Ethical and Legal Aspects of CPR in Children

Overview

Introduction

This section explores ethical and legal principles underlying the care of acutely ill or injured children, especially in the context of resuscitation attempts and pediatric advanced life support. The discussion consists of 4 sections:

- Ethical principles
- Ethical considerations in medical decision making
- Do Not Attempt Resuscitation (DNAR) orders
- Family presence during resuscitation

Learning Objectives

After studying this material, you should be able to

- state the legal and ethical implications of caring for a patient who is a child
- discuss the relationship between the parent, child, and healthcare provider in reaching decisions on limiting therapy or not attempting resuscitation
- state the general principles for writing DNAR orders
- describe the potential benefits of family presence during resuscitation and the strategies to improve its success

Introduction

Goals of CPR and ALS

The technique of external chest compressions to attempt resuscitation was introduced 4 decades ago.[1] Since that time a growing body of evidence has demonstrated that CPR is an effective emergency technique that can save lives and can be mastered by both healthcare providers and lay rescuers. CPR has become a standard treatment modality, one that raises some important legal and ethical questions.

The long-term goals of both CPR and advanced life support (ALS) are the same as those for other medical interventions:

- To preserve life
- To restore health
- To relieve suffering
- To limit disability

CPR tries to prevent clinical death, a valuable goal in most situations. But there are situations in which CPR may be unwelcome or undesired. Resuscitation attempts, both successful and unsuccessful, may conflict with the wishes of the patient or family or result in increased or prolonged suffering and disability. Decisions about the use of CPR, particularly in the out-of-hospital setting, are complicated by the need for rescuers to decide within seconds whether or not to initiate resuscitation attempts. Rescuers may not be aware of the wishes of the patient and family.

Guiding Principles and Consider-ations

The search for principles to guide the conduct of potential rescuers faced with a person who has developed respiratory arrest, cardiac arrest, or a life-threatening problem is part of the larger, continuing exploration of the impact of modern medical technology on the traditional patient-provider relationship. When the individual facing a life-threatening situation is an infant, child, or adolescent, other considerations may be important. These include the following:

- Should children be permitted or encouraged to participate in medical decision making?
- What is the legal status of the adolescent to make healthcare decisions for himself or herself?
- Are there limits on the kinds of decisions a parent can make on behalf of a child?

- What happens when a healthcare provider disagrees with a parent's decision about the health care of a child?

In adults many decisions related to resuscitation are dictated by previously expressed wishes of the patient about end-of-life preferences. In contrast, the pediatric patient has rarely expressed such a preference and is frequently incapable of doing so. Decisions about resuscitation in children are usually based on the attempt of parents and providers to establish what action would best serve the interests of the child.

Ethical Principles

Introduction

Throughout much of medical history, physicians have been guided by principles derived from the Hippocratic oath. The dominant Hippocratic theme instructs physicians to use their knowledge and skills for the benefit of patients and to protect patients from harm. Contemporary writers have noted the absence of an explicit *patient role* in decision making in the Hippocratic oath. This strongly paternalistic stance is no longer appropriate in an era where highly invasive technology may blur the borders between "benefit" and "harm."[2]

The current view frames the patient-physician relationship as a collaborative process. The physician contributes medical knowledge, skill, judgment, and recommendations. The patient contributes a personal evaluation of the potential benefits and risks inherent in the proposed treatment. In this approach the important moral principles of respect for patient *autonomy* and the legal right to *self-determination* are incorporated.

Definitions of Ethical Principles

The following ethical principles appear to be accepted in many cultures as a guide to medical decision making.

Principle	Definition
Justice	Be fair in the distribution of healthcare therapies among people
Beneficence	Seek to benefit the patient
Respect for autonomy	Respect the self-determination of persons with capacity for decision making
Nonmaleficence	Avoid inflicting unnecessary harm

The relative importance of these principles, however, varies among countries and cultures. In the United States there is a strong emphasis on patient autonomy. In Europe there is often more reliance on the healthcare providers, who are assigned an ethical duty to make medical decisions in the best interests of patients. In some cultures concern for the community outweighs the desires and needs of the individual, and in others, decisions are made not by the patient but by a family member.

