

## The approach to the patient who refuses blood transfusion

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**T**he disagreements that arise between patients and their physicians on the proper choice of therapy remain a challenge in the practice of modern medicine. Although it has been clearly recognized that competent adults have the final say in what procedures may or may not be performed on their bodies,<sup>1</sup> these conflicts can still strain the critical doctor-patient relationship.<sup>2</sup> Few disagreements over therapy have drawn as much attention in the medical, legal, and public spheres as the refusal of blood transfusion.<sup>3</sup>

Although much has been written about specific pharmacologic and surgical techniques for use in patients who refuse blood, less has been written on the approach to the *patient*. Describing the approach to the patient may prove beneficial to health-care practitioners and physicians in training, as well as to the patient. The following nine points offer a practical approach to caring for patients who refuse blood transfusion (see Table 1).

### 1. BLOOD IS NOT ALWAYS NEEDED

Fortunately, blood transfusion is not always necessary. Due to the risks and scarcity of blood products, guidelines have recommended that a blood hemoglobin (Hb) concentration of 7 to 8 g per dL is adequate for many patients and that prophylactic use of red blood cell (RBC) products is unnecessary.<sup>4,5</sup> This consensus threshold should not be

viewed as a transfusion “trigger” but as a guideline. The true trigger is whether the patient can oxygenate vital organs sufficiently for anticipated clinical need. This must be decided on an individual basis by treating physicians. Patients in relatively good health frequently tolerate much greater degrees of anemia. Viele and Weiskopf<sup>6</sup> found that in the deaths from anemia of 23 patients refusing blood transfusion, all but 3 occurred in patients with Hb concentrations of less than or equal to 5 g per dL, while 25 patients survived an equivalent anemia.<sup>6</sup>

### 2. TRANSFUSION CARRIES RISKS AS WELL AS BENEFITS

Transfusion of cellular blood components is a form of transplantation and carries with it the associated risks, as well as the ever-present danger, of mistransfusion. Goodnough<sup>7</sup> has summarized the current understanding of these risks, as well as emerging concerns such as West Nile virus, prion disease, and transfusion-associated immunosuppression.<sup>7</sup> Even in the absence of obvious reactions, transfusion can have adverse effects on patient outcomes.<sup>8,9</sup>

### 3. SEEK TO UNDERSTAND THE PATIENT AND DEVELOP GOOD RAPPORT

Even in situations unlikely to require blood transfusion, a clinician should be aware of any strong feelings a patient may have that might affect future treatment options. There are a number of situations in which a patient may refuse blood product transfusion. The most well known involve Christians known as Jehovah’s Witnesses. With more than 1 million active members in North America and 6 million worldwide, Witnesses embrace conservative family values and a pacifist attitude toward firearms and violence. They are encouraged to purchase health insurance and avail themselves of modern medical care,<sup>10</sup> with the exception of certain forms of blood transfusion (see Table 2). Practicing Witnesses *will not* accept transfusions of whole blood or any of the “four major components” of RBCs, platelets (PLTs), plasma, and white blood cells (WBCs).<sup>11</sup> Many Witnesses *will* accept blood subfractions such as immunoglobulins, albumin, factor concentrates, and recombinant alternatives, because this is left up to

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**ABBREVIATIONS:** ANH = acute normovolemic hemodilution; ICU(s) = intensive care unit(s).

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individual discretion and religious conscience.<sup>10</sup> Witnesses do not consider preoperative autologous donation as an alternative due to a belief that blood should not be taken out of the body and stored for any length of time. If the blood circulates back into the patient (such as in cardiopulmonary bypass), however, then this is acceptable to most Witnesses. The aversion to transfusion stems from

the interpretation of Biblical scripture (for example, Genesis 9:3,4; Leviticus 7:26,27; 1 Samuel 14:32,33; and Acts 15:28,29).<sup>12</sup>

The challenges posed by treating Jehovah's Witnesses have provided the bulk of information in the medical literature on bloodless medicine. It is important to realize, however, that patients may decline transfusion for reasons outside of a religious or personal context. Patients have been known to refuse transfusion due to a particularly strong fear of blood-borne disease (such as human immunodeficiency virus) or because of a previous experience with a life-threatening transfusion reaction.<sup>13</sup> The approach to such patients should obviously differ from the approach to individuals who refuse blood for cultural or religious reasons. An understanding of the patient's psychosocial history, along with a careful explanation of the risks and benefits of transfusion particular to their situation, may resolve the fear of disease. Investigation of previous transfusion reaction may allay patient fears and provide valuable clinical information.

