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REVIEW

Goals of Care for the Critically Injured Trauma Patient

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Abstract

Purpose of Review To define goals of care and describe current approaches to addressing goals of care for critically injured patients including optimal timing, appropriate framework, and special considerations.

Recent Findings Early goals of care conversations are associated with improved quality of life, lower costs, and avoidance of nonbeneficial care. However, goals of care for critically injured patients are often not addressed in a timely manner and a recent study demonstrated that nearly 75% of critically injured patients did not have goals of care addressed at all. Physicians caring for critically injured patients must be prepared to address goals of care and provide primary palliative care.

Summary Goals of care discussions with the critically injured patient and/or surrogate should take place as soon as possible, ideally before operative intervention and within 24 h, and no later than 72 h after admission. Establishing clear and appropriate goals of care leads to higher quality care.

Keywords Goals of care · Injury · Trauma · Palliative care · Critical illness · End-of-life care

Introduction

The phrase "goals of care" was first used in the medical literature in 1978 by Furiel and Putnam in reference to caring for patients with tracheostomy tubes: "Care of the patient with tracheostomy is not difficult if care is taken to define clearly the needs of the particular patient. An awareness of the goals of care, daily maintenance, and possible complications is necessary to successful management" [1]. While goals of care as a concept are commonly discussed in clinical practice, the topic is relatively new in the medical literature with 87% of articles addressing goals of care published in just the past 15 years [2]. The most common reason for palliative care consultation is to establish goals of care [3], but there may be little or no consensus around what it actually means to establish goals of care, potentially leading to confusion and miscommunication [4]. Goals of care may connote for some that a patient is not doing well, and this phrase is often associated with palliative care, comfort care, and end-of-life care. While it seems goals of care should apply more broadly, since many patients have a goal in mind when seeking medical care and physicians provide care to meet certain goals, it remains the case that goals of care as a concept seem to apply more often to specific subsets of patient populations.

To understand why goals of care applies more commonly in certain patient populations, it is helpful to understand goals of care within the broader context of the goals of medicine. The goals of medicine include prevention and cure of disease, prolongation of life and prevention of untimely death, relief of pain and suffering, improvement and maintenance of functional status, patient education and counseling, and provision of comfort, care, and dignity in all situations [5]. The implicit goals of medical care are usually understood to be the cure of disease and the prolongation of life and may not necessarily be discussed openly, but are implicitly understood by patients and their physicians [6, 7]. A young patient involved in a car crash who undergoes laparotomy and splenectomy for treatment of splenic rupture and hemorrhagic shock does so because the goal of surgical care is the cure of disease and prolongation of life; this is implicitly understood and goals of care are not typically addressed with patients presenting in this manner. Goals of care tend to become explicit and openly discussed when cure is no longer an attainable goal with available treatments, or when a patient is not able to be restored to their former quality of life. An older patient with frailty and multiple medical

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comorbid concerns who presents after a fall with numerous injuries including severe traumatic brain injury is a patient for whom goals of care are addressed early in their course. For this patient, cure of disease may not be feasible, and prolongation of life may come with the tradeoff of much lower quality of life than the patient previously experienced. The transition from seeking to achieve the implicit goals of medicine to explicit goals is usually considered a core component of palliative care and end-of-life care, and this is often because for some patient populations, cure of illness and prolongation of life are no longer realistic or reasonable goals, and alternative goals of care need to be established [4, 6, 7].

Defining Goals of Care

If the phrase goals of care is considered literally, with dictionary definitions employed, then a goal is a result toward which effort is directed, and care is the provision of what is needed for the well-being or protection of a person or thing [6]. In the medical setting, then, goals of care would mean efforts made by healthcare providers to deliver treatment to achieve a result for the health and well-being of the patient. Goals of care are a more nuanced concept, however, and there is no single standard definition for goals of care in clinical practice.

Only recently has international consensus been achieved on the definition of advance care planning [8]. Goals of care differ from advance care planning in terms of acuity; advance care planning addresses future health care whereas goals of care address current health status. There is no consensus at this time regarding the purpose, critical elements, and expected outcomes of goals of care, nor have efforts been made to clearly differentiate goals of care from advance care planning [9]. While important research efforts have examined how goals of care are documented and communicated with healthcare teams [10], further research would be needed to establish a standardized definition for goals of care. One specific aspect of goals of care where practices may differ is the perceived relationship between goals of care and decision-making. Some clinicians may consider goals of care separate and distinct from decision-making whereas others may consider these to be one and the same entity [9].

