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'MORAL balance' decision-making in critical care

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Learning objectives

By reading this article, you should be able to:

- Demonstrate appreciation of Beauchamp and Childress's four principles of medical ethics.
- Apply these principles practically and quickly at the bedside to aid in medical decision-making.
- Reduce your moral distress when making ethical decisions.

Key points

- Moral distress is a cause of burnout and can occur when one feels unable to do 'the right thing' or when there is ethical uncertainty.
- Ethics should be seen as a science, not an art.
- The use of Beauchamp and Childress's four principles of medical ethics should be recognised as a skill-based competency.
- 'MORAL balance' is a useful mnemonic for applying the four principles at the bedside.
- The use of MORAL balance to aid in medical decision-making is illustrated using a clinical example, where admission to the ICU of a patient with perceived devastating brain injury would fill the 'last bed'.

Clinical scenario

A 58-yr-old man presents to the emergency department (ED) after collapsing at work. His presenting GCS score is 3/15 (E1, V1, M1) with sluggishly reactive pupils. His trachea is intubated, and a CT scan reveals intracranial haemorrhage and a probable anterior communicating artery aneurysm. The neurosurgical opinion is that there are no surgical options, and that this is a non-survivable event. His daughter is present in the ED with him and his son is travelling to the hospital, but is a few hours away. The ED consultant refers the patient to intensive care with the following question: should we admit this patient to the ICU or commence end-of-life care in the ED? The ICU is almost full, with a single bed available.

One of the factors that leads to high levels of health professional burnout is moral distress.[1] Moral distress can occur when doctors and nurses feel unable to do what they perceive to be the right thing, or when faced with ethical uncertainty.[2–5] It is therefore of no surprise that moral distress occurs frequently in critical care.[6] The continuing capacity of technology and medical advances to improve our ability to maintain life leads to the question of whether critical care is saving life or merely prolonging existence.[7,8]

Historically, medical decisions made by doctors went unchallenged. Recent professional guidance, legislation, and societal expectations demand a greater role be played by patients, families, courts, and society.[9,10] As a result, the emotional stress on the staff has never been greater. Making defensible, time-critical decisions is therefore a core competency for critical care clinicians and all doctors who work in acute specialties.

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This article reflects a growing effort in intensive care medicine education and discourse to consider how ethical decision-making can be improved.[11] Clinicians, like most members of society, often respond to ethical challenges by relying on well-rehearsed, heuristic patterns of behaviour.[12] This approach is undoubtedly quick and frequently offers outcomes that are aligned with preconceived ideas. However, the problem with such approaches is that they are unreactive to changing or new information, and risk prejudicial and biased decision-making. Whilst care should be individualised, it can appear to be individualised to the clinician rather than to the patient and family, especially to outsiders.

In this article, we first ask how objective medical ethics is, and then re-examine the traditional Beauchamp and Childress teaching of the four principles, which is deeper and more nuanced than traditionally taught.[13–16] We propose 'MORAL balance' as a useful mnemonic for applying the four principles at the bedside. Finally, we demonstrate how MORAL balance can be used to aid in medical decision-making in a clinical scenario.

Many clinicians will already be undertaking parts of our proposed approach. We suggest that adopting a systematic and explicit analysis of ethical questions will help make better, justifiable, and robust medical decisions. This can protect patients and families and reduce moral distress in healthcare staff.

Objective ethics?

There is seldom disagreement as to the objective value of the patient's measured haemoglobin concentration. Conversely, ethics is frequently regarded by clinicians as almost entirely subjective and being about beliefs, opinion, feelings, emotions, and hunches; it is therefore disputed and is often inscrutable. Can ethics be objective, that is, logical, rational, based on rules, and therefore coherent, reasoned, and analysable? We see ethics as science, not art. Teaching in anaesthesia has long recognised the value of a deep mechanistic understanding of complex systems. For example, in analysing a monitored arterial waveform, one must learn how it works; how and when to use it; and, just as importantly, when not to use it. Medical ethics should have more in common with analysis of the arterial waveform than it does to teaching an appreciation of beauty.

