

# Team performance during emergencies in the operating theatre: A simulation-based mixed methods study

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**We developed one of the UK's first set of operating theatre emergency prompt-cards, aiming to improve team performance and non-technical skills**



## Background

- Emergencies in operating theatres (example cardiac arrests and massive haemorrhage) are high risk events, requiring effective teamwork (Arriaga et al, 2013).
- Evidence suggests that team performance during emergencies can be improved by using prompt-cards (Harrison et al, 2006).
- Crew Resource Management (CRM) training has been shown to improve team performance and reduce surgical adverse events.

## Aim

The study aimed to explore participants perceived impact on team performance and to assess the impact of using emergency prompt-cards during simulated operating theatre emergencies.

## Methods

Thirty-three emergency prompt-cards covering a range of theatre-based emergencies were developed. From a CRM trained cohort, eight operating theatre teams (5 staff per team) underwent six high-fidelity emergency simulations. Three (50%) of each team's simulations were randomly assigned to be performed with a set of prompt-cards.

## Data collection:

1. Mayo High Performance Teamwork survey (Malec et al, 2007) after each simulated scenario (N=240)
2. Structured observations. Primary outcome - 'failure to adhere to life-saving processes/key processes of care' for each crisis scenario (Arriaga et al, 2013).
3. Focus groups (8 groups with 5 participants in each group, N=40)



## Results

Prompt-card use increased perceived team performance ( $p < 0.0001$ ).

26.4% of key processes were missed with the prompt cards versus 24.3% without the cards ( $p = 0.54$ ). The difference in proportions between the groups was not significant at the 5% level.

The focus group data indicated that using prompt-cards improved:

### **Decision-making:**

*I was all out of ideas and trying to remember... I was just distracted by trying to remember and when we had the tool it was very 'ok that's that and ... that's that!' (Anaesthetist, Grp2)*

### **Communication and team working**

*It improved our communication as a team, and also it was actually a method of us all focusing on the problem together. (Anaesthetist, Grp7)*  
*I think it breaks down barriers within a team as you are working together. (Operating Department Practitioner, Grp2)*

### **Confidence to 'speak up'**

*The prompt cards are quite useful for us because we don't actually know sometimes where to start helping. We've learnt a lot ... To step up a bit more. Like be confident, as a team, you need to say a word, be proactive. (Scrub nurse, Grp1)*

### **Team training needed for effective use:**

*I think for a couple of scenarios we were using them wrong and using them as a guide rather than a prompt (Scrub nurse, Grp5)*

## Conclusions

This study supports the use of CRM training and emergency prompt cards. It provides valuable insights into the complex interactions to be considered when introducing such cards into UK healthcare.

## References

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