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**Department of Emergency Medicine** 

# Standardized Direct Observation Assessment Tool: Using a Training Video.

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# STANDARDIZED DIRECT OBSERVATION ASSESSMENT TOOL: USING A TRAINING VIDEO

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□ Abstract—Background: We developed a DVD training tool to educate physicians evaluating emergency residents on accurate Standardized Direct Observation Assessment Tool (SDOT) application. Objective: Our goal was to assess whether this training video improved attendings' and senior residents' SDOT use. Methods: Participants voluntarily completed SDOT evaluations based on a scripted "test" video. A DVD with "positive" and "negative" scenarios of proper SDOT use was viewed. It included education on appropriate recording of 26 behaviors. The test scenario was viewed again and follow-up SDOTs submitted. Performances by attendings and residents on the pre- and posttest SDOTs were compared. Results: Twenty-six attendings and 26 senior residents participated. Prior SDOT experience was noted for 8 attendings and 11 residents. For 20 anchors, participants recorded observed behaviors with statistically significant difference on one each of the pretest (no. 20; p = 0.034) and post-test (no. 14; p = 0.041) SDOTs. On global competency assessments, pretest medical knowledge

An abstract of this report was presented in poster format at the Council of Emergency Medicine Residency Directors Academic Assembly in 2012 in Atlanta, GA. The project was represented in an oral format at the 2012 Pennsylvania College of Emergency Physicians Scientific Assembly in Gettysburg, PA, where it received a Spivey Research Award. (p = 0.016) differed significantly between groups. The training intervention changed one anchor (no. 5; p = 0.035) and one global assessment (systems-based practice; p = 0.031) more negatively for residents. Recording SDOTs with exact agreement occurred 48.73% for attendings pretest and 54.41% post-test; resident scores were 45.86% and 49.55%, respectively. DVD exposure slightly raised attending scores (p = 0.289) and significantly lowered resident scores (p = 0.046). Conclusions: Exposure to an independently developed SDOT training video tended to raise attending scores, though without significance, while at the same time lowered senior resident scores statistically significantly. Emergency attendings' and senior residents' SDOT scoring rarely differed with significance; about half of anchor behaviors were recorded with exact agreement. This suggests senior residents, with appropriate education, may participate in SDOT assessment. © 2016 Elsevier Inc. All rights reserved.

□ Keywords—SDOT; training video

## INTRODUCTION

The Accreditation Council for Graduate Medical Education (ACGME) requires performance evaluation of all residents. Previously, the evaluation process was designated to address six areas referred to as the "Core

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The study was reviewed and approved as exempt by our network's Institutional Review Board before any study procedures taking place.

Competencies," which were central to the prior ACGME evaluation system (1). These competencies consist of the following: patient care (PC), medical knowledge (MK), practice-based learning and improvement (PBL), interpersonal and communication skills (ICS), professionalism (PROF), and systems-based practice (SBP) (1). The Standardized Direct Observation Tool (SDOT) was developed with these competencies in mind (2). The initial validation was with video scenarios, and the use of senior residents as evaluators was not studied in this cohort.

Recently, the American Board of Emergency Medicine and the ACGME have moved to the evaluation of emergency residents using the Next Accreditation System (NAS) "milestones." Table 1 describes these milestones. The Council on Residency Directors for Emergency Medicine (CORD) recommends direct observation as an evaluation tool for emergency residents for the following milestones: 1, 2, 3, 4, 5, 6, 7, 8, 10 (via checklist), 12, 13, 16, 17, 18, 19, 20, 21, 22, and 23 (3). Direct observation of some type is recommended in 19 of the 23 milestones. The previous SDOT is specifically recommended for measurement in all but milestone 13, 18, and 23.

The SDOT requires an emergency physician observe all aspects of a resident-patient encounter from initial contact to history and physical examination, reevaluation, and final disposition. The tool has standard definitions related to performance for each of the 26 evaluated areas, the six core competencies, a global assessment, and the ability to provide free-form feedback (4). These performance assessment definitions, or "anchors," as we denote in this article, are translatable to measureable NAS behaviors.

