Cardiopulmonary resuscitation: attitudes and perceptions of junior doctors

Glyn Scott, Emma Mulgrew, Tom Smith

Many junior doctors feel cardiac arrests are unsatisfactorily managed and experience high levels of stress during the procedure, often feeling they are inadequately trained for the task. Juniors also regard 'do not resuscitate' orders as decisions for teams, not individuals.

INTRODUCTION

Cardiopulmonary resuscitation (CPR) is notable as an emergency treatment for which there is a requirement, where appropriate, to actively document that it should be withheld rather than administered. The procedure has a relatively poor survival rate of around 9–15% (Schultz et al, 1996). Up to 96% of the general public overestimate its effectiveness (Jones et al, 2000); it has been postulated that willingness to undergo the procedure, or expression of a wish to have it performed on a relative, would be less prevalent if the public were more realistically informed (Miller et al, 1992).

Relatively little evidence has been documented on the attitudes of junior doctors in the UK to this issue. Several studies have highlighted potential areas of concern, including overestimation of success rates and limited ability to predict post-arrest survival (Varon et al, 1991; Ebell et al, 1996); others have suggested that flawed technique and training may contribute to the low success rate of the procedure (Smith et al, 1993; Ochoa et al, 1998).

Given the current climate of increasing accountability and the inexorable move away from paternalism, the moral issues surrounding CPR are as important as the ability to perform it correctly. The questions of who has the right to make the decision not to resuscitate, and at what level of experience and under what circumstances this decision can justly be made, constitute an ethical minefield encountered by virtually every junior doctor on at least one occasion during their training (Maksoud et al, 1993; Stewart et al, 1993; Hayward, 1999).

The purpose of this study was therefore to document the attitudes to and perceptions of CPR and 'do not resuscitate' (DNR) decisions in a representative cross section of junior doctors in a region of the UK.

Dr Glyn Scott is Specialist Registrar in Care of the Elderly, **Dr Emma Mulgrew** is Pre-Registration House Officer and **Dr Tom Smith** is Consultant Physician in Care of the Elderly, Whiston Hospital, Merseyside

Correspondence to: Dr G Scott, Elderly Health Unit, Broadgreen Hospital, Liverpool L14 3LB

METHODS

A standard questionnaire was forwarded to all medical and surgical doctors up to and including specialist registrar (SpR) grade in a Liverpool teaching hospital and in a Merseyside district general hospital (DGH). Trainees in anaesthesia and accident and emergency medicine were not included. Specific questions were designed to address:

- Level of exposure of junior doctors to CPR situations
- Juniors' perceptions of:
  - How well organized resuscitation procedures are
  - Level of appropriateness of resuscitation events in which they had been involved
  - Effectiveness of CPR
  - Adequacy of training they had received to deal with CPR situations
  - Levels of stress experienced by juniors during resuscitation attempts
  - Levels of stress experienced when discussing the situation with a patient's relatives after a resuscitation attempt.
- Juniors' opinions on who should make DNR orders, and who should be consulted on this issue.

Stress levels were quantified using a simple linear scale ranging from zero (no stress experienced) to 10 (worst stress possible).

RESULTS

Participants

Of 125 questionnaires posted, a total of 96 were fully completed and returned, a response rate of 76.8%. Seventy six (79.2%) were returned from the teaching hospital and 20 (20.8%) from the DGH. Thirty four (35.4%) were answered by preregistration house officers (PRHOs; 17 in the teaching hospital, 17 in the DGH); 43 (44.8%) by senior house officers (SHOs; 37 in the teaching hospital, six in the DGH); and 19 (19.8%) by SpRs (18 in the teaching hospital, one in the DGH).

Level of exposure to CPR

In the 12 months preceding completion of the questionnaire, 75 participants (78.1%) had been involved in a CPR attempt (61 (81.3%) in the teaching hospital and 14 (18.7%) in the DGH).

Organization and management of CPR

Forty three (44.8%) stated that they felt arrests were not managed satisfactorily, 18 (18.8%) found them 'poorly organized' and 25 (26.0%) described them as 'chaotic'. Thirteen (13.5%) felt arrests were 'well organized'.

Level of appropriateness of CPR

Of respondents, 43 (44.8%) felt that 40–50% of resuscitation attempts were 'inappropriate'.

Efficacy of CPR

Perceptions of CPR success rates varied from 0% to 75%, the average being

15.6%; 17 (17.7%) felt CPR success rates were higher than 20% (*Figure 1*).

