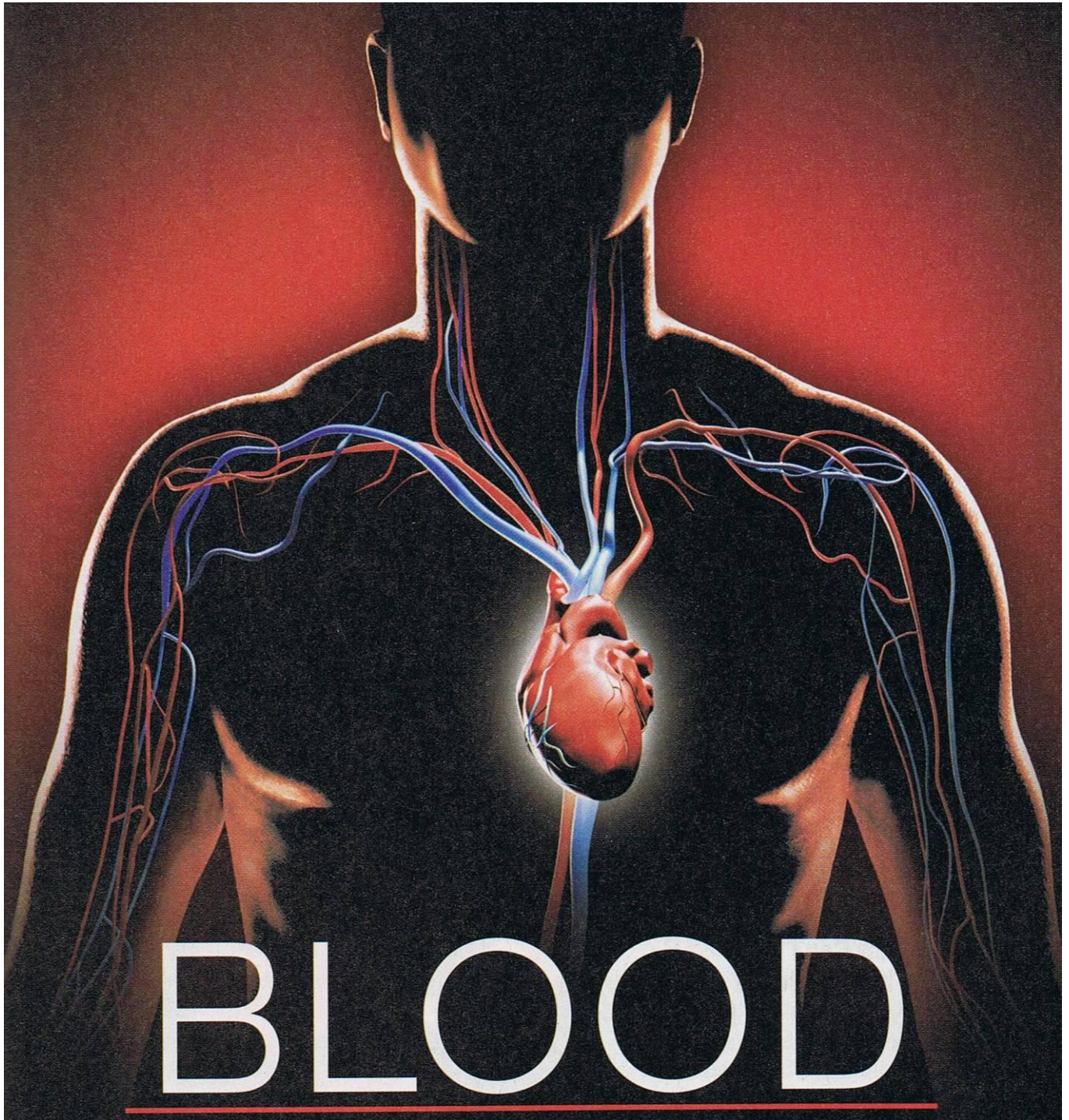


**Workbook to Assist with  
Conscience Matters  
Involving . . .**



Reference Material for Making  
Informed Decisions  
On Matters of Conscience

Full Name \_\_\_\_\_

Address \_\_\_\_\_

**WORK SHEET 1**

Date \_\_\_\_\_

YOUR PERSONAL DECISION	
UNACCEPTABLE TO CHRISTIANS	WHOLE BLOOD
PLASMA	RED CELLS
WHITE CELLS	PLATELETS
<h1 style="color: #0070C0;">FRACTIONS</h1>	
<h2 style="color: #0070C0;">Choices You Need to Make</h2>	
<p><b>ALBUMIN—UP TO 4% OF PLASMA</b>            A protein extracted from plasma. Types of albumin are found also in plants, in foods such as milk and eggs, and in the milk of a nursing mother. Albumin from blood is sometimes used in volume expanders to treat shock and severe burns. These preparations may contain up to 25 percent albumin. Minute amounts are used in the formulation of many other medicines, including some formulations of erythropoietin (EPO).</p>	<p>___ I accept albumin            or            ___ I refuse albumin</p>
<p><b>IMMUNOGLOBULINS—UP TO 3% OF PLASMA</b>            Protein fractions that may be used in some medicines that fight viruses and diseases, such as diphtheria, tetanus, viral hepatitis, and rabies. They may also be used to guard against some medical conditions that threaten the life of a developing baby and to counteract the effects of snake or spider venom.</p>	<p>___ I accept immunoglobulins            or            ___ I refuse immunoglobulins</p>
<p><b>CLOTTING FACTORS—LESS THAN 1% OF PLASMA</b>            There are various proteins that help blood to clot in order to stop bleeding. Some are given to patients who tend to bleed easily. They are also used in medical glues to seal wounds and to stop bleeding after surgery. One combination of clotting factors is known as cryoprecipitate. <b>Note:</b> Some clotting factors are now made from nonblood sources.</p>	<p>___ I accept blood-derived clotting factors            or            ___ I refuse blood-derived clotting factors</p>
<p><b>HAEMOGLOBIN—33% OF RED CELLS</b>            A protein that transports oxygen throughout the body and carbon dioxide to the lungs. Products being developed from human or animal haemoglobin could be used to treat patients with acute anaemia or massive blood loss.</p>	<p>___ I accept haemoglobin            or            ___ I refuse haemoglobin</p>
<p><b>HAEMIN—LESS THAN 2% OF RED CELLS</b>            An enzyme inhibitor derived from haemoglobin that is used to treat a group of rare genetic blood disorders (known as porphyria) that affect the digestive, nervous, and circulatory systems.</p>	<p>___ I accept haemin            or            ___ I refuse haemin</p>
<p><b>INTERFERONS—A TINY FRACTION OF WHITE CELLS</b>            Proteins that fight certain viral infections and cancers. Most interferons are not derived from blood. Some are made from fractions of human white blood cells.</p>	<p>___ I accept blood-derived interferons            or            ___ I refuse blood-derived interferons</p>
<p>At present, no fractions from platelets are being isolated for direct use in medical treatment.</p>	

w94 10/1 p31  
w90 6/1 pp30-31  
(See pages 7, 8)

w90 6/1 pp30-31  
(See pages 7, 8)

w04 6/15 pp29-31  
(See pages 8-10)

g06 8 pp10-12  
(See pages 10, 11)

g06 8 pp10-12  
(See pages 10, 11)

g72 12/22 pp19-20  
(See pages 11, 12)

Full Name \_\_\_\_\_

Address \_\_\_\_\_

**WORK SHEET 2**

Date \_\_\_\_\_

**YOUR PERSONAL DECISION**

**PROCEDURES INVOLVING THE MEDICAL USE OF YOUR OWN BLOOD**

**\*Note:** The methods of applying each of these medical procedures vary from physician to physician. You should have your physician explain exactly what is involved in any proposed procedure to ensure that it is in harmony with Bible principles and with your own conscientious decisions.

NAME OF TREATMENT	WHAT IT ACCOMPLISHES	Choices You Need to Make <small>(You might want to speak to your physician before accepting or refusing any of these procedures)</small>
<b>CELL SALVAGE</b>	<b>Reduces blood loss.</b> Blood is recovered during surgery from a wound or body cavity. It is washed or filtered and then, perhaps in a continuous process returned to the patient	<input type="checkbox"/> I accept <input type="checkbox"/> I might accept* <input type="checkbox"/> I refuse
		w89 3/1 pp30-31 <b>(See pages 12, 13)</b>
<b>HAEMODILUTION</b>	<b>Reduces blood loss.</b> During surgery, blood is diverted to bags and replaced with a nonblood volume expander. Thus the blood remaining in the patient during surgery is diluted, containing fewer red blood cells. During or at the end of surgery, the diverted blood is returned to the patient.	<input type="checkbox"/> I accept <input type="checkbox"/> I might accept* <input type="checkbox"/> I refuse
		w89 3/1 pp30-31 <b>(See pages 12, 13)</b>
<b>HEART-LUNG MACHINE</b>	<b>Maintains circulation.</b> Blood is diverted to an artificial heart-lung machine where it is oxygenated and directed back into the patient.	<input type="checkbox"/> I accept <input type="checkbox"/> I might accept* <input type="checkbox"/> I refuse
		w89 3/1 pp30-31 w78 6/15 pp29-31 <b>(See pages 12-14)</b>
<b>DIALYSIS</b>	<b>Functions as an organ.</b> In haemodialysis, blood circulates through a machine that filters and cleans it before returning it to the patient.	<input type="checkbox"/> I accept <input type="checkbox"/> I might accept* <input type="checkbox"/> I refuse
		w89 3/1 pp30-31 w78 6/15 pp29-31 <b>(See pages 12, 13)</b>
<b>EPIDURAL BLOOD PATCH</b>	<b>Stops spinal fluid leakage.</b> A small amount of the patient's own blood is injected into the membrane surrounding the spinal cord. It is used to seal a puncture site that is leaking spinal fluid.	<input type="checkbox"/> I accept <input type="checkbox"/> I might accept* <input type="checkbox"/> I refuse
		w00 10/15 pp30-31 w89 3/1 pp30-31 <b>(See pages 13-18)</b>
<b>PLASMAPHERESIS</b>	<b>Treats illness.</b> Blood is withdrawn and filtered to remove plasma. A plasma substitute is added, and the blood is returned to the patient. Some physicians may want to use plasma from another person to replace that from the patient's blood. If so, this option would be unacceptable to a Christian.	<input type="checkbox"/> I accept <input type="checkbox"/> I might accept* <input type="checkbox"/> I refuse
		w00 10/15 pp30-31 w89 3/1 pp30-31 <b>(See pages 13-18)</b>
<b>LABELLING OR TAGGING</b>	<b>Diagnoses or treats illness.</b> Some blood is withdrawn, mixed with medicine, and returned to the patient. The length of time one's own blood is outside the body may vary.	<input type="checkbox"/> I accept <input type="checkbox"/> I might accept* <input type="checkbox"/> I refuse
		w00 10/15 pp30-31 w89 3/1 pp30-31 <b>(See pages 13-18)</b>
<b>PLATELET GEL: AUTOLOGOUS <small>(MEANING "MADE FROM YOUR OWN BLOOD")</small></b>	<b>Seals wounds, reduces bleeding.</b> Some blood is withdrawn and concentrated into a solution rich in platelets and white cells. This solution is applied on surgical sites or wounds.  <b>Note:</b> In some formulations, a clotting factor taken from cow's blood is used.	<input type="checkbox"/> I accept <input type="checkbox"/> I might accept* <input type="checkbox"/> I refuse
		w00 10/15 pp30-31 w89 3/1 pp30-31 <b>(See pages 13-18)</b>