A previous study demonstrated that the SDOT instrument can be used with a high degree of inter-rater reliability by attendings in a summative fashion for five of the six competencies, with minimal training (5). The use of senior residents as SDOT evaluators has not, to date, been studied. We sought to develop a training tool that educated both attendings and senior residents on the application of the SDOT instrument, while viewing a resident during a performance encounter modeling positive behaviors (exceeds expectations), negative behaviors (below expectations), and mixed behaviors (combination of exceeds, meets, and below expectations). Accuracy would be defined as recording, on a study SDOT, behavior with exact agreement from a video encounter. The behaviors would be scripted with the tool's definitions (4). This study's specific goal was to determine whether this brief training video could improve attendings', as well as postgraduate year (PGY) 3 and PGY4 residents' SDOT use, as measured by exact agreement.

Table 1. Emergency Medicine Milestones and Grading Rubric

No.	Category	Milestone
1	PC1	Emergency Stabilization
2	PC2	Performance of a Focused History and Physical Examination
3	PC3	Diagnostic Studies
4	PC4	Diagnosis
5	PC5	Pharmacotherapy
6	PC6	Observation and Reassessment
7	PC7	Disposition
8	PC8	Multi-tasking
9	PC9	General Approach to Procedures
10	PC10	Airway Management
11	PC11	Anesthesia and Acute Pain Management
12	PC12	Goal-directed Focused Ultrasound
13	PC13	Wound Management
14	PC14	Vascular Access
15	MK	Medical Knowledge
16	SBP1	Patient Safety
17	SBP2	Systems-based Management
18	SBP3	Technology
19	PBL1	Practice-based Performance Improvement
20	PROF1	Professional Values
21	PROF2	Accountability
22	ICS1	Patient Centered Communication
23	ICS2	Team Management

Grading rubic (applies independently to each milestone)

Level 1: The resident demonstrates milestones expected of an incoming resident.

- Level 2: The resident is advancing and demonstrates additional milestones, but is not yet performing at a mid-residency level.
- Level 3: The resident continues to advance and demonstrate additional milestones; the resident demonstrates the majority of milestones targeted for residency in this sub-competency.
- Level 4: The resident has advanced so that he or she now substantially demonstrates the milestones targeted for residency. This level is designed as the graduation target.
- Level 5: The resident has advanced beyond performance targets set for residency and is demonstrating "aspirational" goals, which might describe the performance of someone who has been in practice for several years. It is expected only a few exceptional residents will reach this level.

ICS = interpersonal and communication skills; MK = medical knowledge; PBL = practice-based learning and improvement; P = patient care; PROF = professionalism; SBP = systems-based practice.

## MATERIALS AND METHODS

This was a pre-/post-education intervention study using the standards for performance evaluations as defined by the ACGME and CORD for performing SDOTs (4). The study was reviewed and approved as exempt by our network's Institutional Review Board before any study procedures taking place. The study was conducted at an independent academic medical center, not affiliated with a local medical school, hosting a dually approved PGY1 through PGY4 emergency medicine (EM) residency hosting 14 residents per year. Employed at the time of the study were 46 attendings, 19 of whom were designated as teaching faculty. Because all attendings evaluate residents, no differentiation was made as to whether they were designated as teaching faculty on the Program Information Form (PIF).

All emergency attending physicians and PGY3/PGY4 residents were given the material for improving faculty and senior resident knowledge. All were deemed eligible, and were asked to participate in this study. Core faculty who were members of the study team were excluded. Each of the attendings and the PGY3/PGY4 residents were asked to watch "test" and "educational" DVDs, which took approximately 70 min. EM core faculty and senior residents developed the DVD. Ideal scores for the test case were determined by design and intentionally modeled in the video seen on the DVDs. The research team provided the DVDs to all potential participants. Consent to participate was implied based on the return of evaluation forms; there was no penalty for those who chose not to participate.

Study participants viewed two DVDs of a resident-patient encounter. The first DVD, considered the pretest DVD, incorporated mixed behaviors (a combination of exceeds, meets, and below expectations behaviors) in a resident performance surrounding a single mock resident-patient encounter and resident-attending interaction. The participants viewed the pretest DVD and evaluated this scenario by completing the SDOT evaluation tool before receiving any education.

