Do not attempt resuscitation orders, ethics and the Mental Capacity Act

'Do not attempt resuscitation' orders are common in hospital medicine practice. With reference to the guidance issued by the General Medical Council, this article offers a framework that will be useful when making these sometimes difficult decisions.

Until the middle of the 20th century, restoring circulation following cardiac arrest involved thoracotomy and direct cardiac massage. Then in 1960 Kouvenhoven et al were studying defibrillation in dogs at John Hopkins University. They noticed that forceful application of the pads to the chest resulted in a pulse in the femoral artery and thus closed chest cardiac massage was born. They went on to trial the technique in 20 in-hospital cardiac arrests (most under anaesthesia) with a 70% survival to discharge rate. They wrote 'anyone, anywhere, can now initiate cardiac resuscitative procedures. All that is needed are two pairs of hands'.

In current medical practice the principle of resuscitation is to sustain the vital functions of the person in respiratory or cardiac arrest, using techniques of organ support while treating the underlying cause of the acute deterioration. It is widely accepted that without a reversible cause of a cardiac or respiratory arrest there is little chance of long-term survival for that person. The real dilemma in the ethics of resuscitation is deciding whether there is a reversible underlying cause and balancing the benefit of prolonging life against the burden or risk of resuscitation.

The science of resuscitation

Chest compressions and ventilation allow oxygenation of the vital organs so slowing down the deterioration of brain and heart function. When closed-chest cardiac massage was described in 1960 there were no in-hospital cardiac arrest teams, emergency medical services or even universal emergency telephone numbers. Since then millions of hospital workers and lay people have been trained to perform bystander cardiopulmonary resuscitation. Despite cardiopulmonary resuscitation probably doubling the chance of survival in an out of hospital cardiac arrest (Resuscitation Council (UK), 2006; Weisfelt and Ornato, 2008), the rate of survival to hospital discharge is still only 7–10% (Pell et al, 2003; Atwood et al, 2005).

Survival rates are higher for in-hospital cardiac arrests. The largest and most comprehensive source of in-hospital cardiopulmonary resuscitation outcome data is the US National Registry of Cardiopulmonary Resuscitation. In an analysis on close to 87 000 consecutive in-hospital cardiac arrest events between 2000 and 2007, 49% of patients had a return of spontaneous circulation for at least 20 minutes, 29% were alive at 24 hours and overall 18% survived to hospital discharge, 14% with a favourable neurological outcome (Peberdy et al, 2008). Patients with ventricular tachycardia or fibrillation are three times more likely to survive while factors associated with death include sepsis, renal failure (serum creatinine >132 μmol/litre), metastatic cancer, dementia and pre-hospital dependency (Ebell et al, 1998; Peberdy et al, 2003).

The time from cardiac arrest to starting advanced life support, such as drugs and defibrillation, also has a sizeable impact on survival rates. Sandroni et al (2004) performed a prospective audit of outcome after cardiac arrest in a large tertiary hospital in Italy in 2004. They showed that cardiac arrests occurring in monitored areas (the emergency department and intensive care unit) had a survival rate of 46% while those patients arresting on a conventional ward had only a 21% chance of survival. Patients in the non-monitored areas also had a better outcome when the cardiac arrest team arrived within 3 minutes (34% survival compared with 9% survival when the team arrived after 3 minutes) and no patient survived when the team took longer than 6 minutes to arrive. It is now evident that operational issues and the nursing and medical staffing levels in a hospital do impact on survival rates from in-hospital cardiac arrest. Indeed survival rates are lower during nights and weekends, even when adjusted for potentially confounding patient, event and hospital characteristics (Peberdy et al, 2003).

Predicting neurological outcome in those with a return of spontaneous circulation following cardiac arrest has proved very difficult. There are certain risk factors for a poor outcome including ongoing myoclonic status epilepticus at day 1 or absence of pupillary and corneal reflexes at day 3, and absence of a motor response other than extensor, also at day 3. However, to avoid withdrawing care inappropriately any tests must have a very low false positive rate for determining a poor prognosis (Young, 2009).

Mild hypothermia post cardiac arrest has become increasingly accepted as a method of improving neuro-

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logical outcome post ventricular fibrillation-induced, out of hospital cardiac arrest (Nolan et al, 2003). The Hypothermia after Cardiac Arrest study group (2002) reported a favourable neurological outcome at 6 months in 55% of patients cooled to 32–34°C for 24 hours after cardiac arrest compared to only 39% of the normothermic group, with a corresponding improvement in 6-month mortality. It appears that mild cognitive impairment is common following hypothermia-treated cardiac arrest but has little effect on the activities of daily living or quality of life (Cronberg et al, 2009). However, when therapeutic hypothermia is used prognostication becomes even more difficult. There is very limited evidence available as most of the available studies of prognosis after cardiac arrest were performed before the use of therapeutic hypothermia (Young, 2009). In the first 24 hours following cardiac arrest there are no clinical neurological signs, electrophysiological studies, biomarkers or imaging modalities that can reliably predict neurological outcome and as such decisions to limit care should not be based on any one single test (Nolan et al, 2010).