## Be Guided by the Living God

“Turn . . . to the living God, who made the heaven and the earth and the sea and all the things in them.”—ACTS 14:15.

AFTER the apostle Paul and Barnabas healed a man, Paul assured observers in Lystra: “We also are humans having the same infirmities as you do, and are declaring the good news to you, for you to turn from these vain things to the living God, who made the heaven and the earth and the sea and all the things in them.”—Acts 14:15.

<sup>2</sup> How very true that Jehovah is, not a lifeless idol, but “the living God”! (Jeremiah 10:10; 1 Thessalonians 1:9, 10) Beyond living himself, Jehovah is the Source of our life. “He himself gives to all persons life and breath and all things.” (Acts 17:25) He is interested in our enjoying life, present and future. Paul added that God “did not leave himself without witness in that he did good, giving you rains from heaven and fruitful seasons, filling your hearts to the full with food and good cheer.”—Acts 14:17.

<sup>3</sup> God’s interest in our life gives us reason to trust his guidance. (Psalm 147:8; Matthew 5:45) Some may react otherwise if they find a Bible directive that they do not understand or that seems restrictive. Still, trusting Jehovah’s guidance has proved to be wise. To illustrate: Even if an Israelite did not understand the law against touching a dead body, he benefited by obeying it. First, his obedience would draw him closer to the living God; second, it would help him to avoid diseases.—Leviticus 5:2; 11:24.

<sup>4</sup> It is similar with God’s guidance about blood. He told Noah that humans should not consume blood. Then in the Law, God revealed that the only approved use of blood was on the altar—for forgiveness of sin. By those directives, God was laying the groundwork for the supreme use of blood—the saving of lives by means of Jesus’ ransom. (Hebrews 9:14) Yes, God’s guidance was with our life and well-being in mind. Discussing Genesis 9:4, 19th-century Bible scholar Adam Clarke wrote: “This command [to Noah] is still scrupulously obeyed by the oriental Christians . . . No blood was eaten *under the law*, because it pointed out the blood that *was to be shed* for the sin of the world; and *under the Gospel* it should not be eaten, because it should ever be considered as representing the blood *which has been shed* for the remission of sins.”

<sup>5</sup> This scholar may have been referring to the basic gospel, or good news, bound up in Jesus. That includes God’s sending his Son to die for us, to pour out his blood so that we might have everlasting life. (Matthew 20:28; John 3:16; Romans 5:8, 9) The comment also covered the later command that Christ’s followers abstain from blood.

<sup>6</sup> You know that God gave the Israelites hundreds of regulations. Once Jesus died, his disciples were not obliged to keep all those laws. (Romans 7:4, 6; Colossians 2:13, 14, 17; Hebrews 8:6, 13) However, in time a question arose about one key obligation—male circumcision. Would non-Jews who wanted to benefit from Christ’s blood have to be circumcised, showing that they were still under the Law? In 49 C.E., the Christian

governing body addressed that issue. (Acts, chapter 15) Aided by God’s spirit, the apostles and older men concluded that obligatory circumcision ended with the Law. Still, certain divine requirements remained for Christians. In a letter to the congregations, the governing body wrote: “The holy spirit and we ourselves have favored adding no further burden to you, except these necessary things, to keep abstaining from things sacrificed to idols and from blood and from things strangled and from fornication. If you carefully keep yourselves from these things, you will prosper.”—Acts 15:28, 29.

<sup>7</sup> Plainly, the governing body viewed ‘abstaining from blood’ to be as morally vital as abstaining from sexual immorality or idol worship. This proves that the prohibition about blood is serious. Christians who unrepentantly commit idolatry or sexual immorality cannot “inherit God’s kingdom”; “their portion will be . . . the second death.” (1 Corinthians 6:9, 10; Revelation 21:8; 22:15) Note the contrast: Disregarding God’s guidance concerning the sacredness of lifeblood can result in everlasting death. Showing respect for Jesus’ sacrifice can lead to everlasting life.

<sup>8</sup> How did the early Christians understand and act on God’s guidance about blood? Recall Clarke’s comment: “*Under the Gospel* it should not be eaten, because it should ever be considered as representing the blood *which has been shed* for the remission of sins.” History confirms that the early Christians treated the matter seriously. Tertullian wrote: “Consider those who with greedy thirst, at a show in the arena, take the fresh blood of wicked criminals . . . and carry it off to heal their epilepsy.” Whereas pagans consumed blood, Tertullian said that Christians “do not even have the blood of animals at [their] meals . . . At the trials of Christians you offer them sausages filled with blood. You are convinced, of course, that [it] is unlawful for them.” Yes, despite threats of death, Christians would not consume blood. God’s guidance was that important to them.

<sup>9</sup> Some may imagine that the governing body simply meant that Christians were not to eat or drink blood directly nor to eat unbled meat or food mixed with blood. Granted, that was the first import of God’s command to Noah. And the apostolic decree did tell Christians to ‘keep themselves from things strangled,’ meat with blood left in it. (Genesis 9:3, 4; Acts 21:25) However, the early Christians knew that more was involved. Sometimes blood was taken in for medical reasons. Tertullian noted that in an effort to cure epilepsy, some pagans consumed fresh blood. And there may have been other uses of blood to treat disease or supposedly improve health. Hence, for Christians, shunning blood included not taking it in for “medical” reasons. They maintained that stand even if it put their life at risk.

### Blood as Medicine

<sup>10</sup> Using blood medically is now common. Early transfusions were of whole blood—removed from a donor, stored, and given to a patient, perhaps a battle

casualty. In time, researchers learned to separate blood into primary components. By using component transfusions, physicians could spread donated blood to more patients, perhaps plasma to one injured man and red cells to another. Continued research showed that a component, such as blood plasma, could be processed to extract numerous fractions, which could be given to still more patients. Steps along this line continue, and new uses of fractions are being reported. How is the Christian to respond? He has firmly resolved never to accept a blood transfusion, but his physician urges him to accept one major component, maybe packed red cells. Or the therapy may consist of one small fraction extracted from a component. How can a servant of God decide on such questions, bearing in mind that blood is sacred and that Christ's blood is lifesaving in the greatest sense?

<sup>11</sup> Decades ago Jehovah's Witnesses made their stand clear. For example, they supplied an article to *The Journal of the American Medical Association* (November 27, 1981; reprinted in *How Can Blood Save Your Life?* pages 27-9).<sup>\*</sup> That article quoted from Genesis, Leviticus, and Acts. It said: "While these verses are not stated in medical terms, Witnesses view them as ruling out transfusion of whole blood, packed RBCs [red blood cells], and plasma, as well as WBC [white blood cell] and platelet administration." The 2001 textbook *Emergency Care*, under "Composition of the Blood," stated: "The blood is made up of several components: plasma, red and white blood cells, and platelets." Thus, in line with medical facts, Witnesses refuse transfusions of whole blood or of any of its four primary components.

<sup>12</sup> The medical article continued: "Witnesses' religious understanding does not absolutely prohibit the use of [fractions] such as albumin, immune globulins, and hemophiliac preparations; each Witness must decide individually if he can accept these." Since 1981, many fractions (breakdown elements derived from one of the four major components) have been isolated for use. Accordingly, *The Watchtower* of June 15, 2000, provided helpful information on the subject in the article "Questions From Readers." For the benefit of millions of current readers, the answer is reprinted on pages 29-31 of this magazine. It provides details and reasoning, yet you will see that what it says agrees with the basics presented in 1981.

### The Role of Your Conscience

<sup>13</sup> Such information brings conscience to the fore. Why? Christians agree on the need to follow God's guidance, yet in some areas personal judgments must be made, and conscience comes into play. Conscience is the inherent ability to weigh and decide matters, often moral issues. (Romans 2:14, 15) You know, however, that consciences differ.<sup>†</sup> The Bible mentions that some have 'consciences that are weak,' implying that others' consciences are strong. (1 Corinthians 8:12) Christians differ in the extent to which they have made progress in

learning what God says, in being sensitive to his thinking, and in applying such to their decisions. We can illustrate this with the Jews and the eating of meat.

