

## Theatres - A Massive Project

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### Background

The COVID pandemic has resulted in a number of changes within healthcare in Northern Ireland and this has been reflected in theatres.

- Redeployment of staff from various specialties has led to a widely varying skills mix within the theatre dept.
- An increase in late presenting pathology has led to a definite upturn in blood loss during surgery.
- increasingly frequent activation of the massive transfusion protocol has direct implications on patient outcome as well as psychological implications for staff.

With this in mind, the anaesthetic dept in Belfast City Hospital felt that a review of training in the management of massive blood loss (MBL) would be beneficial.

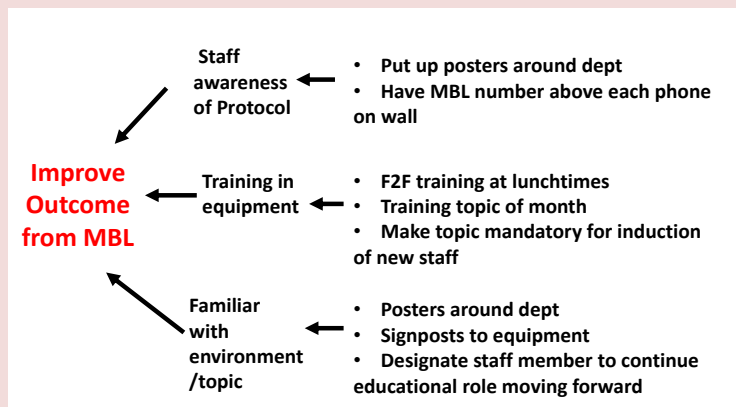
A survey in Nov'21 identified a number of areas for improvement including increased knowledge of the MBL protocol, awareness of the MBL phone number and integration of skills to manage MBL including use of rapid infuser.

- The survey of staff highlighted **60% had never had MBL training.**

### Aim Statement

The primary aim of the project was to improve staff competency in the use of the ranger rapid infuser. A target was set to ensure that at least 10 staff members received training on the rapid infuser per month.

### Driver Diagram



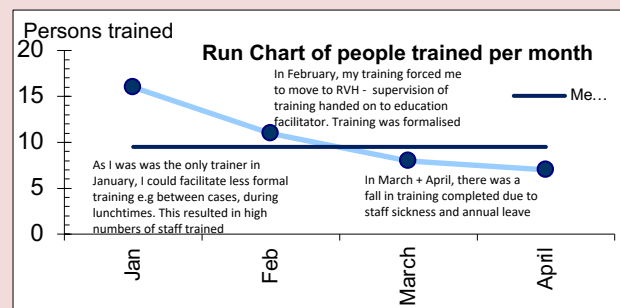
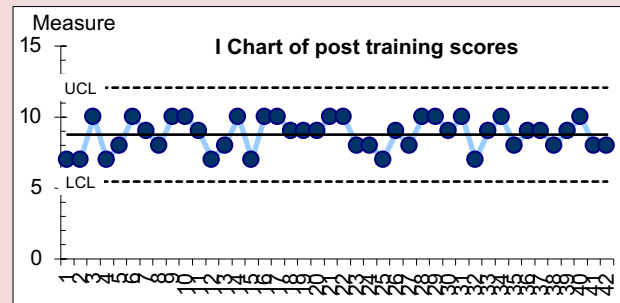
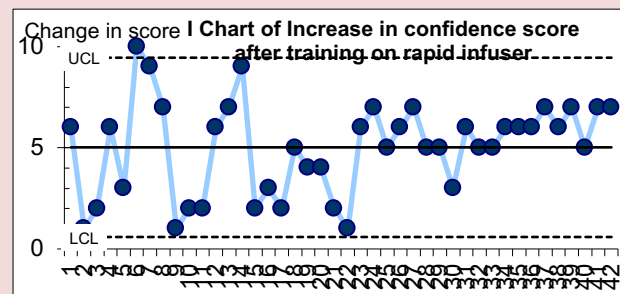
### PDSA Cycles

**PDSA 1:** Practical training on the Ranger rapid infuser. This was initially conducted by myself. Staff were asked to watch an instructional video followed with hands on training. To assess teaching quality, staff were asked to quantify their ability to set up a rapid infuser using a numerical rating scale (NRS)<sup>1</sup>. This was recorded before and after each session.

**PDSA 2:** With my move to RVH, training was overseen by the Clinical education facilitator who conducted weekly training sessions. This also included input from the Ranger Equipment representative.

**PDSA 3:** Continued formal training on the infuser was combined a formal drill to assess staff skills in a practical setting. This involved collaboration with the haemovigilance team. This was a multidisciplinary event.

### Measures and Charts



### Discussion

This project has highlighted the difficulty of implementing focused training during the COVID pandemic. Multiple obstacles prevented the widespread implementation of training on this piece of equipment. Despite these barriers, a definite reduction in range of post training confidence scores highlights that training must have been effective. However numbers weren't high enough to prove its significance.

### Process measures

- The initial audit identified only 30% of staff could recollect the correct MBL phone number. Small stickers were made for staff to place on their name badge as a direct prompt. A snap survey of 50 staff members after the intervention showed an improvement to 100%.
- Informal feedback from sessions was extremely positive – “really useful sessions that help us feel prepared”

### Balancing measures

- Training will need to continue and be repeated.
- Currently no dedicated teaching days for nursing staff. All training has to be done in own time/on breaks.

### Barriers:

- Initial sessions accommodated 5-10 staff, however due to lack of physical equipment, staff weren't getting enough practical time with the infuser. This meant that sessions had to be restricted to 3 staff members.
- Reluctance of certain staff groups to engage in training as it may have exposed frailties/lack of knowledge.
- Remote supervision of project due to my own training needs resulted in lower numbers of staff trained and loss of project momentum.

### Conclusions & Future Plans

Despite the interventions made throughout this year, there is still a large variation in staff ability and understanding of MBL.

- Further training continues with the Ranger rapid infuser with future plans to expand this to cell salvage.
- This training is now incorporated into mandatory induction for new staff.
- Simulation will now become a key teaching aid for all specialties in the theatre dept.

### References

1. Kalmijn, W.M., Arends, L.R. & Veenhoven, R. Happiness Scale Interval Study. Methodological Considerations. *Soc Indic Res* **102**, 497–515 (2011). <https://doi.org/10.1007/s11205-010>