Ethics and the law

Ethical problems are an integral part of the resuscitation process because of the close relationship between cardiac arrest and death and the finality of the decision making. The dilemma of whether to attempt resuscitation is further complicated by confusion among clinicians as to what is considered success in terms of resuscitation. The English word ‘resuscitation’ is derived from the Latin ‘resuscitare’ meaning ‘to revive or restore the person to consciousness’ and success should be judged not in terms of immediate return of circulation but favourable ultimate neurological outcome.

One of the most widely used frameworks for medical ethics is Beauchamp and Childress’ (2001) four principles: respect for autonomy, beneficence, non-maleficence and justice.

Autonomy is the right of a person to make his/her own decisions provided that the consequences do not violate another person. An autonomous decision requires adequate time, full information and mental competence. It acknowledges the right of a patient to have control over his or her life, including decisions about how life should end; indeed as Wreen (2004) comments ‘it is the patient’s life to live and death to die’. This principle was upheld in the case of Ms B, who was rendered tetraplegic and ventilator dependent after a vascular accident in the upper spinal cord and who had made an advance directive refusing such treatment after a previous episode. The legal judgment in favour of Ms B confirms the right of the competent adult to refuse medical treatment even if the result is death [*Ms B* v *an NHS Hospital Trust* 2002].

However, the public is not accurately informed about the effectiveness of cardiopulmonary resuscitation and maintains unrealistic expectations of survival (Jones et al, 2000). This creates a situation in which people may elect for attempts at resuscitation for themselves or family members when survival, let alone recovery, is unlikely. Medical television fiction reinforces these incorrectly held beliefs, depicting cardiac arrest in much younger patients than is often the reality and with a much greater chance of survival (Diem et al, 1996; Gordon et al, 1998). Without dissemination of realistic statistics regarding survival and recovery the public will be unable to make informed choices, highlighting the importance of early and relevant discussion with patients and their families. In a survey of competent nursing home residents in the USA, 60% initially elected to have resuscitation attempted in the event of cardiorespiratory arrest. However, of those opting for resuscitation, 14% changed their preference after receiving additional information about resuscitation procedures, and a further 15% changed their preference following accurate survival information (O’Brien et al, 1995).

The duty of beneficence, that is to act in a way that benefits the patient, is an important ethical principle in health care. In treatment decisions at the end of life, the dilemma often revolves around what course of action will be in the patient’s best interests. If existing quality of life is so poor, or treatment is very burdensome, then the balance of harms and benefits may suggest that continuing treatment is not a benefit to the patient. Beneficence is of particular importance when a patient lacks capacity. In the case of Tony Bland, who was in a persistent vegetative state following a hypoxic-ischaemic brain injury, the court ruled that ‘where the responsible doctor comes to the reasonable conclusion... that further continuance of an intrusive life-support system is not in the best interests of the patient, he can no longer lawfully continue that life-support system: to do so would constitute the crime of battery and tort or trespass to the person’ [*Airedale NHS Trust* v *Bland* 1993].

Since this judgment the principles of beneficence have been enshrined in UK law in the form of the Mental Capacity Act 2005. The Act provides a statutory framework for decision making on behalf of those lacking capacity and codifies the current common law that had already developed in this area. It is underpinned by five key principles (*Figure 1*):

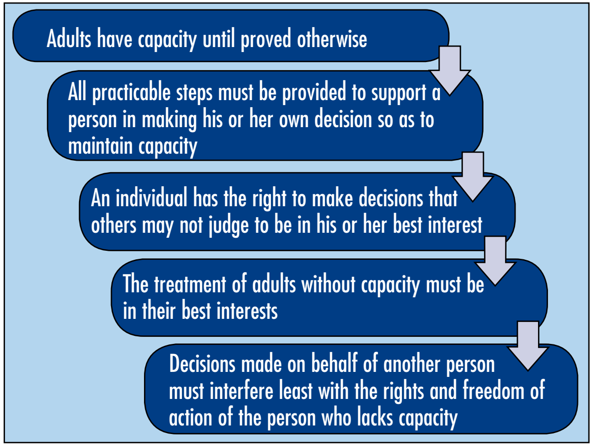


Figure 1. Five key principles of the Mental Capacity Act.

