Military Medicine Bioethics Clinical Practice Primer

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This Clinical Practice Primer (CPP) serves as an introduction to the principles of bioethics and provides a modeled approach to ethical dilemmas using case studies based on real-life events which have occurred in operational and deployed environments. It is meant to be used both as a training tool for military medical teams preparing for deployment and as a reference for forward deployed caregivers who may encounter these dilemmas.

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Table of Contents

Background & Relevance **3**
Introduction & Definitions **4**
Ethical Cases & Discussions **10**
Case 1.1: Language barriers in informed consent 10
Concerns of Beneficence vs Nonmaleficence **11**
Case 2.1: Lack of host nation medical capabilities 11
Case 2.2: Different surgical decision-making for U.S. Service Members 12
Concern for Procedural Injustice **13**
Case 3.1: Adjusting triage category for Traumatic Brain Injury (TBI) based upon patient nationality 13
Case 3.2: Adjusting care plan for severe burn based on patient destination 15
Concern for Distributive Injustice **16**
Case 4.2: Far-forward medical care with limited supplies 18
Concerns of Dual Agency **19**
Case 5.1: Physician and consultant to the Ground Force Commander 19
Case 5.2: Senior Theater Medical Officer and Physician Leader 20
References **20**
Appendix 1: Bioethical Glossary **22**
Appendix 2: Pre-deployment Tips for Success **23**

Background & Relevance

Deployed United States (U.S.) military medical personnel encounter ethical challenges that are unique to those experienced in civilian settings.[1,2] These unique challenges are the result of numerous factors.

- Practicing within a *wide variety of practice settings*
  - While civilian medical professionals tend to provide patient care at the same hospital and unit during each shift, military members may find themselves caring for patients (or even themselves) along the entire echelon of care; from the battlefield, to the various deployed field hospitals, or military or civilian hospitals stateside.[2]
- *Provider safety:* performing care while still under enemy fire
- *Variety of available resources*
  - Significant limitations (personnel, supplies, blood, etc.)
  - Inability to transfer a patient to a higher level of care
- *Diverse patient populations*
  - Includes: the member him/herself, other U.S. Service Members and Allied forces, Military Working Dogs, host nationals, and enemy combatants
  - Wide variety of cultural norms and medical practices and resources, particularly when caring for host nationals
- Consideration of the *operational context* (an additional mission to achieve beyond patient care)
  - With this comes the dilemma of dual agency, whereby the military medical providers are both military service members and medical providers. Sometimes these roles can be at odds.[2,3]
- Unclear or competing *chains of command*

According to the United States Emergency War Surgery manual, "*the ultimate goals of combat medicine are the return of the greatest possible number of warfighters to combat and the preservation of life, limb, and eyesight*."[4] That preservation does not only apply to patients that are U.S. Service Members. Military medical providers are governed by the international humanitarian law of the **1949 Geneva Conventions**, whereby medical personnel:

- are to be non-combatants and are thereby protected from attacks.[5,6]
- are to be protected if captured, allowed to continue caring for the sick and wounded, and promptly returned.[5,6]
- should not be ordered to perform any activities that are medically unethical, including providing information that may be harmful to their patients.[3,5–7]

Just treatment of patients is required without favor to a particular nationality.[5] Recent unethical activities by military medical personnel have been reported, as has the lack of knowledge of ethical and legal principles amongst medical trainees.[3,8] Robust discussions amongst military medical providers has also revealed significant desire for ethical training and preparation.[1,9]

Despite these unique circumstances and challenges, no formal bioethical education or preparation is routinely provided by the U.S. military. This lack of preparation can lead not only to lower quality care, but also moral injury, lack of unit cohesion, and a loss of trust within military caregiver teams, and between military caregivers and the Service Members or local national patients for whom they care.

While robust and informative documents have been created, there is a need for a concise reference tool. This Clinical Practice Primer (CPP) therefore serves as an introduction to the principles of bioethics and provides a modeled approach to ethical dilemmas using case studies based on real-life events that have occurred in operational and

deployed environments. It is meant to be used both as a training tool for military medical teams preparing for deployment and as a reference for forward deployed caregivers who may encounter these dilemmas. The goal is not to mandate specific actions. Rather, the goal is to equip providers with foundational knowledge and analytical frameworks to assist them in making the best possible decision when no obvious right answer exists.
This CPP includes the following:

1. Concise introduction to bioethics with definitions of key terms
2. Frameworks for managing ethical dilemmas
3. Pre-deployment tips for success
4. Case-based discussions for in-the-moment reference when faced with a challenging ethical situation downrange

Introduction & Definitions

Modern medical bioethics involves four basic principles, as laid out by philosophers Beauchamp and Childress in their 1979 text *Principles of Biomedical Ethics*.[2,10] These four principles include: respect for autonomy, non-maleficence, beneficence, and justice.[9] They are the starting points to resolving moral ambiguity or conflicts.[10] It is crucial to note that Beauchamp and Childress were American, and therefore this framework is specifically relevant to Western culture and attitudes, particularly regarding the focus on individual autonomy.

1. Respect for **autonomy**: allowing adult individuals with decision-making capacity to make uncoerced decisions according to their own beliefs and values.
    a. Requires competence to make decisions, and therefore children and mentally handicapped or incapacitated adults cannot make their own medical decisions
    b. Requires **decisional capacity**: able to receive and understand the information (including options, risks, and benefits), process the information, and make and communicate their decision by describing its risks and benefits
    c. Sometimes requires a **surrogate decision-maker**: someone who acts in the best interest of the individual and makes decisions for them when they cannot decide for themselves
        i. Must utilize **substituted judgment**: a decision based on what the patient's choice would be, knowledge of the patient's values, preferences, and goals
        ii. Ideally, this is someone who the patient knows well and has been chosen by the patient.
        iii. Common examples are parents, children, and other family members or close friends.
        iv. Sometimes a surrogate decision-maker cannot be found, and the patient's medical provider must decide for the patient, always acting in the patient's best interest.
2. **Beneficence**: the duty to provide care for the benefit of the patient.
    a. Providers must always be acting in the best interest of their patients.
    b. **Non-beneficial care**: medical interventions that cannot be reasonably expected to achieve the patient's goals, including both survival and quality of life measures
        i. Related to futility
        ii. The provider must choose care options that can reasonably achieve the patient's goals without providing care that, although well-intentioned, will likely only lead to undue or prolonged suffering.

3. **Non-maleficence**: the provider's obligation to avoid causing harm to the patient.
    a. "First do no harm"
    b. While this appears to be an obvious principle and includes the avoidance of negligence, medical interventions often involve risk of physical and emotional harm. Therefore, providers must weigh the risks and benefits of various medical options to choose the one that avoids unnecessary harm.
    c. Complex medical decisions often involve balancing beneficence and non-maleficence.
4. **Justice**: the fair, equitable, and appropriate treatment of people
    a. **Procedural justice**: ensures patients are treated in an equitable manner regardless of background
    b. **Distributive justice**: ensures that limited resources are distributed in a fair, equitable, and appropriate manner
        i. Triage, particularly in mass casualty situations, utilizes distributive justice to *do the greatest good for the greatest number of patients given the available resources*.

Beyond the four principles are other key topics that require a general understanding to administer ethically appropriate and patient-centered high-quality medical care with concomitant consideration of the impact on healthcare providers. These include, but are certainly not limited to, the goals of care, palliative care, end-of-life care, and moral injury.