Perceived levels of stress during arrests

The greatest proportion of respondents (50, 52.1%) felt arrests were stressful experiences. Thirty six (37.5%) found 'the majority' stressful and 14 (14.6%) found them 'always' so. Forty three (44.8%) found stress a problem in only 'a minority' of cases and three (3.1%) said they had never experienced stress during a resuscitation. Most juniors rated stress levels of arrest procedures highly on the numerical scale, with 55.0% of those asked scoring them at 7 or above.

Perceived levels of stress during discussions with relatives

Of respondents 70 (72.9%) found such conversations stressful. Forty seven (49.0%) found 'the majority' of these discussions stressful with 23 (24.0%) finding them 'always' so. Only one respondent (1.0%) said they had never experienced stress in this situation.

Perceived adequacy of training in CPR

Fifty respondents (52.1%) felt that they had been adequately trained. This figure varied between grades, with only 26.5% of PRHOs feeling confident in their training, rising to 65.7% of SHOs and 68.4% of SpRs. These results (*Figure 2*) are of interest in light of the finding that only 19 (19.8%) of all respondents had actually attended an Advanced Life Support (ALS) course.

Figure 1. Junior doctors' perception of cardiopulmonary resuscitation efficacy.

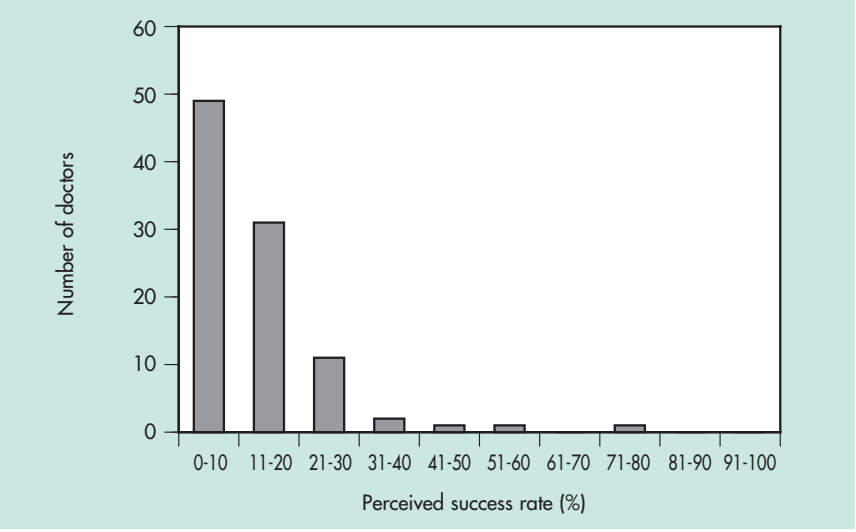
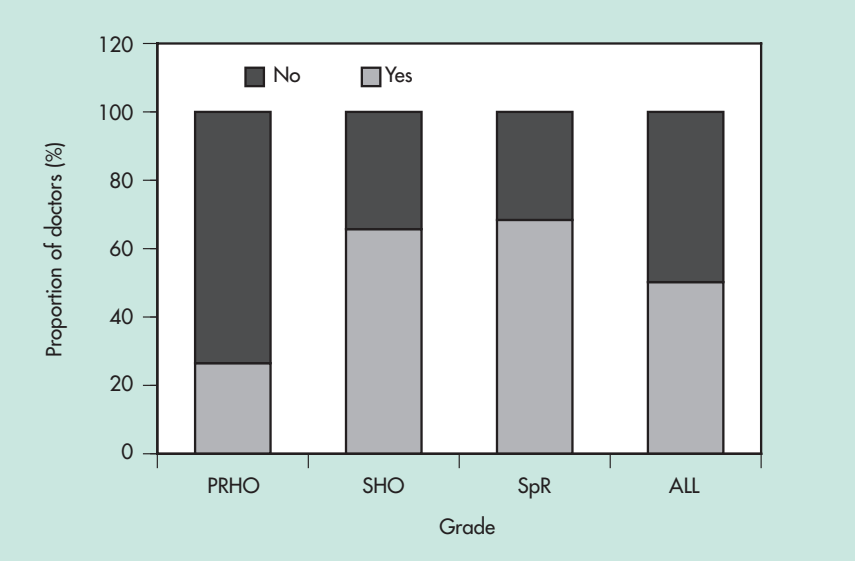


Figure 2. Perception of adequacy of training in cardiopulmonary resuscitation. PRHO= preregistration house officer; SHO = senior house officer; SpR = specialist registrar.