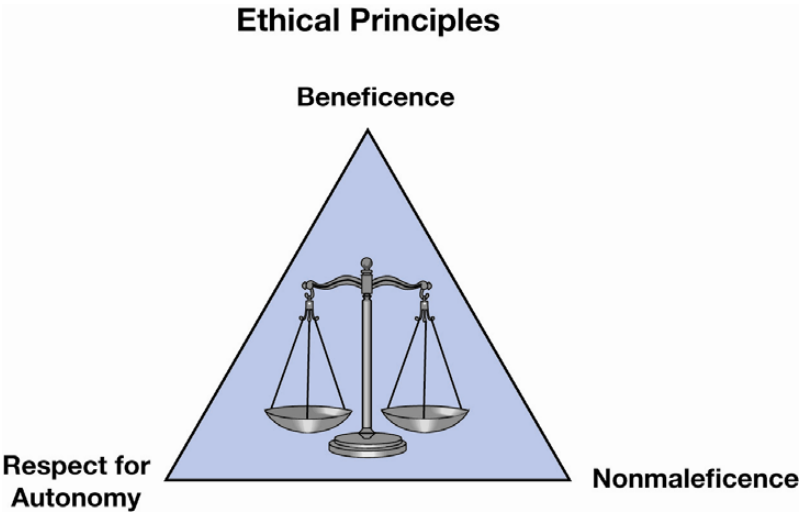

Figure 1. Ethical principles that guide medical decision making.

Beneficence as the Governing Principle for the Pediatric Patient

For the pediatric patient beneficence, the obligation to seek what is in the child's best interest, is the governing principle. Most children have not yet attained the capacity to make complex medical decisions, so application of the governing principle of beneficence means that

- healthcare providers should seek to do what is in the child's best interest
- parents, in exercising their authority to make decisions for their children, should also seek to do what is in the child's best interests
- when healthcare providers and parents disagree, the disagreement usually arises from differing views about what is best for the child

Ethical Considerations of Medical Decision Making

3 Elements of Medical Decision Making

Medical decision making includes decisions about whether to offer, continue, withhold, or withdraw life-sustaining interventions. Three important elements to consider when making these decisions are the following:

- Is the intervention indicated (futile)?
- Are the patient's wishes being respected?
- Do the burdens of the intervention exceed its benefits?

The Ethical Considerations Algorithm (Figure 2) illustrates the sequence of these questions.[3] Each question requires the provider to understand and to consider all relevant information.

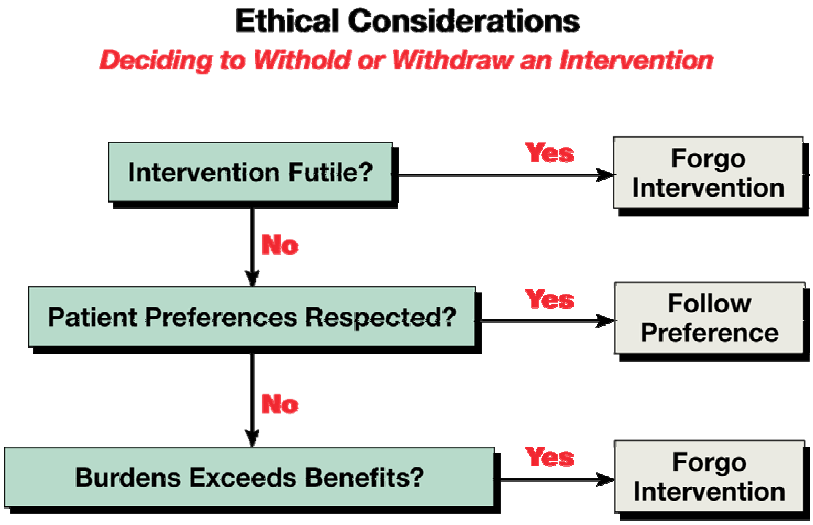

Figure 2. Ethical Considerations Algorithm

Is the Intervention Futile?