<sup>14</sup> The Bible is clear that a person obedient to God would not eat unbled meat. That was so important that *even in an emergency* when Israelite soldiers ate unbled meat, they were guilty of a grave wrong, or sin. (Deuteronomy 12:15, 16; 1 Samuel 14:31-35) Still, questions might have arisen. When an Israelite killed a sheep, how quickly did he have to drain its blood? Did he have to slit the animal's throat for drainage? Was it necessary to hang the sheep by its hind legs? For how long? What would he do with a large cow? Even after drainage, some blood might remain in the meat. Could he eat such meat? Who would decide?

<sup>15</sup> Imagine a zealous Jew facing such issues. He might have thought it safest to avoid meat sold in a meat market, much as another would shun meat if there was a chance that it was once offered to an idol. Other Jews might have eaten meat only after following rituals to extract the blood.<sup>‡</sup> (Matthew 23:23, 24) What do you think about such varied reactions? Furthermore, since God did not require such reactions, would it be best for Jews to send a multitude of questions to a council of rabbis to get a ruling on each one? Though that custom developed in Judaism, we can be happy that Jehovah did not direct true worshipers to pursue decisions about blood in that way. God offered basic guidance on slaughtering clean animals and draining their blood, but he did not go beyond that.—John 8:32.

<sup>16</sup> As noted in paragraphs 11 and 12, Jehovah's Witnesses do not accept transfusions of whole blood or of its four primary components—plasma, red cells, white cells, and platelets. What about small fractions extracted from a primary component, such as serums containing antibodies to fight a disease or to counteract snake venom? (See page 30, paragraph 4.) Some have concluded that such minute fractions are, in effect, no longer blood and hence are not covered by the command 'to abstain from blood.' (Acts 15:29; 21:25; page 31, paragraph 1) That is their responsibility. The conscience of others moves them to reject everything obtained from blood (animal or human), even a tiny fraction of just one primary component.<sup>§</sup> Still others may accept injections of a plasma protein to fight disease or to counteract snake venom, yet they may reject other small fractions. Moreover, some products derived from one of the four primary components may be so similar to the function of the whole component and carry on such a life-sustaining role in the body that most Christians would find them objectionable.

<sup>17</sup> What the Bible says about conscience is helpful when we make such decisions. The first step is to learn what God's Word says and to strive to mold your conscience by it. That will equip you to decide in line

\* Published by Jehovah's Witnesses.

† At one point, Paul and four other Christians went to the temple to cleanse themselves ceremonially. The Law was no longer valid, yet Paul acted on the advice of the older men in Jerusalem. (Acts 21:23-25) Still, some Christians may have felt that they would not go into the temple or go through such a procedure. Consciences differed back then, and they do today.

‡ The *Encyclopaedia Judaica* outlines "complex and minute" rules about "koshering" meat. It covers how many minutes meat must stand in water, how to drain it on a board, the texture of salt to rub on it, and then how many times to wash it in cold water.

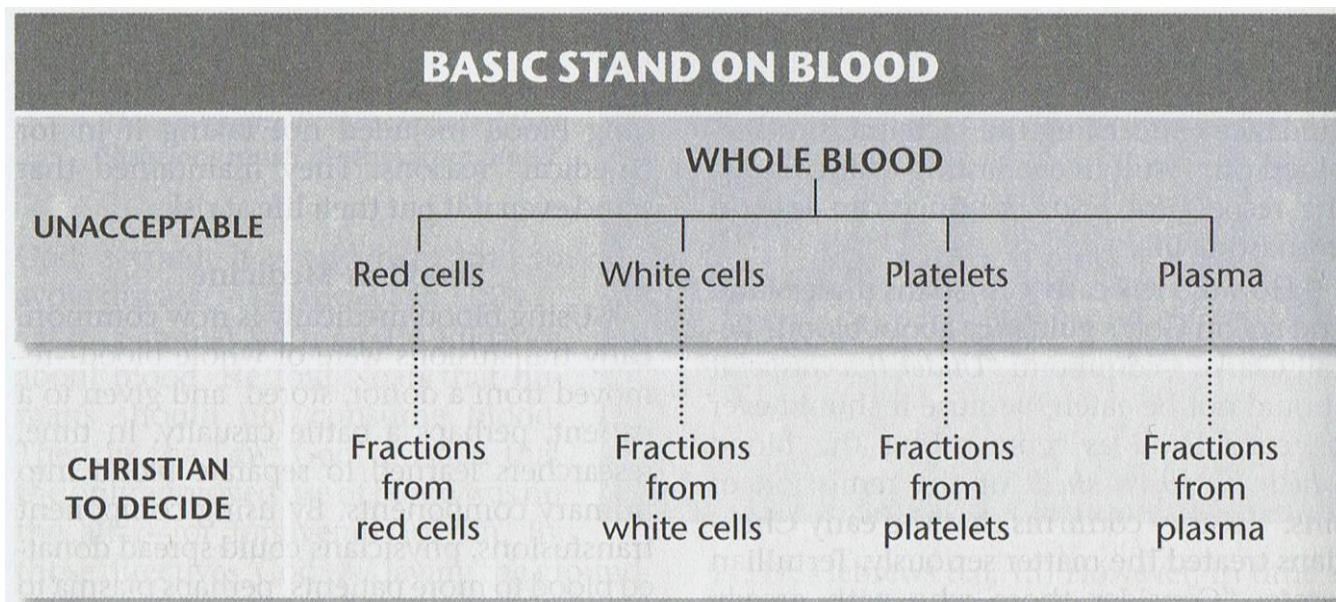
§ Increasingly, the main or active ingredient in some injections is a recombinant product that is not from blood. But in some cases a small amount of a blood fraction, such as albumin, may be included.—See "Questions From Readers" in *The Watchtower* of October 1, 1994.

with God's guidance rather than ask someone else to make a ruling for you. (Psalm 25:4, 5) As to taking in blood fractions, some have thought, 'This is a matter of conscience, so it doesn't make any difference.' That is faulty reasoning. The fact that something is a matter of conscience does not mean that it is inconsequential. It can be very serious. One reason is that it can affect individuals whose conscience differs from ours. We see that from Paul's advice about meat that *might* have been presented to an idol and was later sold in a market. A Christian ought to be concerned about not 'wounding consciences that are weak.' If he stumbles others, he could 'ruin his brother for whose sake Christ died' and be sinning against Christ. Hence, while issues about tiny blood fractions are for personal decision, those decisions should be taken very seriously.—1 Corinthians 8:8, 11-13; 10:25-31.

<sup>18</sup> A related aspect underscores the seriousness of decisions concerning blood. This is the effect such decisions may have on you. If your taking a small blood fraction would trouble your Bible-trained conscience, you

should not ignore it. Nor should you suppress your conscientious leaning just because someone tells you, "It's all right to take this; many have." Remember, millions of people today ignore their conscience, and that becomes deadened, allowing them to lie or do other wrong things with no remorse. Christians definitely want to avoid such a course.—2 Samuel 24:10; 1 Timothy 4:1, 2.

<sup>19</sup> Near its conclusion, the reprinted answer on pages 29-31 says: "Does the fact that opinions and conscientious decisions may differ mean that the issue is inconsequential? No. It is serious." It is particularly so because your relationship with "the living God" is involved. That relationship is the only one that can lead to everlasting life, based on the saving power of Jesus' shed blood. Cultivate a profound regard for blood because of what God is doing by means of it—saving lives. Paul aptly wrote: "You had no hope and were without God in the world. But now in union with Christ Jesus you who were once far off have come to be near *by the blood of the Christ.*"—Ephesians 2:12, 13.



**Would it be proper to accept a vaccination or some other medical injection containing albumin derived from human blood?**

Frankly, each Christian must personally decide on this.

God's servants rightly want to obey the directive found at Acts 15:28, 29, to abstain from blood. Accordingly, Christians will not eat unbled meat or products such as blood sausage. But God's law also applies in the medical area. Jehovah's Witnesses carry a document stating that they refuse 'blood transfusions, whole blood, red cells, white cells, platelets, or blood plasma.' What, though, about serum injections containing a tiny amount of a blood protein?

Witnesses have long realized that this is a matter for private decision in accord with each one's Bible-trained conscience. This was pointed out in "Questions From Readers" of *The Watchtower* of June 1, 1990, which discussed serum injections that a physician may recommend if one is exposed to certain diseases. The active components of such injections are not blood plasma per se but antibodies from the blood plasma of those who have developed resistance. Some Christians who feel that they can in good conscience accept such injections have noted that antibodies from the blood of a pregnant woman cross into the blood of the baby in her womb. "Questions From Readers" mentioned this, as well as the fact that some albumin passes from a pregnant woman to her baby.

\*\*\* w90 6/1 pp. 30-31 Questions From Readers \*\*\*

**• Do Jehovah's Witnesses accept injections of a blood fraction, such as immune globulin or albumin?**

Some do, believing that the Scriptures do not clearly rule out accepting an injection of a small fraction, or component, taken from blood.

The Creator first laid upon all mankind the obligation to avoid taking in blood: "Every moving animal that is alive may serve as food for you . . . Only flesh with its soul—its blood—you must not eat." (Genesis 9:3, 4) Blood was sacred and so could be used only in sacrifice. If not used in that way, it was to be disposed of on the ground.—Leviticus 17:13, 14; Deuteronomy 12:15, 16.

This was no mere temporary restriction for Jews. The need to abstain from blood was restated for Christians. (Acts 21:25) Around them in the Roman Empire, God's law was commonly broken, since people ate food made with blood. It was also broken for "medical" reasons; Tertullian reports that some men took in blood thinking that it could cure epilepsy. 'They quaffed with greedy thirst the blood of criminals slain in the arena.' He added: "Blush for your vile ways before the Christians, who have not even the blood of animals at their meals." Jehovah's Witnesses today are just as determined not to violate God's law, no matter how common it is for others to eat food made with blood. In the 1940's, blood transfusions came into widespread use, and the Witnesses saw that obeying God required that they also avoid blood transfusions, even if doctors urged these.