**TABLE 1. Points to remember when caring for patients who refuse transfusion**

Keep in mind that blood is not always needed.  
Remember that transfusion carries risks as well as benefits.  
Seek to understand the patient and develop good rapport.  
Access available resources.  
Limit blood draws and consider alternatives to blood products.  
Explore the treatment possibilities and decide together on a course of action.  
Ensure confidentiality.  
Document carefully.  
Make contingency plans in advance.

**TABLE 2. Jehovah's Witness religious position on medical therapy**

*Unacceptable Treatment*

Transfusion of allogeneic whole blood, RBCs, WBCs, PLTs, or plasma  
Preoperative autologous blood donation (PAD or predeposit)

*Acceptable Treatment*

Most surgical and anesthesiologic blood conservation measures (e.g., hemostatic surgical instruments, controlled hypotension/hypotensive hemostasis, regional anesthesia, minimally invasive surgery, endovascular therapy, intraoperative positioning, maintenance of normothermia, meticulous hemostasis, and surgical technique)  
Most diagnostic and therapeutic procedures (e.g., phlebotomy for laboratory testing, angiographic embolization)  
Synthetic oxygen therapeutics (e.g., perfluorochemicals)  
Non-blood volume expanders (e.g., saline, lactated Ringer's, hydroxyethyl starches)  
Pharmacologic agents that do not contain blood components or fractions such as  

- Drugs to enhance hemostasis (e.g., tranexamic acid, ε-aminocaproic acid, aprotinin, desmopressin, conjugated estrogens)
- Hematopoietic growth factors and hematinics (e.g., albumin-free EPO, iron)
- Recombinant products (e.g., albumin-free coagulation factors)
- Topical hemostatic agents (e.g., collagen, gelatin-based hemostats, oxidized cellulose)

*Personal Decision (Acceptable to Some, Declined by Others)*

Blood cell salvage† (intraoperative or postoperative autotransfusion)  
Acute normovolemic hemodilution (ANH)†  
Intraoperative autologous blood component sequestration† (including intraoperative plateletpheresis, preparation of fibrin gel, PLT gel, PLT-rich plasma)  
Cardiopulmonary bypass‡  
Apheresis‡  
Hemodialysis‡  
Plasma-derived fractions (e.g., immune globulins, vaccines, antivenins, albumin, cryoprecipitate§)  
Hemostatic products containing blood fractions (e.g., recombinant factor VIIa¶, coagulation factor concentrates, prothrombin complex concentrate, fibrin glue and/or sealant, hemostatic bandages containing plasma fractions, thrombin sealants)  
Products containing plasma-derived blood fractions such as human serum albumin (e.g., some formulations of EPO, streptokinase, G-CSF, vaccines, recombinant clotting factors, nuclear imaging products)  
Oxygen therapeutics and other products containing a blood cell-derived fraction, whether from a human or an animal source (e.g., iron supplements, hematin, interferon alfa-N3 (leukoderived))  
Epidural blood patch  
Blood cell scintigraphy (e.g., radionuclide tagging for localization of bleeding)  
Peripheral blood progenitor cell transplantation (autologous or allogeneic)  
Transplants (organ, marrow, bone)

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† Patients might request that continuity is maintained with their vascular system.  
‡ Circuits not primed with allogeneic blood.  
§ Cryoprecipitate resuspended in 0.9 percent sodium chloride injection (USP) diluent (i.e., vast majority of cryoprecipitate preparations).  
¶ Recombinant activated factor VII currently contains trace amounts of IgG from the manufacturing process.

In all situations where a patient refuses blood or blood fractions, maintaining good rapport with the patient becomes the key to obtaining the best possible outcome in a difficult situation. It may be tempting to engage in debate with patients refusing blood; however, this frequently casts the physician into an adversarial role. This makes it easier for the patient to discount what he or she is hearing and retreat to an ultraconservative refusal of medications that might otherwise be acceptable. Although ethics demand that the physician explore the depth of such convictions, the intern who spends the night convincing a Witness to violate her own religious beliefs may not be doing her any favors. Instead this may cause harm by robbing her of a portion of her identity and relationship with God. It is far better to accept a role as the patient's advocate and focus on finding the best possible therapy within the boundaries of religious belief or the individual's comfort zone. Except in urgent circumstances, time should be set aside specifically for the discussion of transfusion issues. In most cases, this discussion should occur in private, because friends or family members may influence the patient's decision (see Point 7).