Definition of Futile

The American Medical Association has stated that physicians have no obligation to provide futile or useless treatment. There is considerable controversy, however, about the meaning of the term *futile* and its implications for unilateral decision making by physicians.[4] According to the *2005 ECC Guidelines for CPR and ECC*, a medical treatment is considered futile if the purpose of the treatment cannot be achieved. The key determinants of medical futility are

- whether a particular therapy will be effective in achieving its intended effect
- whether the therapy offers any benefit to the patient, which might include a beneficial impact on length of life or quality of life

An intervention that will not or cannot achieve any benefit for the patient is futile.

Decisions to Stop or Withhold CPR on the Basis of Futility

Decisions to stop or withhold CPR may be appropriate when the patient is not expected to survive. "Do Not Attempt Resuscitation" (DNAR) orders are often written for patients who are irreversibly and terminally ill and for whom resuscitation would merely prolong the dying process.[5] See "Do Not Attempt Resuscitation" later in this discussion.

Physicians are cautioned against making unilateral decisions to withhold or withdraw life-sustaining interventions when the patient or child's parents have expressed opposition to that plan. Decisions to initiate or withhold CPR are frequently based on value judgments about important goals of therapy.[6] It is important to recognize the subjective value judgments inherent in terms such as *hopeless*, *irreversible*, and *terminal*. Physicians should encourage open dialogue among stakeholders and try to reach consensus on whether to stop or withhold lifesaving interventions.[7]

Obligation to Provide Care Requested by Patients or Families

Patients or families may ask for care that providers consider inappropriate. Physicians are not obligated to provide such care when there is scientific and professional consensus that the treatment is ineffective.[8] For example, CPR need not be performed for a patient with signs of irreversible death. Neither

are providers obligated to perform CPR if CPR and advanced life support measures cannot be expected to restore effective return of spontaneous circulation (ROSC).

Criteria for Not Starting CPR

Scientific evidence shows that few criteria can accurately predict the futility of CPR. Given this uncertainty, all patients in cardiac arrest should receive resuscitation attempts except in the following situations:

■	The patient has a valid DNAR order.
■	The patient has signs of irreversible death, such as rigor mortis, decapitation, decomposition, or dependent lividity.
■	No physiological benefit can be expected because vital functions have deteriorated despite maximal therapy (eg, progressive septic or cardiogenic shock).
■	Attempts to perform CPR would place the rescuer at risk of physical injury.

Neither lay rescuers nor professionals should make a judgment about the present or future quality of life of a cardiac arrest victim. They should not make decisions about starting CPR on the basis of current or anticipated neurologic status. Such judgments are often inaccurate. Quality of life should not be used as a criterion to withhold CPR against the wishes of either the patient or the patient's legally authorized surrogate decision maker. Conditions such as irreversible brain damage or brain death cannot be reliably assessed or predicted by a CPR provider at the time of cardiac arrest or attempted resuscitation.[9-24]

Terminating In-Hospital Resuscitative Efforts

The decision to terminate resuscitative efforts in the hospital setting rests with the treating physician. This decision may be based on many factors, including

- time from arrest to CPR
- time from arrest to defibrillation
- comorbid disease
- prearrest state
- initial arrest rhythm
- assessment of reversibility

None of these factors alone or in combination is clearly predictive of outcome. Witnessed collapse, bystander CPR, and

a short time interval from collapse to arrival of professionals improve the chances of survival.

In many reports of pediatric resuscitation outcomes, the patient's chance of being discharged from the hospital alive and neurologically intact diminishes as the duration of the resuscitation attempt increases.[25-29] In the past children who underwent prolonged resuscitation and absence of ROSC after 2 doses of epinephrine were considered unlikely to survive.[30] However, intact survival after unusually prolonged in-hospital resuscitation has recently been documented.[31-33] As a result, prolonged resuscitation efforts should be considered for infants and children with recurring or refractory VF or VT, drug toxicity, or a primary hypothermic insult.

The responsible provider should stop the resuscitation attempt if there is a high degree of certainty that the patient will not respond to further advanced life support.