At first, most transfusions were of whole blood. Later, researchers began to separate blood into its primary components, for doctors concluded that a certain patient might not need all major parts of blood. If they gave him only one component, it would be less risky for him, and

Many find this noteworthy, since some vaccines that are not prepared from blood may contain a relatively small amount of plasma albumin that was used or added to stabilize the ingredients in the preparation. Currently a small amount of albumin is also used in injections of the synthetic hormone EPO (erythropoietin). Some Witnesses have accepted injections of EPO because it can hasten red blood cell production and so may relieve a physician of a feeling that a blood transfusion might be needed.

Other medical preparations may come into use in the future that involve a comparatively small amount of albumin, since pharmaceutical companies develop new products or change the formulas of existing ones. Christians may thus want to consider whether albumin is part of a vaccination or other injection that a doctor recommends. If they have doubts or have reason to believe that albumin is a component, they can inquire of their physician.

As noted, many Witnesses have not objected to accepting an injection that contains a small quantity of albumin. Still, anyone wanting to study the matter more thoroughly before making a personal decision should review the information presented in "Questions From Readers" of *The Watchtower* of June 1, 1990.

the doctors could get more use out of the blood available.

Human blood can be separated into dark cellular material and a yellowish fluid (plasma, or serum). The cellular part (45 percent by volume) is made up of what are commonly called red cells, white cells, and platelets. The other 55 percent is the plasma. This is 90 percent water, but it carries small amounts of many proteins, hormones, salts, and enzymes. Today, much of the donated blood is separated into the primary components. One patient may be given a transfusion of plasma (perhaps FFP, fresh frozen plasma) to treat shock. But an anemic patient might be given packed red cells, that is, red cells that had been stored and then put in a fluid and transfused. Platelets and white cells are also transfused but less commonly.

In Bible times men had not devised such techniques for using these components. God simply commanded: 'Abstain from blood.' (Acts 15:28, 29) But why should anyone think that it would make a difference whether the blood was whole or had been separated into these components? Though some men drank blood, Christians refused even if it meant death. Do you think that they would have responded differently if someone had collected blood, allowed it to separate, and then offered them just the plasma or just the clotted part, perhaps in blood sausage? No, indeed! Hence, Jehovah's Witnesses do not accept transfusions of whole blood or of its primary components (red cells, white cells, platelets, or plasma) used to accomplish a similar purpose.

As the question suggests, though, scientists have learned about specialized blood fractions and how to employ such. A common issue involves the plasma proteins—globulins, albumin, and fibrinogen. Likely, the most widespread therapeutic use of such is injecting immune globulin. Why is that done?

Your body can produce antibodies against certain diseases, giving you active immunity. This is the basis for advance inoculation with a vaccine (toxoid) against polio, mumps, rubella (measles), diphtheria-tetanus-pertussis, and typhoid fever. However, if someone has recently been exposed to certain serious diseases, physicians may recommend an injection of a serum (antitoxin) to give him immediate passive immunity. Until recently such injections have been made by extracting immune globulin, which contains antibodies, from a person already immune.\* The passive immunity gained from the injection is not permanent, for the injected antibodies pass out of his system in time.

In view of the command to ‘abstain from blood,’ some Christians have felt that they should not accept an immune globulin (protein) injection, even though it was only a blood fraction. Their stand is clear and simple—no blood component in any form or amount.

Others have felt that a serum (antitoxin), such as immune globulin, containing only a tiny fraction of a donor’s blood plasma and used to bolster their defense against disease, is not the same as a life-sustaining blood transfusion. So their consciences may not forbid them to take immune globulin or similar fractions.† They may conclude that for them the decision will rest

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\* With recombinant DNA, or genetic-engineering, techniques, scientists are developing similar products that are not made from blood.

† One example is Rh immune globulin, which doctors may recommend when there is Rh incompatibility between a woman and her fetus. Another is Factor VIII, which is given to hemophiliacs.

### \*\*\* w04 6/15 pp. 29-31 Questions From Readers \*\*\*

#### • Do Jehovah’s Witnesses accept any minor fractions of blood?

The following answer is reprinted from the issue of June 15, 2000.

The fundamental answer is that Jehovah’s Witnesses do not accept blood. We firmly believe that God’s law on blood is not open to reform to fit shifting opinions. Still, new issues arise because blood can now be processed into four primary components and fractions of those components. In deciding whether to accept such, a Christian should look beyond possible medical benefits and risks. His concern should be what the Bible says and the potential effect on his relationship with Almighty God.

The key issues are quite simple. As an aid to seeing why that is so, consider some Biblical, historical, and medical background.

Jehovah God told our common ancestor Noah that blood must be treated as something special. (Genesis 9:3, 4) Later, God’s laws to Israel reflected the sacredness of blood: “As for any man of the house of Israel or some alien resident . . . who eats any sort of

primarily on whether they are willing to accept any health risks involved in an injection made from others’ blood.

It is significant that the blood system of a pregnant woman is separate from that of the fetus in her womb; their blood types are often different. The mother does not pass her blood into the fetus. Formed elements (cells) from the mother’s blood do not cross the placental barrier into the fetus’ blood, nor does the plasma as such. In fact, if by some injury the mother’s and the fetus’ blood mingle, health problems can later develop (Rh or ABO incompatibility). However, some substances from the plasma cross into the fetus’ circulation. Do plasma proteins, such as immune globulin and albumin? Yes, some do.

A pregnant woman has an active mechanism by which some immune globulin moves from the mother’s blood to the fetus’. Because this natural movement of antibodies into the fetus occurs in all pregnancies, babies are born with a degree of normal protective immunity to certain infections.

It is similar with albumin, which doctors may prescribe as a treatment for shock or certain other conditions.‡ Researchers have proved that albumin from the plasma is also transported, though less efficiently, across the placenta from a mother into her fetus.

That some protein fractions from the plasma do move naturally into the blood system of another individual (the fetus) may be another consideration when a Christian is deciding whether he will accept immune globulin, albumin, or similar injections of plasma fractions. One person may feel that he in good conscience can; another may conclude that he cannot. Each must resolve the matter personally before God.

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‡ Evidence shows that nonblood volume replacement fluids (such as hetastarch [HES]) can be used effectively to treat shock and other conditions for which an albumin solution might have been used previously.

blood, I shall certainly set my face against the soul that is eating the blood.” By rejecting God’s law, an Israelite could contaminate others; thus, God added: “I shall indeed cut him off from among his people.” (Leviticus 17:10) Later, at a meeting in Jerusalem, the apostles and older men decreed that we must ‘abstain from blood.’ Doing so is as vital as abstaining from sexual immorality and idolatry.—Acts 15:28, 29.

What would “abstaining” have meant back then? Christians did not consume blood, whether fresh or coagulated; nor did they eat meat from an unbled animal. Also ruled out would be foods to which blood was added, such as blood sausage. Taking in blood in any of those ways would violate God’s law.—1 Samuel 14:32, 33.

Most people in ancient times would not have been troubled over the consuming of blood, as we can see from the writings of Tertullian (second and third centuries C.E.). Responding to false charges that Christians consumed blood, Tertullian mentioned tribes that sealed treaties by tasting blood. He also noted that

“when a show is given in the arena, [some] with greedy thirst have caught the fresh blood of the guilty . . . as a cure for their epilepsy.”

Those practices (even if some Romans did them for health reasons) were wrong for Christians: “We do not include even animals’ blood in our natural diet,” wrote Tertullian. The Romans used food containing blood as a test of the integrity of real Christians. Tertullian added: “Now, I ask you, what sort of a thing is it, that when you are confident [that Christians] will turn with horror from animals’ blood, you should suppose them greedy for human blood?”

Today, few people would think that the laws of Almighty God are at issue if a physician suggested their taking blood. While Jehovah’s Witnesses certainly want to keep living, we are committed to obey Jehovah’s law on blood. What does this mean in the light of current medical practice?

As transfusions of whole blood became common after World War II, Jehovah’s Witnesses saw that this was contrary to God’s law—and we still believe that. Yet, medicine has changed over time. Today, most transfusions are not of whole blood but of one of its primary components: (1) red cells; (2) white cells; (3) platelets; (4) plasma (serum), the fluid part. Depending on the condition of the patient, physicians might prescribe red cells, white cells, platelets, or plasma. Transfusing these major components allows a single unit of blood to be divided among more patients. Jehovah’s Witnesses hold that accepting whole blood or any of those four primary components violates God’s law. Significantly, keeping to this Bible-based position has protected them from many risks, including such diseases as hepatitis and AIDS that can be contracted from blood.

However, since blood can be processed beyond those primary components, questions arise about fractions derived from the primary blood components. How are such fractions used, and what should a Christian consider when deciding on them?

Blood is complex. Even the plasma—which is 90 percent water—carries scores of hormones, inorganic salts, enzymes, and nutrients, including minerals and sugar. Plasma also carries such proteins as albumin, clotting factors, and antibodies to fight diseases. Technicians isolate and use many plasma proteins. For example, clotting factor VIII has been given to hemophiliacs, who bleed easily. Or if someone is exposed to certain diseases, doctors might prescribe injections of gamma globulin, extracted from the blood plasma of people who already had immunity. Other plasma proteins are used medically, but the above mentioned illustrate how a primary blood component (plasma) may be processed to obtain fractions.\*

Just as blood plasma can be a source of various fractions, the other primary components (red cells, white cells, platelets) can be processed to isolate smaller parts. For example, white blood cells may be a source of interferons and interleukins, used to treat some viral infections and cancers. Platelets can be processed to

extract a wound-healing factor. And other medicines are coming along that involve (at least initially) extracts from blood components. Such therapies are not transfusions of those primary components; they usually involve parts or fractions thereof. Should Christians accept these fractions in medical treatment? We cannot say. The Bible does not give details, so a Christian must make his own conscientious decision before God.