The second, educational, DVD was given to study participants to view in its entirety after they submitted their initial completed SDOT evaluation form. This educational DVD was developed as the primary training tool that modeled positive behaviors (exceeds expectations), negative behaviors (below expectations), and mixed behaviors (combination of exceeds, meets, and below expectations) of resident performances surrounding three versions of a mock single-patient encounter highlighting a chief complaint of chest pain.

The first two encounters on the educational DVD were informative and demonstrated a scripted positive and then a scripted negative resident performance. After viewing each of these scripted scenarios, the participants were asked to complete practice SDOT evaluation forms, but were not required to return this form to the researchers, as the DVD provided immediate feedback and ideal answers for educational purposes. After the third encounter—a repeat of the scenario on the first DVD that contained a combination of predetermined mixed behaviors—another SDOT evaluation form was completed. This final SDOT evaluation was submitted to the researchers as posteducation data and compared to the pre-education SDOT data provided before viewing the educational video.

All details of the mock patient's case and the roles actors played were consistent in the scripted positive and negative cases. The elements that changed were related only to the resident actor's performance, that is, whether it was overwhelmingly positive or negative. For the third encounter, in both the pre- and post-test scenario, details of the patient's history and examination remained the same, except instead of needing to translate for the patient, the patient was hearing impaired. Here the resident actor's performance was intentionally mixed. The testcase role actors were changed to prevent any affective bias from the first two cases. The intended scripted resident performance is demonstrated in Table 2. The 1 through 5 Likert global assessment scales for the six core competencies-PC, MK, PBL, ICS, PROF and SBP—were neither scripted nor taught in the educational video and, as such, interpretation was left to the study participant. Also unscripted was the overall clinical competence score.

Pre- and post-education SDOT evaluation forms were matched by name, by the Emergency Medicine Research Office. The study's research coordinator deidentified these forms, ultimately using a study identification number. Names were never released to study team members or the statistician. As part of the consent process, participants were informed only the research coordinator was aware of their identity.

At the conclusion of the final SDOT scenario, study participants were asked to complete a demographic form collecting general demographic information and written comments regarding the viewed encounter. Participant names were later removed and replaced by their study identification number by the study's research coordinator.

Analysis included statistics descriptive (mean  $\pm$  standard deviation) for continuous variables and n (%) for categorical variables for each of the evaluation cycles. The primary outcome was comparison of individual participant pre- and post-test scores. Secondary outcomes included comparisons of faculty and resident scores. Student's *t*-test, Pearson  $\chi^2$  (Fisher's exact test), Mann-Whitney U tests, and McNemar tests were used, as appropriate. These two test scenario scores were compared using Wilcoxon two- and three-sample tests, as well as signed rank testing. "Not applicable" (NA) responses were excluded from some analysis based on the coding of 1 = needs improvement, 2 = meets expectations, and 3 = above expectations. Significance was determined at p < 0.05.

## RESULTS

Twenty-six attendings with a mean of  $12.2 \pm 7.1$  years of EM experience and 26 senior residents agreed to