Terminating Out-of-Hospital Resuscitative Efforts

BLS rescuers who start CPR in the out-of-hospital setting should continue until one of the following occurs:

- Restoration of effective, spontaneous circulation and ventilation
- Care is transferred to a more senior-level emergency medical professional who may determine that the patient is unresponsive to the resuscitation attempt
- Reliable criteria indicating irreversible death are present
- The rescuer is unable to continue because of exhaustion, the presence of dangerous environmental hazards, or continuation of resuscitative efforts places other lives in jeopardy
- A valid DNAR order is presented to rescuers

Defibrillators are required standard equipment on ambulances in most states, so the absence of a shockable rhythm on the defibrillator after an adequate trial of CPR can be the key criterion for withdrawing BLS in the absence of timely arrival of advanced life support. State or local EMS authorities should develop protocols for initiation and withdrawal of BLS in areas where advanced life support is not rapidly available or may be significantly delayed. Local circumstances, resources, and risk to rescuers should be considered.

Summary Make decisions to terminate or not to initiate an intervention on the basis of futility very carefully. Base decisions on sound data and medical judgment.

Are the Patient's Wishes Being Respected?

Introduction

In adults, expressed wishes regarding CPR and life-sustaining interventions are generally respected and dictate what medical care is provided. Children, on the other hand, are not considered to be competent under the law to make medical decisions for themselves, although there are some notable exceptions.

Competent Patients

The determination of competence regarding medical decision making can be complicated and may be critical to making appropriate resuscitation decisions. Patients may have decision making capacity for some medical alternatives but not for others. A patient may also have lost the capacity to make certain decisions because of medical condition, drugs, or other factors.

Consistent with the principle of self-determination, a competent patient's right to refuse CPR is virtually absolute.[34,35] Courts have limited the right of a competent patient to refuse lifesaving treatment in only a few narrowly defined circumstances, such as allowing such treatment to preserve the life of a parent for the sake of a dependent child.[36]

The degree to which pain, drugs, or mental state may temporarily or permanently affect a patient's decision-making capacity also must be assessed.[37,38] Under the consent doctrine, once competence is established, the patient has the right to refuse treatment, including lifesaving measures, even if the decision seems foolish or irrational to others.

Unfortunately studies suggest wide disparities in physician practices regarding discussions of resuscitation with competent patients.[39,40] Communications between providers, patients, and families on the subject of resuscitation may be influenced by factors other than medical considerations. For example, differences between providers and the patient or the patient’s family with regard to social and ethical values may influence communication. Differing views about the appropriateness of including children, adolescents, or even competent adults in such discussions may also have an impact.

Authority to Treat a Minor

In general, the permission of a parent is required before treating a minor for a medical condition. An exception to this rule is made if a child is suffering from a condition that is likely to cause serious harm if treatment is not started and the parents are not available to provide permission. Do not delay treatment in these situations.

States frequently allow exceptions in which a minor can consent for some or all medical treatments under *emancipated minor* and *mature minor* laws.

Emancipated Minor

The right of self-determination in the United States is recognized to exist at the legal age of maturity, which is18 years of age in most states. Most states have created mechanisms by which minors are granted the authority to consent to medical treatment under certain conditions. Children who are legally emancipated may give consent for medical treatment. They may also refuse medical care. While legislation and regulations regarding emancipated minors vary from state to state, most states recognize minors to be emancipated when any of the following conditions exist:

- Marriage
- Pregnancy
- Economically self-supporting
- Parenthood
- Active duty military

Mature Minor

Statutory “mature minor” rules uphold the validity of consent given by minors if the treatment is appropriate and the minor is considered capable of comprehending the clinical consequences of the therapeutic options.[41] In many communities statues permit minors to consent to treatment of specified conditions, such as venereal disease, pregnancy-related care, contraception, and substance abuse.

