

Using the beneficence model as an ethical approach to surgical decision making: A case report

When faced with a request from a Jehovah's Witness for a bloodless surgery, the surgical team should approach the case with an ethical framework in mind.

Sofia Zhang-Jiang, BHSc, Stephen Tredwell, MD, MA, FRCSC

ABSTRACT: Ethics-guided decision making in medicine should be approached with a sound framework. To explore the efficacy of Pellegrino and Thomasma's beneficence model in surgery, we present the case of a 14-year-old Jehovah's Witness with scoliosis requesting a bloodless surgery in which the surgeon used the model to achieve a successful outcome. The beneficence model outlines four levels of good: the ultimate good, the good of the patient as a person capable of reasoned decision making, the patient's perception of the patient's best interests, and the medical good. The surgeon and the patient each ranked the levels of good to determine their respective overarching goods, and then discussed their perspectives to reach a decision that minimized conflict between their overarching goods. Physicians involved in decision making can apply the beneficence model to examine ethically complex cases from a different perspective, rather than approaching the complexity simply as a conflict between the medical good and the patient's autonomy.

Ms Zhang-Jiang is a medical student at the University of British Columbia (class of 2022). She holds a Bachelor of Health Sciences degree from McMaster University. Dr Tredwell is a professor emeritus in the Department of Orthopaedics at the University of British Columbia.

This article has been peer reviewed.

Introduction Medical ethics

Ethics describes a moral philosophy that guides a person's actions. Health care professionals practise ethical thinking when making decisions about patient management and are generally influenced by Aristotle's dictum of "first, do no harm." The four pillars that lay the foundation for modern ethics are beneficence, nonmaleficence, autonomy, and justice.¹ Current medical ethics borrows strongly from these concepts. The challenge with medical ethics lies in its clinical application, when multiple principles often appear to conflict, and none of the four principles can be ranked as primary in absolute terms. Furthermore, each clinical case can be examined through different lenses that vary in their definition of the right course of action.

Two major ethical philosophies that dominate medical ethics today emphasize a respect for persons and, flowing from that, individual autonomy (Kantian) or social utility—specifically social good over the rights of the individual (utilitarian).² The first theory concerns itself with rights, duties, and obligations; the second values social good and social accountability.²

While the rightness of a decision is not difficult to determine in retrospect, evaluating the right course of action prospectively is no easy task for a clinician.

While the rightness of a decision is not difficult to determine in retrospect, evaluating the right course of action prospectively is no easy task for a clinician. Some common ethical dilemmas in modern medicine include the abortion of a fetus and the interplay of end-of-life decisions and religious beliefs, both situations that prompt debates on the extinguishment of life and its associated spiritual consequences.

The ethical dilemma that we discuss here centres on a pediatric patient's refusal of blood products due to the Jehovah's Witness faith, in which at first glance the principle of autonomy seems to conflict with medical beneficence. We examine this clinical case through Pellegrino and Thomasma's² beneficence model, a medical adaptation of the third major ethical philosophy—the Aristotelian doctrine of "the good." Pellegrino and Thomasma's view features four components of the patient's good: (1) the ultimate good, which represents the ultimate standard for a person's life choices; (2) the good of the patient as a person capable of reasoned decision making (i.e., autonomy); (3) the patient's perception of their own good, or best interests, in their current life situation; and

(4) the medical good as achieved through medical intervention to treat or manage a disease.² The levels of good are listed in the descending order of importance suggested by Pellegrino and Thomasma. This view allows a stratification of autonomy, less conflict, and a more thorough discussion as part of clinical decision making. The physician should approach the case with the four components of the patient's good in mind and ascertain the patient's opinion on each of them [Table]. When one or more levels of good conflict, a hierarchy should be determined among them to identify the overarching good. If, following the discussion, the medical good is in direct conflict with a patient's overarching good, rethinking is needed.

