# THE UNIVERSITY OF KANSAS HEALTH SYSTEM

#### Introduction

The Indian Creek Hospital is a satellite campus of The University of Kansas Health System located in Overland Park, Kansas. Pre/Post nurses at this location rarely experience critical care modalities during practice, although there is potential for these modalities in all perianesthesia settings. The patient selection criteria for eligibility for surgery, as well as the planned, elective nature of surgeries performed at this location, result in a patient population that is relatively healthy with fewer major comorbidities and complications, particularly when compared to populations undergoing non-elective, emergent surgeries. Therefore, a high-risk, low-frequency situation exists for critical care modalities in the perianesthesia setting at this location.

#### Problem & Purpose

How do Pre/Post nurses at this location improve competency in critical care modalities when these modalities are rarely encountered in practice? Challenges to improving competency include varying critical care experience among Pre/Post nurses and the infrequency with which these modalities occur in practice at this location. Figure 1 below provides the percentage of Pre/Post nurses on this unit with previous ICU experience. Per the QSEN Institute (2020), competency is the knowledge, skills, and attitude (KSA) needed to provide high-quality, safe care. The purpose of this quality improvement project was to develop an effective education strategy to improve competency in Pre/Post nurses on this unit for selected critical care modalities.



#### Methods

A gap analysis using the 2019 edition of ASPAN's A competency-based orientation program for the registered nurse in the perianesthesia setting (CBO) revealed the need to improve competency for the following critical care modalities on this unit: arterial lines, intubation, mechanical ventilation, extubation, and titratable drips. Competency expectations for these modalities were derived from corresponding sections of the ASPAN CBO. A sequential, tiered education strategy was developed. First, nurses completed preintervention surveys to capture baseline self-rated competency using a Likert scale based on Patricia Benner's "From Novice to Expert" theory and adapted from the survey used by Przybyl et al. (2015) in a paper examining the use of high-fidelity simulation to assess competency. Second, staff completed a didactic curriculum primarily consisting of corresponding Health System policies, procedures, and patient care guidelines. Recommended resources were provided to supplement required prework, particularly for staff with less ICU experience, and were completed at staff discretion. Completion of didactic prework was validated by attestations of completion and passing scores on

quizzes. Third, staff completed skills stations with validators to gain haptic experience with supplies and equipment associated with the selected modalities. The final step would have entailed precepting with ICU staff to gain real-life experience with the selected modalities in critically-ill patients. However, unforeseen implications of the COVID-19 pandemic prevented execution of this step. Therefore, the post-intervention survey was administered after completion of didactic prework and haptic skills stations. The questions on the pre- and post-intervention surveys were identical with the following exceptions on the post-survey: (a) attention was called to the fact that only didactic prework and haptic skills stations had been completed and (b) an extra question was added to assess staff perception of how helpful precepting in the ICU would have been in improving competency. Figures 1 and 2 below provide the pre- and post-surveys, respectively.

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## **Increasing Perianesthesia Nurse Competency** in Selected Critical Care Modalities Rachel Christian, BSN, RN, CAPA & Shannon Goold, BSN, RN, CPAN

#### Pre-intervention survey

Pre/Post Critical Care Competency Pre-Survey	

ked in an ICU setting? If so, how many years?

ked in a PACU setting that received ICU patients from the OR (versus being OR straight to the ICU for recovery)

l level fo	r setting-up an	d trouble-shooting	an arterial line.

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#### Post-intervention survey

P	rework & S	kills Station	Post-Survey			
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having	g complete	d the prewo	ork and skills s	tations		
ill leve	1 for setting	-up and trou	ıble-shooting a	n arterial l	ine.	
4	5	6	7	8	9	10
	Hold my Own		Comfortable			Expert
ill leve	l for prepar	ing for and a	assisting with in	ntubation.		
4	5	6	7	8	9	10
	Hold my Own		Comfortable			Expert
ill level for monitoring a ventilated patient and trouble-shooting ventilator						
4	5	6	7	8	9	10
4	5 Hold my Own		7 Comfortable			
	5 Hold my Own	6	7	8	9	10 Expert
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### FIGURE 4. AVERAGE SELF COMPETENCY SCORE Pre-Survey Post-Survey Intubation Mechanical Extubation Titratable Arterial Lines Ventilation Drips