A child or adolescent’s capacity to participate in decision making develops gradually as he or she undergoes cognitive and psychosocial maturation.[42] The characteristically concrete, immediate perspective of the young child evolves to an appreciation of abstract, future-oriented concepts as the child matures. This makes the child more able to interpret and integrate life experiences, deal with complex situations, understand risks and benefits, and adequately weigh the

potential consequences of his decisions. Healthcare providers should involve children in medical discussions and decision making at a level appropriate to their maturity. Assent for some nonessential treatments may be appropriate for children as young as 7 years. Persistent expressions of dissent by young children should be carefully considered.[43]

Minors may express the wish to have life support withheld.[44] Caregivers may underestimate the capacity of some adolescent patients to deal with the concepts of death, terminal illness, and the consequences of their decisions.[43,45] In several recent cases courts have authorized caregivers to recognize decisions by older adolescents to withhold resuscitation attempts.[46,47] When there is disagreement between parents and a mature adolescent patient, the involvement of the courts may be required to resolve the disagreement.

Rules of Sevens

The Rules of Sevens can be used as a general guide to a child's capacity to participate in medical decision making[48]:

Age of Child	Legal Capacity
<7 years old	No capacity
7 to 13 years old	Rebuttal presumption of incapacity
14 to 21 years old	Rebuttal presumption of capacity

A child under the age of 7 years old is presumed to have no capacity to make decisions concerning medical care. The child between 7 and 13 years old is presumed to be incapable of making most medical decisions, although this depends on the complexity of the medical decision and the maturity of the child. Some children in this age range may be capable of participating in some medical decisions. Children and adolescents who are 14 years old and older should be presumed to have capacity to participate in most medical decisions and should be allowed to participate unless sufficient evidence exists that they do not have the capacity to do so.

Medical Decision Making and the Older Child

Children should be involved in decision making at a level appropriate for their maturity and should be asked to consent to healthcare decisions when able. Although people less than 18 years of age rarely possess the legal authority to consent to their own healthcare (except under specifically defined situations (eg, emancipated minors and for specific health

conditions such as sexually transmitted diseases and pregnancy), the dissent of an older child should be taken seriously. If parents and an older child are in conflict about a treatment plan, every effort should be made to resolve the conflict. The use of force is rarely appropriate in the delivery of medical care to adolescents.

Do the Burdens of the Intervention Exceed Its Benefits?

Introduction

Most medical interventions for children are not futile, and in most cases the child does not have capacity to make decisions concerning them. Therefore, the ethical basis for deciding whether to initiate an intervention is determined by whether the benefits of the intervention outweigh the burdens that might result. First responders at the scene of a cardiac arrest are encouraged to initiate full CPR measures unless otherwise indicated. (See “Criteria for Not Starting CPR.”)

Withholding Life-Sustaining Treatment

Whether the balance between benefits and burdens of an intervention is favorable is not exclusively a medical judgment but inherently requires an assessment of value. Because it is difficult to know the previous wishes of minors, parental decisions to withhold CPR or other life-sustaining treatment from children are measured by the “best interest” test.

Surrogate decision makers are expected to exercise their judgment regarding the child's best interest from the point of view of the child—what the child might choose if he or she were competent.[49]

Under United States law, minors are generally considered incompetent to provide legally binding consent about their health care. Parents or guardians are empowered to make those decisions on the child's behalf. The law has respected those decisions except where they place the child's health, well-being, or life in jeopardy. Parental incompetence (as determined by a court) or evidence of neglect or abuse may also invalidate the parent as the legal decision maker for a child.

Handling Conflict

Decisions to provide life-sustaining therapies to critically ill infants and children should be individualized and based on careful discussion and consideration of what is in the best

interest of the patient and family.[50] Because most children cannot make healthcare decisions for themselves, there is the potential for conflict between providers and parents about how best to serve the interests of the child. This may raise questions about whether a parent's ability to make decisions on behalf of a child is limited and under what conditions a healthcare provider can challenge the decision of a parent.

As a rule the law protects the natural rights of parents to raise children free from unwarranted interference. This presumes that parents will act in the best interest of their children. If parents fail to provide their children with at least a minimum standard of medical care, the government may invoke child protection statutes to override parental wishes. Courts regularly uphold such interventions when the parents' refusal to provide care places the child at significant risk of serious harm even if the parents' decision is genuinely motivated by strong family convictions.[51,52]

If patients, surrogates, or parents are in disagreement about the best course of action, you can obtain consultation from resources such as

- consulting physician or a supervising colleague
- the patient's primary care physician
- the hospital ethics committee
- a governmental child protection agency (as a last resort)

When children with chronic and potentially life-threatening conditions are living in foster care under state jurisdiction, ambiguities about the scope of decision making authority vested in custodial guardians, especially decisions about CPR and prolonged life support, must be resolved and may require the involvement of a court.