Jehovah's Witnesses' beliefs

The Jehovah Witness Christian movement was founded in the United States by Charles Russell in 1872 and has grown to over 6 million members worldwide.³ Members of this religion hold a fundamental belief that "consumption" of blood is forbidden, as indicated by Biblical passages such as: "Only flesh with its soul—its blood—you must not eat" (Genesis 9:3-4); "[You must] pour its blood out and cover it with dust" (Leviticus 17:13-14); and "Abstain from . . . fornication and from what is strangled and from blood" (Acts 15:19-21).^{4,5} Jehovah's Witnesses interpret these verses as indicating prohibition of the transfusion of whole blood or its primary components (including packed red blood cells, white blood cells, plasma, and platelet administration) under any circumstance. Some Witnesses may accept secondary components such as albumin, immunoglobulins, and hemophiliac preparations, as their use is not absolutely prohibited.^{4,6} Furthermore, many Witnesses believe that blood that has been removed from the body should be disposed of; thus, techniques to remove and store the patient's own blood are often unacceptable.^{3,4} These patients pose a unique challenge to anesthetic and surgical teams in cases in which a blood-free surgery is desired and the risk of significant blood loss is high.

Case report

The patient was diagnosed with juvenile onset idiopathic scoliosis at age 10 and was scheduled

TABLE. Examples of questions that health care professionals may consider themselves, or ask a patient, to clarify their levels of good.

Level of good	Sample questions
The ultimate good	"What holds the highest meaning for you and constitutes the ultimate standard for your life choices?" "What is the most important determinant to your happiness; is it living accordance with God's will, developing your potential, honor, wealth, social utility, or something else?"
The good of the patient as a person capable of reasoned decision making	"What is your choice as a human being capable of reasoning and with freedom to express?"
The perception of the patient's own good in their current life situation	"What course of action is in line with your best interests given your current circumstances?" "What quality of life is worthwhile or consistent with your life goals, aims, and plans?"
The medical good	"What is medically indicated for this disease or illness?"

for corrective surgery at age 12. His case was complicated by an additional diagnosis of severe factor IX deficiency. As a result of factor IX desensitization protocol, his scoliosis surgery was delayed until age 14. Scoliosis surgery can be associated with significant intraoperative blood loss of up to 4.5 L, and higher Cobb angles (severity of the curvature) are associated with increased blood loss.^{7,8} It has been reported that Cobb angles greater than 50 degrees increase the risk of massive blood loss 2.47 times.⁸ This patient's Cobb angle had increased to 65 to 70 degrees by age 14. The medical aspects of this case have been described in more detail in a previous case report.⁹

Prior to surgery, the surgeon consulted with the patient's family and church elders together using Pellegrino and Thomasma's beneficence model as a framework. All parties agreed to minimize the conflict between the patient's and the surgeon's overarching goods (see Ethical challenges below). The family refused the use of blood products during surgery due to their religious beliefs. Strategies to maximize preoperative hemoglobin concentration and minimize perioperative blood loss were implemented, and the surgeon agreed to terminate the surgery should sufficient blood loss occur to require blood products. Blood transfusions would be considered only in the case of a life-threatening intraoperative hemorrhage, and the family was not required to sign a transfusion consent form. The agreement was recorded

in the patient's chart and was discussed with the anesthesia team.

Preoperative and perioperative procedures implemented to maximize hemoglobin and minimize blood loss included erythropoietin, oral iron supplement, recombinant factor IX concentrate, and tranexamic acid. Surgical time for posterior fusion of spinal levels T2–L1 was 4 hours. The use of monopolar cautery, a local anesthetic solution of epinephrine, and an argon gas coagulator optimized surgical hemostasis. Total intravenous fluid administered was 2700 mL and intraoperative blood loss was estimated at 350 mL, with no blood products given. No adverse events were noted in the patient's postoperative care and the patient was discharged in stable condition on day 11.