#### Table 2. Scripted Behaviors in Each Video

SDOT Anchor	Good	Poor	Test	Examples
1. Respectful of privacy	ME	ME	ME	Encounter kept separate
2. Appears professional	AE	NI	ME	Appropriateness of attire
3. Uses translation services	ME	NI	NI	Ask of services needed
4. Efficient information gathering	ME	NI	AE	Organized and logical
5. Complaint oriented examination	AE	NI	ME	Focused on key elements
6. Explains pathophysiology	ME	NI	ME	Aware of disease mechanism
7. Presents structured case	AE	NI	AE	Organized presentation
8. Discusses differential	AE	NI	ME	Consider atypical presentation
9. Risks/benefits/indications	AE	NI	ME	Discussion of side effects
10. Critical actions	ME	NI	ME	Knows key steps
11. Procedural competency	AE	NI	AE	Preparation and completion
12. Clear communication	ME	NI	ME	Courteous and consistent
13. Conflict avoidance/resolution	NA	NI	ME	Awareness of sensitive topics
14. Discusses care plan	ME	NI	NA	Communicates course
15. Clinical charting	ME	NA	ME	Timely/complete documentation
16. Patient prioritization	ME	NA	AE	Acuity takes priority
17. Contextual use of resources	AE	NI	AE	Calls in staff appropriately
18. Concern for social constraints	NA	NI	NA	Considers patient compliance
19. Controls distractions	AE	NI	ME	Excuses self when necessary
20. Informed decision making	ME	NI	ME	Respects patient wishes
21. Patient reevaluation	ME	NI	ME	Evaluates response to treatment
22. Documents reassessment	NI	NA	NA	Continued charting
23. Use of resources	NA	NA	NA	Aware of supportive consultants
24. Discharge planning	NA	NA	NA	Anticipates patient needs
25. Completes discharge plan	NA	NA	ME	Communicates with patient
26. Arranges follow-up	NA	NA	NA	Ensures care after discharge

AE = above expectations; ME = meets expectations; NA = not applicable; NI = needs improvement; SDOT = Standardized Direct Observation Assessment Tool.

participate in this study. Some familiarity with the SDOT was noted by 8 of the attendings and 11 of the residents. Table 3 depicts the pre- and post-SDOT anchor evaluations submitted by the study participants. As shown in Table 2, the ideal scores (excluding those NA) for each SDOT anchor are in bold type. It is interesting to note how many residents and faculty provided answers for items that could clearly not be evaluated appropriately based on the content of the video (this applies to items 14, 18, 22, 23, 24, and 26, which were scripted as NA).

The differences in anchor scores as recorded by attendings and senior residents were rarely significantly different. Only on anchor 20, on the pretest (p = 0.034), and anchor 14, on the post-test (p = 0.041), were the responses from the two groups statistically different. In both cases, the attending's score was significantly higher than the resident's. The exposure to the training video did not change this relationship between the groups for their recorded anchors with statistical significance except for anchor 5, where the training lowered resident scores (p = 0.035). Excluding the NA scripted responses; attendings recorded the intended scripted behavior with exact agreement on average 48.73% of the time for each anchor on the pretest. This improved to 54.41% on the post-test. Residents' recording of exact agreement with intended scripted behavior improved, on average, for each anchor from 45.86% on the pretest to 49.55% on the post-test.

Overall, residents became more critical in their evaluations of the video scripted performance after watching the instructional video in 14 of the 26 questions, less critical in 6 of the 26 questions, and had no change in 6 of 26 questions. Attendings were more critical in their evaluations after watching the instructional video in 10 of 26 questions, less critical in 12 of 26 questions, and showed no change in 4 of 26 questions. Exposure to the video raised faculty scores, although not in a statistically significant manner (p = 0.289) and lowered resident scores significantly (p = 0.046).

The recorded responses for the unscripted evaluation of Global Competency are provided in Table 4. The only significant difference between attending and resident assessment of competency was in the pretest scores for medical knowledge. Here, attendings were more likely to rate global medical knowledge lower than residents (p = 0.016). Exposure to the training significantly lowered resident assessment scores as compared to attendings for SBP on the post-test (p = 0.031). This was the only significant change in the relationship between the two groups' scores as a result of the intervention.

## DISCUSSION

We hypothesized that an SDOT training video would educate both attendings and senior resident evaluators

