

Improving Education and Preparedness for Doctors in Training at the Start of their Stage 2 Cardiothoracic Anaesthesia and Critical Care Rotation

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INTRODUCTION

Anaesthetic trainees staff the cardiac on-call rota during their Stage 2 Cardiothoracic Anaesthesia and Critical Care rotation.

Anaesthetic trainees lack confidence at the start of their Cardiothoracic rotation, particularly related to emergencies on the Cardiac Intensive Care Unit (CICU) and in the catheterisation laboratory.

Since the introduction of the 2021 Anaesthetics curriculum, trainees now have a single cardiothoracic rotation and therefore need to maximise learning opportunities from this to satisfy the Stage 2 Cardiothoracic Anaesthesia curriculum requirements.

AIMS

- To evaluate and improve education, preparedness and confidence amongst doctors in training at the start of their Stage 2 Cardiothoracic Anaesthesia and Critical Care rotation.

METHODS

Pre-induction survey

- To assess experience, preparedness and confidence levels amongst doctors due to start their Cardiothoracic rotation.

Induction programme

- Lectures (the cardiac patient's perioperative journey, prescribing, welfare and educational opportunities)
- An introduction to specialist equipment, such as external pacemakers
- In-situ cardiac simulation
- A tour of the relevant areas (including the Cardiac ICU, Cardiac HDU and catheterisation laboratories)

Post-induction survey

- To reassess preparedness and confidence levels amongst doctors who attended the induction.

In-situ simulation scenarios:

- Catheterisation laboratory scenario: a patient that deteriorated and then arrested during primary percutaneous coronary intervention for an acute myocardial infarction.
 - Candidates were expected to follow the Joint British Societies' Guideline for the management of cardiac arrest as per Figure 1 below.
- CICU scenario: a deteriorating post-operative cardiac surgical patient who arrested and required resuscitation and emergency resection.
 - Candidates were expected to follow the CALS algorithm for the management of cardiac arrest as per Figure 2 below.