- **Medical Rules of Eligibility** (MEDROE, MRoE, MedRoE; also called Medical Rules of Engagement): pre-established rules governing which patient groups are eligible for certain care within the military treatment facility (MTF) and under what circumstances.[11,12]
    - These rules may distinguish among U.S. service members, contractors, foreign nationals, and other patient populations, and may specify the scope and priority of care that can be provided. For Example, they may address eligibility for emergent, urgent, or routine treatment; life-, limb-, or eyesight-saving care; and the locations in which medical personnel are authorized to provide care.
    - Determined by line commanders to ensure security and stability of the MTF and its personnel.[12] They are not determined by medical providers on the ground or even medical leaders.
    - These lead to numerous ethical challenges, particularly with justice, which will be discussed later.[11]
- **Goals of Care** (GOC): the quality of life (QOL) that a patient hopes to achieve from the care that they receive.
    - Individual GOC drives the care plan; may focus on symptom management.
    - These are stated by the patient (or patient representatives/loved ones) and are unique to the individual.
        - Dynamic – can and do change over time so require reassessment
        - *Example case: A critically ill, intubated patient's family states that his GOC would be to return home to live independently and continue golfing and hunting on the weekends. Given his injuries and current state, you determine that this is not possible, or at least extremely unlikely without tracheostomy, surgical feeding tube, and many years of hospitalization and rehab. The family responds that this would be unacceptable for him.*
    - Not always possible—A patient's desired QOL may not be feasible given the current health condition. When this occurs, this must be clearly explained to the patient. Either new GOC should be identified, or the care plan should be altered to match the GOC, to include comfort care.
        - *Example case: Given that the patient's GOC cannot be met with currently available care, you recommend against tracheostomy and feeding tube placement. The family elects to transition to comfort care.*

- Not synonymous with code status—Things like mechanical ventilation and cardiopulmonary resuscitation (CPR) are potential means to achieve the goal of life prolongation but are not goals within themselves.
  - Conflating goals of care and code status is a common error which can be detrimental both to patient care and to the provider-patient/family relationship. Focusing on code status as opposed to a patient's goals can lead to an undesired outcome and foster mistrust in the care team.
  - *Example case: The patient's GOC are not to be "Do Not Resuscitate (DNR)." Instead, his goals were to return to an active, independent lifestyle. Because this is not feasible, his care plan was adjusted to focus on comfort measures as opposed to life prolongation, and his code status was changed to DNR.*

- **Palliative Care**: approach to caring for patients (and their families) who are dealing with a life-threatening illness that focuses on quality of life and the relief of suffering.[13]
  - Requires a known diagnosis, and care is typically multidisciplinary
  - 4 tenants: physical pain and symptoms, psychological, social, and spiritual and emotional
  - Team approach that includes bereavement counseling[13]
  - Administered alongside other medical care which can still be focused on survival, **so it is *not* synonymous with end-of-life care**
  - All patients deserve palliative care

Palliative care is not synonymous with end-of-life care.

- **End-of-Life Care**: care of a dying patient where cure is no longer an option;[14,15] falls within the spectrum of **Palliative Care.**
  - Timeline varies per source but could be hours to months (terminal diagnosis)[15]
  - Four areas of care: physical comfort, mental and emotional needs, spiritual needs, and practical tasks[14]
  - Includes things like hospice and comfort care
- **Moral Injury**: distressing psychological, behavioral, social, and/or spiritual aftermath of exposure to events that contradict one's moral beliefs and expectations.[2,16]
  - Could involve one's own acts of commission or omission or the witness of such acts by others[16]
    - **Act of Commission**: an act committed that goes against one's moral values
    - **Act of Omission**[17]
      - What you *didn't* do – Personal constraints (e.g., medic fails to provide necessary care, resulting in preventable death)
      - What you *couldn't* do – Situational constraint (e.g., medic unable to provide care for all patients, resulting in unpreventable death)
      - Adequate training, both medical and ethical, and appropriate attitude will limit personal constraints, and providers will instead be limited by the situational constraints. These are much easier to live with and could potentially be mitigated by better operational planning. When acts of omission result in the death of our patients due to factors beyond our control – such as a lack of resources – we must remind ourselves and our teammates that those deaths are not due to our own personal failure.

- Could also involve subjective betrayal by a trusted person[16]
- Different from post-traumatic stress, in that the event does not have to involve a threat to life, but rather a threat to one's beliefs and trust[16]

Optimal medical care is often achieved by utilizing the four basic principles of medical ethics. However, countless ethical challenges may arise in which these principles seem to conflict with one another, and no obvious right answer exists. These ethical dilemmas are challenging and taxing to the care team and can result in caregiver moral injury and cause harm to team dynamics and effectiveness. Numerous approaches to these dilemmas exist, but this CPP will utilize the Four Box Method/Paradigm, the Minimum-Better-Best framework, and the Best Case/Worst Case (BC/WC) framework.[18–21]

- The **Four Box Method** involves the consideration of four main topics: medical indications, preferences of patients, quality of life, and contextual features.[18]
  - *Medical Indications* – Consider the patient's medical condition, options for treatment, likelihood of treatment effect, etc.
    - Focus on beneficence and nonmaleficence.
  - *Preferences of Patients* – Consider the patient's goals and preferences, determine their medical decision-making capacity, identify a surrogate decision maker, etc.
    - Focus on respect for autonomy.
  - *Quality of Life (QOL)* – Consider what physical, mental, and social deficits might the patient experience and what is the likelihood for returning to a reasonable QOL. Also determine how the patient defines QOL and consider if this definition matches your own. Finally, consider end-of-life and comfort care measures.
    - Focus on beneficence, nonmaleficence, and respect for autonomy.
  - *Contextual Features* – Consider additional factors that may influence decision-making, including but not limited to the following: resources, legal, financial, safety, mission success, dual agency. In managing host nation patients, local cultural norms may also significantly impact ethical decision making.
    - Focus on justice.

Figure 1. "4 Box" Approach to Complicated Clinical Ethical Questions

"4 Box" Approach to Complicated Clinical Ethical Questions

The Four Topics Chart

Medical Indications	Preferences of Patients
Beneficence and Nonmaleficence	*Respect for Autotomy*
1. What is the patient's medical problem? 2. Is the problem acute? Chronic? Critical? Reversible? Emergent? Terminal? 3. Where the goals of treatment? 4. In what circumstances are medical treatments not indicated? 5. How can the patient benefit from medical and nursing care, avoid harm? 6. Do critical military mission considerations dictate that the need for preferential care? 7. Conscience clause: is there an indication for intervention/patient preference that does not align with physician willingness to treat?	1. Has the patient been informed of benefits and risks of recommendations, understood, and given consent? 2. Does the patient have capacity? Yes: What preferences are they stating? No: Have they expressed prior preferences? 3. Who is the appropriate surrogate to make decisions for an incapacitated patient? 4. What standards should govern the surrogate's decisions? 5. Is the patient unwilling or unable to cooperate with medical treatment question if so, why?
Quality of Life	**Contextual Features**
Beneficence, Nonmaleficence, & Autonomy	*Principles: Justice and Fairness*
1. What are the prospects, with or without treatment, for a return to an acceptable quality of life (QOL) and what physical, mental, and social deficits might the patient experience even if treatment succeeds? 2. On what grounds can anyone judge that some QOL would be undesirable for a patient who cannot make or express such judgement? 3. Are there biases that might prejudice the provider's evaluation of the patient's QOL? 4. What ethical issues arise concerning improving or enhancing a patient's QOL? 5. Do QOL assessments raise any questions that might contribute to a change of treatment plan, such as forgoing life-sustaining treatment? 6. Are there plans to provide pain relief/comfort after a decision has been made to forgo life-sustaining interventions?	1. Are there professional, interprofessional, or business interests that might create conflicts of interest in the clinical treatment of patients? 2. Are there parties outside clinician/patient such as family members who have a legitimate interest in decisions? 3. Are there limits imposed on pt confidentiality by the legitimate interests of third parties? 4. Are there financial factors that create conflicts of interest in clinical decisions? 5. Are there religious factors that might influence clinical decisions? Legal issues? 6. Are there considerations of clinical research and medical education that affect clinical decisions? 7. Are there considerations of public health and safety that influence clinical decisions? 8. Does institutional affiliation create conflicts of interest that might influence clinical decisions?

