

# “Give an impromptu lecture about juvenile idiopathic arthritis”: Using fellows’ performance on a pediatric rheumatology objective structured clinical examination scenario to improve future examinations

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## Introduction

- We aimed to validate a lecture on juvenile idiopathic arthritis (JIA) as a scenario included in an objective structured clinical examination (OSCE) for pediatric rheumatology trainees.
- JIA is one of the most common conditions seen in pediatric rheumatology in all regions of the country.
- Little training standardization results in educational variability

## Methods

- PROSCE’s held during American College of Rheumatology annual meetings in 2009 and 2011.
- Participants allotted 15 minutes to lecture about juvenile idiopathic arthritis to medical trainees.
- Performance was evaluated via checklists.
  - Faculty checklist included 25 medical knowledge items and five communication skill items
  - Scored on a scale of zero (not mentioned) to four (excellent) and summed to give a performance score (calculated score).
  - Additionally, faculty and medical students assigned fellows a holistic impression score
  - Comprehensive performance scores across all seven scenarios were calculated by averaging evaluators’ impression scores

## Results

**Table 1: Percent Female**

Fellow training year	Percent female	Percent female comparison
1	69% (n=16)	1 <sup>st</sup> year vs 2 <sup>nd</sup> year (p = 0.79)
2	75% (n=12)	2 <sup>nd</sup> year vs 3 <sup>rd</sup> year (p = 0.94)
3	78% (n=9)	1 <sup>st</sup> year vs 3 <sup>rd</sup> year (p = 0.73)

**Table 2: Region of training**

Training institution region	Number of fellows	Total number of fellows
<b>2009</b>		
Northeast	7 (35%)	31 (39.2%)
West	5 (25%)	14 (17.7%)
Midwest	4 (20%)	24 (30.4%)
South	4 (20%)	10 (12.7%)
<b>2011</b>		
Northeast	0 (0%)	26 (33.8%)
West	7 (41.2%)	16 (20.8%)
Midwest	5 (29.4%)	24 (31.2%)
South	5 (29.4%)	11 (14.3%)

**Table 3: Comparison of fellows’ performance by training year**

Checklist item type	P values		
	1 <sup>st</sup> vs 2 <sup>nd</sup> year fellows	2 <sup>nd</sup> vs 3 <sup>rd</sup> year fellows	1 <sup>st</sup> vs 3 <sup>rd</sup> year fellows
Medical knowledge items (n=25)	.34	.82	.31
Teaching skill items (n=5)	.10	.40	.08
Combined items (n=30)	.10	.54	.02

**Table 4: Comparison of calculated scores on JIA lecture**

	Mean and STDEV
Comprehensive PROSCE impression score average	3.16 ± 0.60
JIA overall performance impression score average	3.08 ± 0.89
JIA all checklist item performance calculated score	2.64 ± 0.54

**Table 5: Comparison of JIA scores to comprehensive score**

	Wilcoxon rank sum test P Value	Spearman’s coefficient
Comprehensive vs JIA impression	.83	r = .37 p = .03
Comprehensive vs JIA calculated	<.01	r = .32 p = .06
JIA impression vs JIA calculated	<.01	r = .71 p = <.01

## Conclusion

This analysis identifies that all scenarios should incorporate the holistic impression score with the calculated score to form a combined overall score. Raters should be trained regarding expected skills for various fellowship training years. Revisions will include changing the scenario prompt and checklist items using input from experts within the field and by grounding assessment items within published teaching rubrics.

## References

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**A lecture on juvenile idiopathic arthritis is a valid scenario to include in an objective structured clinical examination for pediatric rheumatologists. Future iterations should utilize improved scoring focusing on medical knowledge, communication skills, and holistic impression scores.**