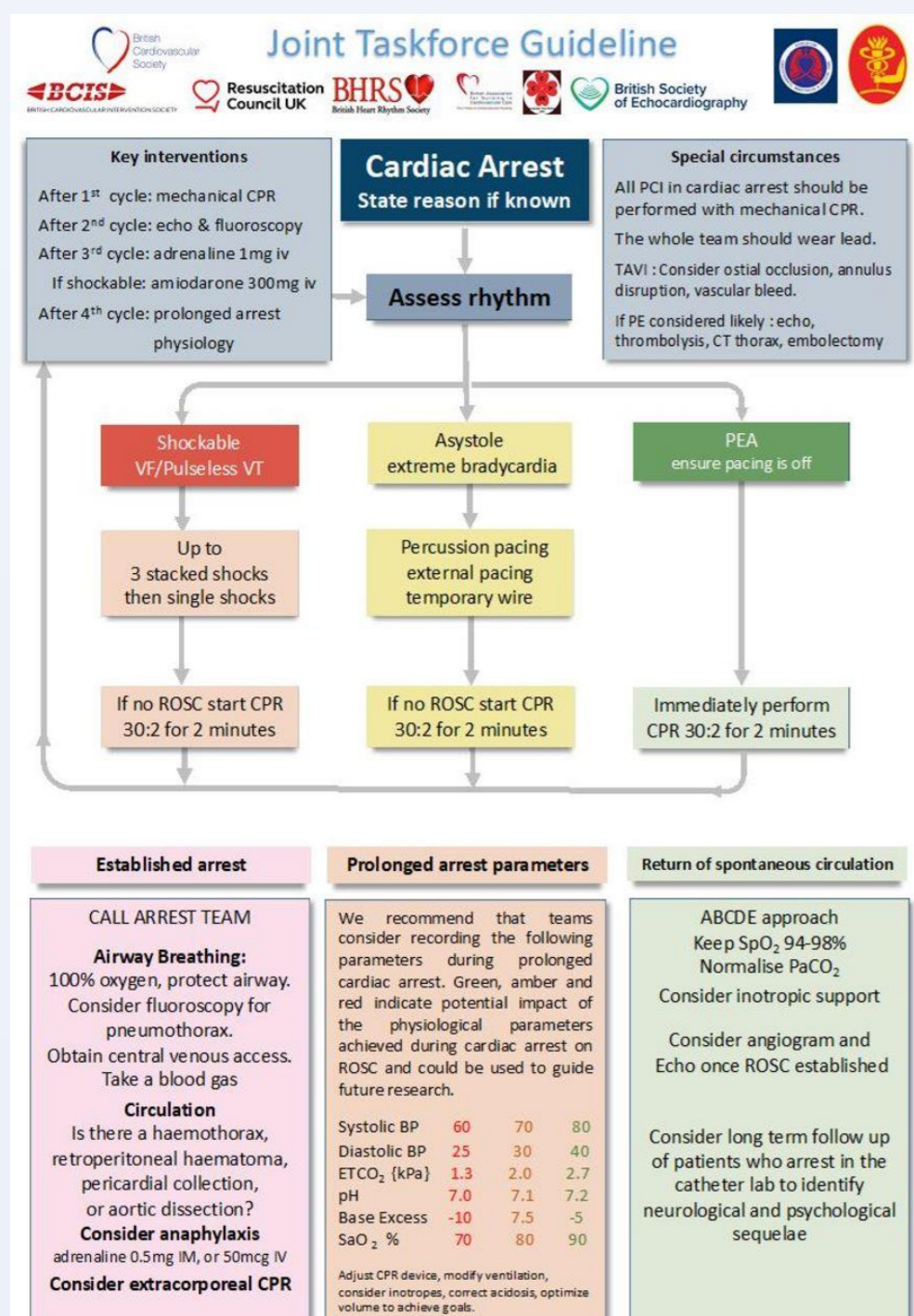


Figure 1: Protocol for resuscitation of patients who suffer a cardiac arrest in the catheterisation laboratory