Some would refuse anything derived from blood (even fractions intended to provide temporary passive immunity). That is how they understand God’s command to ‘abstain from blood.’ They reason that his law to Israel required that blood removed from a creature be ‘poured out on the ground.’ (Deuteronomy 12:22-24) Why is that relevant? Well, to prepare gamma globulin, blood-based clotting factors, and so on, requires that blood be collected and processed. Hence, some Christians reject such products, just as they reject transfusions of whole blood or of its four primary components. Their sincere, conscientious stand should be respected.

Other Christians decide differently. They too refuse transfusions of whole blood, red cells, white cells, platelets, or plasma. Yet, they might allow a physician to treat them with a fraction extracted from the primary components. Even here there may be differences. One Christian may accept a gamma globulin injection, but he may or may not agree to an injection containing something extracted from red or white cells. Overall, though, what might lead some Christians to conclude that they could accept blood fractions?

“Questions From Readers” in *The Watchtower* of June 1, 1990, noted that plasma proteins (fractions) move from a pregnant woman’s blood to the separate blood system of her fetus. Thus a mother passes immunoglobulins to her child, providing valuable immunity. Separately, as a fetus’ red cells complete their normal life span, their oxygen-carrying portion is processed. Some of it becomes bilirubin, which crosses the placenta to the mother and is eliminated with her body wastes. Some Christians may conclude that since blood fractions can pass to another person in this natural setting, they could accept a blood fraction derived from blood plasma or cells.

Does the fact that opinions and conscientious decisions may differ mean that the issue is inconsequential? No. It is serious. Yet, there is a basic simplicity. The above material shows that Jehovah’s Witnesses refuse transfusions of both whole blood and its primary blood components. The Bible directs Christians to ‘abstain from things sacrificed to idols and from blood and from fornication.’ (Acts 15:29) Beyond that, when it comes to fractions of any of the primary components, each Christian, after careful and prayerful meditation, must conscientiously decide for himself.

Many people would be willing to accept any therapy that seems to offer immediate benefit, even a therapy having known health risks, as is true of blood products. The sincere Christian endeavors to have a broader, more balanced view that involves more than just the physical aspects. Jehovah’s Witnesses appreciate efforts to provide quality medical care, and they weigh the risk/benefit ratio of any treatment. However, when it comes to products derived from blood, they carefully weigh what God says and their personal relationship with our Life-Giver.—Psalm 36:9.

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\* See “Questions From Readers” in *The Watchtower* of June 15, 1978, and October 1, 1994. Pharmaceutical firms have developed recombinant products that are not taken from blood and that may be prescribed in place of some blood fractions used in the past.

What a blessing for a Christian to have such confidence as the psalmist who wrote: "Jehovah God is a sun and a shield; favor and glory are what he gives.

Jehovah himself will not hold back anything good from those walking in faultlessness. O Jehovah . . . , happy is the man that is trusting in you"—Psalm 84:11, 12.

### SUGGESTED QUESTIONS FOR THE DOCTOR

If you face surgery or a treatment that might involve a blood product, ask:

Do all the medical personnel involved know that, as one of Jehovah's Witnesses, I direct that no blood transfusions (whole blood, red cells, white cells, platelets, or blood plasma) be given to me under any circumstances?

If any medicine to be prescribed may be made from blood plasma, red or white cells, or platelets, ask:

Has the medicine been made from one of the four primary blood components? If so, would you explain its makeup?

How much of this blood-derived medicine might be administered, and in what way?

If my conscience permits me to accept this fraction, what medical risks are there?

If my conscience moves me to decline this fraction, what other therapy might be used?

After I have considered this matter further, when may I inform you of my decision?

\*\*\* g 8/06 pp. 10-12 \*\*\*

## The Real Value of Blood

"The global community shares a common life source: blood. It is the life force in all human beings, regardless of colour, race or religion."—President of the General Assembly of the United Nations.

WITHOUT question, there is a measure of truth in that quote. Blood is essential to all human life. It is a precious resource. Are you convinced, though, that it is safe and wise for humans to share that fluid for medical purposes?

As we have learned, worldwide safety standards are highly variable, and treatments with blood are riskier than many assume. Furthermore, physicians differ widely in their use of blood because of education, skills, and viewpoints. Yet, many are increasingly cautious about transfusing blood. A significant and growing number of doctors are showing a preference for medical treatments that avoid the use of blood.

That brings us back to a question posed at the outset of the first article of this series. Just what is it that makes

blood so valuable? If the medical use of blood is increasingly questionable, is there another purpose that blood fulfills?

### Our Creator and Blood

Back in the days of Noah, an ancestor of all mankind, God laid down a remarkable law. While granting humans the right to eat the flesh of animals, he forbade them to consume the blood. (Genesis 9:4) He also gave them his reason, equating blood with the soul, or life, of the creature. He later said: "The soul [or life] is in the blood." In the eyes of the Creator, blood is sacred. It represents the precious gift of life that each living soul possesses. God restated this principle again and again.—Leviticus 3:17; 17:10, 11, 14; Deuteronomy 12:16, 23.

### What Are Hemoglobin-Based Oxygen Carriers?

Within each red blood cell are some 300 million hemoglobin molecules. Hemoglobin represents about one third of the volume of a mature red cell. Each molecule contains the protein globin and a pigment called heme—which includes an iron atom. When a red blood cell passes through the lungs, oxygen molecules penetrate the cell and attach themselves to hemoglobin molecules. Seconds later, the oxygen is discharged into body tissue, sustaining the life of the cells.

Some manufacturers now process hemoglobin, releasing it from human or bovine red blood cells. The extracted hemoglobin is then filtered to remove impurities, chemically modified and purified, mixed with a solution, and packaged. The end product—not yet approved for use in most lands—is called a hemoglobin-based oxygen carrier, or HBOC. Since the heme is responsible for the rich red color of blood, a unit of HBOC looks just like a unit of red blood cells, the primary component from which it is taken.

Unlike red blood cells, which must be refrigerated and discarded after a few weeks, the HBOC can be stored at room temperature and used months later. And since the cell membrane with its unique antigens is gone, severe reactions due to mismatched blood types pose no threat. However, compared with other blood fractions, the HBOC presents more challenges to conscientious Christians, who seek to obey God's law on blood. Why? As long as the HBOC is derived from blood, there are two objections that may be raised. One, the HBOC carries out the key function of a primary component of blood, the red cells. Two, hemoglobin, from which the HBOC is derived, makes up a significant portion of that component. Regarding this and similar products, then, Christians face a very serious decision. They must carefully and prayerfully meditate on Bible principles concerning the sacredness of blood. With a keen desire to maintain a good relationship with Jehovah, each must be guided by his Bible-trained conscience.—Galatians 6:5.

### An Inviting Option

“A growing number of hospitals are offering an alternative: ‘bloodless’ surgery,” reported *The Wall Street Journal*. “Originally developed to accommodate Jehovah’s Witnesses,” states the journal, “the practice has gone mainstream, with many hospitals promoting their bloodless-surgery programs to the general public.” Hospitals around the world are discovering numerous benefits, particularly to patients, when implementing strategies that curtail the use of blood transfusions. Currently, thousands of doctors are treating patients without resorting to transfusions.

Shortly after Christianity was founded some 2,000 years ago, believers were given the divine commandment to “*abstain* from . . . blood.” The prohibition was based, not on health concerns, but on the sacredness of blood. (Acts 15:19, 20, 29) Some argue that this God-given restriction applies only to the eating of blood, but the word “*abstain*” speaks for itself. If a doctor told us to abstain from alcohol, we would hardly feel at liberty to inject it into our veins.

The Bible further explains why blood is so sacred. The shed blood of Jesus Christ, representing the human life that he gave in behalf of mankind, is key to the Christian hope. It means forgiveness of sins and hope of eternal life. When a Christian abstains from blood, he is in effect expressing his faith that only the shed blood of Jesus Christ can truly redeem him and save his life.—Ephesians 1:7.

Jehovah’s Witnesses are well known for taking these Bible commands to heart. They reject all transfusions involving whole blood or the four primary blood components—red cells, plasma, white cells, and platelets. As for the various fractions derived from those components—and products that contain such fractions—

the Bible does not comment on these. Therefore, each Witness makes his own personal decision on such matters. Does this Bible-based stand mean that Witnesses reject medical treatment or view their health and life lightly? Not at all!—See the box “Jehovah’s Witnesses and Health.”

In recent years more than a few doctors have recognized that Witnesses have benefited medically from adhering to the Bible’s standard. For instance, a spine surgeon recently spoke out in favor of choosing alternatives to blood transfusions. He said: “It’s absolutely the safest thing to do, not just for Jehovah’s Witnesses, but for everyone.”

Serious health decisions can cause a great deal of stress and are often difficult to make. Regarding the common practice of transfusing blood, note the words of respirologist and medical director Dr. Dave Williams: “It’s important that we respect people’s wishes, . . . and we need to be very careful about what we put into our bodies.”

Those words ring true—and never more so than today.

### Jehovah’s Witnesses and Health

Jehovah’s Witnesses, some of whom are physicians and nurses, are known worldwide for their rejection of transfusions involving whole blood or primary blood components. Does their united stand against this practice stem from a man-made doctrine or a belief that a person’s faith can heal medical ailments? That is far from the truth.

Cherishing their life as a gift from God, the Witnesses strive to do their best to live according to the Bible, which they believe is “inspired of God.” (2 Timothy 3:16, 17; Revelation 4:11) That book encourages worshippers of God to avoid practices and habits that harm health or endanger life, such as overeating, smoking or chewing tobacco, abusing alcohol, and using drugs for recreational purposes.—Proverbs 23:20; 2 Corinthians 7:1.