Objective ethics results from being able to describe a situation fully. This often leads to the replacement of controversy with clarity. Medical ethics is not about always agreeing or there being only one correct answer, especially when the benefits and harms are finely balanced. It is about having well-reasoned, rational, analysable, and defensible arguments built on facts. This moves the debate regarding medical decisions away from emotion and towards rationality. Ethical decision-making is a skill-based competency that can be taught, and is useful for decision-making, communication, and conflict resolution.

An ideal ethical framework for use at the bedside would be:

(i) applicable
(ii) simple enough to do near the bedside
(iii) complex enough to cope with challenging scenarios
(iv) quick
(v) robust and analysable
(vi) flexible
(v) reproducible
(vii) not prejudicial

This article cannot review the entire canon of philosophical thought, but instead recognises that, as academically enlightening as it may be, it has not provided an ethical framework that can fulfil all of these requirements.

Four principles

Beauchamp and Childress's four principles of medical ethics may have felt like they were handed down on tablets of stone during medical school teaching, but are in fact recent. Their seminal book, *Principles of Biomedical Ethics*, was first published only in 1979. The four principles are best understood as a distillation of the ethical theorems that preceded them (Table 1). One common criticism is that the principles are often in conflict with one another and are thus of little practical use. In fact, the inevitable conflict between principles represents the strength of this approach and superiority over alternative 'mono-ethical' approaches.

Table 1 Four principles of medical ethics

Principle	Working definition[16]	Link to older ethical theories
Autonomy	Obligation to respect the decision-making capacities of persons	Deontology (rule based) or duty; example: Immanuel Kant said, 'Act in such a way that you always treat humanity, whether in your own person or in the person of any other, never simply as a means, but always at the same time as an end'
Beneficence	Obligation to provide benefits and to balance benefits against risks	Utilitarian (outcome based); example: maximise the good for the greatest number of people
Non-maleficence	Obligation to avoid causing harm	Opposite of benefit; example: *primum non nocere*
Justice	Obligation of fairness in the distribution of benefits and risks	Fairness (social justice) (e.g. John Rawls's *A Theory of Justice*); example: try to maximise the interests of the worst off

Whilst knowledge of the four principles is important, Beauchamp and Childress spent most of their book explaining how to *use* the principles rather than just what they are. It is this skill of application that has frequently been deficient in teaching; it is why many clinicians regard the four principles as interesting, but not very useful at the bedside in real, decision-specific, ethical challenges. Beauchamp and Childress not only gave us the four principles, but the tools to help us

classify ethical dilemma and move forward to make time-dependent decisions. Here are four suggested steps.[15,16]

(i) Establish the facts of the decision in question.
(ii) Decide what is in scope and out of scope.
(iii) Specify the outcomes within the four principles.
(iv) Balance the principles to give them action-guiding capacity.

Whilst ethicists, and even Beauchamp and Childress, may balk at our oversimplification of their tome, the common adage 'classify or die' should resonate for those of us who have completed medical exams. If complex but critically important concepts are to be remembered, and applied rapidly and reliably at the bedside, then a catchy mnemonic is required.

MORAL balance

MORAL balance is a memorable method to apply the four principles at the bedside skilfully. Further explanation can be found in Table 2.

M: make sure of the facts

It is remarkable how much clarity can come to an ethical dilemma just by establishing what the facts of the case are. If there is uncertainty, can it be quantified? In some situations, any potential conflict or difficult decision is immediately found to be unnecessary when an analytical review determines that initial ethical concerns are unfounded in the facts of the matter.

ORA: what are the outcomes of relevance to the agents involved?

The agents are anyone who has a stake in the outcome. This obviously includes the patient and their family, but is much broader and can include other patients, both in and outside the hospital, healthcare staff, and society. This stage is about capturing everything that might be relevant. Balancing the competing outcomes occurs later.

In exploring outcomes of relevance, it becomes very clear that, even for patients, mortality is not the only outcome that counts and sometimes not even the most important one (e.g. independence and cognition).