Several definitions for goals of care have been posited in the medical literature, and each may offer an important and deeper understanding of this concept. Goals of care have been defined as desired health expectations that are formulated through the thoughtful interaction between a human being seeking medical care and the healthcare team in the healthcare system and are appropriate, agreed on, documented, and communicated [6]. Goals of care are dynamic and should be reassessed regularly. Development of clear goals of care can increase patient satisfaction and quality of care while decreasing costs, hospital length of stay, and hospital readmission [6]. Goals of care are appropriate when they are consistent with a patient's desires, clinically feasible, ethical, and seek to avoid unnecessary or nonbeneficial medical treatment [6].

Potential goals of care at first glance may be indistinguishable from the general goals of medicine: cure of disease, avoidance of premature death, maintenance of improvement of function, prolongation of life, relief of suffering, optimization of quality of life, maintenance of control, a good death, and support for families and loved ones [11]. Historically, there has been a "dichotomous division of goals of care" with the primary focus being curing illness rather than relief of suffering; this concept is remarkably similar to the focus on implicit goals of medicine versus explicit goals of medicine [5, 11]. Historically, surgeons may have faced barriers to providing care focused on comfort and relief of suffering at the end of life due to a sense of personal accountability for patient mortality and an understood contract or "buy-in" between surgeon and patient [12]. Acute care surgeons and surgical intensivists, however, are leading efforts to incorporate palliative care and end-of-life care in surgical practice [13].

Goal-concordant care in the intensive care unit (ICU) has been defined as clinical care that helps a patient reach an identified goal while respecting treatment preferences or limitations the patient has placed on their clinical care [14]. Others have defined goals of care as physical, social, spiritual, or other patient-centered goals that arise following an informed discussion of the current disease(s), prognosis, and treatment options [15]. Goals of care have also been defined as overarching aims of medical care for a patient informed by the patient's underlying values and priorities, established within the existing clinical context, and used to guide decisions about the use of or limitations on specific medical interventions [2].

While it is clear that there is no operational consensus on the meaning of goals of care, it is important to recognize that this concept should not be misunderstood as a "vaguely defined buzz phrase to connote that a patient is not doing well clinically" [4]. It should not be used as a euphemism for comfort-focused care, and it does not exclusively refer to code status, palliative care, or end-of-life care [16].

Addressing Goals of Care

Establishing clear and medically appropriate goals of care has been shown to result in higher value care [17, 18]. Early discussions about goals of care are associated with improved quality of life, reduced use of nonbeneficial medical care

near the end of life, goal-consistent care, improved family outcomes, and reduced cost [19]. The Society of Critical Care Medicine has recently highlighted the importance of goals of care with the "Choosing Wisely" guidelines: clinicians should not continue life-sustaining treatments for patients at high risk for death or severely impaired functional recovery without offering patients and their families the alternative of care focused entirely on comfort [20••]. Furthermore, clinicians should not provide care that is discordant with the patient's goals and values [20••]. Measuring whether outcomes and care provided are meeting patients' goals remains difficult [21]. However, there is a clear role for establishing goals of care among critically injured patients, and it is important to understand the patient populations for whom goals of care should be addressed, optimal timing, content of goals of care discussions, appropriate frameworks, and specific unique considerations for injured patients.

Unfortunately, goals of care for critically injured patients are often not addressed in a timely manner and may not be addressed at all. A recent study demonstrated that only 18.9% of trauma patients with serious illness had goals of care addressed within 72 h of admission, as currently recommended by the American College of Surgeons Trauma Quality Improvement Program (ACS TQIP) Palliative Care Best Practice Guidelines [22••, 23]. Only one in four critically injured patients had goals of care addressed at all during their hospital stay [22••]. Primary palliative care–based practice improves adherence to national guidelines, and physicians caring for critically injured patients must be prepared to address goals of care and provide primary palliative care [24••].

Patient Populations

All injured patients should undergo an initial palliative care screening assessment within 24 h of admission [23]. This includes identifying the patient's health care proxy or surrogate, obtaining any available advance care planning documentation, performing a prognostication assessment, providing resources to the patient and family in the form of information and emotional support, addressing any urgent advance care planning and decision-making needs, and screening for further palliative care needs [23]. Within 72 h of admission, goals of care should be established and a family meeting held for any patient meeting any of the following criteria: (1) potentially life-threatening injuries, (2) high risk of hospital mortality due to injury, (3) potentially disabling injuries, (3) permanent disability or functional outcome incompatible with patient's wishes, (4) one or more serious baseline illnesses, (5) frailty, (6) older age, (7) chronic serious illness, and (8) response of "No" or "Maybe" to the "Surprise Question." The Surprise Question is one of the best screening tools for seriously ill hospitalized patients: "Would you be surprised if this patient were dead in 12 months?"[23] By answering this question, clinicians may help identify patients for whom early goals of care would be beneficial. While the young patient with an isolated femur fracture may not require goals of care conversations, essentially all injured patients cared for in the ICU will require goals of care to be established and addressed to ensure the highest quality of care. It is also important to remember to address goals of care in patients experiencing adverse outcomes, complications, or those with an unanticipated clinical trajectory.