By keeping our body and surroundings clean and getting some physical exercise for health reasons, we are acting in harmony with Bible principles. (Matthew 7:12; 1 Timothy 4:8) When Jehovah’s Witnesses get sick, they demonstrate reasonableness by seeking medical care and accepting the vast majority of available treatment options. (Philippians 4:5) True, they obey the Bible command to “*keep abstaining* from . . . blood,” insisting on nonblood medical management. (Acts 15:29) And this choice often results in a higher quality of treatment.

### \*\*\* g72 12/22 pp. 19-20 Cooperating with Your Body’s Defenses \*\*\*

#### Interferon

Another of the body’s defense mechanisms is interferon, a substance discovered rather recently, and at present under intensive investigation. It is produced by the body’s cells as a defense against viral infections and differs from antibodies in a number of respects. It becomes effective at once, whereas antibodies take time to multiply. Thus it is said that “interferon is present at the right place, at the right time and in high enough concentration to play an important role in recovery from viral infections.”

Secondly, interferon is not specific, whereas an antibody is, working only against a certain antigen or one very nearly like it. An invading virus causes cells to produce interferon that acts not just against the one particular virus but against a wide range of viruses. Thirdly, the interferon does not act upon the invading virus in the way an antibody acts upon an antigen, but upon the body’s cells themselves, enabling them to neutralize the effect of the virus.

Further, though interferon is a protein particle, it is not treated as a foreign substance by the body’s

immunological system. Because of this, interferon can be implanted from another body or even another species without causing any antibodies to be formed. However, to produce interferon from blood for medical use is so costly a process as to be prohibitive. For this reason medical researchers have been experimenting with substances that would stimulate the production of interferon in the body's cells. They have come up with such a substance which they have designated "poly I:C."

In experimenting with this substance on mice they have found it to be extremely effective. Thus three hours after seventeen mice were given poly I:C and thirty-two others were given a placebo, all of them were inoculated with a lethal dose of mouse pneumonia virus. At the end of fourteen days all seventeen mice that had received poly I:C were still alive, but only one of the thirty-two that

had received the placebo lived. As for the use of poly I:C on humans, this is still in the experimental stage.

How can you cooperate with the interferon 'system'? Since interferon is aimed at viral infections and the more common of these are those that plague our noses and throats in the wintertime, anything that would work against the common cold may be considered as cooperating with one's interferon defense system. There are a number of ways in which this can be done. The generous use of citrus fruits, especially grapefruit, lemons and limes, before one gets a cold, may protect one against it. Also avoiding rich and over-refined foods, especially pastries, rich puddings, and so forth, has helped many others to be free from the common cold. And quite recently the use of vitamin C in fighting the common cold has been given wide publicity.

### \*\*\* w89 3/1 Questions From Readers \*\*\*

#### • Do Jehovah's Witnesses allow the use of autologous blood (autotransfusion), such as by having their own blood stored and later put back into them?

Medical personnel often distinguish between homologous blood (coming from another person) and autologous blood (the patient's own blood). It is well known that Jehovah's Witnesses do not accept blood from other humans. But what about using autologous blood, a term used regarding a number of procedures?

Some of those procedures are unacceptable to Christians because of being clearly in conflict with the Bible, but others lead to questions. Of course, at the time the Bible was written, transfusions and other such medical uses of blood were unknown. Yet, God provided directions that enable his servants to decide whether certain medical procedures involving blood might displease him.

God's determination is that blood represents life and thus is sacred. He commanded that no human should sustain his life by taking in blood. For instance, God stated: "Every moving animal that is alive may serve as food for you. . . . Only flesh with its soul—its blood—you must not eat." (Genesis 9:3, 4; Leviticus 7:26, 27) According to the Life-Giver, the only acceptable use of blood was in sacrifice: "For the soul of the flesh is in the blood, and I myself have put it upon the altar for you to make atonement for your souls, because it is the blood that makes atonement by the soul in it. That is why I have said to the sons of Israel: 'No soul of you must eat blood.'"—Leviticus 17:11, 12.

Though Christians are not under the Mosaic Law, the Bible says that it is "necessary" for us to 'abstain from blood,' viewing it as sacred. (Acts 15:28, 29) This is understandable, for the sacrifices under the Law foreshadowed Christ's blood, God's means by which we can gain everlasting life.—Hebrews 9:11-15, 22.

How was blood to be dealt with under the Law if it was not used in sacrifice? We read that when a hunter killed an animal for food, "he must in that case pour its blood out and cover it with dust." (Leviticus 17:13, 14; Deuteronomy 12:22-24) So the blood was not to be used for nutrition or otherwise. If taken from a creature and not used in sacrifice, it was to be disposed of on the earth, God's footstool.—Isaiah 66:1; compare Ezekiel 24:7, 8.

This clearly rules out one common use of autologous blood—preoperative collection, storage, and later infusion of a patient's own blood. In such procedure, this is what is done: Prior to elective surgery, some units of a person's whole blood are banked or the red cells are separated, frozen, and stored. Then if it seems that the patient needs blood during or following surgery, his own stored blood can be returned to him. Current anxieties about blood-borne diseases have made this use of autologous blood popular. Jehovah's Witnesses, though, DO NOT accept this procedure. We have long appreciated that such stored blood certainly is no longer part of the person. It has been completely removed from him, so it should be disposed of in line with God's Law: "You should pour it out upon the ground as water."—Deuteronomy 12:24.

In a somewhat different process, autologous blood can be diverted from a patient to a hemodialysis device (artificial kidney) or a heart-lung pump. The blood flows out through a tube to the artificial organ that pumps and filters (or oxygenates) it, and then it returns to the patient's circulatory system. Some Christians have permitted this if the equipment is not primed with stored blood. They have viewed the external tubing as elongating their circulatory system so that blood might pass through an artificial organ. They have felt that the blood in this closed circuit was still part of them and did not need to be 'poured out.'

What, though, if the flow of such autologous blood stopped briefly, such as if a heart-lung machine is shut down while the surgeon checks the integrity of coronary-bypass grafts?

Actually, the Biblical emphasis is not on the issue of continuous flow. Even aside from surgery, a person's heart might stop briefly and then resume.<sup>†</sup> His circulatory system would not have to be emptied and his blood disposed of just because blood flow had stopped during the cardiac arrest. Hence, a Christian having to decide

\* See *The Watchtower*, June 15, 1978, page 30.

† This might result from a heart attack, an electric shock, or extreme hypothermia, such as from submersion in ice-cold water.

whether to permit his blood to be diverted through some external device ought to focus, not primarily on whether a brief interruption in flow might occur, but on whether he conscientiously felt that the diverted blood would still be part of his circulatory system.—Galatians 6:5.

What about induced hemodilution? Some surgeons believe that it is advantageous for a patient's blood to be diluted during surgery. Thus, at the start of an operation, they direct some blood to storage bags outside a patient's body and replace such with nonblood fluids; later, the blood is allowed to flow from the bags back to the patient. Since Christians do not let their blood be stored, some physicians have adapted this procedure, arranging the equipment in a circuit that is constantly linked to the patient's circulatory system. Some Christians have accepted this, others have refused. Again, each individual must decide whether he would consider the blood diverted in such a hemodilution circuit to be similar to that flowing through a heart/lung machine, or he would think of it as blood that left him and therefore should be disposed of.

A final example of autologous blood use involves recovering and reusing blood during surgery. Equipment is used to aspirate blood from the wound, pump it out through a filter (to remove clots or debris) or a centrifuge (to eliminate fluids), and then direct it back into the patient. Many Christians have been very concerned whether in such salvage there might be any brief interruption of blood flow. Yet, as mentioned, a more Biblical concern is whether the blood escaping into a surgical wound is still part of the person. Does the fact that the blood has flowed from his circulatory system into

the wound mean that it should be 'poured out,' like the blood mentioned at Leviticus 17:13? If an individual believes so, he would probably refuse to permit such blood salvage. Yet, another Christian (who also would not let blood flow from him, be stored for some time, and later be put back into him) might conclude that a circuit with recovery from a surgical site and ongoing reinfusion would not violate his trained conscience.

As we can see, there is a growing variety of equipment or techniques involving autologous blood. We cannot and should not try to comment on each variation. When faced with a question in this area, each Christian is responsible to obtain details from medical personnel and then make a personal decision.

Though much has been said here about medical aspects, what is of greatest importance are the religious issues. As a Christian resolves any doubts or questions about medical processes involving blood, what should predominate should be that he displays faith, that he respects God's command to 'abstain from blood,' and that he maintains a good conscience. Why? Because the most fundamental way in which lives can be saved with blood is not through medical technology but through the saving power of Christ's blood. The apostle Paul wrote: "By means of him we have the release by ransom through the blood of that one." (Ephesians 1:7; Revelation 7:14, 17) While modern medicine might be able to help us extend our lives for a time, we certainly would not want to extend our present life by doing anything that would violate our Christian conscience or would displease our Life-Giver.—Matthew 16:25; 1 Timothy 1:18, 19.

### \*\*\* w78 6/15 pp. 29-31 Questions From Readers\*\*\*

#### • A doctor said that prior to surgery a patient could have some blood withdrawn and stored, in the event that a transfusion is needed during surgery. How should a Christian view such use of his own blood?

From the standpoint of those in the medical field, this procedure may seem quite practical. There are grave dangers in accepting a transfusion of someone else's blood. *Seemingly* fewer risks are involved if a person is given a transfusion of his own blood. So there is a trend among doctors to use the procedure called "autologous transfusion." This involves drawing off the patient's own blood and "banking" or storing it for transfusion purposes when necessary. If not needed by the donor, the blood may be used for other patients.

As the information on pages 22-25 of this magazine shows, the transfusing of blood conflicts with the Bible. The Scriptures reveal that God considers blood to be sacred, and his servants should treat it accordingly. In line with this, Jehovah God told the Israelites that they could do only two things with blood. First, God said: "I myself have put it upon the altar [of sacrifice] for you to make atonement for your souls." Secondly, if an animal's blood was not used on the altar, the Israelite was to pour it out on the ground; he thus acknowledged that life is from God and that the blood representing life was not being diverted for some personal use. (Lev. 17:11-14) But was this way of treating blood just for God's servants

under the Mosaic law? On the contrary, logically, true worshipers, prior to the giving of the Law, already had been dealing with blood in this way.