DNR orders

Twenty four (25.0%) were aware of their trust's policy on DNR orders. When asked the open question of 'Who should make the decision of "not for CPR"?', the majority (68, 70.8%) felt the decision was a medical one. Twenty five (26.0%) felt the decision required a seniority level of SpR or above, with 16 (16.7%) stating that DNR orders should be a matter for the consultant alone. Seven (7.3%) felt the issue should be decided by 'the most senior doctor available', four (4.2%) felt it was a multidisciplinary team decision, while only two (2.1%) felt that the patient should make the decision.

An additional question in a subgroup of 20 participants addressed the issue of who should be consulted before making the DNR order; 18 (90%) felt that both the family and the nursing staff should be involved and four (20%) felt that the patient's GP should also be consulted.

DISCUSSION

The cardiac arrest procedure is the archetypal medical emergency and still subject to emotive debate. This study explores some of the issues from the point of view of those performing the procedure.

Defining organization and success

The definition of what constitutes an 'organized' resuscitation procedure was deliberately left open to respondents' interpretation, as the aim of the study was to record participants' perceptions rather than their understanding of or adherence to a set of externally defined criteria.

The definition of 'effective' CPR is often intensely debated. It was not the aim of this work to provide a definitive argument on this issue. 'Success', for

the purpose of this study, was defined as return of spontaneous circulation in response to resuscitative measures by the cardiac arrest team. This was felt to reflect perception of the team's efforts more accurately than discharge from hospital; using the latter as a measure of success was rejected on the grounds that not every doctor participating would have had an opportunity for follow up to this stage. In addition, discharge from hospital is also dependent on post-resuscitative care in heterogeneous areas such as coronary care, high dependency and intensive care units, and not just on the treatment administered by the arrest team.

Perceptions of training

Many (47.9%) of the junior doctors questioned did not feel adequately trained to manage a resuscitation; this lack of confidence could conceivably contribute to the high stress levels reported during arrests, leading to a perception of its management and organization as 'unsatisfactory' or, worse, 'chaotic'. Better training should improve competence resulting in increased confidence and possibly improved survival rates.

Adequate ALS training is currently a requirement for completion of higher medical training; however, as confidence is lowest at PRHO level, ALS courses could be incorporated into the final year of the MB process, with attainment of a satisfactory level of competence being a prerequisite for the award of the primary medical degree and inclusion on the provisional medical register. However, as SHOs and SpRs also lack confidence, the profile of ALS courses should be raised in the training programmes for these groups.

In light of the high numbers of juniors asserting a lack of self-confidence, there is a puzzling discrepancy between the proportion of juniors who felt they had been adequately prepared for arrest situations (52.1%) and those who had attended an ALS course (19.8%). This discrepancy may be the result of overestimation of self-confidence and/or ability in a significant sub-group of juniors, and suggests there is room for stronger appraisal structures to identify this trait.

'Do not resuscitate' orders

DNR orders also emerge as a topic of concern. At the time of the questionnaire, formal policies existed within both trusts in which participating juniors were employed. These policies were clear statements of the situations in which DNR orders were deemed to be appropriate (planning for inevitable death, conditions increasingly refractory to medical management and express wishes of the patient not to be resuscitated) and were clear that the decision was to be made by a doctor.

The policies also made it clear that such decisions were to be taken by a consultant or, if necessary, by a SpR, provided that decisions by the latter were validated by a consultant within 24 hours of being documented. It appears, however, that the information is not getting through to juniors, with only a quarter of those questioned being aware of their trust's policy. This should be considered in the context of the frequent movement of juniors between trusts, and may reflect a deficiency of formal 'induction packs' or courses, which should contain information on any such policy for new juniors entering a trust. Interestingly the DNR policies of the trusts covered by this survey contained a recommendation that the policy be incorporated into the trusts' junior doctors' 'handbook'.

The DNR policies of both trusts were consistent with General Medical Council guidance on DNR decisions (General Medical Council, 2002). This document advises clinicians to make the patient's wishes central to the decision-making process, and stresses the importance of clear and timely consultation with other health-care professionals and the patient's 'proxy decision maker', presumably a relative or close friend. The document makes it clear that the ultimate decision is one for the consultant or GP responsible for the patient's care and that if resuscitation is deemed to be against the patient's best interests, the reasons for this should be clearly explained to those consulted.

Further advice on the issue of resuscitation decisions is available from other professional bodies (British Medical Association, 2001).

This study demonstrates that most juniors feel a DNR order should be a medical decision, and one in which the more senior the doctor deciding, the better. Interestingly, only 2.1% felt the patient should be involved in the process. The authors suggest that the low proportion of doctors prepared to involve patients in this issue may reflect a recognition of the need to carefully consider the individual's emotional response to the matter. In addition, it does not necessarily imply any deficiency in the doctor–patient relationship, as asserted by Eliasson et al (1999). This contention should not, however, be interpreted as advocating the withholding of information, an issue which this study was not designed to address. It is important to recognize the 90% of juniors who have sufficient recognition of the need for interprofessional discussion on the issue, and who stated that consensus discussion is warranted when appropriate.

