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# EVALUATING LEARNERS' SATISFACTION FOLLOWING PERIOPERATIVE NURSING SIMULATION TRAINING

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## ABSTRACT:

From January 2015 to July 2016 five cohorts, comprising 24 Registered Nurses and 22 Licensed Practical Nurses, from Alberta Health Services and Covenant Health in Edmonton, AB, successfully completed the AHS Perioperative Nursing Simulation Labs provided through the Centre for the Advancement of Minimally Invasive Surgery (CAMIS). All learners' experiences were self-evaluated in the areas of instruction, facilities, instruments, and usefulness. The evaluations indicated a high level of learner satisfaction that indicated the simulation training was effective and useful in enhancing the competency, confidence, and communication skills of novice perioperative nurses.

## INTRODUCTION

Alberta Health Services (AHS) Perioperative Nursing Simulation Lab Training series, organized by The Centre for the Advancement of Minimally Invasive Surgery (CAMIS), has been used, since 2015, to supplement the clinical portion of the training program in the Edmonton Zone of AHS and Covenant Health. This education

training program was outlined in the authors' article that was published in the June 2016 ORNAC Journal.<sup>4</sup> This manuscript provides a follow up by sharing insight in to the evaluation of the learners' satisfaction with their experiences as demonstrated by their specific rankings for instruction, facilities, instruments, and usefulness.

## BACKGROUND

Multi-faceted, operating room simulations provide perioperative nurses with opportunities to focus on best practice by enhancing their knowledge and their psychomotor and analytical skills. Critical thinking, essential when dealing with high-acuity patients, is promoted in this safe, lab learning environment.<sup>5</sup>

Post-scenario debriefing and discussion helps reinforce and clarify knowledge and skills. This is acknowledged by Speed (2015) who suggests that the thought process of adult learners is supported through "self- concept, a need to know, readiness to learn, orientation to learning, past experience and motivation."<sup>1</sup>(p. 205)

## INTERVENTION

From January 2015 to July 2016, five cohorts including 24 Registered Nurses and 22 Licensed Practical Nurses successfully completed the simulation training program. The learners were new graduates or nurses from different hospitals with various experience and specialties (e.g. Medicine, Surgery, Long Term Care, Mental Health, Critical Care) who had now been hired as perioperative nurses. These nurses came from various hospital sites within AHS' and Covenant Health's Edmonton Zone.

The simulation labs included approximately 80 training hours. The training focused on a range of topics including anaesthesia, crisis management, post-operative care, surgery instrumentation (including powered surgical equipment), surgical energy, flexible endoscopy, safe surgery checklist, catheter skills, patient positioning, medical device reprocessing, laser safety, effective communication, and specimen management. Clinical scenarios that were simulated included arthroplasty,

vascular, gynaecological, bariatric, and robotic surgeries.

## EVALUATION

All learners received online pre- and post-lab evaluations through an OR readiness practice self-assessment tool (Likert scale), many completed both the pre (n=29) and post evaluation (n=27). After completion of each lab, a satisfaction survey based was sent to all learners.

In terms of the OR readiness, each learner did a self-assessment, the pre-lab average score in the areas of Principles of Asepsis, Patient Assessment, Infection Control, Patient Preparation, Surgical Instrumentation, Anaesthesia, Crisis management, and Environmental Safety were all 3.9 out of 5. The post-lab self-assessment average score was 4.4 out of 5 (see Figure 1).

According to the survey responses, 86% of respondents indicated they were

satisfied with the training experience and the quality of the simulation labs, 9% were neutral and 5% expressed dissatisfaction (see Figure 2).