God had earlier told Noah and his family that humans should not eat flesh with blood in it. (Gen. 9:3, 4) So what would have been done? When an animal was killed for food, its blood would normally have been drained off and disposed of on the ground. The life-representing blood did not belong to Noah and his family but belonged to the Life-Giver. Accordingly, it would be appropriate to pour out the blood on the earth, which is God's symbolic "footstool."—Isa. 66:1.

The command to Noah also applies to Christians. In the first century C.E., the Christian governing body published the decision, backed by the holy spirit, that Christians must 'abstain from things strangled and from blood.' (Acts 15:19, 28, 29) What would that mean in practice? The expression "things strangled" designates the flesh of animals that were killed in a manner that left their blood in the meat. Christians could not eat such flesh. How about the phrase 'abstain from blood'? This would prohibit the using of blood drained from such a creature, as in the case of some pagans, who made and ate blood sausage or other blood-containing foods or who drank blood that came from animals or warriors

\* For details see *Jehovah's Witnesses and the Question of Blood* (1977).

killed in the arena. Christians would not do any of these things. When they drained blood from a creature, they would do what God's servants in the past had done, abstain from it. They could thus underscore their appreciation for the sacredness of blood and life and also demonstrate their dependence on the merit of Christ's blood.

So, if medical personnel suggest that a Christian permit some of his blood to be withdrawn and deposited

in a blood bank for later transfusion purposes, the Christian is not without guidance from the Bible as to the proper course. He can mention that ancient Israelites were told that *removed* blood was to be 'poured out on the ground as water,' to show that it was for God and not to sustain the life of some earthly creature. (Deut. 12:24) And he can refer to the pointed command that Christians 'abstain from blood.' In view of this, how could he allow his blood to be collected in a blood bank for later transfusion into himself or another person?

• **What about a device such as a heart-lung pump or a dialysis (artificial kidney) machine? Might a Christian use such?**

There are Christian witnesses of Jehovah who, with a good conscience, have allowed these devices to be used, provided that the machines were primed with a nonblood fluid, such as Ringer's lactate solution.

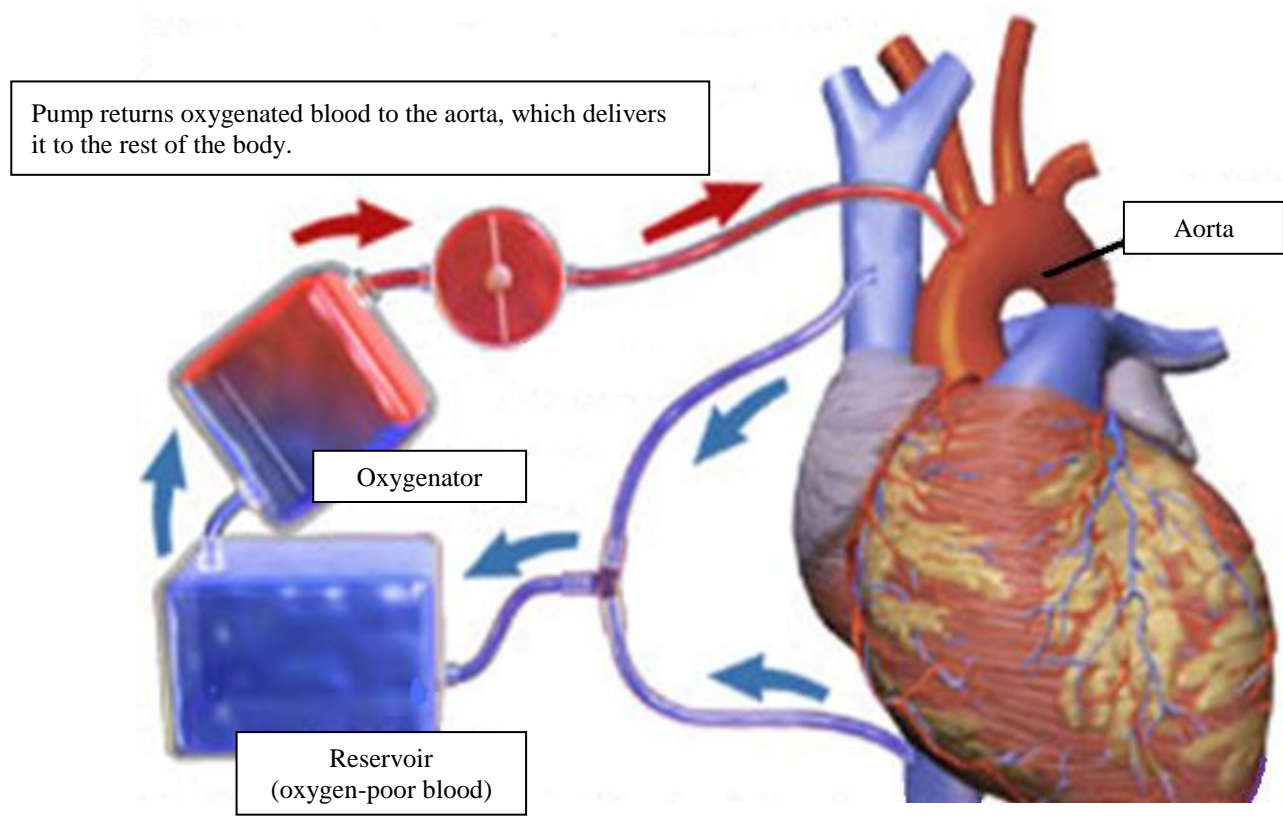
When this sort of device is operating, the patient's blood flows from a blood vessel through tubing and the machine (where it is pumped, oxygenated and/or filtered) and then flows back into his circulatory system. The machine temporarily performs some of the functions normally handled by the patient's own organs.

Some Christians have conscientiously reasoned that the blood is flowing continuously and that the external

circuit might be viewed as an extension of the circulatory system. They have considered it comparable to a piece of tubing that might be implanted in the body to shunt blood around a blockage in a vessel.

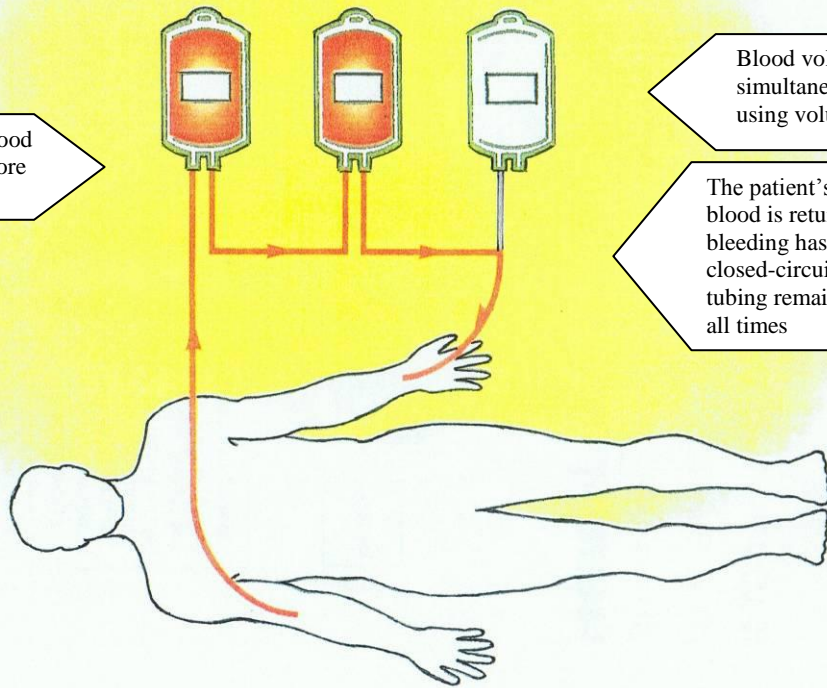
Of course, each Christian should weigh what is involved in the use of these and similar devices. He could consider whether he views the blood involved to be blood that clearly has left his body and so should be disposed of or as blood that, basically, is still part of his circulatory system. (Deut. 12:16) Then he can make a decision that will leave him with a clear conscience before God.—1 Pet. 3:16.