Critical care physicians have spent time, effort, and money on researching outcomes in intensive care, but the vast majority of this research has focused on mortality as the overriding important outcome. This approach may have succeeded in reducing death, but frequently without necessarily restoring health. This becomes a more pressing concern as our population becomes more elderly and has more comorbidity. Indeed, the literature on 'intensive care survivorship' continues to grow, and it is concerning, for example, that 65-yr-old survivors of intensive care have cognitive outcomes comparable to Alzheimer's or moderate traumatic brain injury.[8]

There is an ethical challenge known as moral distance.[17] This is an excessive focus on the physically close or immediate. This can lead to a lack of attention to the wider consequences and outcomes on others, of one's actions (or inactions). MORAL balance requires doctors to use their moral imagination in determining the outcomes of relevance to the agents specified, so they can more easily bridge the moral distance between themselves and other patients who may be distant in time and space. By doing so, it strengthens the ability to specify relevant outcomes within the four principles.

Another strength of classifying the agents and outcomes in this way is that it explicitly recognises the potential for physical, emotional, or psychological outcomes for heathcare staff. Examples include regret, grief, and moral distress, but also positive outcomes, such as pride, satisfaction, and empathy. By bringing this potentiality to the fore, it allows a greater opportunity to acknowledge that the staff may require emotional support and highlights any hidden drivers to heuristic or default decision-making (e.g. fear over performance measures, such as standardised mortality ratio).

Table 2 MORAL balance

Mnemonic letter/phrase	Action	Examples	Beauchamp and Childress derivation
M	**M**ake sure of the facts.	WHAT IS THE DIAGNOSIS? HOW CERTAIN IS THE DIAGNOSIS? WHAT INTERVENTIONS ARE ON OFFER, INCLUDING DOING NOTHING? WHAT IS THE PROGNOSIS?	First, establish the facts of the decision in question.
O R A	Identify the **o**utcomes of **r**elevance to the **a**gents involved.	Who are the agents (anyone who has a moral stake in the outcome) (e.g. patient, family, other patients both in the hospital and outside the hospital, ICU staff, and society? What outcomes matter most to these agents?	Decide what is in scope and out of scope. Who are the relevant parties? Which are relevant outcomes?
L	Populate, and then **l**evel out the arguments using…		Specify these outcomes within the four principles. To which principle might each fact and outcome be applied?
Balance	Balancing box	Consider asking three questions: (i) Anything of particular note? (ii) Where is the greatest conflict? (iii) Where is the greatest congruence (agreement)?	Balance the four principles to decide future actions. Can we balance the calls of each principle if conflicting? Are the outcomes truly commensurate?

L: populate and then level out the arguments using…

This step can be achieved with a piece of paper drawn into four quadrants (boxes) with the simple headings of 'autonomy', 'benefit', 'burden', and 'justice'. Place the facts and outcomes of relevance, which you have concluded are in scope, into the boxes you judge to be most appropriate. A patient's stated wish 'not to be a burden on family' is a consideration about autonomy, perhaps linked to a fear of loss of independence (which could be placed in the burden box). Where the effect of an intervention could positively and negatively affect an outcome, it should be entered into two or more boxes (e.g. 'regret'). The treating team might seek to minimise regret by carrying out a high-risk operation because then 'they tried everything'. If, however, this leads to a dying process that is prolonged and distressing, the patient's family might instead regret allowing the surgery. Regret is thus placed in both the benefit and burden boxes, as it has a possible relevant outcome of reducing regret or, alternatively, increasing regret. Of course, many of the outcomes added to the box are not commensurate, for example, it is difficult to weigh an organisation's financial or professional risk against another person's emotional distress. However, this is an example of an absolute reality in many ethical choices, and hence, MORAL balance facilitates the recognition of such challenges.

Balance: the balancing box

In this step, formal balancing occurs. Whilst up to this point much of the analysis has been overtly objective, here, an inevitable and quite correct subjectivity occurs. In weighing up the outcomes and balancing them against one another, we will all make different decisions. The overwhelming influence will stem from considered patient and family outcomes. However, it is frequent that our own bias may influence the decisions and treatment options we might offer. The explicit classification of the outcomes, and those they affect, will make the justification for subsequent decisions clearer. This will expose our bias and help us ensure that decisions remain balanced on the outcomes for everyone affected by our decision, ourselves included. The results are decisions that are individualised, but individualised to the specific circumstances and patient, rather than doctor or institution.

Often, one outcome 'jumps out' as being very important. Other times, an outcome will appear in both the benefit and burden boxes. This should suggest that more information is required to weigh the impacts of the intervention better.

