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## Letter to the Editor

# Resuscitative thoracotomy for traumatic cardiac arrest: Clinical evidence and clinical governance



Since publication in 2011 of work carried out by the London HEMS team,<sup>1</sup> resuscitative thoracotomy for traumatic cardiac arrest has established itself as an accepted part of pre-hospital care, to the extent that it is now included in national and international resuscitation guidelines.<sup>2</sup> Training courses on how to carry out the procedure are run by the Royal College of Surgeons.

Evidence for pre-hospital resuscitative thoracotomy suggests that it yields best results in patients with cardiac tamponade resulting from a penetrating injury to the thorax.<sup>1</sup> To the credit of the London HEMS team they appear to have applied sound scientific principles to each stage of their research on this matter; establishing the problem, devising a hypothesis, proving other measures inadequate, selecting an identifiable cohort, and translating their findings into clinical practice.

The evidence for or against pre-hospital thoracotomy in blunt trauma is less clear cut. Survival from traumatic cardiac arrest resulting from blunt trauma appears unambiguously poor.<sup>2</sup> The term "blunt trauma" however, is an umbrella term that encompasses a variety injury patterns. Using it to guide our decisions on resuscitation is reminiscent of the concept of "futility" that was once applied to traumatic cardiac arrests of all aetiologies.<sup>3</sup>

What is certain is that the evidence base for resuscitative thoracotomy in blunt trauma is weak. It is made up of a number of small-scale case series and observational studies with a large degree of heterogeneity.<sup>4</sup> Conclusions drawn from these studies are therefore of limited value to guide our clinical practice. Nevertheless, thoracotomies are still being carried out for patients suffering traumatic cardiac arrest arising from blunt traumatic injuries.

The importance of clinical governance on this matter has been emphasised by a number of authors.<sup>2,5</sup> Governance frameworks are there to ensure that we are practicing according to agreed scientific, economic and ethical principles. When there is a paucity of scientific evidence, good governance obliges us to take steps to generate the requisite data. Much of this comes down to simple measurement and record keeping. Following the author's informal enquiries it seems that a number of air ambulance services and emergency departments cannot provide accurate numbers on how many resuscitative thoracotomies are carried out by their clinical teams, nor what the outcomes are.

For a procedure whose efficacy has yet to be fully established it is imperative that clinicians and their professional bodies aspire to "do no

harm". The only way to ensure this is to apply scientific principles to our practice. The impracticability of conducting a randomised controlled trial in this scenario does not preclude us from collecting accurate and comprehensive data. Given that case numbers are likely to be relatively few, this can only sensibly be carried out at a national level, organised centrally, with defined standards of care. It is only by proceeding in this manner that we can hope to ensure that patients receive care appropriate to their needs.

## Conflict of interest

The author declares no conflicts of interest.

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