"Above the double line"

Majority of decisions here made by clinicians.

Disagreements above the line:

1. Failure of communication
2. Fear and pain limiting decision-making
3. Lack of trust
4. Values different from traditional medicine

"Below the double line"

Largely dictated by patient preference.

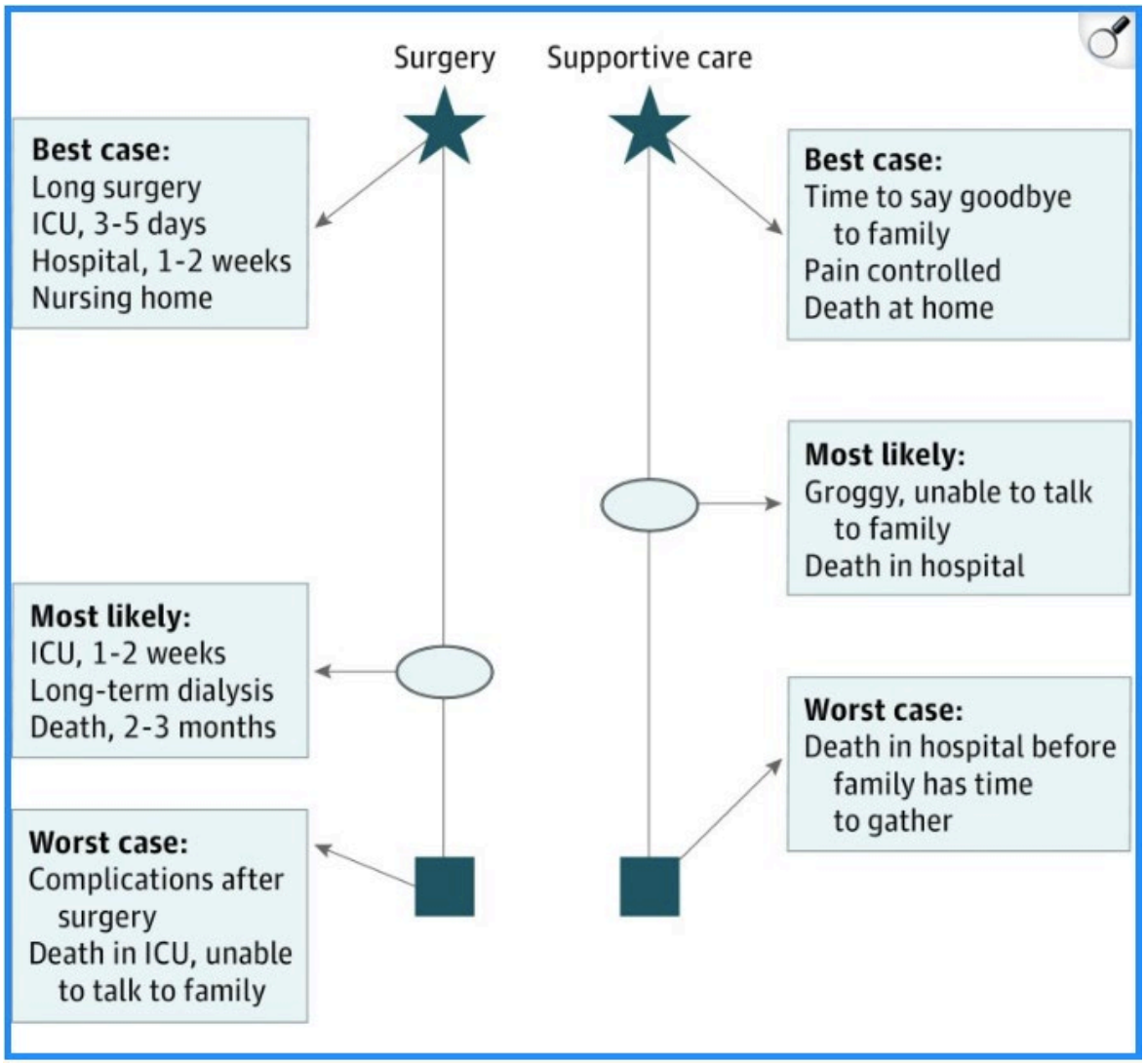
These topics are not typically part of a clinical workup, but they are essential to understanding clinical ethics cases.

Understand the factors external to the medical problem at hand that fundamentally influence decision-making.

Adapted from: Jonsen AR, Sieger M, Winslade WJ. Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine. 8th ed. New York, NY: McGraw-Hills; 2015.

- The **Best Case/Worst Case framework** is a strategy for communicating with patients (and their families) that "combines a narrative description and a handwritten graphic aid" to describe possible and anticipated outcomes of each available clinical choice.[19] It is a helpful shared decision-making tool which has been shown to assist with structuring difficult conversations, clarify options, and support physician-patient communication and deliberation.[19,20] To do this, the provider/surgeon draws a continuum from worst case to best case outcomes to the proposed scenario and describes what each looks like. He/she then marks where along this continuum he/she anticipates the patient will end up and again describe this. An example is shown below.

Figure 2. Best Case/Worst Case Framework



- The **Good-Better-Best framework** is a strategy that can be adopted when optimal care is impeded by operational reality.[21]
  - Best: optimal medical care
  - Better: strategies that can be added (when available) to improve outcomes but still below optimal care
  - Good: the minimum care that should be delivered in the setting of capability limitations

Ethical Cases & Discussions

Concern for Violations of Autonomy

Case 1.1: Language barriers in informed consent

While deployed to a non-English speaking developing nation, a 42-year-old local national man presents to your Role 3 MTF with acute appendicitis. IV antibiotics are administered, and surgery is planned. While obtaining informed consent, you notice that the interpreter available is not fully fluent in English, particularly of medical terminology. He asks you several times what different words mean and frequently has side conversations with the patient or offers a single word translation of a long sentence. Overall, it is unclear that the patient fully understands the risks and benefits of surgery, and you are unsure if you should proceed.