Participants indicated they believed the labs were useful, important, and valuable in further preparing them for the OR environment. They reported that their comfort and confidence levels, for various clinical procedures and scenarios had increased through the simulation

**Figure 1.** Survey Results of Peri-operative Nursing Simulation Labs

	Experience	Instruction	Facilities	Instrument	Usefulness	Overall
<b>Satisfied</b>	84%	90%	89%	86%	79%	86%
<b>Neutral</b>	8%	6%	9%	12%	14%	9%
<b>Dissatisfied</b>	8%	4%	2%	3%	7%	5%

All Nurses	PRE	POST
Anaesthesia	3.9	4.3
Crisis Manage	3.1	3.9
Environm. Safety	4.1	4.5
Infection Control	4	4.2
Patient Assessment	4.3	4.8
Patient preparation	3.9	4.3
Principles of Asepsis	4.5	4.9
Surgical Instrument	3.3	4

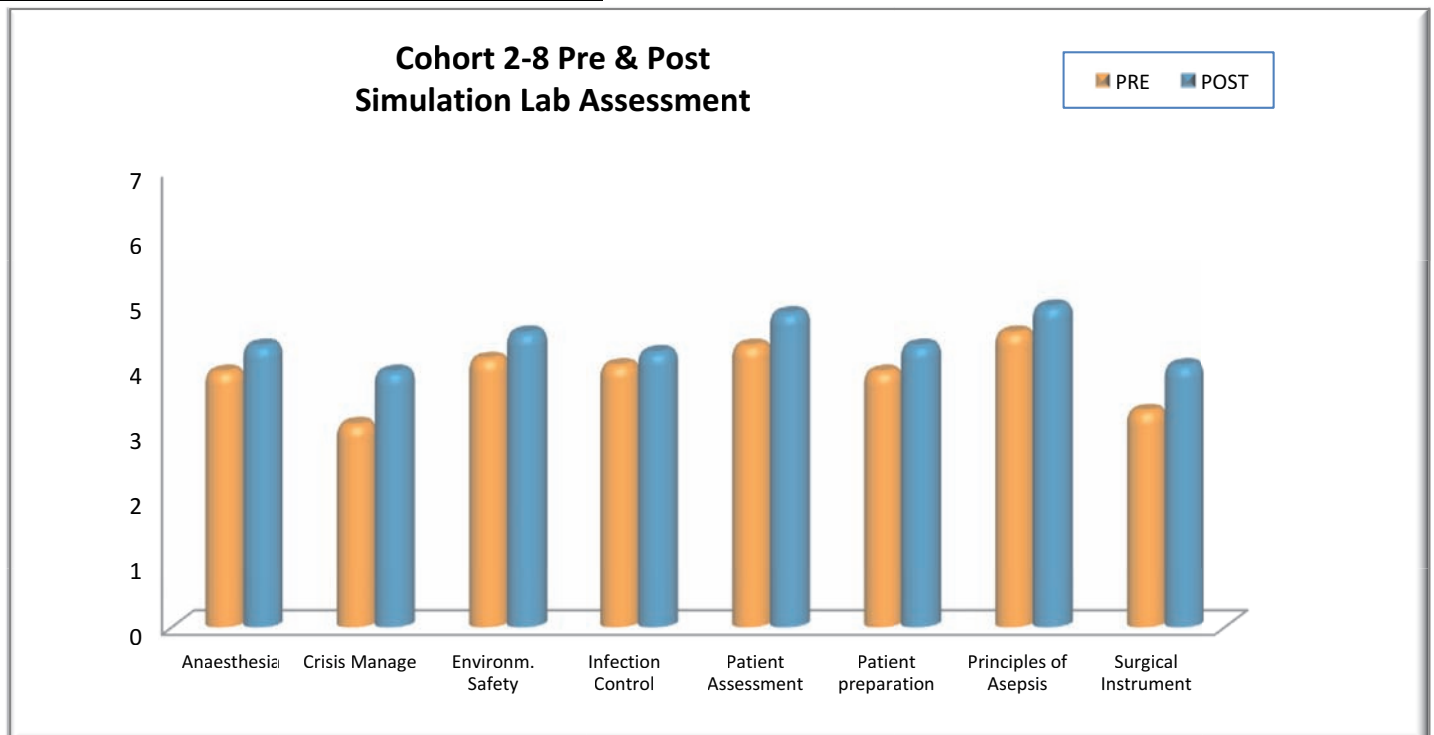
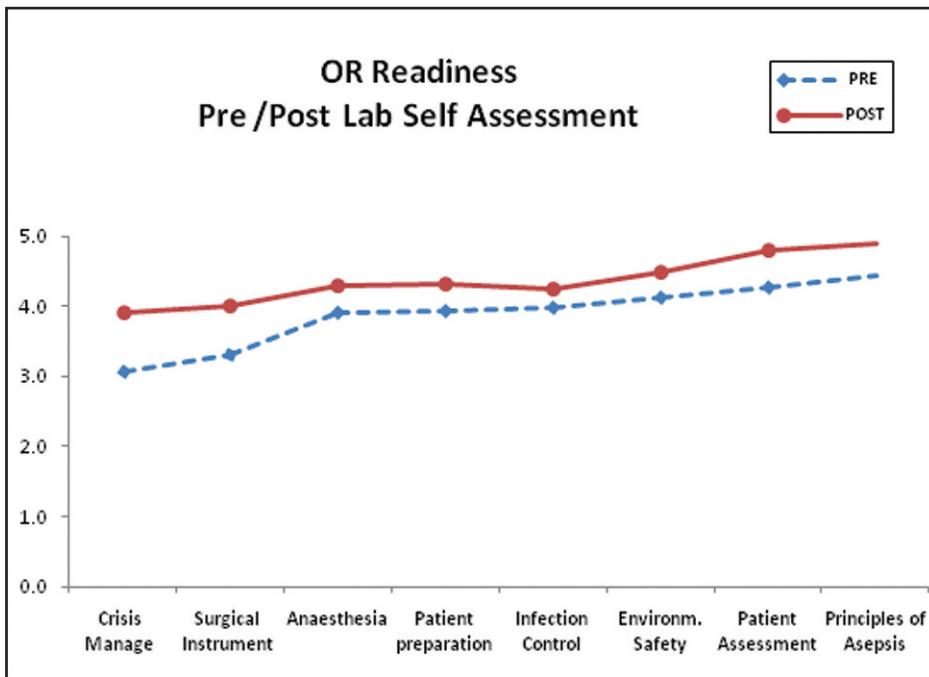