A Witness or a family member of a Witness who is forced to receive a transfusion unwillingly may consider that act a form of battery and suffer the related emotional stress. In contrast, to willingly accept a transfusion of blood products may result in being spiritually cut off from a broad community of friends and family. Unrepentant Witnesses who accept blood transfusion may be "disfellowshipped."<sup>10</sup> In recent years this policy has become less stringent, in recognition that through the act of accepting a transfusion, individuals dissociate themselves spiritually from the body of the faith and official action may not be considered necessary. Practically, a Witness who receives a transfusion secretly will not be investigated or likely to be discovered unless admitting the fact.<sup>14,15</sup> If a patient privately communicates a wish to receive transfusions in secret, the physician should take whatever steps are necessary to ensure complete confidentiality (see Point 7).

#### 4. ACCESS AVAILABLE RESOURCES

A physician caring for a Witness patient should be aware that resources exist to support the decision-making process, including other professionals who have had experience in similar situations. Many hospitals have an ethics committee that can provide consultation, and a risk management group can give advice for legal protection. Transfusion medicine specialists are available for consultation at major centers, particularly those with blood conservation programs. Sometimes patients may not understand that certain blood fractions are acceptable to many Witnesses. Many larger cities in North America and in many countries of the world have a Hospital Liaison Committee

of Jehovah's Witnesses that is capable of addressing patient questions and may also help the physician obtain pertinent medical literature, as well as to contact physicians who have had experience in specific situations (call 718-560-4300 or e-mail [his@jw.org](mailto:his@jw.org)).

There is a growing body of literature on blood conservation and bloodless medicine, much of it involving Witnesses. Several references are available that specifically consider the approach to Witnesses.<sup>2,10,16-19</sup> The Society for the Advancement of Blood Management (not affiliated with the faith) produces a monthly synopsis of abstracts from the field as well as locations of more than 100 hospitals in the United States with bloodless medicine and surgery programs (<http://www.sabm.org>). The Network for Advancement of Transfusion Alternatives is also a valuable resource (<http://www.nataonline.com>).

#### 5. LIMIT BLOOD DRAWS AND CONSIDER ALTERNATIVES TO BLOOD PRODUCTS

Blood conservation—bloodless medicine encompasses many situations beyond those patients who refuse transfusion—from the wounded soldier on the battlefield, to a previously transfused patient with multiple alloantibodies, to surgeons in areas of limited blood supply. Excellent introductions to this topic are available.<sup>20-22</sup> Briefly, bloodless medicine uses an evolving two-pronged approach: blood conservation and the use of adjunctive therapy or blood substitutes. Blood conservation approaches are especially applicable in the intensive care unit (ICU) and the operating room. Multiple studies in US and European hospitals have found mean daily phlebotomy losses in medical-surgical ICUs of approximately 41 mL per day.<sup>23</sup> Conservation practices have been recommended, including decreased testing, small-volume sampling, closed sampling circuits, and point-of-care microtesting.<sup>23</sup> In bleeding patients, antifibrinolytic drugs have been shown to decrease the need for transfusion, as well as the use of recombinant factor VIIa, a procoagulant that has been effectively used to reduce hemorrhage and transfusion in surgical, trauma, gastrointestinal, and obstetric bleeding.<sup>24</sup>

Devout Witnesses will not accept any stored transfusion of blood, including their own.<sup>10</sup> Even for non-Witnesses, the cost-effectiveness of autologous transfusion in the form of preoperative ambulatory blood donation has been called into question.<sup>25</sup> Acute normovolemic hemodilution (ANH), in which the blood is in a continuous circuit with the patient, may provide a workable alternative.<sup>26</sup> This occurs in the operating suite at the beginning of a surgical procedure. The use of erythropoietin (EPO) is sometimes required (along with iron, folate, and vitamin B<sub>12</sub>) for the latter technique to increase RBC mass in anticipation of surgery. Although not always cost-effective in patients for whom allogeneic transfusion is an option, the

use of EPO in Witnesses to increase hematocrit (Hct) level and allow ANH has been viewed as a prudent measure.<sup>27</sup> EPO is acceptable to most Witnesses (see Table 2). For patients with lower Hct levels in whom ANH is a beneficial option, several weeks are usually required to increase RBC mass. An anesthesiologist comfortable with the procedure and with the patient's transfusion restrictions should be involved in advance.<sup>28</sup>

A number of Hb-based blood substitutes are currently in development, with some in phase III trials, but none have yet reached the market in the United States or Europe.<sup>29-31</sup> Some of the products have a history of successful use for Witnesses. The position of the faith with respect to solutions containing human or animal Hb appears now to leave the decision up to the individual.<sup>10,32</sup>

## 6. EXPLORE THE TREATMENT POSSIBILITIES AND DECIDE TOGETHER ON A COURSE OF ACTION

Many people hold beliefs that they value more than their own lives, and in this light we must respect those who hold this view of blood transfusion. This, however, does not mean that physicians should not question those beliefs or direct patients to examine them.

