The elephant in the room

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Models for out-of-hours coverage of intensive care units (ICUs) post-cardiac surgery vary widely across Europe and the world. In the UK and in the major units in the USA, where there are high volume units, there tend to be a high number of trainees or middle grades who are able to provide 24-h resident coverage to the ICU and the wards. Classically in the UK, 9–10 trainees would be required to provide such cover and also attend theatres and outpatients.

The model is very different in smaller units. As there are not enough trainee surgeons to provide 24-h coverage, an alternative method must be used to cover the patients on the night of their surgery or at weekends. This model may use general intensivists, placing the patients on general ICUs after their surgery, or they may indeed have non-resident senior surgeons providing the support to non-doctors in the unit.

The Nottingham group have led the way in the UK in demonstrating how you can safely set up your service without the requirement of a large number of resident surgeons. This paper is an outstanding example of how careful implementation of this novel system has demonstrated perfect patient safety, and also how it has shown additional benefits that may not have been predicted, including cost reductions and improved surgical training.

So, how does this affect you in your unit?

First, if you are in a large unit with multiple trainees providing 24-h cover, consider this. If you provided the exemplary training to a group of nurse practitioners as was done here and placed them on call instead releasing your trainees from night time commitment, then if you reduced middle grade surgeon numbers you would save a significant amount of money (just under £200,000 in this study). But the remaining trainees (which would presumably be the highest quality ones) would then have a much greater exposure to your theatres and thus much better training. This would include more theatre time but also being able to select the most appropriate theatres for their level of ability. This ability to provide a better level of training to fewer trainees would further attract better trainees to your unit, indeed this would be training Nirvana, with the ability to choose your theatre, with minimal competition from other trainees! The result for your unit is financial savings, and better quality trainees for no risk in the provision of care to your patients.

So, what about smaller units? Here is the Elephant in the room in cardiac surgery. I must declare an interest in this subject in that I provide training to all levels of clinicians in protocols to manage the patient who arrest after cardiac surgery, including emergency resternotomy (www.csu-als.com). We have provided training to many senior nurses from small units, including many from small units in the USA, where having your cardiac surgery in a small local unit is very popular. I have frequently talked to nurses on these units that are covered by non-resident surgeons about their experiences of cardiac arrests. Many recount massaging a patient with tamponade for 30–40 min, while the surgeon comes in from home, and there is a universally fatal outcome from this. More alarmingly, I talked to three nurses who have been talked through emergency resternotomy on the phone as the surgeon drives in, again universally with a fatal outcome. Recurrent figures from units across the world put the incidence of arrest after cardiac surgery at around 1%, so it is not an infrequent event in terms of the annual experience of a unit. However, I am still surprised that lawyers have not yet picked up on the fact that a delayed resternotomy in a patient who arrests on the phone as the surgeon drives in, again universally with a fatal outcome. Recurrent figures from units across the world put the incidence of arrest after cardiac surgery at around 1%, so it is not an infrequent event in terms of the annual experience of a unit. However, I am still surprised that lawyers have not yet picked up on the fact that a delayed resternotomy in a patient who arrests after cardiac surgery might be an avoidable contributing cause of their client’s mortality. Thus for smaller units without resident surgical cover, the Nottingham group has demonstrated the perfect model to ensure complete patient safety including from the not infrequent emergencies that we experience in cardiac surgery.

There are other models of outstanding good practice in the provision of non-medical cover in cardiac surgery across the world, including at centres in the UK and in the USA, such as the nurse practitioner programme at Duke University Hospital where excellent training and regular moulage practice for emergencies are a cornerstone of their practice. Thus, I encourage all large units to consider following the Nottingham model in order to attain cost savings and to improve your resident’s training, and all small units to adopt their model in order to improve your patient’s safety and to keep the lawyers away from your door!