- **Considerations:**
  - Autonomy is the ability for this patient to make his own medical decision with a sufficient level of understanding. This decision should be according to his own beliefs and values. It requires competence, understanding, and freedom from coercion.
  - This case involves the practice of obtaining informed consent, which is the patient's (or surrogate's) permission for medical providers to administer medical and/or surgical care. To obtain true informed consent, the patient (or surrogate) must:
    1. Have decisional capacity
    2. Receive the necessary/relevant information
    3. Demonstrate an understanding of the information received
    4. Reach a decision without coercion, undue inducement, or intimation. This is a communication process that protects the patient's right to self-determination, and therefore a language barrier poses a significant threat to the patient's ability to receive and demonstrate understanding of critical information. Furthermore, utilizing un-trained and/or biased personnel (or family members) can introduce coercion or intimation.
  - When applying the concept of autonomy in patient care, providers must understand the cultural context they are working in. For example, in other cultures, the medical decision-maker may be a spouse or a senior family member as opposed to the patient themselves. While this practice may conflict with the provider's personal norms, the provider should respect the patient's norms and operate within that system. Providers should take care to avoid projecting their own cultural norms onto patients with disparate cultural norms.
  - When working from a Western cultural viewpoint, a certified interpreter is expected to obtain informed consent. When a qualified and unbiased interpreter is unavailable, then the decision about whether or not to proceed with surgery becomes complicated. In emergency/life-threatening scenarios, it is accepted to forgo the informed consent process and proceed with the best course of action, as determined by the medical provider, as long as he/she is acting in the best interest of the patient.[9] When the situation is not emergent, then the situation becomes even more complicated. One must then work within the time and resources at hand and consider the risks and benefits of non-operative management. While one can wait for interpretive services to arrive in many cases, one likely cannot wait indefinitely. If ideal interpretive services will never arrive, and surgery is thought to be within the patient's best interest, then it is likely unethical to withhold surgery. A good-better-best framework may then be explored.
- **Good-Better-Best Framework**
  - In the United States, the use of an in-person and unbiased certified medical interpreter is the gold-standard for obtaining informed consent from a patient who speaks another language. When this is not an option, telemedicine resources should be utilized, whereby such an interpreter can be obtained

remotely over a secure audio-visual connection. When this is not an option, then further options should be explored with diligence to ensure that all critical information is being relayed and understood, to the best of the ability of both parties.

- It is crucial to note that this framework would change depending upon the patient's cultural norms.

Table 1. Good-Better-Best Framework

Good	Better	Best
Best interest standard: Do your best to inform the patient of what is happening even if true informed consent cannot be obtained. Do not allow situational constraints to prevent you from doing what is in the patient's best interests.	When no translator is available, one must rely on various tools at hand. Ideas include: • Translational technology (i.e. apps, websites, books) • Drawing pictures • Writing lists of risks and benefits with translations, as available and requiring the patient to write these as well to express understanding	Certified medical translator (in-person > video+audio > audio only) Certification is unlikely, so fluency and freedom of bias are next key factors. Ideally, vetting of interpreters should occur before the medical mission is begun to allow for necessary protocols and limit chaos/confusion.

Concerns of Beneficence vs Nonmaleficence

Case 2.1: Lack of host nation medical capabilities

An 80-year-old local national man presented to a Role 2 facility with pneumonia, where he was intubated and 9-line evacuation request to local hospital was made to free up bedspace. After uneventful evacuation and flight, the team drove to the planned meeting point just "inside the wire." There, a local ambulance driver was waiting to transport the patient to the hospital. He had no supplies, including no ventilator, ambu bag, or even oxygen. He also had no medical assistant. The team only had instructions to transport him to the predetermined local hospital, so they supplied an ambu bag and instructed the family member on how to provide ventilation enroute.

- **Considerations:**
  - There are multiple decision points in this case. The first is the decision to intubate the patient, who is elderly and a host national with potentially limited follow-on care. While many situations are urgent with limited time for complete goals of care and code status conversations prior to intervention, these should always be attempted to respect patient autonomy. It is unclear whether the patient and/or his family member would have chosen intubation or not. If unable to complete prior to emergent intubation, this discussion should be had with the patient's surrogate decision maker as soon as possible post-intubation to determine further care plans. Contextual factors of culture and host nation capabilities must be factored into these conversations and decisions.
  - If one assumes that the patient desired intubation, the next decision point is the decision to transfer the patient. The on-site MEDROE, census, and other situational factors will impact transfer timing, as will the ultimate destination for the patient and their resources. If the patient's ultimate destination has the resources to care for a critically ill patient, then transfer as soon as stable for transfer is indicated. However, if it does not, then one can consider holding the patient until their status improves enough to wean support and thereby match the receiving facility's capabilities (i.e. wait until after extubation). This delay may not always be feasible or allowed, however. Furthermore, it may be challenging, if not impossible, to obtain this information.
  - The third decision point comes at the time of patient hand-off to the ambulance driver. This is an extremely challenging and distressing situation, but perhaps not completely unique. Without ventilation, this patient will die. Even with bag-valve mask ventilation, but without oxygen, he is high-risk for death

and/or anoxic brain injury. One option is to request a different disposition or transport for the patient, but this is not likely to be feasible, allowed, or safe. Instead, the best that can be done medically is to provide an ambu bag to the family member and instruct them to ventilate, as was done in this case. Rapid transport, as opposed to prolonged monitoring for desaturation, is likely better for the patient and care team given that there is no back-up plan available. However, it is crucial to ensure that the family member not only knows how to deliver breaths but also understands the consequences and likely outcome of the current situation.

- A fourth decision point is to attempt to find a surrogate decision maker before transferring the patient to the host nation facility to determine the patient's GOC. If no surrogate decision maker is available and the patient has a poor prognosis, it may be best to extubate the patient at the Role 2 and provide comfort care.

Table 2. Good-Better-Best Framework

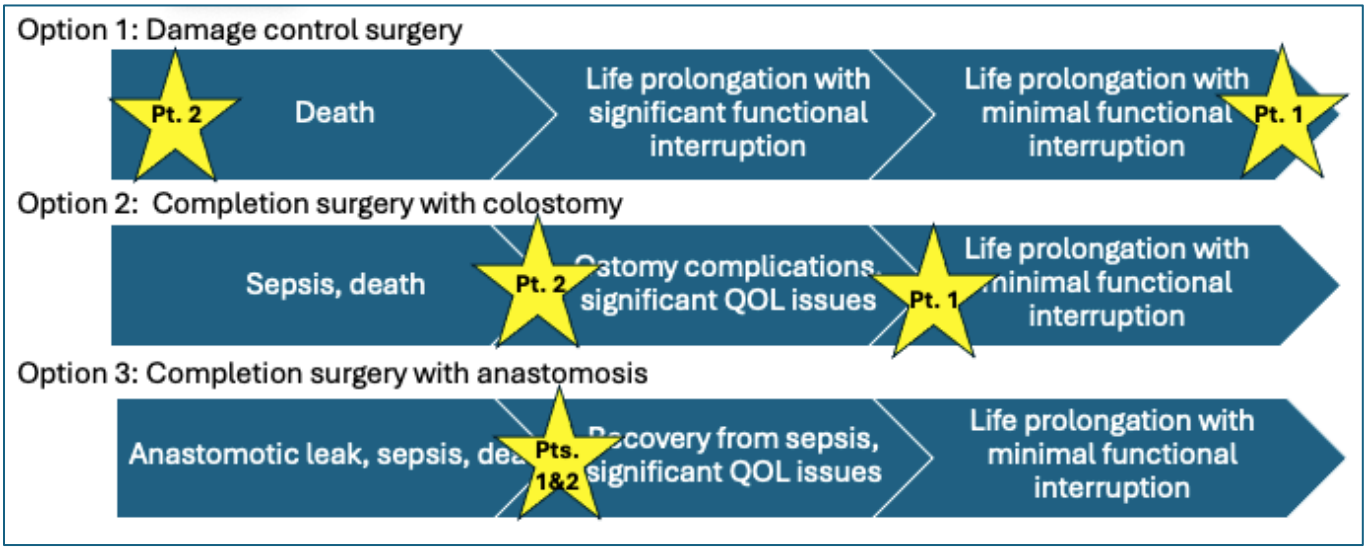
Decision Point	Good	Better	Best
Intubation	Default intubation if wishes are unknown and emergent (pending resource availability)	Establish goals of care with surrogate decision-maker after stabilization and factor in host nation capabilities	Goals of care and code status discussions with patient and/or surrogate decision-maker prior to intubation with host nation resources and practices are factored into this equation • Unlikely to be feasible
Transfer	Transfer to host nation facility per MEDROE	Obtain information about receiving facility and transport capabilities/resources prior to transfer	Optimize timing based on patient stability and facility resources; potentially held until after extubation
Hand-off	Provide supplies as able	Ensure family member's understanding of the process and potential outcomes	Optimize communication with receiving facility or change disposition

