

## Abstract Template – Poster Presentations

**Tuesday 23<sup>rd</sup> May 2017**

Clinical Skills Facility, Hull Royal Infirmary

Please complete all relevant boxes below and send with submission checklist and declaration to:

[emily.clappison@hey.nhs.uk](mailto:emily.clappison@hey.nhs.uk)

**Please do not exceed the word count limit of 500 words**

**Name of submitting author: Neil Jennison**

**Institution: Resuscitation Department Hull and East Yorkshire Hospitals NHS Trust**

**Date of Submission: 20/4/2017**

**Title: A cost effective approach to improving fidelity in obstetric resuscitation simulation**

### Introduction

The Quality standards for cardiopulmonary resuscitation practice and training<sup>1</sup>, stipulates that specific training for cardiopulmonary arrest in special circumstances (e.g. children, newborn, pregnancy and trauma) must be provided for medical, nursing and other clinical staff in the relevant speciality.

Resuscitation in pregnancy is an integral part of several regional and national resuscitation courses including, Yorkshire Maternal Emergency Training (YMET), Managing Obstetric Emergency Trauma (MOET), and Advanced Life Support (ALS).

The Resuscitation Department are always striving to improve the learner's experience of simulation related to clinical practice.

Jones (1987)<sup>2</sup> defines a simulation as "an untaught event in which sufficient information is provided to allow the participant to achieve reality of function in a simulated environment".

Despite highlighting to numerous manikin manufacturers over the past 20 years, there is still a lack of a pregnant manikin to teach resuscitation, this has led to various methods being used to simulate a pregnancy bump and gravid uterus including stuffing sacks with beads or using pillows.

A long term solution was sought to improve the fidelity and candidate experience by identifying a supplier of pregnancy bumps to allow modification of the standard ALS algorithm with manual uterine displacement.

### Methods

The department undertook a review of available manikins and prosthetic modifications from various manufacturers. The criteria included improved fidelity, cost effectiveness, running costs and ease of use for the various instructors and courses.

Both Laerdal and Gaumard produce high specification maternal manikins which includes functions not required in routine maternal resuscitation simulation, costing around £25,000 each.

Neither manikin manufacturer produces a maternal prosthetic modification for their standard resuscitation manikin to allow for a maternal simulation.

Low fidelity alternatives included empathy bumps designed for school children and expectant

fathers, maternity simulation jackets used in healthcare education and a fake pregnancy belly designed for TV and film clients, ranging in price from £140 to £900.

Hull York Medical School had experience of using a Moonbump® fake pregnancy belly and recommended the product for our needs. The low cost foam version was trialled on a MOET course in 2016, with positive feedback from the faculty on ease of use, manikin modification and realistic gestation size. There were concerns over the robustness of the foam product, with regular use; this could be addressed by the higher specification silicone alternative available from the same company.

#### Results

Two Moonbump® silicone realistic baby bumps were purchased as these met the criteria of cost, ease of manikin modification, and simplicity of use.

#### Discussion/Conclusion

The modified manikins have been use since February 2017 on ALS and YMET courses allowing students to physically practise manual displacement of the gravid uterus during resuscitation simulation.

When asked for feedback one candidate on ALS stated “it helped getting used to performing the task rather than just being taught it”.

This improved fidelity has been shared with the North Eastern Resuscitation Officers group, with the hope that it will help improve maternal resuscitation simulation regionally.

#### Acknowledgements

## References

1. Quality standards for cardiopulmonary resuscitation practice and training, Nov 2013.  
<https://www.resus.org.uk/quality-standards/acute-care-quality-standards-for-cpr/>
2. Jones K. Simulations: A handbook for Teachers and Trainers, 2nd ed. Kogan Page, London, 1987.