

# Utilizing High Fidelity Simulation in Advanced Burn Life Support Scenarios

Alyson Curtis MSN, CCRN, RN, Bethany Westlake MSN, CNML, RN, Katie Hellebusch BSN, RN & Kimberly Siemons MSN, RN, CCRN

## Introduction

Keeping staff up-to-date on required certifications has always been a gold standard for optimum care of specialty patients in our facility. We currently house a 12-bed American Burn Association (ABA) verified burn unit within this 800-bed hospital. All critical care nurses hired into the Burn Unit are required to obtain Advanced Burn Life Support (ABLS) certification within one year of hire. After the first year, all Burn Unit nurses are required to maintain ABLS certification through renewal.

Our hospital currently has seven active ABLS instructors. However, it is difficult to find staff and volunteers willing to have moulage applied and be assessed head-to-toe. Another confounding issue is utilizing additional Burn Unit staff as "scenario patients" causing unfavorable staffing patterns. In March of 2019, we set out to investigate the functionality of high-fidelity simulation during ABLS patient assessment performance test outs.



## Methods

Mercy St. Louis hospital has a simulation expert that facilitates high-fidelity simulations with nursing, physician, residents and fellows. We sought out his expertise to understand the feasibility of having a mannequin follow the scenario requirements. Both the adult and small-child mannequin had the ability to breath with different settings for breath sounds, as well as have palpable pulses. Vital signs could be activated on the monitor screen once an ABLS candidate stated they had assessed the patient for things such as temperature. Vital signs could then be adjusted throughout the scenario to coincide accordingly.

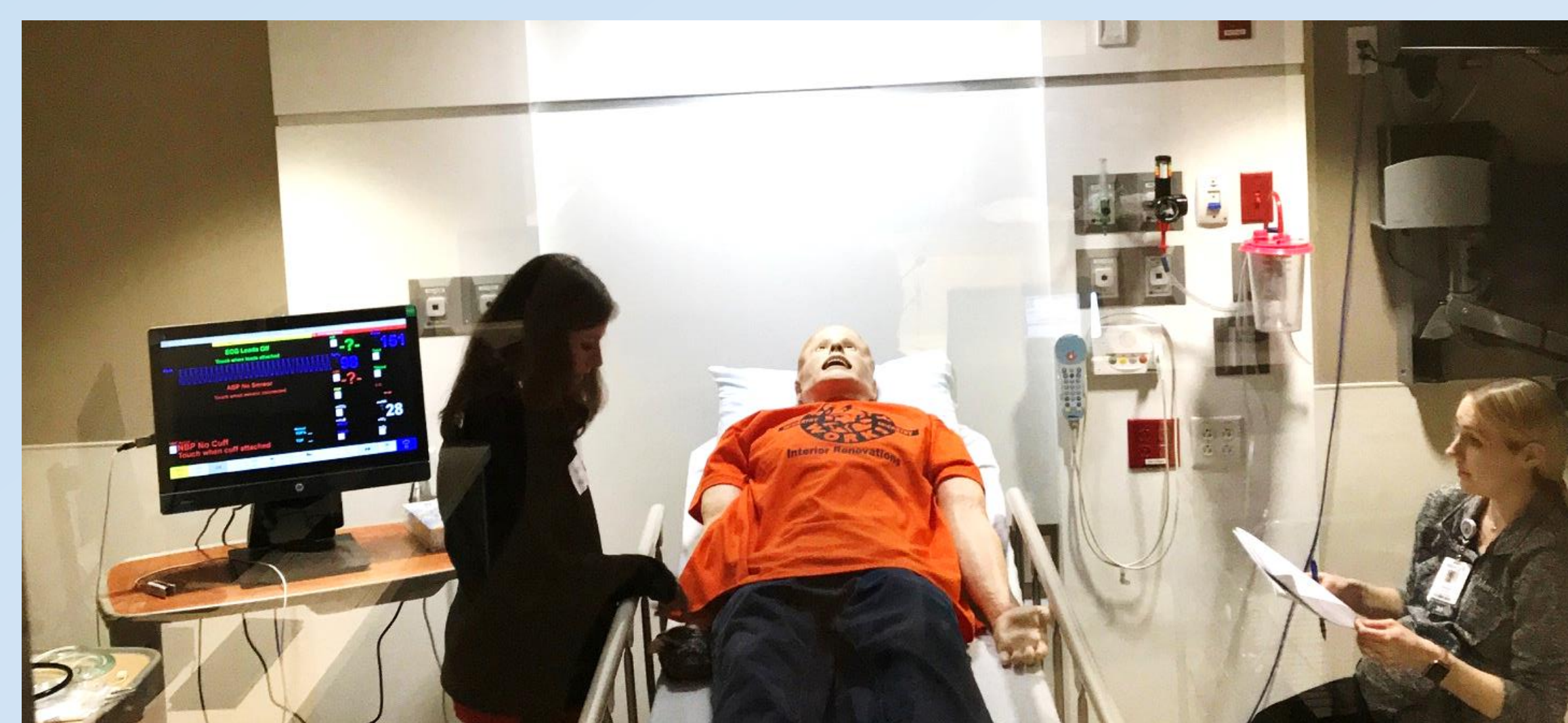
Both mannequins had the ability to be turned and assessed head-to-toe. The adult weighed 88 pounds, making turning for posterior assessments more realistic. Both mannequins were fully dressed at the start of the each scenario, with the expectation each would be fully undressed in proper sequence during the test out.

The burns were simulated using mix-and-pour skin effects silicone rubber which was purchased through a vendor that supplies moulage for movies and television productions. The moulage reflected the appropriate degree of burn for each scenario.



## Results

High fidelity simulation has been utilized in our facility for two ABLS courses with great success. ABLS pass rates remained the same. A more realistic setting was obtained when utilizing simulation labs. Further improvements could be made utilizing more of the simulation functionality.



## Conclusion

The feedback from participants suggests the use of high-fidelity simulation has strong educational effects. The use of simulation for a variety of burn patient scenarios that represent potential situations allowed learning to occur in a safe and realistic environment.

In the beginning, ABLS candidates struggled to undress the adult mannequin independently and in a timely manner. This was resolved by cutting down the back of the clothing and half-dressing the front of the adult mannequin.

Moving forward improvement opportunities include using the simulation mannequins and simulation-experts to their fullest capability. An additional component needs to be added prior to test-out orienting the ABLS candidates to the simulation rooms.

## Applicability of Research to Practice

ABLS certification remains the gold standard for Burn Units across the country. Mixed teaching modalities have been utilized for decades and simulation has led to more realistic assessments and hands-on learning. There remains a need to merge scenario-based education with simulation-based education to further learners thought process and move from rote memorization, to functional knowledge and application.



## References

- Advanced Burn Life Support Course, Provider Manual (2018)
- DeYoung, S. (2009). *Teaching Strategies for Nurse Educators* (2nd ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Tracy, M. (2016). Simulation in the Acute Care Setting. AACN Advanced Critical Care, Vol 27.