Case 2.2: Different surgical decision-making for U.S. Service Members

Two 25-year-old men present to your Role 2 facility in hemorrhagic shock status post gunshot wounds to the abdomen. They are both given 8 units of whole blood, taken to the operating room for exploratory laparotomy and found to have splenic and sigmoid colon injuries. The first patient is a U.S. Service Member. You choose to remove his spleen, resect his sigmoid colon, and leave him in discontinuity with a temporary abdominal closure (damage control surgery only). He is evacuated after stability. The second patient is a host national, and you know that the local hospital he will be transferred to has minimal surgical capabilities. In fact, the last patient you transferred there with a vascular shunt never received definitive repair and died. For him, you choose to remove his spleen and sigmoid colon, perform a primary colorectal anastomosis, close his fascia, and extubate him. You know that his risk of anastomotic leak is high but also know that he could not survive without definitive surgery. He also likely does not have access to supplies to manage a colostomy or ileostomy, including no ostomy bags.

- Damage control surgery is only effective with appropriate follow-on care, which includes definitive surgery. When this is unfortunately not an option, then your decision-making must change to provide care that is consistent with the patient's eventual destination. Only then will you be upholding beneficence and non-maleficence.
- Using the best case/worst case framework and incorporating the crucial contextual factors of availability of follow-on care and long-term supplies, we can estimate our patients' respective outcomes based on the available surgical outcomes.

Figure 3. Surgical Care Options



- Here you can see that although our patients are the same age and sex with the exact same injury patterns and resuscitation needs, their expected outcomes are very different due to the lack of follow-on care and long-term supplies available to patient 2. While exposing patient 2 to the risks of anastomotic leak, sepsis, and death may seem like maleficence, option 3 may be the best choice for him because it is consistent with his eventual destination. It gives him the best chance for life prolongation with minimal functional interruption. Option 2 is also very reasonable, as it would reduce his risk of leak, sepsis and death, but include risks of ostomy complications and inability to care for his ostomy due to lack of supplies. This is a challenging decision and one that would require careful and thoughtful consideration by the surgeon.

Concern for Procedural Injustice

Case 3.1: Adjusting triage category for Traumatic Brain Injury (TBI) based upon patient nationality

A host national patient is brought to you (you are at a Role 1) after a transcranial gunshot wound with a Glasgow Coma Scale (GCS) of 6, exposed brain matter, and decorticate posturing. You urgently intubate him and initiate empiric treatment for elevated intracranial pressure. Given MEDROEs, you are unable to provide medical evacuation (MEDEVAC) to a Role 2, so you place him in an ambulance and send him to a host nation hospital. Because there was no medic on the 2-hour long ride and no neurosurgical capabilities at the host hospital, the patient died upon arrival to that hospital, and without any sedation while intubated. A few days later, you are presented with another host national with the exact same injury pattern including exposed brain matter and posturing. Given the care constraints beyond your immediate care, he is classified as expectant. He was not intubated but was given narcotics and sedatives to ensure comfort. You, as the senior medic, made the triage decision and stayed with him until he passed, with other medics purposefully kept away. After his death, his body was placed into a body bag, which was draped with his nation's flag and then carried to a waiting military truck.

Table 3. Considerations for Decision-making

Medical Indications	Patient Preferences
▪ Potentially survivable ▪ Need for immediate ventilation and sedation ▪ Need for urgent neurosurgical assessment +/-intervention ▪ Likely need for tracheostomy and gastrostomy ▪ High risks of pain, infection, disability, and death	Unknown
Quality of Life	**Contextual Factors**
▪ Prolonged ICU and medical care, followed by rehabilitation, possible lifelong assistive needs ▪ Significant physical disability ▪ Likely change in mental capacity and/or personality ▪ Impacts on emotional and social well-being	▪ No access to MEDEVAC or Role 2 ▪ Prolonged transport with no medic onboard ▪ Very limited neurosurgical resources at hospital ▪ Limited long-term assistance

- **Ethical discussion:**
  - This case illustrates the challenges medics face when survivability is dictated by available resources, as opposed to solely the medical aspects of the injury itself. Here we see a severe TBI after a transcranial gunshot wound that is potentially survivable with a poor quality of life if the patient receives the best care possible, including immediate intubation, ventilation, and sedation, urgent aggressive medical and/or surgical intervention, and long-term care with significant resource needs. Unfortunately, none of these are available to the patient after immediate intubation. Given these contextual factors, the injury is not survivable. Furthermore, there are significant quality of life concerns, though these cannot be discussed with the patient or any surrogate decision-makers due to incapacity and lack of available loved ones. The decision to intubate and attempt transfer of the first patient was well-intentioned but ultimately violated the ethical principle of maleficence by not giving the patient pain medications or sedatives while intubated, resulting in a potentially painful and undignified death. The decision to declare the second patient expectant resulted in a comfortable and dignified death.
  - Moral injury was a significant concern in this environment, whereby sniper fire and limited resources resulted in large volumes of casualties with severe TBIs. This amount of death, particularly amongst patients who would be potentially survivable in mature U.S. trauma centers, could lead to significant moral injury, compounding emotional distress, and loss of trust in the U.S. Medical Corps. Limiting the end-of-life care to senior medics who were trained to make these difficult decisions and execute that care not only ensured appropriate patient care, but also mitigated the moral injury of other medics. Treating the dead with the respect they deserved, including treating the bodies with dignity and respect, also engendered trust and loyalty from the host nationals. And finally, the medical team in this case worked with their commands to establish official triage protocols based on their experience and resources.

    By involving key stakeholders and creating a priori protocol, this approach allows for team decisions, appropriate patient care, mitigation of potential guilt related to the individual expectant decisions, and improvement in unit cohesion and trust.