#### **Results & Discussion**

While the response rate for the pre-survey was 100% rate for the post-survey was 71% (10/14). The differe survey denominators is due to staff leaving the unit between survey administrations. Average pre- and post-intervention self-rated competency scores are given Figure 4 above. For all critical care modalities, average selfrated competency scores increased after the intervention. Further, prior to the intervention, the average overall score for all critical care modalities was 4.74,



RATED   S     6.14     4.74     Post-Survey Pre-Survey Overall Overall	<ul> <li>corresponding to a self-reported competency <i>"Hold my own"</i> (5). After the intervention corresponding to a self-reported competency and <i>"Comfortable"</i> (7). The percentage of stat higher is given in Figure 5. This percentage across all modalities. The percentage of stat higher is given in Figure 6. This percentage after the intervention. On the post-survey, question was 4.4, indicating that staff percentage been "Somewhat helpful" to "Helpful" selected modalities.</li> <li>Limitations of this quality initiative project inclusion to execute the final step of the plan (precepting administration, (b) the inability to capture all turnover and 71% post-survey return rate, (confidential statistics, (d) potential bias inherential statistics, (d) potential bias inherential subjective, self-rated competency assessmential statistics.</li> </ul>
ting " <i>Hold my</i>	Conclusion & Im
90% -70% 58% 58% in tubation Titratable Drips on eporting 80% 47%	In Pre/Post nurses on this unit, didactic stations based on the ASPAN <i>CBO</i> increase critical care modalities. On average, staff or in the ICU would be moderately helpful in modalities. While the purpose of this quality improve effective education strategy to <i>improve</i> comp for an effective education strategy to <i>maintai</i> and skill decay). To this end, the authors of other unit leadership to design and impleme selected modalities. While precepting in the experience with patients, it has not been pandemic. A high-fidelity simulation may be addition, this quality improvement project us rated competency to assess the interventio more robust competency validation methods simulation promotes critical thinking and allow and skills under high-pressure conditions wit competency validation method might combin observed during simulation with subjective, post-simulation debriefing.
<del>30%</del> 26%	Acknowledgements
ubation Titratable Drips	A heartfelt thank you to Indian Creek Hospital possible, as well as The University of Kansas Educators who shared previous work regardir their units.
19/19), the response ce in pre- and post-	<ul> <li>American Society of PeriAnesthesia Nurse competency-based orientation program for perianesthesia setting (2019 ed.). Cherry H</li> <li>Przybyl, H., Androwich, L., &amp; Evans, J. (20 to assess knowledge, skills, and attitudes in Nershrele art Nursing Journal, 42(2), 425, 44</li> </ul>

vephrology ivursing Journal, 42(2), 135-147 • Quality & Safety Education for Nurses (QSEN) Institute. (2020). QSEN competencies. Retrieved from https://gsen.org/competencies/pre-licensureksas/

rating between "Nervous" (4) and this score increased to 6.14, rating between "Hold my own" (5) ff self-rating "Hold my own" (5) or increased after the intervention ff self-rating "Comfortable" (7) or e increased across all modalities the average score for the final eive precepting in the ICU would in improving competency in the

lude the following: (a) the inability ng in the ICU) prior to post-survey staff post-intervention due to staff analysis with descriptive versus nt in survey methodology, and (e)

#### plications

prework followed by haptic skills d self-rated competency across all this unit perceive that precepting improving competency in these

ment project was to develop an etency, future research is needed *n* competency (mitigate knowledge this poster are collaborating with nt a high-fidelity simulation for the ICU would be ideal for obtaining feasible during the COVID-19 the solution to this challenge. In sed pre- and post-surveys of selfn's effect. Further research using is needed. Given that high-fidelity ws participants to apply knowledge nout fear of patient harm, a robust e objective performance measures eflective self-assessments during

#### & References

(ASPAN). (2019). A

the registered nurse in the

nurses performing CRRT.

ill, NJ: Allen, Orbell, & Clifford.

5). Using high-fidelity simulation

taff who made this project Health System Pre/Post Unit g critical care competency on