	Observation	i Fellou, allu v	category			
ltem		Needs	Meets Expectations, <sup>†</sup>	Above Expected. <sup>‡</sup>	Iter	
No.	Variable	n	n	n	No	•
1	Faculty pretest	7	16 <sup>  </sup>	2	10	Re
1	Faculty post-	4	7	Õ	10	
1	test Resident	5	15 <sup>  </sup>	1	10	Re
1	pretest Resident post-	8	15	1	11 11	Fa Fa
I	test	0		I		
2	Faculty pretest		8 5	0	11	Re
2	Faculty post- test	7		0	11	Re
2	Resident	17	3	3	12	Fa
2	pretest Resident post-	18	6 <sup>  </sup>	0	12	Fa
3	test Faculty pretest	25 <sup>§</sup>	0	0	12	Re
3	Faculty post-	12 <sup>§</sup>	1	12¶	10	
3	test Resident	20 <sup>§</sup>	2	1	12	Re
)	pretest		2	I	13	Fa
3	Resident post- test	23 <sup>§</sup>	1	0	13	Fa
1	Faculty pretest	3	17	1¶	13	Re
1	Faculty post- test	1	9	1¶	13	Re
1	Resident	2	18	3¶		
1	pretest	0	0	5 <sup>¶</sup>	14 14	Fa Fa
•	Resident post- test	8	9	5		
5	Faculty pretest		20	1	14	Re
)	Faculty post- test	1	12	0	14	Re
5	Resident	3	17 <sup>  </sup>	3	15	Fa
	pretest Resident post-	7	14 <sup>  </sup>	3	15	Fa
	test		10 <sup>  </sup>	F	15	Re
5 5	Faculty pretest Faculty post-	1 0	9	5 4		
	test	0	11 <sup>  </sup>	10	15	Re
6	Resident pretest	2	11"	10	16	Fa
6	Resident post-	2	14 <sup>  </sup>	8	16	Fa
7	test Faculty pretest	2	13	11 <sup>¶</sup>	16	Re
7	Faculty post-	0	6	7	16	Re
7	test Resident	2	12	9¶		
7	pretest	0	10	9¶	17 17	Fa Fa
7	Resident post- test	3	12	9		
3	Faculty pretest		7	6	17	Re
3	Faculty post- test	0	6	7	17	Re
3	Resident	3	12 <sup>  </sup>	8	18	Fa
3	pretest Resident post-	6	10 <sup>  </sup>	6	18	Fa
	test		9		18	Re
)	Faculty pretest Faculty post-	1	10	4 2		
	test	4		10	18	Re
)	Resident pretest	4	9	10	19	Fa
)	Resident post-	8	12	4	19	Fa
0	test Faculty pretest	3	15 <sup>  </sup>	2	19	Re
10	Faculty post-	1	10	2	19	Re
	test				10	

Table 3.	Frequency Tabulation by Anchor, Respondent,
	Observation Period, and Category

## Table 3. Continued

		Needs	Meets	Above
ltem No.	Variable	Improvement,* n	Expectations, <sup>†</sup> n	Expected, <sup>+</sup> n
10	Resident	5	12 <sup>  </sup>	2
10	pretest Resident post- test	8	14 <sup>  </sup>	1
11 11	Faculty pretest Faculty post-	1 0	1 1	1¶ 1¶
11	test Resident	0	10	2 <sup>¶</sup>
11	pretest Resident post- test	0	7	3¶
12 12	Faculty pretest Faculty post-	20 10	5   3 <sup>  </sup>	1 0
12	test Resident	17	4 <sup>  </sup>	2
12	pretest Resident post- test	16	7 <sup>  </sup>	1
13 13	Faculty pretest Faculty post-	16 8	2   0	0 0
13	test Resident	13	3	2
13	pretest Resident post- test	13	6 <sup>  </sup>	0
14 14	Faculty pretest Faculty post-	5 2	9 6	0 3
14	test Resident	6	9	0
14	pretest Resident post-	8	5	0
15 15	test Faculty pretest Faculty post- test	1 1	2   3	0 0
15	Resident	0	4 <sup>  </sup>	0
15	pretest Resident post- test	0	7	0
16 16	Faculty pretest Faculty post- test	4 4	13 7	0¶ 0¶
16	Resident	5	9	3¶
16	Resident post- test	8	8	2¶
17 17	Faculty pretest Faculty post-	2 0	15 8	01 21
17	test Resident	2	9	2 <sup>¶</sup>
17	pretest Resident post- test	2	12	2
18 18	Faculty pretest Faculty post-	3 1	3 3	0 0
18	test Resident	2	6	1
18	pretest Resident post- test	2	3	0
19 19	Faculty pretest Faculty post-	11 8	13 <sup>  </sup> 5 <sup>  </sup>	1 0
19	test Resident	10	10 <sup>  </sup>	1
19	pretest Resident post- test	14	8	0