Adults have capacity until proved otherwise

All practicable steps must be provided to support a person in making his or her own decision so as to maintain capacity

An individual has the right to make decisions that others may not judge to be in his or her best interest

The treatment of adults without capacity must be in their best interests

Decisions made on behalf of another person must interfere least with the rights and freedom of action of the person who lacks capacity

1. Adults have capacity until proved otherwise
2. All practicable steps must be provided to support a person in making his or her own decision so as to maintain capacity
3. An individual has the right to make decisions that others may not judge to be in his or her best interest
4. The treatment of adults without capacity must be in their best interests
5. Decisions made on behalf of another person must interfere least with the rights and freedom of action of the person who lacks capacity.

When making decisions about those without capacity, the Act provides a decision maker's checklist in which it emphasizes the importance of taking into account the patient's past and present views, beliefs and values and the views of others close to the patient. In situations where a person lacks capacity and has no one to speak for him/her, such as family or friends, an Independent Mental Capacity Advocate should be appointed to support and represent the patient where decisions are being made about serious medical treatment.

Under the Act the assessment of whether a person lacks capacity is a two-stage test (*Figure 2*):

1. Is there an impairment of the brain or how the mind works?
2. Does the impairment mean the person is able to understand the relevant information, retain this information, weigh up the information to arrive at a choice and communicate the decision?

Until the Act came into force, no one was able to consent or refuse medical treatment on behalf of an adult without capacity, the treatment being decided by the doctors on the basis of best interest. However, the Act now provides for the appointment of proxy decision makers by patients (in the case of a lasting power of attorney) or by the Court of Protection (in the case of a court appointed deputy).

Importantly the act also legalizes the position on 'living wills' and these are now termed 'advance decisions to refuse treatment'. A competent adult's anticipatory refusal to consent remains binding if he or she subsequently becomes incompetent. An advance decision refusing life-prolonging treatment is valid only if it is in writing and explicitly states that it applies even if life is at risk. If the advance decision is valid and applicable, the advance decision is binding and treatment cannot be lawfully given.

The concept of non-maleficence, an obligation not to inflict harm intentionally, is distinct from that of beneficence, an obligation to act to the benefit of the patient. While many treatments involve some harm this should not be disproportionate to the benefits of treatment. The doctrine of double effect argues that there is a moral distinction between giving a treatment that causes death, and giving a treatment that is of benefit to the patient where death is a foreseen but unintended consequence. Prescribing opiate analgesia to a terminally ill patient may shorten the patient's life but the primary intention is to relieve pain and suffering. The double effect is the foreseen but unintended shortening of the patient's life. There is also an ethical and legal distinction between causing harm or death by omission of treatment rather than acting directly to cause harm or death. Legally the withdrawal of mechanical ventilation leading to the death of a person is considered an omission rather than an action and is permissible when undertaken as a result of a best interest judgement (Bell, 2007).

Finally we must consider justice, which involves the distribution of benefits, risks and costs fairly and the principle that patients in similar positions should be treated in a similar manner.

Do not attempt resuscitation decisions

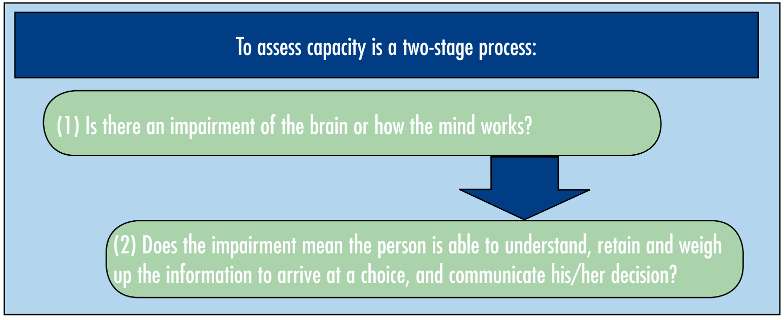
The primary goal of delivering health care is always to benefit the patient. When considering any treatment, the benefits to the patient must be carefully balanced against the burdens and risks of that treatment. In the case of cardiopulmonary resuscitation the obvious benefit is to prolong the patient's life. However, the potential burdens and risks can be significant, including trauma from cardiopulmonary resuscitation itself and, if cardiopulmonary resuscitation is unsuccessful, a lack of dignity in dying (General Medical Council, 2010). If the patient does survive then there is the risk that the patient may be left permanently neurologically disabled, or have a significant worsening of the chronic medical condition. More than half of cardiac arrest survivors have permanent brain damage of varying degrees (Herlitz et al, 2000; Pusswald et al, 2000). We must therefore have a robust and ethical way to decide which patients should receive the treatment of 'cardiopulmonary resuscitation' and those who should not.

