

IN PRACTICE

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ENHANCING BURNS CARE FOR ALL: THE ROLE OF HIGH-FIDELITY MOULAGE SIMULATION IN ADVANCING CLINICAL PRACTICE

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10.54531/CEPG3905

Introduction: It is known that for approximately 70% of tertiary level burns referrals, total body surface area (TBSA) calculations are largely overestimated. Furthermore, patients at the point of arrival often are inadequately fluid resuscitated. A learning need to address these factors for multi-disciplinary emergency and surgical care teams was identified, simulation is recommended as a useful tool to prepare health care workers for such cases and address skills gaps amongst teams [1]. A study conducted in 2016 [2] emphasized the affirmative impact of employing moulage based simulation of burns injuries on the overall learning process. In answer to this we have developed an innovative methodology for creating representations of full thickness burns on simulation manikins.

Methods: In collaboration between the Burns and Simulation teams, scenarios for simulation were developed from real life cases. A variety of cost and time effective moulage techniques for different burn modalities were developed.

The simulation technician implemented a technique of crafting flat clay moulds of burn wounds for the production of silicone overlays, these were painted with depth-indicating paint, and then adhered to manikins.

Results: From 2023 to 2025 we have run 7 regional simulation days with 73 delegates and 56 pre and post course feedback responses. A summary of confidence ratings across differing aspects of burns care can be found in Figure 1. A mixture of confidence scoring from very low to relatively high was recorded dependant on exposure to burns, training and professional backgrounds, across all categories an increase in confidence was recorded overall.

Discussion: Traditional methods of using make up paint and wig spray to simulate a burn on a patient have the benefit of being fast to implement and cheap. However, limitation on

the realism of the injury have the potential to both inhibit the learner to fully grasp the extent of burn coverage and reduces the emotional impact that one has when presented with a full thickness burn.

Increased confidence and technical skill in the initial management of severe burns in multi-disciplinary emergency teams will lead to improvements in burns patient outcomes.

The model for high fidelity burns moulage has far reaching potential beyond the regional simulation course that it was initially developed for. These scenarios have been utilised in several training opportunities such as national symposium's, care pathway trials as well as future plans to bring burns simulation to emergency response teams by working collaboratively fire and ambulance services.

Ethics Statement: As the submitting author, I can confirm that all relevant ethical standards of research and dissemination have been met. Additionally, I can confirm that the necessary ethical approval has been obtained, where applicable.

REFERENCES

1. D'Asta F, Homs J, Sforzi I, Wilson D, De Luca M. "SIMBurns": A high-fidelity simulation program in emergency burn management developed through international collaboration. *Burns* [Internet]. 2018 Sep 26;45(1):120–7. doi: 10.1016/j.burns.2018.08.030.
2. Sadideen H, D'Asta F, Moiemien N, Wilson Y. Does overestimation of burn size in children requiring fluid resuscitation cause any harm? *Journal of Burn Care & Research* [Internet]. 2016 Jul 4;38(2):e546–51. doi: 10.1097/bcr.0000000000000382.

Acknowledgements/Funding Declaration: Special acknowledgements to Miss Alexandra Murray, (Consultant in Plastic Surgery and Burns at Buckinghamshire Healthcare NHS Trust) and Alexander Baldwin (Surgical Trainee in Plastic Surgery at Buckinghamshire Healthcare NHS Trust) for their ongoing support and enthusiasm as subject matter experts.

An acknowledgement to Ella Anthony (Burns Outreach Nurse at Buckinghamshire Healthcare NHS Trust) for her ongoing commitment to collaborate with us to diversify burns teaching for a multi agency and professional audience.

The initiative was financially supported by Health Education England with the aim of generating additional training prospects for trainees in the Thames Valley region, compensating for the training opportunities that were forgone during the COVID-19 pandemic.

SUPPORTING DOCUMENTS – FIGURE 1-A87