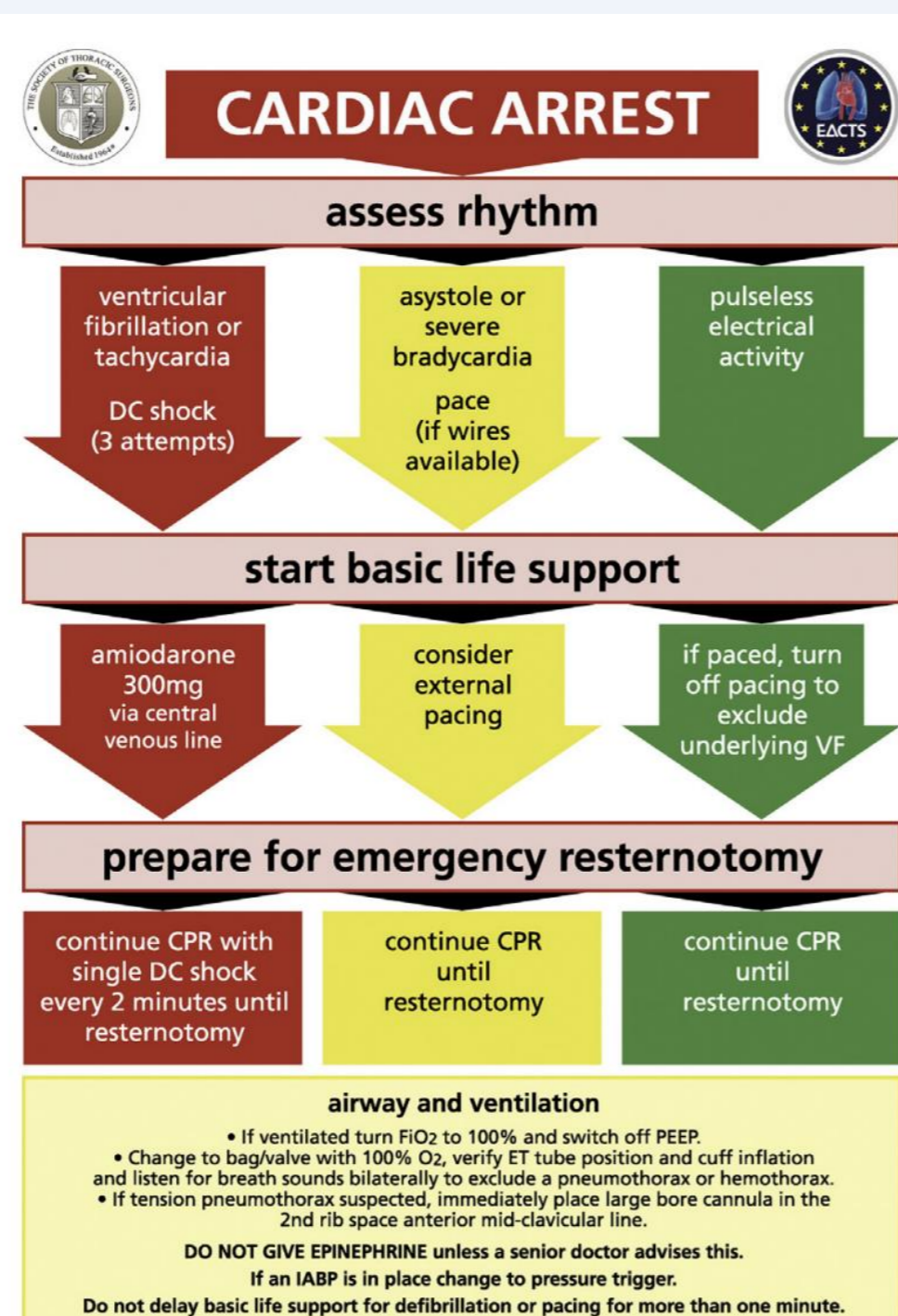


Figure 2: The CALS algorithm for the management of postoperative cardiac arrest following cardiac surgery

RESULTS

- 16 trainees completed the pre-induction survey, and 8 trainees completed the post-induction survey.
- No trainees had received any cardiac-specific simulation training during their training so far.
- All trainees rated the Cardiothoracic induction day as either useful or very useful.
- "The simulation sessions were very helpful" was a repeating theme in the qualitative feedback.

Figure 3: Graph showing response to the question 'How well prepared do you feel prior to starting your Cardiothoracic Anaesthesia and ICU rotation?'