Guidance has been published by the General Medical Council (2010) on treatment and care towards the end of life. In conjunction with the principles of the Mental Capacity Act and the British Medical Association guidelines on resuscitation (British Medical Association et al, 2007), the framework in *Figure 3* may be useful.

Is cardiorespiratory arrest a clear possibility?

If not, then it is not necessary to discuss cardiopulmonary resuscitation with the patient. If cardiac arrest does occur and no explicit decision has been made, then the presumption should be in favour of cardiopulmonary resuscitation.

Figure 2. Assessment of capacity under the Mental Capacity Act.

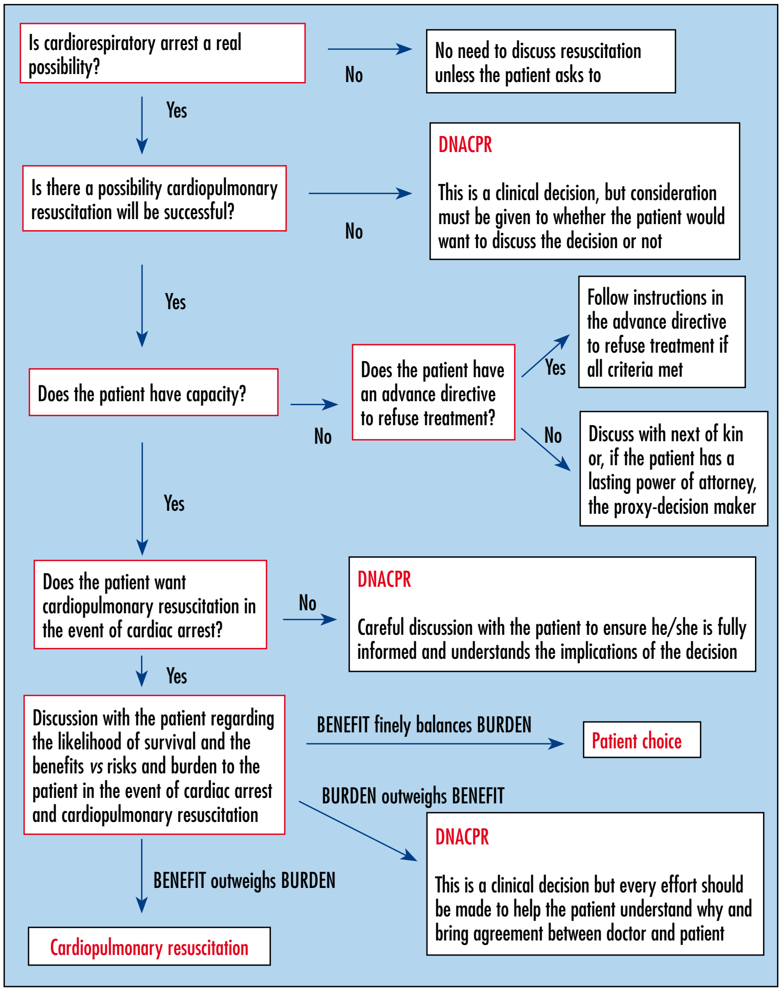


However, if the patient is at a foreseeable risk of cardiorespiratory arrest, a judgement about the likely benefits and risks should be made as early as possible.

Is there a realistic chance of cardiopulmonary resuscitation being successful?

When cardiorespiratory arrest is an expected part of the dying process and cardiopulmonary resuscitation will not be successful, then resuscitation should not be offered; making and recording an advance decision not to attempt cardiopulmonary resuscitation will help ensure the patient dies in a dignified manner. These management plans are known as 'do not attempt cardiopulmonary resuscitation (DNACPR)' or 'do not attempt resuscitation (DNAR)' orders. It is not necessary to ask the patient's wishes as this is a clinical decision alone, but careful consideration should be given as to whether to inform the patient of the decision. If you conclude that the patient does not wish to know about his/her DNACPR decision then you should seek the patient's permission to share the decisions about end of life care with those close to the patient. If the patient lacks capacity then those close to the patient or the patient's legal proxy should be made aware of the DNACPR decision.

Figure 3. A guide to making resuscitation decisions. DNACPR = do not attempt cardiopulmonary resuscitation.



When cardiopulmonary resuscitation may be successful, the benefits of prolonging life must be weighed against the potential burdens and risks.