Case 3.2: Adjusting care plan for severe burn based on patient destination

Two patients are brought into the Role 2 facility after being rescued from an explosion that occurred in a developing nation. Both patients are in their late 20s and have severe flame burns and inhalation injury. They are both intubated upon arrival, additional traumatic injuries ruled out, and resuscitation is initiated. After initial non-excisional debridement, both patients are found to have an estimated total body surface area (TBSA) full-thickness burn of 75%. You then learn that patient 1 is a U.S. Service Member, and patient 2 is a host national. As you prepare to transfer patient 1 to the U.S. Army Institute of Surgical Research (USAISR) Burn Center in San Antonio, you consider your management of patient 2, who will not have access to a Role 3 facility and therefore no access to specialized burn care. This has been confirmed by the local medical facilities. After discussion with patient 2's family, his care is transitioned to one focused on comfort. Several members of your team are angry and feel that it is unethical to treat these patients differently based on their nationality and may be a violation of the Geneva Convention.

- **Ethical discussion:** This case illustrates two patients of different nationalities presenting with the same injuries, yet with consideration for two different treatment strategies, including triage categories. According to the foundational ethical principles, it appears that justice and beneficence would be violated. Using the 4 boxes method, we can uncover the following:

Table 4. Comparison of Considerations for Decision Making

Patient 1		Patient 2	
Medical Indications	**Patient Preferences**	**Medical Indications**	**Patient Preferences**
▪ Potentially survivable ▪ High risks of pain, infection, disability, and death	Unknown	▪ Potentially survivable ▪ High risks of pain, infection, disability, and death	Unknown
Quality of Life	**Contextual Factors**	**Quality of Life**	**Contextual Factors**
▪ Prolonged medical care ▪ Significant disability ▪ Impacts on emotional and social well-being	▪ Access to USAISR Burn Center including burn shock resuscitation, and critical care (e.g. mechanical ventilation) ▪ Access to rehab and future surgical intervention ▪ Financial assistance	▪ Prolonged suffering ▪ Significant disability ▪ Impacts on emotional and social well-being	▪ No access to burn center, ongoing resuscitation, critical care or rehab ▪ No financial assistance

  - While the two patients have the same injury, we see that their four boxes are not identical. We cannot determine their preferences because of their medical incapacity, but we can assess their quality of life and contextual factors. Their injuries are potentially survivable with prolonged, intensive care that will require multiple operations and months of hospitalization and rehabilitation. Even with the best care, there is high risk of pain, infection, disability, and death. Their contextual factors are very different. While their nationality does not affect our immediate care or our ethics, it does affect what care they will have access to. Surviving this severe burn will require transfer to a burn center. Patient 1 can be transferred, where he will receive acute surgical and medical care, followed by rehabilitation, and ultimately financial reimbursement for his disability. This injury will have significant impacts on his quality of life, but these can be mitigated by resources available to injured Service Members in the U.S.

- Patient 2 cannot be transferred to the USAISR Burn Center but would instead be returned to the care of his host nation, which does not have the capabilities to care for him, including ongoing burn shock resuscitation, wound care, and critical care. This makes his condition almost certainly non-survivable. In the event of unlikely survival, he would experience profound disability and pain with no financial assistance. Continued resuscitation of patient 1 can therefore be expected to achieve the goal of survival, whereas that of patient 2 cannot reliably achieve this goal. Resuscitation of patient 2 would therefore be considered non-beneficial care, and in fact aggressive efforts to prolong his life may simply prolong suffering and be considered maleficence. If possible, this should all be discussed with the family. If life-sustaining treatment is offered, the family must understand what that will look like after transfer. If comfort measures are offered, then the family must understand what that will mean and how that would look. If comfort care is pursued, then the goal of care changes from prolonging survival to maximizing comfort. Pain medications continue, but resuscitation and mechanical ventilation are stopped, and the patient is allowed to expire peacefully and with dignity. The difference in triage assignment between these two patients is supported by the Joint Trauma System (JTS), as documented in the JTS Burn Care CPG.[22]

Concern for Distributive Injustice

Case 4.1: Triage involving limited blood products and varied demographics

As the sole surgeon in a forward surgical team, you receive three critically injured patients to your building of opportunity, which is stocked with 20 units of whole blood. The base can activate a walking blood bank, but the fight is ongoing with limited ability to pull donors out of the fight. The three patients are described below.

- *Patient 1: 22-year-old male U.S. Service Member with traumatic right above-knee amputation and GSW to the left lower leg with bilateral tourniquets in place and no ongoing bleeding, HR 130, BP 90/60, RR 22, SpO2 98%*
- *Patient 2: 5-year-old female host national with GSW to the abdomen with evisceration, HR 130, BP 85/50, RR 30, SpO2 96%*
- *Patient 3: 28-year-old male enemy combatant with GSW to the right chest and proximal left upper extremity with ongoing bleeding, HR 150, BP 80/50, RR 30, SpO2 85%.*

Your team starts with expedient primary surveys and obtains IV access on all patients. A tourniquet was placed on patient 3's left upper extremity, and a right-sided chest tube was placed, which put out 600 mL of blood. His vital signs are unchanged. How do you appropriate your blood supply? Do you activate a walking blood bank during an ongoing fight? Who do you operate on first? Do the patients' nationalities affect your decision-making? What are the evacuation and re-supply capabilities? Do these affect your decision-making?

- Distributive justice, and NATO rules, dictate that military medical facilities have the duty to provide emergency medical care without discrimination within available resources.[12] Assuming proper MEDROE is being followed, triage, should not involve consideration of the patient's social status. However, when resources are limited, providers must consider survivability so that the greatest good can be accomplished for the greatest number. They must also consider what follow-on care and social/cultural expectations may be present for each patient to determine that the care provided does not cross into non-beneficial care (as discussed in case 3.2).

  Triage in trauma is extremely challenging because of limited information and time to make critical decisions. While following the principles of our training, we must take care to avoid hasty decisions whereby we assume patients are unsalvageable. The key is making the best decision in the moment with the information you have and not making determinations of futility too early.

- From a medical perspective, you have already provided immediate life-saving care to include tourniquet and chest tube placement. Patient 1 now requires blood and surgery with high likelihood for survival. Patient 2 requires blood and surgery with unknown prognosis, pending surgical findings. Patient 3 requires blood and surgery with unknown prognosis. The law of distributive justice would oblige you to administer blood to all

patients and activate the walking blood bank, knowing that this resource is limited, and possibly prohibited, by ongoing fighting. While one should not limit blood to any individual, care must be taken to use as little blood as is necessary for each patient. This requires a focus on expedient hemorrhage control and vital sign reassessment between units to avoid any waste.