Timing

Goals of care discussions with the patient and/or surrogate should take place as soon as possible, ideally before operative intervention, and no later than 72 h after admission for patients with critical injury [23]. These discussions should not be delayed and should ideally take place before signs of clinical deterioration or imminent death are present. Given the time-sensitive nature of traumatic injury, clinicians in the ICU should be prepared to conduct conversations to elicit goals of care early in the hospital course. While specialty palliative care consultation may be considered as needed, such services may not be available at all institutions or at all times readily available to address urgent and time-sensitive care needs. A member of the ICU team (trauma surgeon, attending surgical intensivist, surgical critical care fellow, or ICU advanced practice provider) can provide excellent primary palliative care and typically more timely care (i.e., within first 24 h of admission) with respect to establishing goals of care [24••]. It is also important to remember that addressing goals of care is an iterative process and may need to be revisited frequently with patients and their surrogates at various points in the disease course and as frequently as clinically indicated.

Framework and Content

Lack of protocols around goals of care has been identified as a barrier to delivery of goal-concordant care [10]. Addressing goals of care in the acute care setting has been identified by the American Association for the Surgery of Trauma Critical Care Committee as one of the highest priority topics for new critical care research [25]. In addition to the ACS TQIP Palliative Care Best Practices Guidelines, a guide specifically designed for trainees called Surgical Palliative Care: A Resident's Guide is available [23, 26]. These guidelines are helpful for a general understanding of approaches to goals of care conversations and conducting family conferences.

Goals of care discussions may take place as part of a structured family meeting, but may take place outside of this format as well [26]. The attending physician should be involved in these discussions, and trainees such as fellows, residents, and medical students should be encouraged to participate as well. The primary surgical team and/or ICU team should be prepared to have these conversations. In one study of goals of care conversations in the trauma ICU, 98% of goals of care discussions were led by the trauma ICU team as opposed to other providers such as specialty palliative care consultants [24••].

Goals of care discussions should serve to clarify the following:

1. Medical diagnosis if known, prognosis if known (and uncertainty around prognosis when applicable), and potential treatment options, including palliation and/or comfort care
2. Patient goals, values, fears, and preferences
3. Views on trade-offs and impaired function
4. Treatment options that best align with the patient's goals, values, and preferences in the context of the medical diagnosis and prognosis
5. Preferences around intubation and attempting resuscitation after cardiac arrest (code status), paying particular attention to expected benefits and burdens of these interventions
6. Preferences around use of other life-sustaining medical therapies including artificial hydration, nutrition, and dialysis
7. Appropriateness of time-limited trials of therapy/treatments
8. Preferences for family involvement and identification of a surrogate

The Best Case/Worst Case Framework is a particularly useful strategy for approaching goals of care in the setting of surgical decision-making [27]. This framework has been shown to change surgeon communication by shifting decision-making conversations from an isolated surgical diagnosis to a discussion about treatment alternatives, outcomes, and what matters most to patients. This framework has also been shown to be an important strategy for helping surgeons, patients, and families facing high-risk acute surgical problems [28]. The critical elements of the framework include the following: depiction of two or more treatment choices, a graphic aid on pen and paper, narratives of best and worst case outcomes for each treatment choice, discussion about the most likely outcome, how the treatment options may impact the patient's overall health, and providing a treatment recommendation at the conclusion of the discussion [28]. The language we use when establishing goals of care and code status is critically important, and examples of both helpful and unhelpful language are provided in Table 1 [11, 26, 29].

Special Considerations

Required Reconsideration of Code Status for the Operating Room

For patients with an existing do not resuscitate/do not intubate (DNR/DNI) order and/or an allow natural death (AND) order who will be taken for an invasive procedure or operation, the code status orders should not be automatically suspended for the procedure/operation, but reconsideration of these orders is required. The code status orders must be revisited with the patient and/or surrogate prior to operation; temporarily rescinding the order may be appropriate, although not mandatory prior to operation. The discussion surrounding required reconsideration of DNR/DNI orders should be documented, as should the decision to either temporarily rescind or maintain DNR and/or DNI orders [23, 30]. This is a common area of misconception, and many surgeons and anesthesiologists are mistaken in their belief that all code status orders must be automatically suspended for the operating room.

