where knowledge of minutiae and comprehension of concepts is paramount for success, the ability to watch lectures at faster speeds could be extremely beneficial. Though previous studies have shown subjective improvement in learning, no quantitative studies measuring information retention has yet been published.

**Objectives:** The purpose of this study is to determine if watching podcasts at 1.5x speed is more effective, equivalent to, or less effective to 1.0x speed for retention of new material by statistical comparison of the mean and median test scores.

**Design:** prospective, single-center, IRB approved, experimental study.

**Setting:** University of Kentucky College of Medicine.

54 medical students were randomized into two groups. Each group watched two separate videos at 1.5x and 1.0x speeds and took the respective assessments immediately after watching each video. The two videos shown were ultrasound artifacts and transducers. Neither topic is covered in the medical school curriculum. Group A watched artifacts video first at 1.5x speed then transducers at 1.0x speed; Group B watched transducers video first at 1.5x speed then artifacts at 1.0x speed. Mean and median test scores at different speeds were compared using the t-test.

**Results:** On artifacts test, there was a significant

difference ( $p=0.0188$ ) in performance with 1.5x speed group (mean- 61.4; SD- 19.3) performing worse than the control group at 1.0x speed (mean-72.7; SD- 14.6). On transducers assessment, 1.5x speed group (mean- 66.9; SD- 17.6) again performed worse than the control group at 1.0x speed (mean- 73.8; SD-15.6), but the difference was not significant ( $p=0.1365$ ).

**Conclusions:** Contrary to the previous studies showing subjective improvement in performance with sped up lectures compared to live lectures, our data shows worse test performance pertaining to new material at 1.5x speed compared to normal speed.

**Table 1.** Artifacts Quiz results- t-test- was used to compare the mean of 1.5x versus 1.0x speed. Group A viewed Artifacts at 1.5x speed and Group B viewed Artifacts at normal speed.

Artifacts podcast	Overall	1.0x Speed (Group B)	1.5x Speed (Group A)	P-value
No. of Participants	54	26	28	N/A
<b>Artifacts Scores</b>				
Mean (SD)	66.9 (18.0)	72.7 (14.6)	61.4 (19.3)	0.0188
Median (Quartiles)	65.0 (56.3, 80.0)	75.0 (65.0, 80.0)	60.0 (50.0, 75.0)	

**Table 2.** Transducers Quiz results- t-test- was used to compare the mean of 1.5x versus 1.0x speed. Group A viewed Transducers at normal speed and Group B viewed Transducers at 1.5x speed.

Transducers podcast	Overall	1.0x Speed (Group A)	1.5x Speed (Group B)	P-value
No. of Participants	54	28	26	N/A
<b>Transducer Scores</b>				
Mean (SD)	70.5 (16.8)	73.8 (15.6)	66.9 (17.6)	0.1365
Median (Quartiles)	69.6 (56.5, 87.0)	73.9 (64.1, 88.0)	69.6 (52.2, 81.5)	

## 3 Training Residents to C.A.R.E. Using Videotaped Unannounced Standardized Patient Encounters

*Chung A, Saloum D, Retino C, Brazg J, Weiner C, Pushkar I, Drapkin J, Likourezos A, Marshall J/Mount Sinai Emergency Medicine, New York, NY; Maimonides Medical Center, Brooklyn, NY*

**Background:** Physician empathy increases patient satisfaction, improves outcomes, and is integral to effective patient communication. We developed an innovative educational method using videotaped unannounced standardized patient (USP) encounters during real clinical shifts to train and assess our residents' empathic communication skills. In contrast to other assessment types, USP encounters do not suffer from low fidelity or the Hawthorne effect. Video provides valuable feedback on verbal and nonverbal behaviors.