Do Not Attempt Resuscitation Orders (DNAR)

DNAR Orders in the In-Hospital Setting

Once the decision has been made that CPR would not be appropriate for a patient in the event of a respiratory or cardiac arrest, the attending physician should write a DNAR order in the patient's chart. The physician should include a note in the chart explaining the rationale for the DNAR order and any other

specific limitations of care.

Most hospitals have adopted formal policies governing in-patient DNAR orders. Such policies should include the following:

- Requirements that DNAR orders be written by the attending physician rather than a physician-in-training and include a note in the chart explaining the rationale for the decision and identifying the participants in the decision-making process
- Recommended interval for renewal or review of the orders
- Guidelines enumerating the circumstances in which judicial review is required [40,53]

Oral DNAR orders must be supported by written orders. For example, if the attending physician is not physically present, nursing staff may accept a DNAR order by telephone with the understanding that the physician will sign the order promptly. DNAR orders should be reviewed periodically, particularly if the patient's condition changes.

Scope of a DNAR Order

The scope of a DNAR order should be specific about which interventions are to be withheld. A DNAR order does not automatically preclude interventions such as administration of parenteral fluids, nutrition, oxygen, analgesia, sedation, antiarrhythmics, or vasopressors unless these are included in the order. For example, some patients may choose to accept defibrillation and chest compressions but not intubation and mechanical ventilation.
Although it is appropriate to offer some interventions and not others based on the preference of the patient and the specific potential benefits and burdens of the given intervention, it is never appropriate to write orders to perform a “slow code” designed to give the illusion of attempting effective CPR.

Communi-cation to All Healthcare Providers Involved

Decisions to limit resuscitative efforts must be clearly communicated to all healthcare professionals involved in the patient's care. DNAR orders should be reviewed before surgery by the anesthesiologist, attending surgeon, and patient or surrogate to determine their applicability in the operating room and immediate postoperative recovery period.

DNAR Orders in the Out-of-Hospital Setting

Under certain circumstances DNAR orders may apply to out-of-hospital care of terminally ill patients when appropriate documentation is provided to the local EMS service. Some state laws, however, prevent out-of-hospital personnel from honoring a hospital DNAR order for a child. Out-of-hospital DNAR protocols must be clear to all involved (eg, physicians, patients, family members, loved ones, and out-of-hospital healthcare providers).

Family Presence During Resuscitation

Introduction

According to several surveys,[54-58] most adult family members would like to be present during the attempted resuscitation of a loved one. Parents or family members often fail to ask if they can be present, but healthcare providers should offer the opportunity whenever possible.[54-62] Family members may experience less anxiety, depression, and more constructive grief behaviors if they have been present during resuscitative efforts.[63]

Family members have often been excluded from being present during the attempted resuscitation of a child or other relative. Healthcare providers have different opinions about the presence of family members at resuscitation attempts. Some concerns are the potential for family members to become disruptive or interfere with resuscitation procedures, the possibility of family member syncope, and the possibility of increased exposure to legal liability.

In the absence of data documenting harm and in light of data suggesting that it may be helpful, offering select family members the opportunity to be present during a resuscitation seems reasonable and desirable.

In-Hospital Consider-ations

Considerations of family presence during resuscitation include the following:

- Plan in advance if possible
- Assign one team member to remain with the family to answer questions, clarify information, and offer comfort[64]
- Provide sufficient space to accommodate all family members who are present

- Be sensitive to family presence during team communication
- Be cautious in allowing young children to be present during resuscitation; their lack of maturity may prevent them from understanding what is occurring

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Out-of-Hospital Considerations

In the out-of-hospital setting, family members are typically present during resuscitation of a loved one. Although out-of-hospital providers may be intensely focused on the resuscitative effort, providing brief explanations to the family and the opportunity for them to remain with the loved one can be comforting. Some EMS systems provide follow-up visits to family members after an unsuccessful resuscitation attempt.

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