Table 1 Language matters when establishing Goals of Care

Language to use when establishing goals of care	Language to avoid when establishing goals of care
"What do you know about your condition right now?"	"What would you like us to do if your heart stops?"
"What kinds of things are important to you?"	"Do you want us to start your heart if it stops?"
"What worries you most?"	"Do you want us to do everything possible?"
"I'm going to give you the best care possible."	"Do you want us to let you live or let you die?"
"We will concentrate on improving your quality of life and helping you live meaningfully."	"It's time we talk about pulling back."
"I will focus my efforts on treating your symptoms."	"There is nothing more we can do."
"We will discontinue life-sustaining therapies."	"We are recommending withdrawal of care."
"I want to ensure that you receive the kind of treatment you want."	"We are going to pull the plug."
"Your loved one's comfort and dignity will be my top priority."	"I think we should stop aggressive therapy."

Role of Palliative Care

The World Health Organization has defined palliative care as an approach that improves the quality of life for patients and their families facing life-threatening illness through the prevention and relief of suffering by means of early identification and treatment of pain and physical, psychosocial, and spiritual problems [31]. Palliative care affirms life, regards dying as a normal process, and intends neither to hasten nor to postpone death. Patients with potentially curable disease and patients at the end of life may both benefit from palliative care services. Hospice is a program of services for patients with life expectancy less than 6 months. It is important to distinguish primary palliative care from specialty palliative care. All clinicians can provide primary palliative care when they incorporate treatment plans to provide relief from pain and distressing symptoms and to enhance quality of life. Specialty palliative care may be utilized in some situations, particularly for patients with refractory pain or symptoms, advanced malignancy or organ failure, or in the event of conflict among treating physicians and/or family members. One study found that the majority of primary palliative care in the trauma ICU setting can be successfully provided by the trauma and ICU team; specialty palliative care was only consulted in 7% of cases [24••].

Unique Challenges when Caring for Critically Injured Patients

Injury is a disease which is frequently preventable and usually treatable; however, injured patients and their families are typically not prepared for attendant issues which may include the acute and unexpected nature of traumatic injury, resultant changes or limitations in functional status, associated pain including chronic pain, and sometimes lengthy duration of recovery and rehabilitation.

Establishing goals of care and engaging in shared decision-making are not unique to patients with traumatic injuries. However, three challenges often apply in the trauma setting [32•]. First, treatment decisions often must be made in an urgent or emergency manner due to the time-sensitive nature of trauma. Second, patients may lack capacity due to the acuity of their injury or baseline cognitive status and surrogates must be identified. Third, there is usually no established relationship or rapport between the surgeon and patient and thus no foundational knowledge of the patient's values and preferences. Physicians must be prepared to navigate these challenges to ensure the highest quality care for patients.

Capacity

It is important to determine whether a patient has decision-making capacity prior to engaging in discussions around informed consent and/or medical treatments. Capacity may be determined by any physician. If there is any question, concern, or disagreement about a patient's capacity, a psychiatrist may be engaged to assist with further evaluation for capacity. Patients with capacity must meet four criteria: (1) The patient must have the ability to *understand* the relevant information about diagnosis and proposed treatment choices; (2) The patient must be able to *reason* and deliberate around the treatment choices; (3) The patient must be able to *appreciate* the risks, benefits, and burdens of proposed treatment and alternative treatments; and (4) The patient must be able to *communicate* a choice (Table 2). Capacity is decision-specific in the medical setting as there are varying levels of complexity of decisions pertaining to medical care. While a patient may have capacity to make a decision about who they would like to serve as their surrogate, they may not have capacity to make decisions to undergo complex surgery. When a patient lacks capacity to participate in shared decision-making, a surrogate is sought to make decisions on behalf of the patient. Competence is a legal term, is not synonymous with capacity, and is not determined by physicians. A patient may be deemed incompetent by a court, and thereafter, a court-appointed surrogate known as a "guardian" or "conservator" is then granted power to make most or all decisions for the patient, even if the patient retains capacity to make some decisions [33].