Figure 2.



training. Assessment of OR readiness results from the simulation labs indicated they provided a safe way for learners to improve their level of competency, confidence, and communication skills without risk to real patients.

Five percent of respondents expressed dissatisfaction with labs and some provided constructive suggestions for improving future labs. Their suggestions

focused mainly on a need to address the following issues:

- Operating Room sites in Edmonton Zone have variations in surgical instrumentation and equipment, specialties and services, and policies, which cannot be allowed for in a single simulation;
- Learners had different training backgrounds and previous working

experience. This diversity in learners made some lab content repetitive and redundant to them;

- Challenges existed with facilities and turnaround times for setting up of scenarios and transition time lapses for the learners within simulation labs; and
- Simulation lab scheduling varied by each cohort and some learners thought it could be beneficial to have the simulation labs held, for all, at the beginning of their preceptorship.

The student feedback allowed the CAMIS interprofessional team to review and modify simulation lab experiences in the following manner:

- Modifying and adding curriculum changes (e.g. Care for a deceased patient);
- the ability to schedule and modify the learners pace in the program based on their understanding of material;
- ongoing instructor development by teaching the methodologies of simulation; and
- simulation training hours are now considered part of clinical hours.

Evaluations also provided further input in to learning needs and objectives which helped identify necessary curriculum changes for future. New and revised simulation lab scenarios were developed based on the evaluation feedback and by incorporating Benner's Stages of Clinical Competence.8-10 Benner's Stages of Clinical Competence begins with a knowledge base in a particular discipline. This is important throughout the perioperative training process because clinical reasoning in simulated situations allows the learner to enhance critical thinking based on the new learnings. Benner (2015) suggested learning how to reason at the "novice level" supports grounded fundamental practices essential to work.8 The next stage for the learner is "Advanced Beginners." This stage of learner may demonstrate increased organizational skills and better performance based on having prior experience in patient care.14 The authors contend that, because the perioperative area is a specialized unit, most RNs or LPNs who apply to the program would

Figure 3.



Courtesy: Centre for Advancement of Minimally Invasive Surgery (CAMIS)

Circulating Nurse (Front Left) simulating with setting up the back table, in a simulation room, with the scrub nurse (Front Right). Circulating Nurse (Back Left) simulating with assisting Anaesthesiologist (Back Right) with Induction of Airway.

