

## UNDERSTANDING CPR AND DNR

When your provider talks to you about cardio-pulmonary resuscitation (CPR) for yourself or for your loved one, it can be a very difficult discussion. There is a great deal to consider and understand.

Much of what we think we understand about CPR comes from what we have seen on television. In fact, most of us have never witnessed CPR being performed. It is important to understand who will benefit from CPR, and how to determine it is right for your situation. It is also important to understand the risks and benefits of electing CPR as a treatment.

### WHAT IS CPR AND WHAT HAPPENS DURING CPR?

When a person's heart stops, sometimes the health care team will attempt to restart the heart so that it begins to beat again. In order to do this, the patient must be placed on a hard surface for support. The health care provider must push forcefully against the patient's chest wall so that it is compressed with 100-125 pounds of pressure. The American Heart Association guidelines state that these compressions must occur 100 times a minute to be effective. Breathing will occur with a mask that fits tightly over the face to allow air to be forced into the patient's lungs. Another method to provide breaths would involve a tube (endotracheal, or breathing tube) to be placed down the patient's throat so that oxygen can be provided artificially. Electric shocks will be delivered to the patient's chest wall with the goal of restarting the heart's rhythm. This process may need to be repeated with electrical shocks delivered many times to try to start the heart rhythm. An intravenous line (IV) will be placed to administer medication that may help to restart the heart.

Should you or your loved one survive CPR, you will be taken to the Intensive Care Unit (ICU) and placed on artificial life support (a ventilator/breathing machine) until the health care team has a better understanding of you or your loved one's condition. After CPR, many patients remain unconscious for various reasons. Sometimes brain damage occurs because of a lack of oxygen as a consequence to no a lack of blood flow to the brain when the heart stops. Sometimes patients require sedating medications so that their recovery may be enhanced and they are better able to tolerate the discomfort of the breathing tube. It usually will take several days for the health care team to know how successful CPR was in restarting the heart before significant brain and other organ failure occurs from lack of blood flow to those areas.

### WHO BENEFITS FROM CPR?

CPR is beneficial to people who are strong and healthy and have suffered a trauma such as a fall, near-drowning, or motor vehicle accident, but have no underlying illness. Even when a patient is young and healthy, however, CPR is only successful in a small percentage of these patients.

### WHO DOES NOT BENEFIT FROM CPR?

Unfortunately, for those who suffer from chronic debilitating illness, terminal illness, or are frail and elderly, CPR may cause more harm than benefit. Patients who have limited mobility, lung

disease, heart failure, Alzheimer's Disease, advanced cancer, and other chronic and terminal disease are much less likely to survive hospitalization after receiving CPR. In fact, less than 1% of people with chronic and debilitating illness survive CPR, and those who do survive usually have less function and poorer quality of life following CPR. Most elderly people have heart rhythms that do not respond well to CPR.

#### WHAT ARE THE RISKS OF CPR?

On television, when people receive CPR, they most frequently leave the hospital smiling. The truth is, that for all people receiving CPR in the hospital, including young and healthy people without underlying disease, the survival rate to discharge from the hospital is only 18%

There are many complications from CPR even when it successfully restarts the heart. Research tells us that 97% of patients suffer from fractures of the ribs or breastbone (sternum) due to pressure exerted on the chest during CPR. Also, 30% of patients experience burns from the machine that delivers the electric shock (defibrillator) and 59% experience deep bruising. Finally, as many as 50% of patients who receive CPR then suffer from a lack of oxygen to their brains, which results in varying degrees of permanent brain damage.

#### WHAT IS A DNR ORDER?

A DNR order means, "Do Not Resuscitate." This means that if a person's heart stops or they stop breathing, CPR will not be initiated. If a health care provider discusses this as an option for you or your loved one, you should discuss with your provider about whether or not they believe that CPR will do more harm than good, and whether it would be the right or the wrong thing to do.

You should also understand that you have the right to ask for DNR order if you are able to make your own decisions. If you are the next of kin or have power of attorney for health care decisions for another person and that individual is unable to make their own health care decisions, you may request that this individual receive a DNR order.

Remember that everyone wants the best for you and your loved ones, whether you are a patient or a family member. Health care providers are there to listen and to support you through difficult decisions and to provide the best possible care. If you have questions or need help making a decision, please contact:

#### References

American Heart Association (2010). *American Heart Association Guidelines CPR ECC*.  
[http://www.heart.org/idc/groups/heart-public/@wcm/@ecc/documents/downloadable/ucm\\_317350.pdf](http://www.heart.org/idc/groups/heart-public/@wcm/@ecc/documents/downloadable/ucm_317350.pdf)

Field, J.M., Hazinski, M.F., Sayre, M., et al. (2010). Part 1: Executive summary of 2010 AHA guidelines for CPR and ECC. *Circulation (122)*, S640-S656. doi: 10.1161/CIRCULATIONAHA.110.970889

Hazinski, M.F., Nolan, J.P., Billi, J.E., et al. (2010). Part 1: Executive Summary: 2010 International consensus on cardiopulmonary resuscitation and emergency cardiovascular care science with treatment recommendations. *Circulation* (122), S250-75. doi: 10.1161/CIRCULATIONAHA.110.970897.

Nolan JP, Hazinski MF, Billi JE, et al. Part 1: Executive Summary: 2010 international consensus on cardiopulmonary resuscitation and emergency cardiovascular care science with treatment recommendations. *Resuscitation* (81S), e1–e25. doi:10.1016/j.resuscitation.2010.08.002.