For Witnesses, the differentiation between acceptable and unacceptable blood fractions may become complex (see Table 2). An informed discussion with patients may relieve their concern regarding certain components, such as albumin, which naturally crosses the placenta between mother and fetus and is therefore accepted by many Witnesses.<sup>17</sup> **Even within these broad categories, there can be substantial variation among individual Witnesses. A chart review of obstetric patients found that among 61 self-identified Witnesses who had filled out an advanced health care directive, 39 percent would accept certain blood derivatives. An additional 10 percent indicated that they would accept whole blood, suggesting that not all who identify themselves as Witnesses are practicing.<sup>33</sup> This emphasizes the importance of clarifying with the patient what they mean when they say that they “do not want blood” to determine which blood fractions they are, or are not, willing to accept—and under which circumstances.**

In some situations, the physician may not be comfortable with a patient's choices and his or her ability to care for the patient; in this case the patient is obligated to respect the conscience of the health-care provider. The physician may need to consider referring nonemergent patients to another provider. Withdrawal from such a case is ethically acceptable or even commendable and does not constitute malpractice if the physician arranges for transfer to another caregiver. The patient and family members, as well as the receiving physician, should understand the reason for the transfer. Other caregivers that may be

directly involved (anesthesiologists, intensivists, nurses, etc.) should be aware of the patient's decision to refuse blood products and should be capable of providing the alternative care necessary and willing to address the possible consequences.

Sometimes a physician may believe that certain interventions may need to be done sooner, owing to the absence of a “buffer of being able to transfuse RBCs,” and it is important to discuss this with a patient. For example, owing to worries about uterine atony, some obstetricians might not tolerate a poor “labor curve” or a poor response to pitocin if they know that transfusion is not an option. They might consider a cesarean section sooner. In the case of a life-threatening postpartum hemorrhage, the threshold for performing a hysterectomy might be lower (see Point 9). Patients at risk should be advised of this possibility.

There is significant emotional risk to a caregiver watching a patient die what might be thought an easily preventable death. Those responsible for the patient should consider their own reactions to this possibility and transfer care if appropriate or prepare to seek emotional support if necessary.<sup>34</sup>

The right of a competent adult patient to refuse consent for medical treatment is well accepted, and a number of legal cases have dealt specifically with Witnesses.<sup>1</sup> Some special patient populations deserve attention, however, such as trauma, obstetrics, and pediatrics. Although many Witnesses carry advanced legal directives on their person, in the organized chaos of a trauma code, these may be lost. If there is any doubt in a physician's mind concerning the wishes of a patient or what is legally appropriate, then at our institution the recommended course is to treat according to the accepted standard of care, without regard to special requests of parents on behalf of their children or relatives on behalf of incapacitated adults, until legal documentation is available.

Conflicts can emerge between the guardians of a minor child and physicians attempting to provide the best possible medical care. Because minor children are not considered capable of informed consent, it is the duty of the physician to seek legal intervention in cases where the child is placed at “clear and substantial” risk by parental decisions.<sup>35</sup> Candid discussion about the physician's obligation before the law may help parents understand that the physician may have no alternative to transfusion in a life-threatening situation.

Whenever possible, adolescent children should also be involved in the decision-making process. Situations may arise wherein the adolescent may reject a transfusion that is acceptable to his or her guardians. In the United States, individual states have differing criteria for the age of majority (independent choice), and minor patients may be emancipated by the courts, marriage, enlistment in the military, etc. In situations involving minors, prompt con-

sultation with legal specialists is recommended to clarify the situation within the laws of a particular state.

In the event of a life-threatening situation where the standard of care requires blood, a court order is not needed to administer a transfusion to a minor. In some situations, a court order allowing administering of a transfusion to a minor child is obtained in anticipation of a possible need. It is important to remember in such situations that although administering a transfusion to the child may be legally supportable, it does not mean that a transfusion *must* be given. Transfusing against the will of the parents and/or child will not be without psychological consequences. Doctors should be aware of what the consequences of forced transfusion will be for the family and the child beforehand. The physician should be straightforward with both the parents and the child (if old enough) and explain the situation and intention to transfuse. Criteria that will be used to make the decision to transfuse should be clear, and guardians should feel that their objection is taken seriously and that transfusion will be a last resort. This will be helpful to the parents in understanding the legal reality faced when their conscience forbids consenting to a transfusion and a court order is sought.

