

## Assessing Resident Communication with Faculty from Multiple Specialties in Pediatric Simulation Designed to Provide Multi-Source Feedback

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# Assessing Resident Communication with Faculty from Multiple Specialties in Pediatric Simulation Designed to Provide Multi-Source Feedback

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## Study Objective

Communication is critical in health care. The 5C's (Contact, Communicate, Core Question, Collaboration, Close the Loop) is a validated model of EM Communication developed by Kessler et al. Multi-source feedback (MSF) is recommended by the Accreditation Council for Graduate Medical Education (ACGME) for resident assessment. This study seeks to assess the differences of 5C's based communication checklist scores between EM and non-EM faculty for phone calls embedded in a resident-led high-fidelity pediatric (Peds) resuscitation MSF simulation (Sim) case conducted in-situ.

## Methods

This IRB approved, prospectively enrolled study of MSF and communication was conducted at a PGY 1-4 EM residency, training 14 residents per year. PGY 2-4 EM residents were eligible to be enrolled to lead a multi-disciplinary team through a single Peds Sim conducted in the Children's ED of an independent academic medical center. The team, including a PGY 1, 2 RN's, and 2 on-site EM attendings, provided MSF on a toxic ingestion resuscitation case. Remote from the Peds ED were both an EM

Toxicologist (Tox) and Peds Critical Care (ICU) physician. These faculty were contacted by phone during the case for consultation about management (Tox) and request for admission/transfer of care (ICU). The faculty completed a checklist of 12 objective behaviors based on the 5C's (Table 1). Data were compared across faculty specialty and PGY using Chi-Square, Fisher's Exact, and t-Test ( $\alpha=0.05$ ). PGY analysis was performed based on date as team leader.

## Results

Over 2 academic years, 34 sim team leaders (3 PGY 2, 18 PGY 3, 14 PGY 4) were enrolled. Table 1 denotes significant differences in phone communication between Tox vs ICU in Core Questioning ("Need for Consult,"  $p=0.0120$ ) and Closing the Loop ("Reviews/Repeats Plan,"  $p<0.0001$ ). "Supervising Attending" (Contact) was never identified in any phone call. "Rank and Service" (Contact) and "Timeframe" (Core Questioning) were rarely discussed. Total scores between Tox and ICU varied with significance for

the cohort as a whole (Tox  $6.9 \pm 0.7$ , ICU  $8.1 \pm 1.1$ ,  $p<0.0001$ ) and for PGY 3 (Tox  $6.9 \pm 0.7$ , ICU  $8.1 \pm 1.3$ ,  $p=0.0021$ ) and PGY 4 (Tox  $6.9 \pm 0.6$  vs ICU  $8.1 \pm 1.0$ ,  $p=0.006$ ). Total communication scores did not increase for either Tox or ICU with increased PGY level of training (PGY 2 Tox  $7.0 \pm 1.0$ , ICU  $8.5 \pm 0.7$ ,  $p=0.1697$ ).

## Conclusion

This single site cohort demonstrates the feasibility of assessing communication during in-situ high-fidelity Peds Sim as a component of MSF. ICU reported significantly greater completion of 5C's based communication tasks than Tox. These differences may be based on specialty. Contact appears to have opportunities for improved communication, though this may be based on the resident running the Peds Sim without clear attending oversight. The artificial nature of Sim may have impacted "Timeframe" communication. It appears from this cohort that residents PGY 2 and greater may be able to appropriately communicate via phone for consultation and admission. Adding communication assessment to Sim could improve program ACGME reporting.

Table 1. Communication Behaviors Noted as Completed by Specialty

5 C's Category	Objective Behavior	Tox (n=32 <sup>a</sup> )	ICU (n=34 <sup>b</sup> )	p-value
Contact	States Name	28 (87.5)	24 (70.6)	0.0930 <sup>c</sup>
	Rank and Service	1 (3.1)	2 (5.9)	1.0000 <sup>d</sup>
	Identifies Supervising Attending	0 (0.0)	0 (0.0)	N/A
Communication	Identifies the Name of Consulting Physician	29 (90.6)	32 (94.1)	0.6679 <sup>d</sup>
	Presents a Concise Story	32 (100)	33 (97.1)	1.0000 <sup>d</sup>
	Presents an Accurate Recount of Information/Case Detail	30 (93.8)	32 (94.1)	1.0000 <sup>d</sup>
Core Question	Speaks Clearly	32 (100)	34 (100)	N/A
	Specifies Need for Consultation	3 (9.4)	12 (35.3)	0.0120 <sup>c</sup>
Collaboration	Specifies Timeframe for Consultation	0	4 (11.8)	0.1142 <sup>d</sup>
	Is Open to and Incorporates Consultant's Recommendations	32 (100)	34 (100)	N/A
Closing the Loop	Reviews and Repeats Patient Care Plan	2 (6.3)	34 (100)	<.0001 <sup>c</sup>
	Thanks Consultant for Consultation	31 (96.9)	34 (100)	0.4848 <sup>d</sup>
Total Score mean $\pm$ SD		6.9 $\pm$ 0.7	8.1 $\pm$ 1.1	<.0001 <sup>e</sup>

Data are N (%) unless otherwise stated.

<sup>a</sup>Three simulations are missing data from toxicologist consultation.

<sup>b</sup>One simulation is missing data from intensivist consultation.

<sup>c</sup>Chi-Square test used to calculate p-value.

<sup>d</sup>Fisher's Exact test used to calculate p-value.

<sup>e</sup>Test used to calculate p-value.

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