Does the patient have capacity?

If the patient has capacity and if the benefit of prolonging life may outweigh the potential burdens, then the patient's informed views are of paramount importance and discussion is essential. The explanation of the burdens and risks of cardiopulmonary resuscitation should include the likely clinical outcome if cardiopulmonary resuscitation is successful, the appropriateness of prolonged support in a critical care unit despite successful cardiopulmonary resuscitation and whether the level of recovery is acceptable to the patient. Clinicians must be careful not to portray their own beliefs (positive or negative) in the discussion, both about the burdens of treatment and about the quality of life when living with different disabilities.

In cases where the benefit, burdens and risks are finely balanced, then the patient's wishes will usually be the deciding factor. Some patients may want cardiopulmonary resuscitation even when there is only a very small chance of survival. In these circumstances you should explore the reasons behind their request but if, after discussion, you still feel that cardiopulmonary resuscitation would not be clinically appropriate, you are not obliged to attempt cardiopulmonary resuscitation and you should consider placing a DNACPR order. You should, however, explain your reasoning and any other options available to the patient, such as seeking a second opinion. A patient cannot demand treatment that the clinician believes to be clinically inappropriate and this extends to the treatment of cardiac arrest. This principle was upheld by the successful legal appeal by the General Medical Council in the case of Mr Leslie Burke. The proceedings revolved around the patient's right to receive artificial nutrition and hydration and ultimately the law stated that 'autonomy and the right of self-determination do not entitle the patient to insist on receiving a particular medical treatment regardless of the nature of the treatment' [*R on the application of Burke* v *The General Medical Council* 2004].

If the patient lacks capacity, any legal proxy with authority over life-sustaining treatments such as a lasting power of attorney should be consulted. If a patient lacking capacity has a valid and applicable advance decision refusing cardiopulmonary resuscitation, this should be respected. If the patient lacks capacity and there is no legal proxy or advance decision, then those close to the patient, including members of the health-care team involved in the patient's care, should be involved in discussions to explore the patient's wishes, feelings, beliefs and values. However, you must endeavour to make sure that these people do not feel it is their responsibility to make the decision. Any legal proxy or those close to the patient should be provided with the same information about the merits and burdens of cardiopulmonary resuscitation that you would share with the patient.

If you conclude after discussion with the patient, legal proxy or those close to the patient that resuscitation should not be offered, a DNACPR order should be made and recorded. If it is your opinion that cardiopulmonary resuscitation would be clinically inappropriate you do not need to offer to attempt it. Where health-care professionals and the proxy decision maker disagree, the assistance of the Court of Protection may be required (British Medical Association et al, 2007; General Medical Council, 2010).

There may be situations when clinically the benefits far outweigh the risks but the patient who has capacity does not want cardiopulmonary resuscitation in the event of cardiac arrest. This decision may follow discussion with the health-care team and subsequent documentation in the patient's notes or it may take the form of an advance directive. In both circumstances every effort should be made to ensure the patient understands the implications of his/her decision, while taking care not to pressurize the patient into accepting treatment he/she does not want. The patient is fully within his/her rights to refuse any form of medical treatment or intervention.

Conclusions

When considering the ethics of resuscitation we must look at both the benefits of prolonging life and the burdens and risks of cardiopulmonary resuscitation. These are different for every patient, both clinically and with regard to life expectancy and quality of life. We must therefore involve our patients, or if they do not have capacity, their proxy decision maker or those who know them well, to assess these factors. To maintain autonomy patients must have all the relevant information and be given adequate time to make decisions. Consequently, doctors must stay up to date on expected survival rates from cardiopulmonary resuscitation, neurological outcomes and the treatments involved in multi-organ support. In nearly all situations it is better to have thought about this in advance because trying to make decisions at the time of cardiac arrest has an impact on staff, resources and, of course, patients. It is important to understand how difficult it is to predict survival, especially immediately post cardiac arrest, and it will often be several days before prognosis can be reasonably judged. During this time autonomy, beneficence, non-maleficence and justice may all come into question. **BJHM**

Conflict of interest: none.

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KEY POINTS

- Since the conception of closed chest compressions in 1960, cardiopulmonary resuscitation has saved many lives.
- There are four key principles in medical ethics: respect for autonomy, beneficence, non-maleficence and justice.
- The Mental Capacity Act provides a statutory framework for decision making on behalf of those lacking capacity and codifies the current common law that had already developed in this area.
- If a patient is at a foreseeable risk of cardiorespiratory arrest, a judgement about the likely benefits and risks of resuscitation should be made as early as possible by the health-care team.