If it is less obvious which outcomes are most important or where to strike the balance, it can sometimes be helpful to ask the following three questions of the balancing box: (i) Anything of particular note, what is 'jumping out'? (ii) Where is the greatest conflict? (iii) Where is the greatest congruence (agreement)?

The answers to these three questions will guide you, not only to a decision, but also to where more information or communication is required to make a decision. Frequently, this process suggests further options or interventions not considered previously. This might lead to rejection of the original binary 'yes/no' proposed intervention (e.g. admit ICU/palliate), and instead lead to the development of a novel compromise that maximizes benefit and minimises harm (e.g. admit with agreed ceiling of treatment).

Better ethics is not always about everyone getting the same answer, but improving the justification for medical decisions.

MORAL balance analysis of the clinical scenario

We will now apply MORAL balance to the fictitious clinical scenario of a patient with a perceived devastating brain injury presenting to the emergency department (ED), whose admission to the ICU would fill the last bed (Box 1). In Table 3a and 3b, we detail the workings of this analysis.

The balancing box highlights how the safety of prognostication is important from both autonomy and benefit principles, and also a justice (societal) principle. There is increasing evidence that, for patients with a perceived devastating brain injury (as John has), making life-ending, early prognosis decisions in the ED is problematic.[18] Allowing more time, by admitting the patient to the ICU, may improve prognostication, allow better family communication, and perhaps better end-of-life care (autonomy and benefit). However, the balancing box highlights that, if the purpose of admission to intensive care is not carefully explained to both the family and staff, distress for both agents may be increased (burden). In addition, there is the potential to prolong the patient's dying, and therefore, his pain and distress, although this is mitigated by his very depressed conscious state. The current resource limitations of the 'last bed' have a potential, rather than definite, ability to limit timely access to the intensive care for another patient (justice). Not infrequently, in analysing the situation using MORAL balance, additional options present themselves. For example, in this case it might be that, on close examination, the last bed is illusory, and that additional resource can be found to accommodate the patient, or minor alterations to the care of other patients can be made without undue risk or harm (e.g. moving a dischargeable patient to another ward out-of-hours).

On balance, considering all these outcomes, the authors would admit this patient to the ICU. This would provide additional time for prognostic observation and an opportunity

Box 1
Decision documented in the medical notes

"John is a 58 year old male with a devastating brain injury believed to be secondary to an aneurysmal bleed. His GCS is 3/15. Neurosurgical opinion is that this is unsurvivable. His daughter is present in the ED but his son is some hours away. There may be other family in transit we are unaware of." *[Facts]*

"On balance I have decided to admit John to intensive care for a period of observation to aid prognostication. We will discuss again with the neurosurgeons if there is any sign of clinical improvement." *[Safety of diagnosis]*

"Sadly John's death remains the most likely outcome and we are very likely to commence end of life care over the next hours to days. When more family attend I will update them. As part of making a best interests decision for John I will try and ascertain knowledge of John's values, wishes and beliefs from his family. I have notified the specialist nurse for organ donation team that progression to end-of-life care is very likely." *[Palliative and family care]*

"ICU is currently under considerable bed pressure but I have escalated this to the hospital bed manager who is seeking beds for our delayed discharges. I expect John to be in ICU soon." *[Other patients]*

Table 3a MORAL balance analysis of the clinical scenario. Establishing the facts and outcomes of relevance

Make sure of the facts	
What is the diagnosis?	Is it aneurysmal or hypertensive? (Early prognosis in aneurysmal bleeds is known to be more difficult.) Has there been associated trauma? Has there been a seizure or other confounding factor to contribute to the low GCS score? Are/were anaesthetic or sedative agents used?
What is the prognosis? How certain are we?	Very likely fatal outcome, with almost certain significant functional deficit if survives.
What are the interventions being considered?	(i) Maintenance of airway (tracheal tube), ventilation, and probably cardiovascular support (including invasive monitoring) for period of observation, as per recent professional guidance[18] (ii) End-of-life planning
Is it the last bed?	Are there patients that could potentially be stepped down/transferred out? Can an additional space be staffed in theatre recovery?
Outcomes of relevance to the agents	
Patient	Safety in diagnosis and prognosis; best possible chance to recover; distress: prolongation of death and interventions; limit emotional harms to family; end-of-life wishes (organ donation?)
Family	All of the above; grief: positive legacy/lack of regrets; time to come to terms with events and for family to attend (distant son)
Staff	All of the above; moral distress at providing potentially distressing futile therapy; emotional fatigue; time to communicate empathically and sensitively with family; admission of repeated 'palliative' admissions likely to increase unit standardised mortality ratio
Other patients/wider NHS	ICU expensive and limited availability resource—marginal cost to next potential patient; if organ donation occurs: recipient lives saved/transformed and NHS resources saved