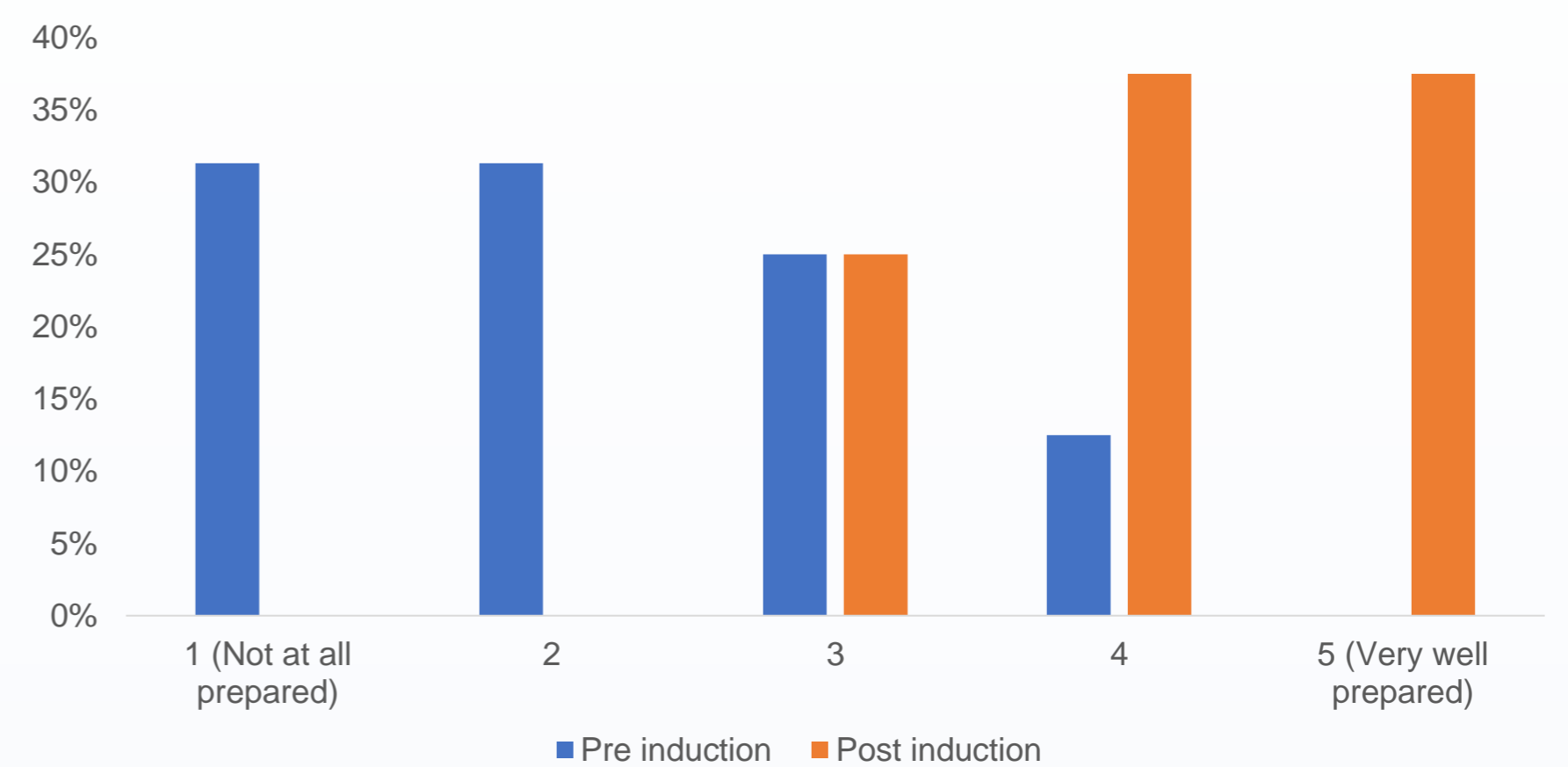


Figure 4: Graph showing response to the question 'How comfortable do you feel about managing an emergency resection on the Cardiac ICU?'