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## EVALUATING LEARNERS' SATISFACTION (cont.)

Figure 4.

Courtesy: Centre for Advancement of Minimally Invasive Surgery (CAMIS)



Circulating Nurse (Left) simulating with helping the scrub nurse (right) with gowning (in a simulation room).

start at the novice level of clinical competence.

These simulation labs were selected as they are linked to critical thinking, intuition, recognition of patterns and experiential knowledge which are key elements in the progression from passive learning to active engaged learning.<sup>8,11,12</sup> They guide students through practice, participation, and reflection. Additional considerations included selection of scenarios that could influence patient safety<sup>13</sup> and close the gap between the ideal scenarios to scenarios that are realistic.

### AREAS FOR FURTHER RESEARCH:

Future research on the development of simulation training may include professional development for clinical educators, inter-professional simulation experiences, and program evaluation.

Our study limitations included the fact that retention rates, post 6-months of

The training program enhanced the competency, confidence and communication skills of novice OR nurses.

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the training program completion, were not measured due to limited resource capacity and the long term outcome were not measured. The study outlined in this manuscript focused only the simulation lab experience. As newly hired OR nurses have multiple influences on their job satisfaction which was not explored in this data collection.

## CONCLUSION:

In conclusion, the initial learner survey responses indicated that the perioperative nursing simulation labs were effective and successful as evidenced by the high satisfaction rates reported. The training program enhanced the competency, confidence and communication skills of novice OR nurses. The transfer of knowledge and skills during the simulation settings better prepared them for working in the OR.

## REFERENCES:

1. Speed AS, Bradley E, Garland KV. Teaching adult learner characteristics and facilitation strategies through simulation-based practices. *Journal of Educational Technology Systems*. 2015;44(2):203-229.
2. Galloway SJ. Simulation techniques to bridge the gap between novice and competent healthcare professionals. *The Online Journal of Issues in Nursing*. 2009;(14)2:Manuscript03.
3. Kardong-Edgren S, Adamson KA, Fitzgerald C. A review of currently published evaluation instruments for human patient simulation. *Clinical Simulation in Nursing*. 2010; 6(1):e25-35.
4. Whelan T., Shi, X., Andony, K., Yorke, S. et al., Knowledge and skills enhancement through perioperative nursing simulation lab training. *ORNAC J*. 2016 Jun;34(2):13-19.
5. Lindsey PL, Jenkins S. Nursing students' clinical judgment

regarding rapid response: the influence of a clinical simulation education intervention. *Nurs Forum*. 2013 Jan-Mar;48(1):61-70.

6. Shinnick M, Horwich T. Debriefing: The most important component in simulation? *International Nursing Association for Clinical Simulation in Nursing*. 2011;7(3):e105-111.
7. AL Sabei SD, Lasater K. Simulation debriefing for clinical judgment development: A concept analysis. *Nurse Education Today*. 2016;45:42-47.
8. Benner P. Curricular and pedagogical implications for the Carnegie study, educating nurses: A call for radical transformation. *Asian Nursing Research*. 2015; 9(1):1-6.
9. Clark, M. Evaluating an obstetric trauma scenario. *Clinical Simulation in Nursing*. 2006;2(2):375-382.
10. Seaman M. Bloom's Taxonomy: Its evolution, revision, and use in the field of education. *Curriculum and Teaching Dialogue*. 2011;13 (1/2):29-131A.
11. Hill KS. Improving quality and patient safety by retaining nursing experience. *The Online Journal of Issues in Nursing*. 2010;15:No3.
12. Jeffries PR, Clochesy JM. Clinical simulations: An experiential, student-centered pedagogical approach (2012). In D. M. Billings & J. Halstead (Eds). (4th ed). *Teaching in nursing: A guide for faculty*. St. Louis, MO; Elsevier Saunders: 352-368.
13. Nehring WM, Lashley FR. *High Fidelity Simulation in Nursing Education* (2010). Jones and Bartlett Publishers; Sudbury, ON:233-271.
14. Benner P. *From novice to expert: Excellence and power in clinical nursing practice* (1984). Menlo Park: Addison-Wesley; 13-34. 🌸