Discussions with relatives

It is difficult to produce a single explanation for why juniors experience more stress during discussions with relatives of patients undergoing CPR than they experience during the procedure itself. This may reflect doctors' feelings on their performance during the procedure, perhaps believing that they could have made a difference if they had been better trained or more self-confident. It could equally be explained by apprehension at having to break bad news, another area often cited as being insufficiently addressed during training. The truth probably lies somewhere between the two. It could be argued that more appropriate resuscitation attempts may improve success rates and instil greater confidence. This in turn could reduce stress levels.

CONCLUSIONS

This study highlights several pertinent points and areas requiring further study. It is perhaps informative that only around a fifth of those questioned

had attended an ALS course, and it would be interesting to see if the data changed upon inclusion of juniors training in anaesthetics or accident and emergency medicine. While on average perceptions of CPR efficacy were realistic, nearly half of juniors felt that on average 40–50% of resuscitation procedures carried out were inappropriate. It is also clear that trust policies on DNR orders are not filtering through to the medical staff on the wards and on the arrest teams.

Further research is needed into why so many arrests are deemed retrospectively to be inappropriate and why DNR orders are not in place for these patients. The potential value of stress counselling and communication training for junior doctors should be assessed to evaluate its role in resuscitation events and subsequent discussions with relatives. It is likely that, under such conditions, improved confidence and competence will accompany a reduction in stress. **HM**

Conflict of interest: none.

British Medical Association (2001) *Decisions Relating to Cardiopulmonary Resuscitation: a joint statement by the British Medical Association, the Resuscitation Council (UK) and the Royal College of Nursing.* British Medical Association, London

KEY POINTS

- Cardiopulmonary resuscitation (CPR) has a relatively poor survival rate which is overestimated by a significant proportion of the general public.
- Performing CPR is perceived as a highly stressful experience by a majority of junior doctors, many of whom feel inadequately trained for the task.
- Juniors often experience higher levels of stress when discussing the procedure with relatives of the patient than during the actual procedure itself.
- A majority of juniors feel that 'do not resuscitate' decisions should be made by teams rather than individuals.
- Improved training and provision of stress counselling may improve juniors' self perception of competence in performing CPR and may ultimately reduce the stress experienced.

Ebell MH, Bergus GR, Warbasse L, Bloomer R (1996) The inability of physicians to predict the outcome of in-hospital resuscitation. *J Gen Intern Med* **11**(1): 16–22

Eliasson AH, Parker JM, Shorr AF et al (1999) Impediments to writing do-not-resuscitate orders. *Arch Intern Med* **159**(18): 2213–8

General Medical Council (2002) *Witholding and Withdrawing Life-prolonging Treatments: Good Practice in Decision-making.* General Medical Council, London

Hayward M (1999) Cardiopulmonary resuscitation: are practitioners being realistic? *Br J Nurs* **8**(12): 810–14

Jones GK, Brewer KL, Garrison HG (2000) Public expectations of survival following cardiopulmonary resuscitation. *Acad Emerg Med* **7**(1): 48–53

Maksoud A, Jahnigen DW, Skibinski CI (1993) Do not resuscitate orders and the cost of death. *Arch Intern Med* **153**(10): 1249–53

Miller DL, Jahnigen DW, Gorbien MJ, Simbartl L (1992) Cardiopulmonary resuscitation: how useful? Attitudes and knowledge of an elderly population. *Arch Intern Med* **152**(3): 578–82

Ochoa FJ, Ramalle-Gomara E, Carpintero JM, Garcia A, Saralegui I (1998) Competence of health professionals to check the carotid pulse. *Resuscitation* **37**(3): 173–5

Schultz SC, Cullinane DC, Pasquale MD, Magnant C, Evans SR (1996) Predicting in-hospital mortality during cardiopulmonary resuscitation. *Resuscitation* **33**(1): 13–17

Smith J, Ryan K, Phelan D, McCarroll M (1993) Cardiopulmonary resuscitation skills in non-consultant hospital doctors – the Irish experience. *Irish J Med Sci* **162**(10): 405–7

Stewart K, Wagg A, Kinirons M (1993) When to withold resuscitation. Consultants agree with their juniors. *Br Med J* **307**: 321

Varon J, Sternbach GL, Rudd P, Combs AH (1991) Resuscitation attitudes among medical personnel: how much do we really want to be done? *Resuscitation* **22**(3): 229–35