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ELDER CARE

A Resource for Interprofessional Providers

CPR: Advice for Helping Patients and Families Decide

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Code Status

“Code status” is a term that clinicians often use in reference to whether or not a patient is a candidate for cardiopulmonary resuscitation (CPR). Patients, however, may neither understand the terms “code status” or “CPR,” nor the significance of them. To better communicate with patients and their families, and allow them to make informed decisions, they need to understand what CPR is and whether it offers benefit to them in meeting their goals for medical care.

CPR, including chest compression, artificial respiration, and defibrillation, was originally developed as a treatment for in-hospital cardiac arrest due to ventricular arrhythmias. Since then, its use has been expanded. It is now used in virtually all healthcare and non-healthcare settings and administered to patients with cardiac arrest from almost any medical condition.

Outcomes of CPR, however, depend on the cause of cardiac arrest and the previous health status of the patient. They can include failure of CPR to resuscitate the patient, successful resuscitation with subsequent death in the hospital, or resuscitation with survival to hospital discharge (with or without good neurological function).

How Effective Is CPR In Older Adults?

The success rate of CPR in movies and on television is around 67%. Patients and their families tend to be even more optimistic about the success rate, with 81% of patients over the age of 70 thinking they have a 50% chance of survival and 23% thinking their survival chance is 90% or more. In reality, the overall survival rate for adults following out-patient CPR is about 6%. For patients who undergo CPR in a hospital, the survival rate is slightly higher at about 16%, but some survivors have impaired neurological function (e.g., memory loss, impaired speech or motor function, incoordination, coma, etc) (Table 1).

Survival Rates	
Survival with no/mild neurologic disability	7.9%
Survival with major neurologic disability	8.1%
Living Situation After Hospital Discharge	
Discharge to home	6.0%
Discharge to nursing facility or other site	10.0%

As one might expect, survival rates differ with a patient’s age and health status. Advanced age is associated with decreased survival rates. In fact, one study showed that after age 65, the chance of survival decreases 3% with every five years of age. Chronic organ disease (heart, lung, liver, or kidney) and poor functional status also decrease survival rates. Table 2 provides examples of survival rates based on various patient characteristics.

Over age 65	18%
Over age 90	12%
Living in skilled nursing facility	11.5%
Any cancer	6%
Stage-IV cancer	<1%

A calculator tool called GO-FAR (Good Outcome Following Attempted Resuscitation) takes into account a patient’s co-morbidities and gives an estimate of the chance of surviving CPR with good neurologic outcomes. Available online (www.gofarcalc.com), this calculator can be helpful to clinicians, most (about 2/3) of whom have inaccurate estimates of CPR survival rates. Results can also be shared with patients, but they should be asked first, as not all patients want to know such prognostic information.

TIPS FOR DISCUSSING CPR WITH PATIENTS

- CPR conversations are about the care patients would want if they were to die, not about the aggressiveness of other care provided while in the hospital.
- Clinicians and patients over-estimate CPR survival rates. The GO-FAR calculator can help clinicians more accurately estimate CPR survival rates for patients based on their age, co-morbidities, and current medical problems.
- CPR may not be best choice for older patients who value comfort and independence. On the other hand, it may be a reasonable choice for patients who value longevity, and can understand and tolerate the possibility of neurologic compromise.

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What Are Some Possible Complications of CPR?

Cardiac arrest causes an interruption in blood supply to vital organs and this interruption may not be fully overcome with CPR. Thus, patients resuscitated with CPR can have compromised neurological, kidney, and liver function.

The physical action of CPR-related chest compression can also cause trauma to surrounding organs. Approximately 31% of patients undergoing CPR will have rib fractures.

How Should You Talk With Patients About CPR?

One way to start a conversation with patients is to ask if they have advance directives. Often patients who have these documents will have established wishes and can readily tell you their preferences about CPR.

It can also be helpful to ask if anyone has talked to them about CPR in the past. For those unfamiliar with CPR, a brief description of the procedure can be helpful, including a discussion of the likelihood of success and the possibility of complications (eg, broken rib, neurological impairment, prolonged life support). This should be done in a way that neither overstates the benefits nor sensationalizes the risks.

These discussions sometimes take place with the patient alone, or they may occur with family members present. Recommendations about family meetings are discussed in a prior edition of Elder Care (see reference list). For patients who have never thought about CPR, it is important to find out what they value in life. Useful questions to ask include:

- What are their hopes for their future?
- How do they feel about depending on others for self-care, or about being kept alive attached to machines?
- Do they care more about longevity or about comfort and dying peacefully?

Based upon their answers, you may be able to help them make a decision that most closely aligns with their goals. For example, if someone wants to avoid nursing homes and prefers to die peacefully at home, you may recommend against CPR in hospital settings. Patient's CPR choices may also reflect their culture or religion. How the doctrines of

different religions view CPR is reviewed in another edition of Elder Care (see reference list). And, conversations with patients should be in their preferred language and should consider their ability to understand medical concepts.

It is also important to remind patients that no matter their code status or CPR choice, it will not affect other aspects of their care. Furthermore, clinicians should remember that patients may make choices different than what we would choose, or from what we would expect them to choose.

What Are Some Other Considerations?

There are disparities and inequities in CPR survival rates that could also affect a patient's code status choice. It is known that black and other non-white patients have worse survival rates from in-hospital cardiac arrest, in comparison to white patients. Half of this difference cannot be accounted for by patient factors or treatment differences. As healthcare team members we must recognize these differences and work to eliminate them.

How Should Code Status Be Documented?

Code status is listed in a patient's chart as "Full Code" if they opt to receive CPR. If they do not want CPR they can be designated as "Do Not Resuscitate" (DNR), Do Not Resuscitate/Do Not Intubate (DNR/DNI), or "Allow Natural Death" (AND).

In most hospitals, the default status is Full Code, which requires CPR. If a patient opts for DNR, DNR/DNI, or AND, the order must be clearly documented in the medical record. Many hospitals also provide a wristband for patients who choose these orders so no resuscitation procedures are done against their will.

In addition to documenting code status in the medical record, it is important that code status be discussed at change-of-shift handoffs. Any advance directives and out-of-hospital orders, such as Physician Orders for Life Sustaining Treatment (POLST) forms, should be updated regularly and noted in the medical record.

This of Elder Care updates a prior edition that was written in 2014 by Joshua Uy, MD.

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