- **Scenario 1**: Evacuation and re-supply are limited by current lack of air superiority
  - *Once tourniquets and chest tubes are in place and blood is transfusing, patient 2 is likely most in need of an emergent operation. She is taken to the OR, whereby a small bowel resection was performed, which controlled bleeding from the small bowel mesentery. There were no other significant injuries or hemorrhage. While her injury initially looked the most concerning, she stabilized after just two units of blood and ultimately went on to make a full recovery.*
  - *After operating on patient 2, you receive word that both patients 1 and 3 have received 4 units of whole blood (blood supply down to 10 units). Both patients' vital signs have improved somewhat. In a controlled fashion, both tourniquets are taken down. Arterial bleeding immediately returns from patient 1's left lower extremity wound, and the tourniquet was replaced. Patient 2 has what appears to be more superficial bleeding, which is controlled with a figure-of-eight suture. He has had 500 mL of blood out of his chest tube in the past 45 minutes, and it remains unclear if he'll need a thoracotomy. Patient 1 requires surgery for hemorrhage control of the left lower extremity and control of contamination, so this is done next with ongoing resuscitation of all patients, as needed. A shunt was placed in his left popliteal artery with control of active bleeding, left lower extremity fasciotomy was performed, and debridement and washout with hemorrhage control performed of the right lower residual limb. An additional 6 units of blood were given to patient 1 during this case.*
  - *Attention was then returned to patient 3. His vital signs have normalized after an additional 3 units of blood (1 unit remaining), and his chest tube output has slowed to 100 mL over the past 1.5 hours. You decide that he does not need further surgery at this time.*
- ***Scenario 2**: Evacuation available and hemorrhage continues, version 1*
  - *You quickly assess both tourniquets for possible conversion and note ongoing arterial hemorrhage from patient 1 but only superficial bleeding from patient 2. You reapply patient 1's tourniquet and control patient 2's bleeding with a stitch. A CCAT team can have patient 1 in the OR at a Role 3 facility within 60 minutes, so you elect to leave the tourniquet on, transfuse blood, and plan for evacuation.*
  - *During this time, there is an additional 1000 mL of blood out of patient 3's chest tube, and you take him emergently to the OR for a right thoracotomy. A right lower lobectomy was performed and chest packed, but he required 6 units of blood. Meanwhile, your team continued resuscitating patient 2, and she remained hypotensive. You then take her to the operating room and perform an exploratory laparotomy, splenectomy, and small bowel resection, which results in hemostasis. All 10 units of blood have been used, and both patients remain in shock. You now continue to medically manage these patients without blood, which limits their ultimate recovery.*
- ***Scenario 2**: Evacuation available and hemorrhage continues, version 2*

> *Emphasis should be placed on avoidance of hasty determinations of futility and instead employ ongoing reassessment and ongoing resuscitation when possible.*

  - *Because MEDEVAC is available, you make the same decision for patient 1 as in the previous scenario.*
  - *This time, you see the massive bleeding from patient 3's chest and anticipate the amount of blood that will be required to save this patient, particularly while patient 2 also remains in hemorrhagic shock. You make the call that operating on patient 2 first will provide the best chance for "achieving the greatest good for the greatest number." You perform the same operation on her, which requires only 2 additional units of*

blood because of how quickly you achieved hemostasis. Your team has continued resuscitating patient 3 with permissive hypotension during this time, and his chest tube output has slowed down, but he remains in shock. You perform a right thoracotomy and lower lobectomy. He has diffuse oozing and remains in profound shock despite the lobectomy. You have now used all units of blood and continue resuscitation with crystalloid fluids. Despite your best efforts, patient 3 dies.

- There are infinite possible scenarios for how this case could play out based on both decisions and unforeseen clinical consequences, and there is no single "right" answer for how to manage this extremely challenging situation. Rather, the point is to be thoughtful in how a small team can manage multiple critically ill patients at one time with minimal resources by utilizing proper triage, sound decision-making processes, expedient care, and conscious resource usage. With this, patients can have much better outcomes than one may initially expect. Again, **emphasis should be placed on avoidance of hasty determinations of futility and instead employ ongoing reassessment and ongoing resuscitation when possible.**

Case 4.2: Far-forward medical care with limited supplies

A mass casualty (MASCAL) event has occurred near your deployed location, which was a compound shared between U.S. forces and host nation forces. Five host nation service members were injured (1 immediate, 2 delayed, 2 minimal). Security rules of engagements prevented them from coming on to the U.S. portion of the shared compound, and instead the Role 1 medic team was required to travel forward to the host nation's portion of the shared compound, which consisted of a single room with multiple beds and minimal medical supplies. Due to very short notification and packing time, limited capability and supplies were brought forward. This significantly limited the care that could be immediately provided, and there was significant concern amongst the team for unequal treatment standards of host nation service members vs U.S. Service Members.

- Treating people differently based upon their nationality appears to be a clear violation of distributive justice, but it is something that is commonly encountered in the deployed environment. Even in civilian hospitals stateside, many medical professionals encounter violations of justice based on things such as insurance and socioeconomic status, whereby the physician's first medical plan is simply not feasible for their patient given the patient's inability to afford their medications or return to clinic.[23] In these cases, the providers do not make the rules or build the system; they must learn to maximize the care they provide within the constraints of that system. The same is true in the deployed environment, though additional considerations exist. First, these rules of engagement were put in place for safety of U.S. Service Members, and that safety cannot be compromised at the expense of providing medical care, as that too could be a violation of distributive justice or Utilitarianism, whereby the care for one endangers the safety of many.
- When conflicts are encountered, you should strive for optimal and just care, which in this case may be to convince the security forces and/or base commander to allow the casualties into your facility to provide the best possible care. However, if this is not possible, then you simply "do the best you can." In that moment, the best you can is to grab what you are able and treat the patients as to the best of your ability with what you have.
- However, perhaps better care could be administered if pre-event planning were performed. For example, when one arrives at a deployed location, understanding who they can and cannot take care of and where they can be cared for is crucial. That knowledge will allow for planning for these events, including creating "go-bags," to avoid unnecessary delays. This planning and understanding amongst the team members can also mitigate moral injury and detriments to both team morale and community trust. These options are shown below in the good-better-best framework.
    - Highlight the better column – it's all about preparation

Table 5. Scenarios for Non-U.S. Service Members

	Good	Better	Best
Forward surgical mission of non-U.S. service members	Quickly pack what you are able, bring who you can spare/are allowed, and provide the best care possible with those resources.	Plan for possible MASCAL events, understand who can be treated where, and create contingency plans and "go-bags"	After being screened by security forces, bring patients into the U.S. portion of the shared compound and provide care with all available resources.

Concerns of Dual Agency

Case 5.1: Physician and consultant to the Ground Force Commander

You are a task force surgeon responsible for a large, disaggregated area of operations with multiple small bases. There are only two units that provide rotary wing casualty evacuation (CASEVAC) support to the region, separated by several hundred miles. One day, the partner forces you work with contacts the operations center requesting assistance to move patients from a MASCAL incident two hours after an attack. The host nation CASEVAC capabilities are slow and may take up to 8 hours to respond. Though U.S. forces have been providing an advisory role, there are no U.S. assets on the ground for this mission and no direct U.S. support in the area. The rules of engagement do authorize the Commander the use of U.S. rotary wing assets for air transport of non-U.S. personnel. As the Task Force Surgeon, you are asked to advise the Commander on how to proceed. You consider the risks versus benefit of the situation. There are several unknowns including the total number of casualties, the location and capability of enemy forces, and the force protection in the area where casualties have been moved. If a U.S. CASEVAC asset were lost due to an enemy attack, there would not be a replacement in place for several weeks. If you do not provide support, your partner forces could die due to lack of medical care, and you could damage trust and confidence in your combined efforts. Considering all variables, you recommend against the utilization of the U.S. rotary wing CASEVAC support to the partner force mass casualty event.