Surrogates

A surrogate should be identified when a patient lacks capacity to make medical decisions. Surrogates may receive decision-making authority through various pathways [33]. The patient may formally designate a surrogate through advance directive or healthcare power of attorney documentation, or the patient may notify their physician verbally about their preference for a surrogate. The physician may need to identify a surrogate based on hierarchy established by state law;

Table 2 Decision-making capacity components—CURA mnemonic

C	Communicate a clear and consistent choice
U	Understand relevant information regarding diagnosis and proposed treatment choices
R	Reason and deliberate around the proposed treatment choices
A	Appreciate the risks, benefits, and burdens of the proposed treatment choices

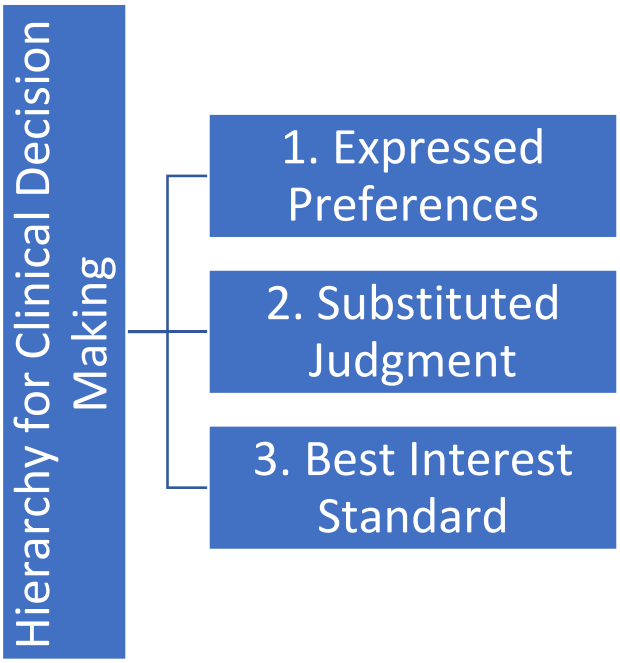

Fig. 1 Hierarchy for clinical decision-making

typically, a spouse, adult child, parent, or sibling may serve in this capacity. Certain states do not adhere to a hierarchy and instead allow any adult individual who has demonstrated special care and concern for the patient to serve as surrogate. The surrogate may be designated by a court, especially in circumstances when the patient has no other individual who can serve as a surrogate. Court-appointed surrogates are often referred to as guardians or conservators. Surrogates should be available, willing to serve, and familiar with the patient's values, priorities, and goals.

Surrogates should be encouraged to follow a hierarchy for optimal decision-making on behalf of the patient as demonstrated in Fig. 1. The expressed preferences of a patient with capacity takes precedence in all clinical situations. In some circumstances, prior to losing capacity, a patient may have directly addressed the treatment decision at hand through an advance directive, living will, or verbal conversation. In these cases, the surrogate should use the previously expressed preferences of the patient to guide decisions. The expressed preferences of the patient may not be known if patients have not completed advance care planning documentation or discussed their wishes with the surrogate. Substituted judgment is the next best option: a surrogate familiar with the patient's values and preferences makes the decision they think the patient would most likely make based on familiarity with the patient's prior statements, conduct, beliefs, ethics, religion, and/or philosophy. Advance care planning (ACP) documentation may be used as a guide. However, in the setting of trauma, ACP documents may not be readily available, preferences may have changed in the setting of injury, and there may be difficulty applying ACP in the present situation [34•]. Furthermore, the surrogate may not follow the patient's preferences and instead make decisions based on their own values and preferences. In settings where expressed preferences and substituted judgment are unavailable, the best interest standard is employed. The best interest standard is based on the ethical principle of beneficence and decisions should be made to promote the patient's well-being with considerations of risks, burdens, and benefits of proposed treatments. This standard is also utilized by a court-appointed guardian who does not personally know the patient. In the setting of trauma, the best interest standard is frequently employed in emergency situations where consent is unable to be obtained for treatment. The best interest standard is used to support taking action and providing interventions to benefit the patient; there is little precedent in clinical practice for using a best interest standard to limit therapies or withdraw life-sustaining therapy in the acute care setting when it is no longer providing benefit [32•].

Conclusions

Goals of care discussions with the critically injured patient and/or surrogate should take place as soon as possible, ideally before operative intervention and within 24 h, and no later than 72 h after admission. Establishing clear and appropriate goals of care leads to higher quality care.

Author Contribution Dr. LMK wrote the manuscript and prepared the original figure and original tables."

Declarations

Conflict of Interest The author declares no competing interests.

Ethical Approval This article does not contain any studies with human or animal subjects performed by the author. No ethical approval was required for this manuscript.

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