Table 3b MORAL balance analysis of the clinical scenario. Populating and questioning the balancing box

Autonomy
- Mortality: safety in diagnosis and prognosis
- Morbidity: survival with significant disability
- End-of-life wishes (organ donation?)

Benefits
- Safety in diagnosis and prognosis
- Time to communicate empathically and sensitively with family
- Grief: positive legacy/lack of regrets
- Time to come to terms with events and for family to attend (distant son)
- End-of-life wishes (organ donation?)

Burdens
- Patient and family distress: prolongation of death and interventions
- Impact on other patients if discharge required
- Staff: moral distress at providing potentially distressing futile therapy
- Staff: emotional fatigue

Justice
- ICU expensive and limited availability resource: marginal cost to next potential patient
- If organ donation occurs: recipient lives saved/transformed plus NHS resources
- Admission of repeated 'palliative' admissions likely to increase unit standardised mortality ratio

Three suggested questions of the balancing box and response:

(i) Anything of particular note?
  (a) An outcome of end of life is very likely: we need to plan for this.
  (b) Other patient discharge is very likely: what are our safest options?

(ii) Where is the greatest conflict?
  (a) Balancing ICU resources and burdens to other patients *vs* prognostic safety and end-of-life care: how can we best achieve all four?

(iii) Where is the greatest congruence (agreement)?
  (a) Safety of diagnosis essential (autonomy and benefit): do we need more time to be sure?
  (b) If John's death is inevitable, ensuring good palliative care, which includes empathic communication with family and staff essential (autonomy, benefit, and burden): how will we address this?

Table 4 How the balance may alter as the facts and the outcomes of relevance change

	Facts and outcomes of relevance		
Last bed	Delayed discharges are present in ICU.	A patient can be discharged from ICU a day earlier than planned.	Admission would require another patient to be transferred to another hospital.
Certainty of prognosis and potential to benefit	Middle-aged patient with perceived devastating brain injury and no other significant medical history	Middle-aged patient with life-limiting lung disease and now with devastating brain injury	Bed bound, nursing home, octogenarian, with devastating brain injury
Communication	Family all present and accepting the prognosis	Family not all present, but delayed for 4–8 h	Family not accepting the prognosis

for compassionate and family-focused communication. The expected poor prognosis should be explained at the outset. You may choose on balance a different course of action, which you can now justify in depth when challenged. It is no longer acceptable to just document a decision ('not for ICU'/'admit for ICU'), as such decisions need to be transparently justifiable. Box 1 contains a suggestion of how we would document this analysis in the medical notes.

However, in other circumstances, the last bed may not be illusory, but absolutely real. In Table 4, the facts and outcomes of relevance for the clinical scenario are altered. One can see how this might swing the balance leading to a different decision. The analysis for these modified circumstances can be seen at www.moralbalance.org.

Conclusion

Ethical decision-making at the bedside need not be the source of inevitable conflict and controversy. If an objective analysis of the situation is undertaken, we can be sure that the facts and all relevant outcomes are considered. Then, by applying the ethical framework of the four principles, we can make better decisions and protect patients and doctors from biased, prejudiced decision-making and the consequences of such potential lapses. Even in such difficult decisions as admission into the last ICU bed, the use of MORAL balance will help clinicians make rapid, justifiable decisions, which will stand up to personal and professional examination.

Declaration of interest

The authors declare that they have no conflicts of interest.

MCQs

The associated MCQs (to support CME/CPD activity) will be accessible at www.bjaed.org/cme/home by subscribers to *BJA Education*.

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