Judges should also be sensitive that if a court order becomes necessary, it may often be written in a way that does not classify the parents as guilty of abuse and/or neglect or remove the child totally from parental custody. Although the courts may overrule parental decision regarding transfusion, parents still have the legal right to be informed about their child's condition and the desire to be involved in other medical decisions. The physician should remain sensitive to the possible feelings of guilt or distress that may be present in the young patient and family, despite a court order. The health-care team should not underestimate the child's awareness and concerns about blood transfusion.

Finally, in situations involving transfusion or non-transfusion to Witnesses, there exists the possibility for legal entanglement from individuals other than guardians or health-care decision makers. Jehovah's Witnesses are not, as a group, litigious. Other family members who are not practicing Witnesses, however, may have strong feelings about seeing a loved one die after refusing therapy. If family members or friends strongly disagree with the patient's decision to accept or refuse blood products, the physician may wish to provide additional explanation.

## 7. ENSURE CONFIDENTIALITY

If possible, a physician should confirm the treatment plan with the patient in private, without others present. The exception might be another member of the health-care team with whom the patient feels comfortable, such as the patient's nurse. Some individuals may be willing to accept

transfusion in extremis and this possibility should be thoroughly explored. In unusual situations, respect for a patient confidentiality may require privacy from visitors and from hospital personnel not directly caring for the patient.

## 8. DOCUMENT CAREFULLY

It is prudent that a patient's wishes be documented in an advanced health-care directive. Witnesses are encouraged to carry these on their person. The attending physician should review the written directive personally with the patient and be sure that a copy is placed in the medical record. Some centers find it helpful to flag the front of the patient's chart and the patient's armband in cases where no blood is desired. The final agreement between patient and physician may be complex and should be detailed clearly in the medical record—including contingency plans (see Point 9). Some hospitals provide a form specifically for this purpose to be signed by the patient. If desired, the physician may have the patient sign the clinical note.

## 9. MAKE CONTINGENCY PLANS IN ADVANCE

The patient and physician should always have a clear plan for what will occur in the worst-case scenario: potential death or severe morbidity from hemorrhage and anemia. Certain patients may be willing to accept blood products when the physician determines that death is inevitable without transfusion. The physician must make it clear that if bleeding cannot be stopped in a reasonable amount of time, then the patient will die. This may require discussing options that would not be the physician's first choice if the patient were willing to accept blood products. For instance, a contingency plan may indicate that a hysterectomy or colectomy might need to be performed, rather than let a patient bleed to death if the surgeon cannot achieve sufficient hemostasis. The patient needs also to understand that eliminating the option of transfusion may make a physician proceed more rapidly toward an intervention, such as cesarean section in a difficult labor.

When a patient cannot oxygenate vital organs sufficiently for clinical need, an alternative to transfusion is still available—reducing the clinical need for oxygen delivery via Hb. In patients with profound anemia, *where hemostasis is achieved*, then options for reducing dependence on Hb in the ICU setting remain. Approaches that have been reported include reducing the demand for oxygen through pharmacologic paralysis, sedation, and temperature control. If the patient is placed intermittently in a hyperbaric chamber, plasma itself may carry sufficient oxygen without the need for Hb.<sup>31,36,37</sup>

Physicians themselves should be prepared, insofar as it is possible, for the psychological strain that may accompany a seemingly preventable death.<sup>34</sup> This may involve sorrow or anger over losing a patient that they feel could have saved. We have seen this lead to psychological disturbance, in certain cases, which might have been avoided with appropriate counseling and support. Hospitals that establish bloodless medicine and surgery programs should be prepared to provide support to the health-care delivery team members. Although rare, in spite of a solid legal foundation, there may also be the stress of threatened litigation from the patient's family members who do not share the same views about transfusion.

Transfusion of blood or of blood fractions can be a life-saving therapy, yet it remains an imperfect solution. The clinician should not consider bloodless medicine to be an onerous burden, but rather an opportunity to implement processes that may improve the care of all patients. These nine steps outline an approach to consultation with patients who refuse blood transfusion (see Table 1). Empathetic communication always improves the doctor-patient relationship. Respecting the wishes of competent, informed patients who refuse blood demands high standards of ethics and professionalism.

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