Discussion

Surgical outcomes

The ethical concern regarding Jehovah's Witness patients' refusal of blood products is not an uncommon issue in surgery. Although some surgeons and anesthesiologists prefer to decline surgeries on Witnesses, viewing the inability to use blood products as tying their hands, there is an increasing number who are ready to take on such cases.^{3,4} Advances in medical care have enabled more elective surgeries and trauma cases to be performed without blood transfusions, as requested by Witnesses, although often at an increased risk.³

Simple methods to decrease the rate of bleeding, such as tourniquets and positioning the patient with the surgical site elevated, may be used during surgery.³ Surgeons may also employ a technology called intraoperative autotransfusion, since some Witnesses accept blood that remains in a closed circuit system.⁶ Moreover, Witnesses do not object to colloid or crystalloid replacement fluids, electrocautery, hypotensive anesthesia, or hypothermia, as well as newer techniques such as large-dose intravenous iron dextran administration and the ultrasonic scalpel.³⁻⁵

Such are some of the options successfully employed by surgical teams to decrease blood loss and improve surgical outcomes, but each has associated risks and drawbacks that necessitate a detailed informed consent process.³ For instance, acute normovolemic hemodilution, a technique that involves removing whole blood from the patient preoperatively and infusing crystalloid or colloid fluids to maintain intravascular volume, carries the risk of hypoxia due to excessive hemodilution or hypovolemia as well as risks specific to the resuscitation fluid used.¹⁰⁻¹² Intravenous iron dextran injections can cause life-threatening anaphylaxis.¹³ The potential complications of hypotensive anesthesia include shock, stroke, myocardial infarction, hepatic failure, and renal insufficiency.^{14,15}

In addition, preoperative steps should be taken to optimize the patient's hemoglobin levels and to normalize bleeding and clotting times.³ Examples include administering recombinant erythropoietin and iron to correct anemia and promote erythropoiesis, and discontinuing drugs that affect the coagulation cascade.^{3,9} Postoperative care includes noninvasive techniques, such as close surveillance for bleeding and restricted phlebotomy, and administration of pharmacological therapies, such as hemostatic agents to stop bleeding and erythropoietic agents to promote erythropoiesis.^{3,9}

Ethical challenges

The principle of patient autonomy provides patients the right to make their own decisions, which must be respected by the health care team. It is paramount for physicians to understand the decisions made by competent adults, even in cases of refusal of medically necessary

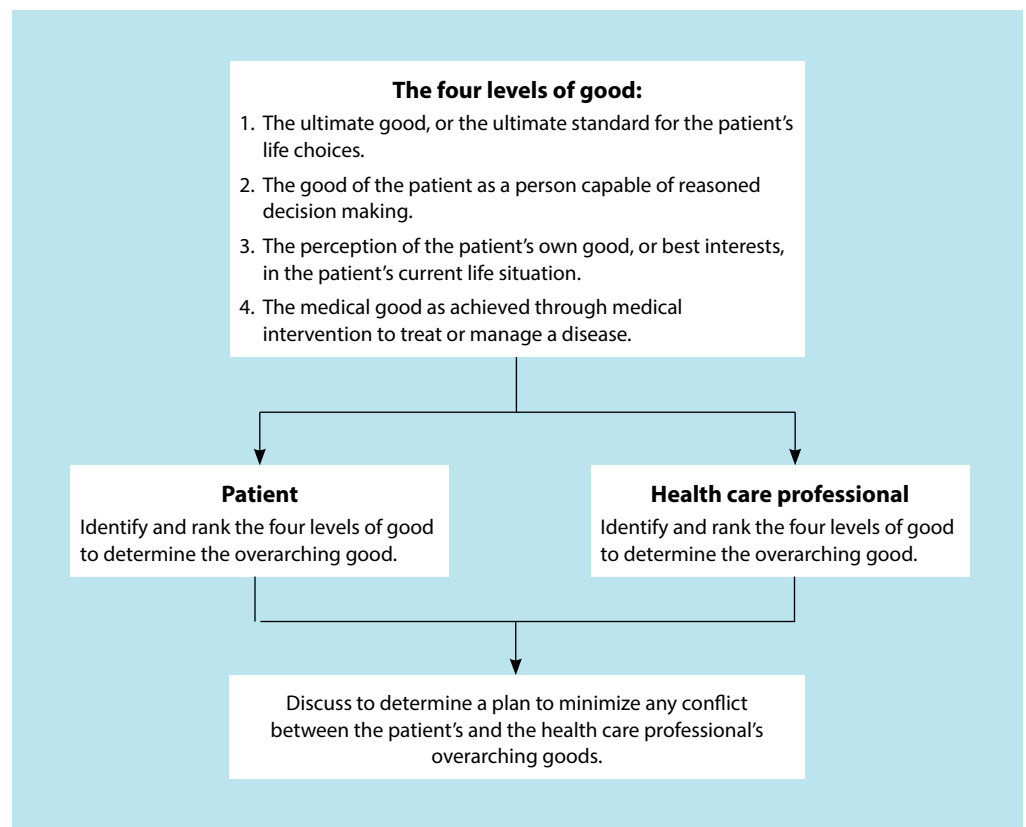


FIGURE. The beneficence model applied to clinical decision making.