- In this scenario, you are acting as both a physician and a military officer with several factors to consider. You cannot solely focus on the medical aspects of the situation and must consider the tactical aspects as well. The first factor is timing, which is mainly a medical one. The casualties have survived at least 2 hours post-injury, so it is unlikely that any injuries require truly emergent intervention at this point. Medical supply issues could be paramount though. It is certainly possible that partner forces will die as a consequence of your recommendation. It is also possible that they and/or U.S. assets would die if you recommended the opposite.
- The second factor is risk, both to mission and to the force. Because the location and capabilities of enemy forces are unknown and that there are no U.S. security forces in the area, the potential risk to U.S. personnel if used to evacuate these casualties is potentially very high. Rotary wing aircraft are particularly vulnerable to attack, especially if they are entirely dependent upon partner force protection. Beyond the immediate risk to U.S. lives is the risk to the mission. If a U.S. CASEVAC asset was lost, another would not be available for several weeks. This loss could compromise the tactical mission during that timeframe.
- The third factor is partner force integration. U.S. involvement for this particular mission is intended to be advisory only. There are no U.S. forces working alongside partner forces and no established expectation for CASEVAC assistance. While assistance is always valuable both for human life preservation and for team trust and morale, the fact that this assistance would be above and beyond expectations minimizes the potential disruption of trust and teamwork if assistance is not provided. In the absence of physical assistance, continuous communication could still be offered and executed to assist in accelerating the host nation CASEVAC timeline to move the casualties to the appropriate host nation facilities.

- In choosing to recommend not providing physical CASEVAC assistance, you are not providing the best possible medical care. However, you can still provide supportive assistance to expedite the partner force CASEVAC to optimize medical care while also optimizing U.S. personnel safety and overall mission success.

Case 5.2: Senior Theater Medical Officer and Physician Leader

You are the Senior Medical Officer (SMO) in theater, and your task force commander informs you that a forward surgical team (FST) is operating on a local national civilian with extremity and abdominal injuries. He is unstable, and they are using a lot of blood. The commander tells you that they do not want to spin up an emergent resupply mission for blood because it would be a danger to U.S. forces and that the blood should be conserved for use on "U.S. soldiers." They want you to call the FST and tell them to stop transfusing the patient. What do you do?[24]

- Here, you have two roles with two missions, giving rise to the dilemma of dual agency. You are both a physician and a military officer, and your two missions are to care for the patient and win the battle. From a medical perspective, ordering a physician to stop caring for a patient is unethical and unprofessional. Allowing this decision to be influenced by the patient's background or ethnicity violates the concept of justice. Resource limitation is a real concern, as is the safety of the transport crew, so assessment of the possibility of beneficial care should be assessed, but this should be done in consultation with the treating physicians and not as an outside directive.
- Sound decision-making requires comprehensive knowledge of the situation at hand. And as a SMO, you are a leader and as such should assist the treating surgeon. To achieve both, you contact the operating surgeon to gather more information and offer assistance in helping make a difficult clinical decision. Perhaps the surgeon describes a futile scenario, and you can assist them in making the difficult decision to stop resuscitative efforts. Perhaps the surgeon describes a reasonable scenario with need for more blood, and you agree with their clinical decision-making. Either way, now you can bring back that information to the commander and serve as a knowledgeable intermediary between the two.
- Military personnel are bound to follow lawful orders,[25] and disobeying them results in direct individual consequences and harm to working relationships. However, one must be astute to the potential for unethical or unlawful orders. One must also clearly establish the chain of command to understand if this commander has competent authority to issue this order.[25] While the commander has the authority to decline the resupply request, he does not have the authority to order you to call the operating surgeon and order them to stop operating. By acting as an intermediary between the two officers, you can be both a good leader and follower, while optimizing medical care and limiting distress. You cannot control others' actions, but you can navigate the tension by gathering information and acting in an advising role.
- Finally, beyond the principle of justice, from a military standpoint, a local national patient deserves the same medical care as a U.S. service member. Prioritizing U.S. forces over allied forces and local national personnel could result in loss of trust in the medical team and between allies and compromise the mission.

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Appendix 1: Bioethical Glossary

Autonomy: allowing adult individuals with decision-making capacity to make uncoerced decisions according to their own beliefs and values.

Beneficence: the obligation to act for the benefit of the patient and promote their welfare.

Non-beneficial care: medical interventions that cannot be reasonably expected to achieve the patient's goals, including both survival and quality of life measures.

Nonmaleficence: the obligation to avoid causing harm to patients.

Justice: fair, equitable and appropriate treatment of people.

Decisional capacity: able to receive and understand the information (including options, risks, and benefits), process the information, and make and communicate their decision by describing its risks and benefits.

Surrogate decision-maker: someone who acts in the best interest of the individual and makes decisions for them by exercising substituted judgement when they cannot decide for themselves.

Substituted judgement: a decision based on what the patient's choice would be, based on knowledge of the patient's values, preferences and goals.

Goals of care: the quality of life that a patient hopes to achieve from the care that they receive.

Medical Rules of Engagement:

Palliative care: approach to caring for patients (and their families) who are dealing with a life-threatening illness that focuses on quality of life and the relief of suffering.

End-of-life care: care of a dying patient where cure is no longer an option.

Dual agency (dual loyalties): having allegiance to two separate entities that are in potential conflict with one another.

Moral injury: distressing psychological, behavioral, social, and/or spiritual aftermath of exposure to events that contradict one's moral beliefs and expectations.

Appendix 2: Pre-deployment Tips for Success

While one can never be fully prepared for the ethical challenges of military medicine during the full range of military operations, we can prepare ourselves for potential ethical challenges to optimize patient care, mission success, unit cohesiveness, and resiliency. Military medical providers should familiarize themselves with basic ethical principles prior to deploying. Prior to and upon arrival at their duty station, they should discuss and establish the following:

- **Chain of command for medical decision-making**
  - What is the chain of command, and does this differ between various team members or for the medical personnel vs the remainder of the base?
  - What authority does the operational command have over medical decision?
- **Medical Rules of Engagement (MEDROE)**
  - What kinds of patients can be managed (i.e. disaster relief and humanitarian missions)?
  - What is the medical team allowed to do for each group of patients?
  - Who is eligible for evacuation to higher echelons of U.S. military medical care?
  - Where are the gray areas and how might these be deciphered?
- **Local civilian medical capabilities and culture**
  - What care is available to host nationals in the area?
    - This is crucial knowledge for understanding available follow-on care for civilian patients who may not be eligible for evacuation to higher echelons of U.S. military care.
    - Are these resources stable or frequently changing?
  - What are the medical transport capabilities?
  - What cultural features exist in the region that might pertain to medical care? These could include but are certainly not limited to the following:
    - Medical decision-makers: patient vs senior family member
    - Emphasis on individual autonomy vs community cohesion
    - End-of-life attitudes and customs
- **Conduct pre-deployment team deliberations**
  - In-depth discussions amongst the medical team prior to deployment so that everyone is on the same page before arrival at their duty station to mitigate conflict, prevent delays, and optimize medical care when challenges arise.
  - Goal: establish a shared understanding of the following:
    - Anticipated/potential ethical challenges
    - Define the team's capabilities
    - Review of MEDROE and chain of command
    - Establish a process for approaching gray areas and resolving ethical challenges
      - Employ open dialogue between and input from all team members
      - Identify available bioethics experts both on the team and outside of the team
      - Develop a debrief process that ensures that all team members understand why certain decisions are made.
  - Include other teams in the Areas of Operation
- **Establish ethical support, including reach-back**
  - Identify individuals with ethics training/experience both in theater and out of theater whom you can call for support.
  - Establish reach-back procedures.
  - Utilize this CPP.