

## CPR Discussions

### **When someone wants attempt at CPR do ensure that you cover:**

- The patient's understanding of CPR
- The need for any person who undergoes a resuscitation attempt to be transferred to the nearest hospital for advanced CPR and support.
- Reassurance that any decision not to attempt CPR will not affect their right to decide about or receive other active treatment as appropriate.
- Their need to notify the staff should they change their mind and not wish attempted CPR.
- The need for review of a decision if the patient's clinical condition changes, for example with disease progression.

### **Factors to consider in decisions about suitability for attempted CPR**

Survival of the healthy adult who has a witnessed cardiac arrest has improved over time as recognition, first response and hospital follow through have improved.

#### **However, KEY FACTS:**

- **Currently 80% of cardiac arrests occur outside hospital. 90% of these will result in death.** Survival after an out of hospital arrest is about 10% now. (It would be much higher if 'first response' were better i.e. if early CPR plus defibrillation<sup>1 2</sup>). Some survivors will suffer serious and permanent damage
- **In-hospital cardiac arrest survival rate (as in survival to hospital discharge) is between 12 to 25%<sup>3</sup>, despite the medically rich surroundings.** Some survivors will suffer serious and permanent damage. This due to the fact that the in-hospital cohort will have pre-existing illness/current health issues. Pre-existing illness and current ill health greatly reduce the chance of survival to hospital discharge and those who do survive are much more at risk of permanent serious damage<sup>45</sup>.

The chance of a successful outcome from CPR (survival to discharge, and without significant, permanent damage) for the majority of patients under our care is extremely low. Clinicians use the phrase 'no reasonable likelihood of success' to describe this. However, for some there may be reasonable chance of success.

If someone with advanced disease wants to be 'for CPR', that person's wishes, understanding of CPR, and reasons for wanting must be explored, clarified, discussed. If they are not able to participate in discussions due to incapacity, the views of their significant others (close family, friends) are especially important and should be taken into account (see SFH Mental Capacity policy for more information).

<sup>1</sup> <https://www.londonambulance.nhs.uk/2020/01/29/we-release-new-stats-on-cardiac-arrests-showing-survival-rates-outside-of-hospital-reach-all-time-high/>

<sup>2</sup> <https://www.bhf.org.uk/what-we-do/policy-and-public-affairs/transforming-healthcare/out-of-hospital-cardiac-arrests>

<sup>3</sup> Dependent on country

<sup>4</sup> In Hospital Cardiac Arrest: a review Lars W Anderson et al JAMA. 2019 Mar 26; 321(12): 1200–1210.

<sup>5</sup> Pre arrest and intra arrest prognostic factors associated with survival after in hospital cardiac arrest: systematic review and meta analysis BMJ 2019 <https://www.bmj.com/content/367/bmj.l6373>

## **What are the factors reducing likelihood of success?**

Sometimes, despite the person really wanting to be for resuscitation it is just not realistically medically feasible. The Resuscitation Policy talks through what to do if there is disagreement between what the person wants and what the medical team feels is possible but below are some additional key facts to help you weigh up medical feasibility:

### **Performance status**

- The likelihood of a successful CPR attempt is much lower for people with a poor performance status (AKPS < 40%; ECOG status 3 or 4)<sup>6</sup>, and thus higher for people with a good performance status.

### **Pre-existing illness, co-morbidity, frailty**

- The presence of pre-existing medical and surgical conditions is strongly associated with outcomes following in-hospital cardiac arrest. For example, malignancy, sepsis, poor functional status prior to the cardiac arrest, pneumonia, hypotension, renal dysfunction, and hepatic dysfunction have been identified as significant predictors of poor survival<sup>7</sup>.
- Cancer plus pre-existing other medical conditions significantly reduces likelihood of success, with metastases reducing likelihood of survival to hospital discharge to 0 – 2%. Sadly this figure has not improved over time<sup>8</sup>.
- Increased age is associated with decreased survival following cardiac arrest in most studies, especially for patients older than 70 years

Main causes of ICU death are refractory shock or multiple organ failure (n = 64, 48%) and neurological injury (n = 27, 20%)<sup>9</sup>.

### **Estimated prognosis**

- If the patient's prognosis is measured in weeks, as a result of his/ her condition, attempted CPR will be very unlikely to be successful, or to be clinically appropriate. If the prognosis is days, CPR will not be successful.