(Continued)

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#### Table 3. Continued

		Needs	Meets	Above
ltem No.	Variable	Improvement,* n	Expectations, <sup>†</sup> n	Expected, <sup>‡</sup> n
20	Faculty pretest	. 1	20	0
20	Faculty post- test	0	11	2
20	Resident	5	14 <sup>  </sup>	3
20	Resident post- test	5	13 <sup>  </sup>	2
21	Faculty pretest	5	7	0
21	Faculty post- test	1	6	1
21	Resident pretest	3	6	1
21	Resident post- test	2	5	1
22	Faculty pretest	2	2	0
22	Faculty post- test	1	1	0
22	Resident	0	4	0
22	Resident post- test	0	2	0
23	Faculty pretest	3	1	0
23	Faculty post- test	0	0	0
23	Resident	1	1	1
23	Resident post- test	1	2	0
24	Faculty pretest	2	2	0
24	Faculty post- test	0	5	1
24	Resident pretest	2	1	2
24	Resident post- test	4	6	0
25	Faculty pretest	2	19	1
25	Faculty post- test	0	1	0
25	Resident	0	5	3
25	Resident post- test	0	1	0
26	Faculty pretest	0	1	0
26	Faculty post- test	0	0	0
26	Resident	0	1	1
26	Resident post- test	0	0	0

Results in bold type indicate ideal responses. Item numbers 14, 18, 22, 23, 24, and 26 were not able to be assessed in the video. \* Needs Improvement score = 1.

† Meets Expectations score = 2.

<sup>+</sup> Above Expected score = 3.

§ Needs Improvement does not meet acceptable resident behavior for PGY level.

<sup>II</sup> Meets expectations meets acceptable resident behavior for PGY level.

 $\P$  Above Expected resident performance better than expected for PGY level.

on the SDOT tool, improving their ability to accurately evaluate scripted behaviors. In this study, exact agreement of submitted SDOTs when compared to the intended, scripted performance for both groups, pretest and post-test, was approximately half. Exact agreement in a prior study averaged 65.99% per anchor (5). The video did improve exact agreement, but only by about 5%. Our agreement is lower than previously published, and may be a result of this study's smaller sample size.

In our pretest/post-test cohort, there are few significant differences between attending and resident scoring of the SDOT. This lack of statistical difference was found both for the majority of the specific anchors, which were scripted and addressed in the training video, as well as the global assessment of competency. Training, in the form of a locally developed instructional video, does not significantly change the relationship between resident and attending SDOT scores. In general, residents tended to be "more critical" after watching the video, while the attendings were "less critical." However, the attendings' subsequent changes after the video presented more of a mixed picture.

It is interesting to note that after the educational video, the senior residents become significantly more negative in their SDOT evaluations. It may be inferred that after watching the video, residents were comfortable using the SDOT evaluation to provide helpful feedback and constructive criticism, rather than be concerned about critically evaluating their peers. The initial SDOT manuscript noted the challenge of providing negative feedback, so perhaps education around the SDOT tool may help residency programs identify specific areas of weakness for trainees (1). This may be especially true in programs where the faculty is known to be reluctant to provide negative feedback, as has been reported previously (6).

Internally, we performed SDOTs using faculty observers who are not providing clinical care and estimate that an SDOT of the initial history and physical as well as a resident-attending presentation, can take up to an hour. Remaining in the department to include closure of the case to disposition would, in our experience, require further faculty resources. This concern for faculty time in conjunction with the broad recommendations for the use of direct observation by the Emergency Medicine Milestones document, led to this group suggesting that senior residents could be utilized to perform this laborintensive task (3). In the original SDOT study, the authors note that using the instrument while contemporaneously working clinically may be difficult (1). The use of senior residents to conduct SDOTs may free up faculty resources for other programmatic needs.

