IN PRACTICE

A30 **DEVELOPMENT OF EMERGENCY DEPARTMENT THORACOTOMY COURSE**

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Introduction: The number of knife crime-related serious injuries is growing across the UK [1]. Our questionnaires demonstrated that even senior clinicians lack confidence in managing chest wall trauma and making a time-critical decision to perform a resuscitative thoracotomy. We have piloted the Resuscitative Thoracotomy course designed by C.A.R.E. (Cardiac Advanced Resuscitation Education LLC), to train the frontline multidisciplinary team of ED doctors, surgeons, intensivists, anaesthetists and senior nursing staff. Candidates learn to perform bilateral thoracotomy, resuscitative thoracotomy, pericardiotomy, internal cardiac massage, internal defibrillation, and to manage underlying injuries.

Methods: Our first pilot course in October 2024 involved four hours of e-learning, followed by a half-day in-person course. The in-person course involved five high-fidelity simulation moulages delivered in an ASPiH-accredited simulation centre, interspersed with small-group clinical skills training. Candidates completed a self-assessment questionnaire, where they rated their confidence in performing six key clinical skills using a five-point Likert scale [2]. This was completed before commencing the pre-course e-learning, and repeated after completing the course.

We revised the course structure and content to reflect the feedback from candidates. Our second course in April 2025 was extended to a full-day course with seven moulage scenarios with an increased simulation fidelity. A practical wet lab station was introduced with a hands-on element of managing trauma on porcine heart and lung blocks. All candidates were involved in practical skills sessions with medical meat led by cardiothoracic surgeons. Pre and post-course self-assessment questionnaires were completed as described above, in addition, candidates were asked to assess their confidence with relevant non-technical skills using a Likert scale.

Results: Feedback was collected from twenty-four candidates across two courses. The feedback from candidates revealed a recognition of a lack of necessary skills to perform clamshell thoracotomy, despite previous experience managing penetrating injuries amongst the cohort. Candidates reported improved confidence in performing the core technical skills in all six domains (Table 1). Candidates attending the April course also reported increased confidence in all four key non–technical skills (Table 1).

Discussion: Our overall aim is to improve access to focused training for frontline clinical staff who are increasingly likely to encounter patients with chest trauma. The high-fidelity simulations aim to empower senior clinicians and equip them with the necessary skills to deliver time-critical and potentially life-saving interventions. We are committed to the continuous evaluation and improvement of the simulation activity delivered within the course, in line with ASPiH standards [3].

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

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SUPPORTING DOCUMENTS – TABLE 1-A30

Table 1-A30: Average confidence rating of technical skills/ knowledge of candidates (scale 1=poor, 5=excellent)

	October 2024 (pilot) N=8		April 2025 N=16	
Skill	Pre-course	Post-course	Pre-course	Post-course
Knowledge of existing guidance for chest wall trauma (blunt/penetrating)	2.75	4.5	2.69	4.56
Performing chest wall thoracostomy	3	4.25	2.56	4.44
Performing clamshell thoracotomy	2.13	x	2.19	4.38
Performing pericardiotomy	2.13	4	1.94	4.25
Performing internal cardiac massage	2.88	4.13	2.38	4.43
Dealing with underlying heart/ vascular injury	2.38	4.13	1.88	4.06
Performing internal defibrillation	2.88	4.13	2.06	4.31
Ability to team lead			2.69	4.25
Act as a resource coordinator			2.31	4.38
Ability to work in a team to expedite the time-critical transfer of an unstable patient			3.5	4.6
Ability to work collaboratively to facilitate opening a chest within 5 minutes of an arrest			3.19	4.75