105 Nursing Theory and Burn Competency Training Practices to Address Gaps in Post-covid Trained Graduate Nurses

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Introduction: Recruitment efforts just after the recent COVID crises brought in several new graduate nurses. They had limited clinical exposure during COVID-19 resulting in difficulty transitioning into practice providing safe patient care. As a result, these nurses lacked the fundamental knowledge needed to care for acutely ill burn and wound patients resulting in the new graduate registered nurses (NGRNs) feeling overwhelmed at the bedside. These findings coincide with assessments noted in Kavanagh and Sharpnack's (2021), article identifying only 9% of NGRNs were practice ready, with 7% failing to recognize urgency or a change in a patient's condition.

Methods: In order to achieve the designated American Burn Association (ABA) competencies, our center designed a program based on Patricia Benner's Novice to Expert nursing theory. Additionally, we divided the competencies into achievable goals and domains using the Donna Wright's nursing competency model.

StaRN program: didactics/simulation/skills/unit orientation one on one with a preceptor

Competency based staged orientation program for new staff

Burn Specific Education includes:

1) Burn and complex wound care didactic
2) Burn specific High-fidelity simulation scenario utilizing critical care equipment promoting critical thinking and critical reasoning skills
3) Task trainers
4) On-going preceptor education
5) Nurse Extern program

Results: NGRNS arriving at our unit in early 2020 were found to be incapable of performing clinical tasks in the burn ICU (BICU) setting at the level of competency recommended by the ABA. We immediately placed this cohort into the revised training program incorporating Benners Novice to Expert Theory and Wright's Competency Model. Of the 25, 17 were able to be placed in the BICU (68%), and 8 were able to transfer to a lower level of care (progressive care/medsurg). All 25 were given extended orientation (12 weeks instead of the normal 8, as recommended by our facility). We will follow this group to determine retention rates.

Conclusions: Current levels of competencies by the ABA creates gaps in care for graduate nurses entering the workforce with deficits. Applying Benner's Novice to Expert Theory and Wright's Competency Model to modify approaches to training helps identify gaps in care, addresses areas that are weak for the nurse, and help guide the graduate nurse through stages of expertise to arrive more confidently at the level of competency expected by the ABA.

106 Nursing Documentation Variability Among Burn Centers Using the Burn Navigator

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Introduction: Managing burn fluid resuscitation for large burns is challenging and relies heavily on accurate nursing documentation. The Burn Navigator (BN) is a clinical decision-support system designed to guide clinicians in burn fluid resuscitation. However, data entered into the BN do not auto-populate into the electronic medical record (EMR), thus requiring nurses to document in two systems. We sought to compare differences in nursing documentation of data entries between the EMR and the BN on burn patients with ≥ 20% total body surface area (TBSA) undergoing intravenous (IV) fluid resuscitation.

Methods: Institutional Review Board approval was obtained for a multi-center observational study of burn patients undergoing fluid resuscitation using the BN. Data were collected and analyzed between the EMR and BN entries entered into the REDCap database from 5 American Burn Association (ABA)-verified burn centers. The following variables were analyzed: time of burn injury, weight, TBSA burned, urine output (UOP), and hourly IV crystalloid fluid volume.

Results: Analysis included 296 subjects (of 300 enrolled). Results show no significant difference between burn centers for mean weight (BN 87.02 ± 22.9 kg vs. EMR 87.1 ± 23.3 kg), TBSA (BN 40.71 ± 19.24% vs. EMR 40.97 ± 19.29%), or time of burn injury (< 1 hour). The time of injury recorded in the BN versus EMR was later in 44.6% (n=132) of patients and earlier in 46.4%, (n=138) and the same in 8.8% (n=26) of records. Additionally, in 293 records, there was no significant difference between centers in patient UOP (BN 0.91 ± 0.52 ml/kg/hr vs. EMR 0.91 ± 0.63 ml/kg/hr). One site had a significant difference in hourly fluid rates (Figure) due to a lack of inclusion of pre-hospital fluids.

Hourly Crystalloid IV fluid Comparisons—BN vs EMR (ml/kg/hr)

	BN	EMR	p-value
Total patients (n=294)	6.34 ± 3.35	5.49 ± 3.81	0.289
Site #1 (n=104)	5.31 ± 2.41	4.70 ± 2.28	0.061
Site #2 (n=107)	6.42 ± 3.64	4.94 ± 3.5	0.003
Site #3 (n=57)	7.34 ± 3.96	6.62 ± 4.0	0.332
Site #4 (n=14)	6.43 ± 3.32	6.78 ± 5.89	0.847
Site #5 (n=12)	6.21 ± 3.4	4.3 ± 3.4	0.202

Conclusions: When comparing the data between the EMR to BN, it was observed that pre-hospital fluids tended not to be documented in the EMR, causing a statistically significant difference in total fluids administered in one burn center. Overall, the nursing documentation variability was minimal across all sites even though the nurses had to document the data in two different systems, while simultaneously caring for critically ill patients with large burn injuries. Close monitoring of the nursing documentation during burn fluid resuscitation should always be a priority.

107 Nursing Interventions in the Temperature Management of Acute Burn Patients in the Burn Operating Room

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Introduction: The development of hypothermia in the operating room is a known risk that has been well documented in the literature. The typical surgical patient undergoing general anesthesia experiences a temperature loss of approximately 4°F without warming interventions. Burn patients are at a higher risk for hypothermia due to the greater body surface area exposure and evaporative losses related to their burn injury and length of their operative interventions. The purpose of this review is to determine the average loss of body temperature of the burn surgical patient as it pertains to total body surface area (TBSA) injury and the use of warming interventions.

Methods: A two year retrospective review was performed on acute burn surgical cases in our two dedicated burn operating rooms within our burn center. Data obtained included TBSA of each case, pre and post-procedure patient temperatures, maximum OR room temperature, and use of adjunctive warming interventions. The surgical procedures were categorized by percent TBSA burn of < 10%, 10-20%, 21-40%, and >40%.

Results: We identified 415 cases that were included in this review from 2019 and 2020. As expected, patients with larger TBSA involvement led to a greater temperature decline. As seen in Table 1, forced warm air devices were utilized in 67.2% of cases. In our large Burn OR suite, we utilize a heat panel that is integrated in the ceiling above the OR table. Utilization of these devices is determined by the Burn OR nurse. They are either initiated prior to the start of the case or intra-operatively if the patient's temperature is declining and intervention is required. Mean operating room temperatures were 80.1°F in all cases with cooler room temperatures in the smallest TBSA group. Our average patient temperature decline was 1.25°F in all cases. However, in the largest TBSA group, the mean temperature loss was 2.68°F which is significantly less than the 4°F loss in general anesthesia procedures without warming interventions.

Conclusions: The use of elevated ambient operative room temperatures along with other warming interventions aid in the maintenance of core body temperature in the burn surgical patient. Having dedicated burn operative nurses with investment in the outcome of the burn surgical patient contributes to the overall safety and the maintenance of temperature homeostatic state.