care.¹⁶ An important principle under patient autonomy is informed consent, which must be obtained voluntarily prior to any procedure after patients are fully informed of the risks and benefits of the treatment plan, including those of the strategies to reduce blood loss or those to reduce the medical need to replace blood.⁵ In order to obtain informed consent, doctors must assess the competency of patients to ensure they are fully capable of making their own decisions, even if the decision of refusing care should lead to adverse outcomes such as death. For Jehovah's Witnesses, accepting blood transfusions is considered a sin so grave that it will result in the loss of any hope for eternal life—which could be viewed as worse than death itself.^{3,5,17} With this reasoning in mind, Jehovah's Witnesses can be differentiated from suicidal patients who are incompetent due to mental illness.⁵ It is common for Witnesses to refuse blood products despite a critical medical need, and the right to make this decision is widely accepted in medical literature and respected in clinical practice.¹⁷

When caring for Jehovah's Witnesses, ethical challenges arise when there is a conflict between the four levels of a person's good. There is a propensity for physicians to equate the medical good with the whole of the patient's good. Through the medical lens, doctors may view the refusal of blood products as not being in the best interest of a patient's health, as it may lead to hemorrhagic shock, severe anemia, or in the worst case, death by exsanguination.¹⁸ This seemingly goes against the principle of beneficence and the fiduciary relationship between doctor and patient, which demands that doctors act in the best health-related interests of the patient, but according to the aforementioned beneficence model, it should account for only the medical component of beneficence rather than its whole.

The physician should help the patient understand the medical good, then encourage the patient to interpret the other levels of good and rank them to determine what the overarching good is [Figure]. In the case of Jehovah's Witnesses, patients may place the most value on the

ultimate good of living in accordance with their faith—this overarching good trumps the medical good; therefore, receiving a blood transfusion, which results in loss of eternal life, would not be a beneficent act for this patient even if it is medically indicated to prevent death. In our case, the surgical team determined through a discussion with the patient's family and church elders that the overarching good for the patient was the ultimate good of adhering to his Jehovah's Witness faith, which outweighed the medical good of accepting blood products. In the family's view, receiving blood products would equate to a grave sin worse than death.

There is, however, another variable that may need to be introduced into the conversation—the ultimate good as seen by the surgeon. All participants in the clinical decision have their own interpretations of the levels of good. Participants concerned with a patient's care include the patient, the patient's family, and the health care professionals, and these parties may have conflicting views. For instance, by operating, the surgeon may arrive at a juncture where their action creates a situation in which the patient may die if blood is not given, despite all the measures that have been taken to prevent this. From the perspective of the surgeon in our case, not administering blood products in the event of potentially life-threatening loss of blood went against his fundamental spiritual beliefs of non-maleficence as a physician and as a member of his own religion. This is a conflict between two overarching goods. Acting in accordance with their own unwillingness to cause death, a surgeon may administer blood. The preoperative discussion should reveal this potential conflict and elucidate all possible strategies to avoid this clash of overarching goods, up to and including stopping the surgery and returning another day if possible under the circumstances. It is then necessary to evaluate the risk of this clash occurring.

In such a case, by examining the patient's and surgeon's differing overarching goods, conflict is altered from that of the medical good versus the patient's overarching good. If the risk of requiring a transfusion to prevent death is sufficiently remote, an understanding or agreement to respect the surgeon's unwillingness to cause death may allow the surgery to proceed.

This discussion may necessitate agreement from the church elders that the two overarching beliefs need to be respected. Church elders are responsible for congregational governance in their jurisdiction, and they administer disciplinary action against members perceived to have committed serious sins. In a medical case, the patient's and family's anxiety can be reduced with reassurance that the decision is sanctioned by church elders.

