

# When can elderly patients be excluded from discussing resuscitation?

**ABSTRACT**—Case notes of elderly medical patients were surveyed to determine when 'do not resuscitate' (DNR) decisions could legitimately be made without consulting them. Patients were thought to be suitable for exclusion from decisions if morbidity scores indicated that they were unlikely to survive cardiopulmonary resuscitation (CPR) or if they were mentally incompetent. Thirty per cent of all patients were predicted not to survive CPR; another 28% were deemed incompetent. Of those with DNR decisions, 59% were predicted not to survive and a further 24% were incompetent. Discussing resuscitation would have been appropriate with 17% of those with DNR decisions.

Some authors have advocated that elderly hospital patients should be routinely consulted about their preferences for cardiopulmonary resuscitation (CPR) [1,2]. Guidelines propose that if 'do not resuscitate' (DNR) decisions are made for mentally competent adults because their quality of life is poor, consent must usually be obtained and doctors should discuss resuscitation with these patients [3]. If patients are incompetent, or if decisions are made because CPR attempts are thought to be futile, consent is not required [3].

To be ethically and legally competent to consent to treatment, patients must possess the following requirements and demonstrate them consistently over time [4,5]:

- understand a simple explanation of a proposed treatment, its outcome and complications;
- reason consistently about specific goals of treatment;
- choose to act on the basis of such reasoning and communicate their choice; and
- understand the consequences of their choice.

Competence is decision-specific: that is, competence to discuss one issue does not necessarily imply competence to discuss others [4,5]. Competence may be impaired by psychiatric conditions (eg toxic confusional state, dementia) or because of severe physical

illness. Patients in a coma are clearly incompetent, but so too may be those in severe pain or distress. In the USA the relatives of incompetent patients are legally empowered to give consent on their behalf. There is no provision for such surrogate decision making under current English law [3,4], which gives doctors the responsibility for making decisions 'in the best interest' of incompetent patients [4,5].

DNR decisions can also be made without consulting patients if the chances of CPR succeeding are so low that it can be regarded as futile; doctors have no obligation to offer, or even to discuss [6], a treatment which is not beneficial [3]. Morbidity scores, based on known predictors of poor outcome from CPR, may help identify such patients [7,8]. Two such instruments, the pre-arrest morbidity (PAM) and the prognosis after resuscitation (PAR) scores (Table 1), which have been developed from studies of CPR outcome, have been shown accurately to predict failure to survive CPR in an Irish teaching hospital population [8], although they have not yet been validated in Britain. Many elderly patients may be so confused on hospital admission that they are incompetent to participate in DNR decision making; others may be legitimately excluded from discussing decisions which are made on the basis that CPR is futile.

## Patients and methods

Case notes of all elderly medical inpatients in our district general hospital were reviewed. Most patients are admitted on an age-related basis as emergencies. Each patient's resuscitation status, most recent Hodkinson mental test score (MTS) [9], and the clinical and laboratory results needed to calculate PAM and PAR scores were recorded. It was decided to regard CPR as futile only if both PAM and PAR scores predicted failure to survive, using the criteria of O'Keeffe and Ebell [8]. Following the experience of others [1,2], patients were assumed to be incompetent to discuss CPR if their MTS was less than 7/10 or if they were too ill to complete an MTS.

## Results

Records were available for 128 of 132 elderly medical inpatients (52 males, 76 females; mean age, 84 years; range 67–97 years). MTS had been recorded for 105 (82%) of the 128 patients; in 41 (32%) it was less than 7/10, and it was stated in the notes that six (5%) were too ill to complete an MTS.

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**Table 1. The pre-arrest morbidity (PAM) and prognosis after resuscitation (PAR) scores**

Clinical features	PAM	PAR
Non-metastatic cancer	—	3
Metastatic cancer	—	10
Any cancer	3	—
Home-bound lifestyle	3	5
Sepsis (on admission)	1	5
Pneumonia (on admission)	3	3
Creatinine > 130 mmol/l	—	3
Creatinine > 220 mmol/l	3	—
Age over 70 years	—	2
Acute myocardial infarction	1	-2
Hypotension (systolic BP < 90 mmHg)	3	—
Heart failure (NYHA 3 or 4), angina, gallop rhythm, oliguria, mechanical ventilation, recent CVA, coma and cirrhosis each score 1 additional point on PAM		
Possible total scores	0 to 25	-2 to 28

In O'Keeffe and Ebell's study in an Irish teaching hospital [8] no patient with PAR > 5 or PAM > 4 survived.