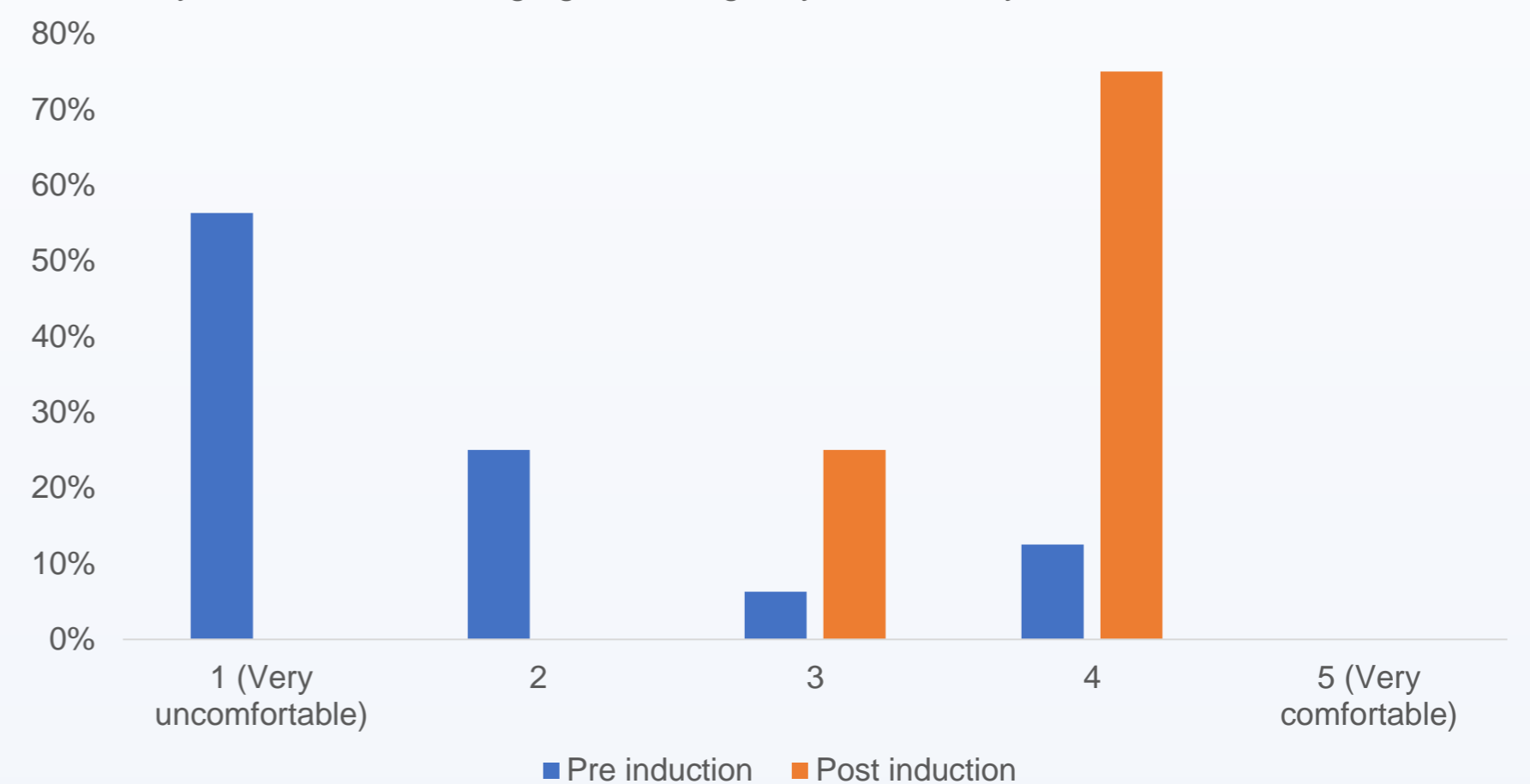
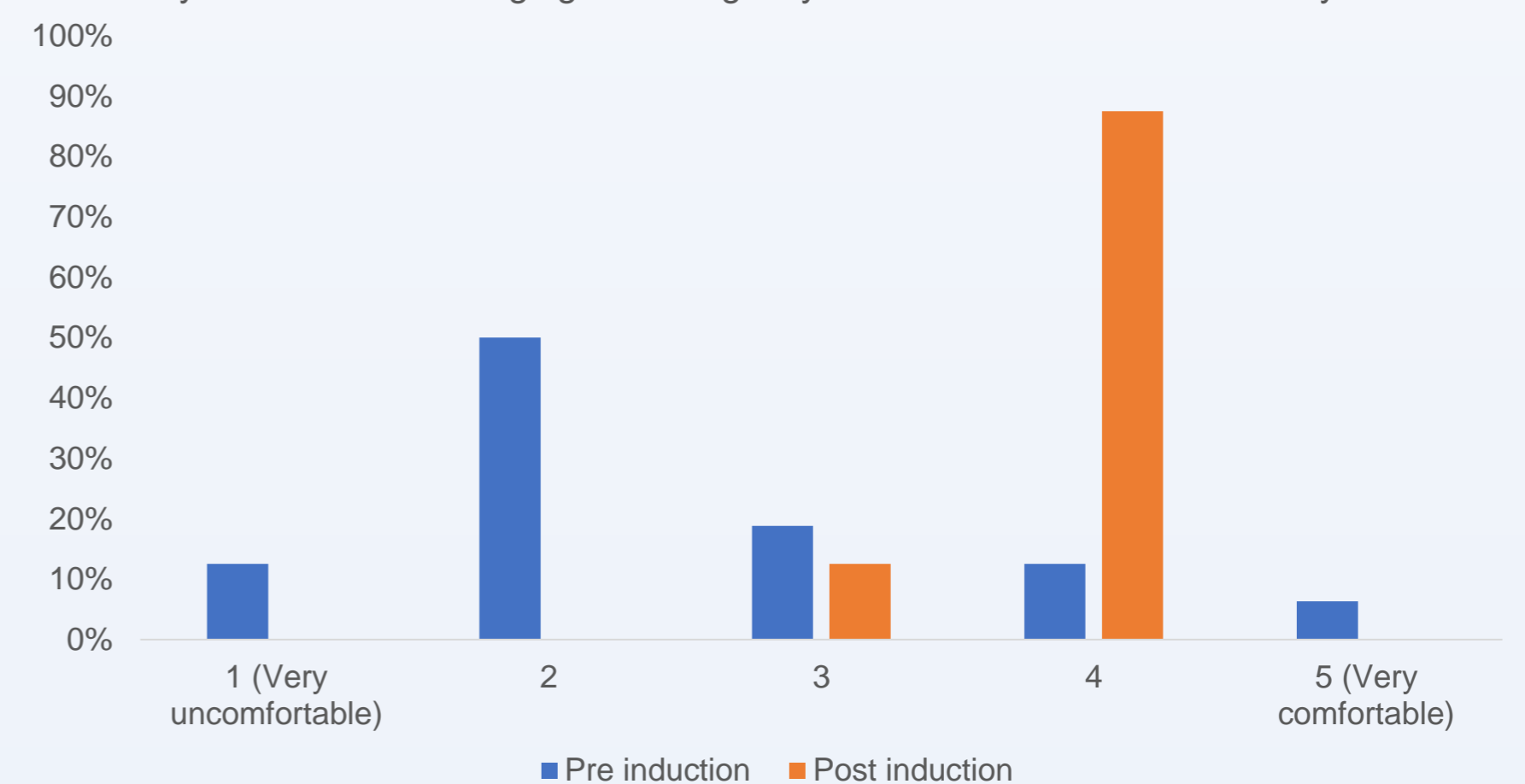


Figure 5: Graph showing response to the question 'How comfortable do you feel about managing an emergency in the catheterisation laboratory?'



CONCLUSIONS

- Unfamiliarity with the environment, team, equipment and procedures can lead to reduced confidence amongst trainees starting their Cardiothoracic rotation.
- This structured cardiac induction day has demonstrated an improvement in confidence levels amongst trainees.
- In future, the cardiac induction day will be run every 6 months, including in-situ simulation as a core component.

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