By examining the patient's and surgeon's differing overarching goods, conflict is altered from that of the medical good versus the patient's overarching good.

The parties involved in this case, including church elders, agreed to minimize blood loss by optimizing preoperative hemoglobin levels and perioperative hemostasis through procedures such as monopolar cautery and argon gas coagulator. The surgical team respected the family's desire for a decreased risk of having to use blood products, and the family acknowledged the surgeon's beliefs of nonmaleficence and his decision to terminate the surgery should enough blood loss occur to necessitate blood products. In the unlikely event that imminent death became obvious, all parties agreed to respect the surgeon's ultimate good. This approach balanced the parties' conflicting overarching goods.

At our clinic, we have had only one incidence where this kind of agreement has not been reached. This illustrates the strength of the concept of beneficence-in-trust; the surgeon is trusted to expend all efforts available in a realistic attempt to adhere to the patient's wishes with a frank and honest expectation of success.

The ethical dilemma becomes more complex in pediatrics. A child's definition of their own levels of good may be distinct from those of the parents. Whether minors are competent to make the decision to refuse blood products, which may result in serious adverse outcomes,

is less clear.^{6,16,17} With evolving legal and ethical standards on autonomy and the rights of minors, there is uncertainty in the medical field about what is appropriate when caring for a minor in such cases. Jones and colleagues¹⁶ argue that the parental responsibility is a moral obligation rather than a right and is, therefore, secondary to the responsibility of ensuring the physical safety of the minor. The focus should be on the child's health instead of the right of the parent to decide. There are many documented cases of court orders granting hospitals the ability to give blood that was absolutely necessary to save a minor's life.¹⁶ However, exceptions have been made when the patient was an adolescent considered to be mature enough to make an informed decision.^{6,16} Also worth noting is the potential consequence of a family casting out an adolescent who chooses to receive a blood transfusion at the loss of their eternal life.

It is important for health care professionals to document the decisions made throughout these conversations. Discussions often result in verbal agreements that are supplemented by clear documentation of the progress in the patient's medical chart.

It is recommended that health care professionals seek assistance when dealing with cases of conflict with patients and their families regarding treatment plans.¹⁷ Most health care institutions have access to ethics services. The surgeon in this case consulted an ethicist who offered valuable feedback regarding the approach to the management decision. It is also valuable to involve church elders in the conversation on decisions of religious matters to reassure both the health care professional and the patient that the chosen pathway is philosophically acceptable. The goal is to reach a collaborative consensus that avoids or minimizes the clash between participants' overarching goods.

Summary

When faced with a request from a Jehovah's Witness for a bloodless surgery, the surgical team should approach the case with an ethical framework in mind. While, on the surface, the conflict appears to be one between the medical good and the patient's autonomy, Pellegrino and Thomasma's beneficence model is a different

Continued on page 385

before trying the saline gargle again or using an NP swab as the alternative.

Lessons learned

Testing continues to be key to addressing the COVID-19 pandemic, and saline gargle improves testing accessibility. This popular collection method, with high user acceptance, addresses an important aspect of the pandemic response as reluctance toward the NP swab is a barrier to testing.

The ability to increase testing among school-aged children and youth helped lessen the chance of a school-based outbreak in the first month after school started. While COVID-19 continues to circulate in the community and school-based outbreaks will occur, expanding saline gargle and increasing laboratory capacity will help BC manage the pandemic.

Multiple jurisdictions, in Canada and abroad, have taken the work performed in BC to facilitate the adoption of the saline gargle method in their region. ■

—Meghan McLennan, BSc, MLT
Project Manager, Provincial Laboratory
Medicine Services

—David Goldfarb, MD, FRCPC
Medical Microbiologist and Pediatric
Infectious Disease Physician, Associate Head,
Department of Pathology and Laboratory
Medicine, BC Children's & Women's Hospitals

—Michael Donoghue
Senior Project Manager, UBC Centre for
Disease Control

—Linda Hoang, MD, DTM&H, FRCPC
Medical Microbiologist and Associate
Director, BCCDC Public Health Laboratory

Continued from page 383

lens through which to examine such cases. Through a careful discussion with the patient, the physician should ascertain the patient's views on each component of good in order to rank them and determine what the overarching good is for the patient. The physician should also reflect on their own definition of the overarching good and determine the extent to which they are willing to fulfill the patient's request. If the patient's interpretations of the overarching good conflict with the surgeon's, the parties should pursue options that minimize the clash of beliefs and determine a course that is acceptable to all. By approaching the decision-making process with empathy, clear communication, and meticulous planning, and using surgical techniques to decrease bleeding, it is possible to achieve a successful surgical outcome. ■

Competing interests

None declared.