BP = blood pressure  
CVA = cerebrovascular accident  
NYHA = New York Heart Association

**Table 2. The numbers of patients who could be excluded from discussing 'do not resuscitate' (DNR) decisions because of futility or incompetence**

	All patients (n = 128)		DNR patients (n = 29)	
	No.	(%)	No.	(%)
Predicted not to survive by PAR > 5/28	106	(83)	29	(100)
Predicted not to survive by PAM > 4/25	39	(30)	17	(59)
CPR futile:				
both morbidity scores predict poor outcome	39	(30)	17	(59)
Patient incompetent:				
MTS < 7/10 or too ill to complete score	41	(32)	16	(55)
Both futility and incompetence	5	(4)	9	(31)
Neither futility nor incompetence	53	(41)	5	(17)

CPR = cardiopulmonary resuscitation  
MTS = Hodkinson mental test score  
PAM = pre-arrest morbidity  
PAR = prognosis after resuscitation

The PAR score predicted that 106 patients (83%) would not survive CPR, and the PAM score predicted that 39 (30%) would not survive. All those predicted not to survive by PAM were also predicted not to survive by PAR, so 39 (30%) patients were predicted not to survive CPR by both scores (see Table 2). Of the remaining 89 patients, 36 (28% of the 128 for whom records were available) had an MTS less than 7/10 or were too ill to complete an MTS.

Twenty-nine of the 128 patients (23%) had DNR decisions; 17 (59%) of these were predicted not to survive by both scores and seven (24%) had an MTS less than 7/10 or could not complete an MTS. Therefore, 75 (59%) of all 128 patients, and 24 (83%) of the 29 with DNR orders fulfilled the criteria for exclusion from discussion about resuscitation because of futility, incompetence or both.

## Discussion

Decisions about futility of resuscitation or competence to discuss it should be made on an individual basis, and it is impossible to determine competence or futility with complete accuracy from retrospective case note review. However, given that some authors have suggested discussing CPR with *all* elderly patients on hospital admission, or at least with all competent patients [1,2], we wished to determine what proportion of our patients could legitimately be excluded

from such discussions. Clinical experience suggested that we should consider discussing CPR with relatively few of our elderly patients; using the criteria of this study, 59% of all the patients and 83% of those with DNR decisions might have been excluded from discussing resuscitation (Table 2).

Retrospective case note review such as this has limitations: patients' clinical conditions vary from day to day, which may not always be reflected in the most recent clinical notes or laboratory results. This could have affected the accuracy of calculated morbidity scores. Such population-based scores as PAM and PAR are difficult to extrapolate for individual use and clearly need further evaluation in a British population. In particular, it would be interesting to know whether there is any difference in the ability of these two scores to predict failure to survive CPR, and whether the cut-off points for futility derived by O'Keeffe and Ebell [8] can be used in other settings. In practice, our study relied on the PAM score to predict futility, since the PAR score suggested that very few patients would survive. The latter contains fewer variables and is easier to calculate than the PAM but it may discriminate unfairly against the elderly; for example, patients over 70 with a home-bound lifestyle automatically score in the futile range. In addition, although both scores allow for progression of malignancy, which is associated with poor outcome, they are not sufficiently refined to take account of the differing prognoses of cancers. Also, both scores might have been under-

estimated if clinical details were not recorded accurately in case notes.

Although used by other authors [2], a low MTS does not in itself indicate incompetence to discuss CPR. However, in a pilot study Mead and Turnbull [1] found that patients with a score less than 7/10 seemed unable to understand the concept of resuscitation. The MTS improves as acute illness resolves, so patients may be incompetent on admission and competent on recovery. The most recent MTS was less than 7/10 in 32% of our patients; in other studies [2] 43% of elderly patients had such scores at the time of admission and 16–18% on discharge [1,10]. The size of the incompetent group may have been overestimated where notes were not updated. Likewise, patients' views on resuscitation may also change during their hospital stay [2], so decisions taken early after admission need to be reviewed frequently.

No attempt was made to identify other groups who might legitimately have been excluded from discussing CPR; for example, those who had severe physical illness rendering them incompetent, or competent patients who might not have wanted to discuss the subject.

Many elderly patients will be excluded from discussing resuscitation, either because DNR decisions are made on the basis of futility or because they are incompetent to participate in decisions. Discussions about resuscitation preferences should target those patients who are competent and in whom resuscitation has some chance of success, or those who express a desire to discuss the subject. Our findings suggest that it is neither necessary nor valid to discuss resuscitation routinely with all elderly patients.

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