### **More generally:**

- Unwitnessed cardiopulmonary arrest has a much worse outcome than witnessed arrest
- Arrests where there is a non-shockable cardiac rhythm, (i.e. asystole) have a very poor outcome

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<sup>6</sup> <https://www.bma.org.uk/media/1816/bma-decisions-relating-to-cpr-2016.pdf>

<sup>7</sup> A validated prediction tool for initial survivors of in-hospital cardiac arrest. Chan PS, Spertus JA, Krumholz HM, Berg RA, Li Y, Sasson C, Nallamothu BK, Get With the Guidelines-Resuscitation Registry Investigators. Arch Intern Med. 2012 Jun 25; 172(12):947-53.

<sup>8</sup> Patients with cancer and an anticipated cardiorespiratory arrest due to pre-existing medical conditions have a 0-2% chance of survival to discharge (Ewer, 2001, and Wallace, 2002, in NCPC, 2003)

<sup>9</sup> What is the outcome of cancer patients admitted to the ICU after cardiac arrest? Results from a multicenter study **Resuscitation.2015 Jul;92:38-44. doi: 10.1016/j.resuscitation.2015.04.011. Epub 2015 Apr 24**

- **Factors increasing likelihood of success:**

- If further disease modifying treatment is available, and carries a reasonable chance of improving the patient's quality of life or prognosis, then attempted CPR may feel more appropriate.

### **Other critical considerations**

#### **The person's quality of life**

- as determined by the person. If the person feels they have positive quality of life, then this may prompt them to want to be for all efforts to maintain life, including for CPR. People with e.g. long term or permanent disability may otherwise be stable in terms of general health, and should be given every opportunity to share their own wishes, to positively want CPR, and to be given the information to weigh up potential for success as well as lack of success of any CPR attempt.
- If the person is unable to meaningfully contribute to this assessment e.g. due to learning disability, e.g. due to brain impairment, the views of family and carers, as well as healthcare staff, are especially important, as are any previously stated wishes or views that the patient has had (see SFH Mental Capacity policy as above).

#### **The person's specific goals**

- There may be a particular life event that the person is aiming towards. As a CPR decision only relates to cardio pulmonary arrest, if there is no realistic likelihood of success from such an intervention this should not change a medical DNACPR decision. However, this may well influence other decisions around e.g. continued treatment, iv antibiotics, transfusion etc. in an effort to maximise chance of achieving the life event/goal with best quality.

#### **Impact on family of a witnessed CPR procedure**

- CPR is a necessarily vigorous procedure requiring full effort to have any chance of getting the heart and breathing re-started. Any chance of success will require immediate (999) hospitalisation. Such a procedure, particularly on those with whom it will inevitably fail may have a detrimental effect on family/friend witnesses.

### **COVID update: what have we learnt?**

In the midst of a pandemic:

Many more doctors were forced by circumstance to tackle the resuscitation question / engage with Advance Care Planning to ensure best use of available resource and to crisis plan.

The CQC and NHS have since highlighted the danger and ethical challenge of creation of 'blanket orders'.<sup>10 11</sup> From their publications there comes a key statement: : *'We expect all care providers to assure themselves that any DNACPR decisions have been made appropriately, in discussion with the person and in line with legal requirements and best practice'*

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<sup>10</sup> CQC publication: Review of Do Not Attempt Cardiopulmonary Resuscitation decisions during the COVID-19 pandemic Interim report November 2020

<sup>11</sup> <https://www.communitycare.co.uk/2020/12/04/unacceptable-resuscitate-orders-made-first-covid-wave-may-still-place-says-cqc/>

A critical publication by the CQC: *Protect, Respect, Connect – decisions about living and dying well during Covid-19* pub April 2021<sup>12</sup> highlights issues of current concern, in particular discussions and decisions for people with vulnerabilities including Learning Disability and dementia.

**General references:**

<https://www.bma.org.uk/media/1816/bma-decisions-relating-to-cpr-2016.pdf>

<https://compassionindying.org.uk/wp-content/uploads/2021/03/Better-Understanding-Better-Outcomes-DNACPR-decisions-before-and-during-the-pandemic.pdf>

<https://www.bmj.com/company/newsroom/patients-overestimate-the-success-of-cpr/> BMA 2018

<https://www.resus.org.uk/library/additional-guidance/guidance-dnacpr-and-cpr-decisions>

<https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/treatment-and-care-towards-the-end-of-life/cardiopulmonary-resuscitation-cpr>

<https://www.bma.org.uk/advice-and-support/ethics/end-of-life/decisions-relating-to-cpr-cardiopulmonary-resuscitation> Last updated 2020

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<sup>12</sup> <https://www.cqc.org.uk/publications/themed-work/protect-respect-connect-decisions-about-living-dying-well-during-covid-19>