References

1. Beauchamp TL, Childress JF. Principles of biomedical ethics. 5th ed. New York: Oxford University Press; 2001.
2. Pellegrino ED, Thomasma DC. For the patient's good: The restoration of beneficence in health care. New York: Oxford University Press; 1988.
3. Trzcinski R, Kujawski R, Mik M, et al. Surgery in Jehovah's Witnesses – our experience. *Prz Gastroenterol* 2015;10:33-40.
4. Dixon JL, Smalley MG. Jehovah's Witnesses: The surgical/ethical challenge. *JAMA* 1981;246:2471-2472.
5. Chua R, Tham KF. Will "no blood" kill Jehovah Witnesses? *Singapore Med J* 2006;47:994-1001.
6. McCormick TR. Ethical issues inherent to Jehovah's Witnesses. *Perioper Nurs Clin* 2008;3:253-258.
7. Hassan N, Halanski M, Wincek J, et al. Blood management in pediatric spinal deformity surgery: Review of a 2-year experience. *Transfusion* 2011;51:2133-2141.
8. Yu X, Xiao H, Wang R, Huang Y. Prediction of massive blood loss in scoliosis surgery from preoperative variables. *Spine* 2013;38:350-355.
9. Chau A, Wu J, Ansermino M, et al. A Jehovah's Witness child with hemophilia B and factor IX inhibitors undergoing scoliosis surgery. *Can J Anesth* 2008;55:47-51.
10. Gohel MS, Bulbulia RA, Slim FJ, et al. How to approach major surgery where patients refuse blood transfusion (including Jehovah's Witnesses). *Ann R Coll Surg Engl* 2005;87:3-14.
11. Adzick NS, deLorimier AA, Harrison MR, et al. Major childhood tumor resection using normovolemic hemodilution anesthesia and hetastarch. *J Pediatr Surg* 1985;20:372-375.
12. Hahn RG. Adverse effects of crystalloid and colloid fluids. *Anaesthesiol Intensive Ther* 2017;49:303-308.
13. Walters BAJ, Wyck DB Van. Benchmarking iron dextran sensitivity: Reactions requiring resuscitative medication in incident and prevalent patients. *Nephrol Dial Transpl* 2005;20:1438-1442.
14. Ahlering TE, Henderson JB, Skinner DG. Controlled hypotensive anesthesia to reduce blood loss in radical cystectomy for bladder cancer. *J Urol* 1983; 129:953-954.
15. Sollevi A. Hypotensive anesthesia and blood loss. *Acta Anaesthesiol Scand Suppl* 1988;89:39-43.
16. Jones JW, McCullough LB, Richman BW. A surgeon's obligations to a Jehovah's Witness child. *Surgery* 2003;133:110-111.
17. Brezina PR, Moskop JC. Urgent medical decision making regarding a Jehovah's Witness minor: A case report and discussion. *N C Med J* 2007;68:312-316.
18. Naunheim KS, Bridges CR, Sade RM. Should a Jehovah's Witness patient who faces imminent exsanguination be transfused? *Ann Thorac Surg* 2011; 92:1559-1564.



BC Medical Journal

@BCMedicalJrnl

Follow

The BC Medical Journal provides continuing medical education through scientific research, review articles, and updates on contemporary clinical practice. #MedEd



President's Comment: **Systemic #bias:** Breaking down barriers and improving our #healthcare processes. Over the past several months, the unrest across the globe has pushed us to look deep within ourselves.

Read the article: bcmj.org/presidents-comment/systemic-bias-breaking-down-barriers-and-improving-our-health-care-processes



Follow us on Twitter for regular updates