## Limitations

This study was completed within a single 4-year, dually approved, residency program, which limits its external validity. Eight of the faculty and 11 of the residents who participated in the study had prior training in evaluation of

Variable	1	2	3	4	5
Patient care					
Faculty pretest	3	10	10	1	0
Faculty post-test	0	3	5	5	0
Resident pretest	4	10	4	4	0
Resident post-test	7	9	4	4	0
Medical knowledge					
Faculty pretest	0	6	11	7	1
Faculty post-test	0	0	6	7	0
Resident pretest	0	0	7	11	5
Resident post-test	0	2	10	11	1
Practice-based learning and					
improvement					
Faculty pretest	0	5	15	2	0
Faculty post-test	0	0	7	6	0
Resident pretest	0	7	11	5	0
Resident post-test	1	4	13	6	Ō
Interpersonal and communication					
skills					
Faculty pretest	7	15	4	0	0
Faculty post-test	1	9	3	Ō	Ō
Resident pretest	6	14	2	Ō	1
Resident post-test	10	10	3	1	Ó
Professionalism					
Faculty pretest	4	17	5	0	0
Faculty post-test	1	5	7	Ō	Ō
Resident pretest	7	9	5	Õ	1
Resident post-test	6	12	5	1	Ó
Systems-based practice	•	•=	•	•	Ũ
Faculty pretest	0	3	17	2	0
Faculty post-test	1	Ő	11	1	Õ
Resident pretest	0 0	4	17	2	õ
Resident post-test	2	8	13	1	õ
Overall	2	0	10	•	0
Faculty pretest	7	10	1	0	0
Faculty post-test	1	10	ò	Ő	ŏ
Resident pretest	8	8	1	0	0
Resident post-test	4	6	Ó	0	Ő
	-	0	0	0	

Table 4.	Pre- and Post-Test Frequency of Responses by
	Subject Type for Unscripted Global Competencies

Values are n.

resident performance. Specific training may have included encounters with feedback based on core competency performance. A comprehensive survey outlining the specifics of prior training was not obtained; it should be assumed that prior training may have biased participants' performance in this study and confounded the results. The small sample size precluded us from separating our analysis by PIFdesignated teaching faculty and clinical faculty.

Further, many of the study participants were lost to follow-up. The post-test cohort of 13 attendings was significantly smaller than the size of the pretest cohort, which included 26 members. This represents a substantial loss of study participants, and confounds the impact of the intervention and interpretation of the relationship postintervention between the attendings and senior residents.

The largest limitation may be the internally developed video. While the study was a pilot, the quality of both the depiction of the scripted behaviors, as well as that of the educational intervention, has not been validated. This is likely the single largest reason why the exact agreement in this cohort differs from prior publications (5). Improvement would also be expected after watching the same video for a second time, regardless of the educational impact of the training tool.

## CONCLUSIONS

Exposure to an independently developed training video tended to, without significance, raise attending scores of resident performance, while statistically significantly lowering scores provided by senior residents. This suggests that the senior residents may have been assigning more liberal pretraining scores to their peers. In our cohort, attending physicians and senior emergency residents rarely differ in their application of the SDOT with statistical significance, either before or after the training video. About half of scripted SDOT anchor behaviors were recorded with exact agreement for both groups pre- and post-test. The lack of significant difference between the two groups was found for both scripted anchors and unscripted global assessments. This lack of significant difference suggests that senior residents may be able to function as SDOT assessors. If utilized as SDOT evaluators, senior residents may benefit from training in the use of the instrument.

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# **ARTICLE SUMMARY**

# 1. Why is this topic important?

Emergency attendings' and senior residents' Standardized Direct Observation Assessment Tool (SDOT) scores rarely differed; about half of anchor behaviors were recorded with exact agreement. This suggests senior residents can participate in SDOT assessment.

# 2. What does this study attempt to show?

The study's aim was to assess whether a training video/ DVD improved attendings' and senior residents' use of the SDOT.

# 3. What are the key findings?

Exposure to a training video significantly lowered resident scores, suggesting they may have been assigning more liberal pretraining scores to peers. Education to improve their objectivity may be useful.

# 4. How is patient care impacted?

By definition, the SDOT is a Council of Emergency Medicine Residency Directors-developed tool designed to specifically assess residents based on the Accreditation Council for Graduate Medical Education's Core Competencies. Residents who are better trained in interpersonal medical communication skills will translate into improved, more professional patient care.