**Heart-Lung Machine**



## Acute Normovolemic Hemodilution (ANH)

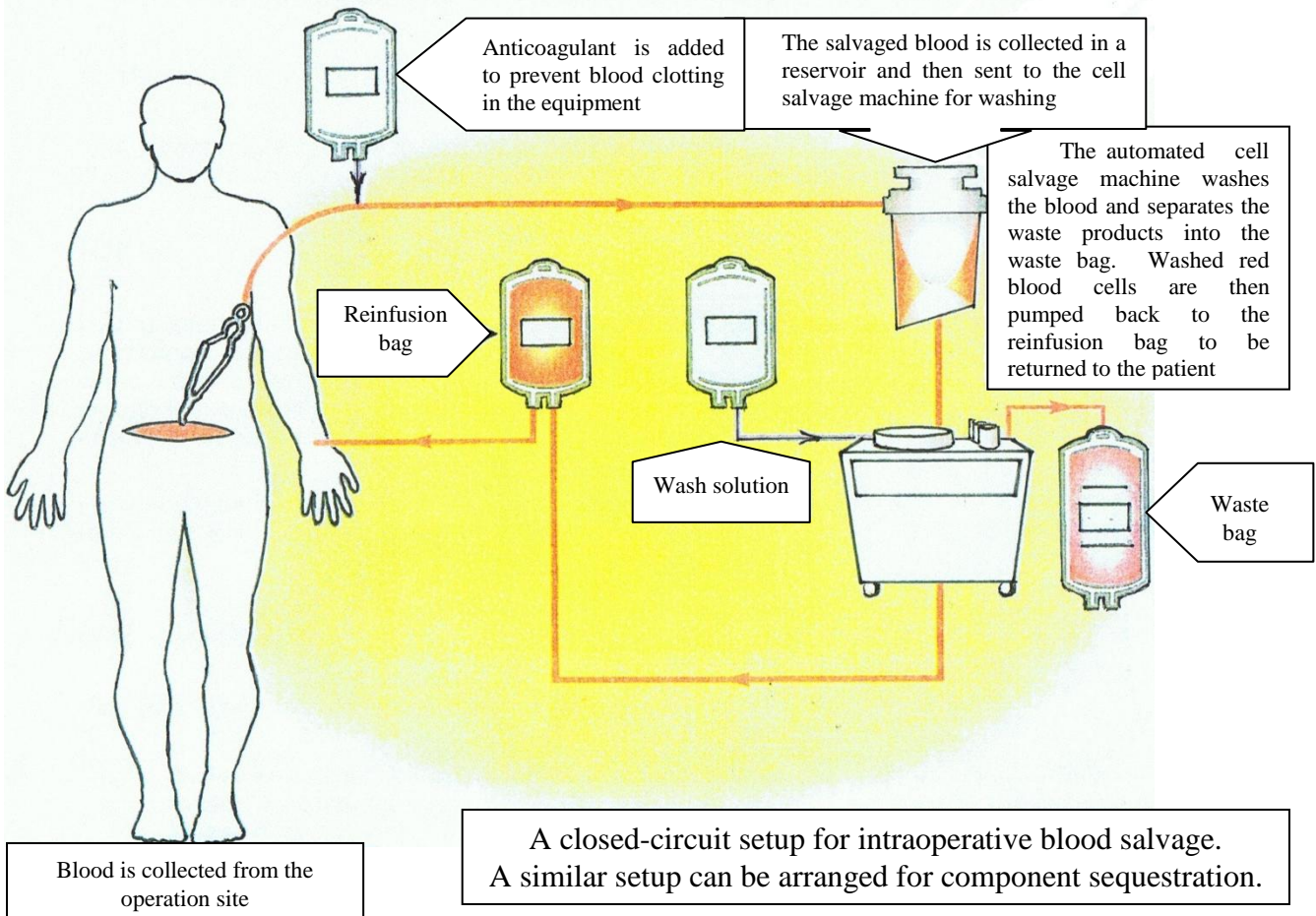
In the operating room, blood is collected into bags before the operation starts



Blood volume is simultaneously restored using volume expanders

The patient's withdrawn blood is returned when major bleeding has ceased. In a closed-circuit setup, all tubing remains connected at all times

## Intraoperative Blood Salvage



Anticoagulant is added to prevent blood clotting in the equipment

The salvaged blood is collected in a reservoir and then sent to the cell salvage machine for washing

The automated cell salvage machine washes the blood and separates the waste products into the waste bag. Washed red blood cells are then pumped back to the reinfusion bag to be returned to the patient

Reinfusion bag

Wash solution

Waste bag

Blood is collected from the operation site

A closed-circuit setup for intraoperative blood salvage. A similar setup can be arranged for component sequestration.

● **Would it be wrong to submit to a blood test?**

Based on their knowledge of the Scriptures, most of Jehovah's Witnesses, if not all, do not object to such tests. The small quantity of blood removed from the body

is not eaten or injected into someone else. It is merely examined or tested before being disposed of.—Deut. 15:23.

● **Are serum injections compatible with Christian belief?**

In our issue of June 1, 1974, we presented in this column a detailed consideration of the use of vaccines (which do not contain blood) and of serums that are made from blood. For such details, please see that presentation on pages 351, 352.

It acknowledged that the medical profession is increasingly turning from the use of whole blood transfusions. Instead, human blood is being separated into primary components that can be transfused—red cells, white cells, platelets and plasma. On this we said: "We believe that the use of blood as a [life-sustaining] transfusion, or the use of a blood component to accomplish a similar purpose, is obviously in conflict with the Scriptural command to 'abstain . . . from blood.' (Acts 15:20)"

What, however, about accepting serum injections to fight against disease, such as are employed for diphtheria, tetanus, viral hepatitis, rabies, hemophilia and Rh incompatibility? This seems to fall into a 'gray area.' Some Christians believe that accepting a small amount of a blood derivative for such a purpose would not be a manifestation of disrespect for God's law; their conscience would permit such. (Compare Luke 6:1-5.) Others, though, feel conscientiously obliged to refuse serums because these contain blood, though only a tiny amount. Hence, we have taken the position that this question must be resolved by each individual on a personal basis. We urge each one to strive to have a clear conscience and to be responsive to God's guidance found in His Word.—Ps. 119:105.

● **How concerned should a Christian be about blood in food products?**

God said to Noah, and thus to the whole human family: "Every moving animal that is alive may serve as food for you. . . . Only flesh with its soul—its blood—you must not eat." (Gen. 9:3, 4) Thus, true worshipers should want to avoid eating meat with blood left in it or other foods to which blood has been added.

This may call for a degree of care. For example, in some lands animals usually are strangled, or killed in some other way that leaves the blood in them. Where this is the local practice, Christians usually buy only from merchants, butchers or farmers who are known to sell meat from animals that have been bled properly.

However, federal regulations on the slaughtering of animals in many countries, as for example, in the United States, require that animals be properly bled. Hence, Christians in these areas have little need for concern. They may freely eat meat that is sold in markets or that which is served in restaurants. (Compare 1 Corinthians 10:25, 26, where the reference is to meat that had been offered to idols: "Everything that is sold in a meat market keep eating, making no inquiry on account of your conscience; for 'to Jehovah belong the earth and that which fills it.'") However, there may be a need to make inquiry about meat from animals killed locally, such as meat from "wild" animals, whether obtained from a hunter, a butcher shop or a restaurant.

But what about food products that may contain blood or some blood component, such as plasma protein?

Some governments require that producers list the ingredients on the label of processed food. Christians who have checked labels over a period of time may have noted that in their area blood is practically never used in foods. Hence, they may rightly have limited their reading of labels only to such times when there is some reason to believe that blood might have been added to an item.

However, recently the Federal Republic of Germany passed a law allowing meat companies to use, without

listing it on a label, up to 2 percent (or, in some cases, 10 percent) dried blood plasma in "wieners, frankfurters and similar products including pâte and roulade . . . meatballs, meat stuffings, fricassee, ragout, meat in lard, . . ." What is the conscientious Christian to do in such cases?

He could make inquiry of the butcher or the producer. It is reported that in response to such inquiries, some producers in one Scandinavian land readily gave assurance that blood is not an ingredient in their processed meats; they do not want to lose business. But, in some places, Witnesses who inquired of butchers or meat producers were given vague or questionable replies. It may be noted that, even if the law permits companies to add some blood without stating it, this does not necessarily mean that all or even most of them do so.

Therefore, Christians, individually, must decide what to do. The consciences of some may move them to avoid anything about which *they* have serious questions or to make such inquiry as is needed to settle their consciences. (Rom. 14:23) In instances where it does not seem possible to get absolute information through reasonable inquiry, other Christians may conclude: "Where there is no substantial reason for me to think that blood is present or there is no definite way that I can determine it, I can with a clear conscience "keep eating." They should, however, consider the conscientious feelings of others, even as Paul counseled.—1 Cor. 10:28-30; Rom. 14:13-21.

True Christians ought not to be indifferent about blood. They should do what they can to avoid a clear violation of God's law. A deep respect for that law is of central importance. By doing all that they reasonably can to "keep themselves . . . from blood," God's people manifest appreciation for the sanctity of life and of the blood representing it.—Acts 21:25.

• **In the light of Bible commands about the proper use of blood, how do Jehovah’s Witnesses view medical procedures using one’s own blood?**

Rather than deciding solely on the basis of personal preference or some medical recommendation, each Christian ought to consider seriously what the Bible says. It is a matter between him and Jehovah.

Jehovah, to whom we owe our lives, decreed that blood should not be consumed. (Genesis 9:3, 4) In the Law for ancient Israel, God limited the use of blood because it represents life. He decreed: “The soul [or life] of the flesh is in the blood, and I myself have put it upon the altar for you to make atonement for your souls.” What if a man killed an animal for food? God said: “He must in that case pour its blood out and cover it with dust.” (Leviticus 17:11, 13) Jehovah repeated this command again and again. (Deuteronomy 12:16, 24; 15:23) The Jewish *Soncino Chumash* notes: “The blood must not be stored but rendered unfit for consumption by pouring it on the ground.” No Israelite was to appropriate, store, and use the blood of *another creature*, whose life belonged to God.

The obligation to keep the Mosaic Law ended when the Messiah died. Yet, God’s view of the sacredness of blood remains. Moved by God’s holy spirit, the apostles directed Christians to ‘abstain from blood.’ That command was not to be taken lightly. It was as important morally as abstaining from sexual immorality or idolatry. (Acts 15:28, 29; 21:25) When donating and transfusing blood became common in the 20th century, Jehovah’s Witnesses understood that this practice conflicted with God’s Word.<sup>†</sup>

Occasionally, a doctor will urge a patient to deposit his own blood weeks before surgery (preoperative autologous blood donation, or PAD) so that if the need arises, he could transfuse the patient with his own stored blood. However, such collecting, storing, and transfusing of blood directly contradicts what is said in Leviticus and Deuteronomy. Blood is not to be stored; it is to be poured out—returned to God, as it were. Granted, the Mosaic Law is not in force now. Nevertheless, Jehovah’s Witnesses respect the principles God included in it, and they are determined to ‘abstain from blood.’ Hence, we do not donate blood, nor do we store for transfusion our

blood that should be ‘poured out.’ That practice conflicts with God’s law.

Other procedures or tests involving an individual’s own blood are not so clearly in conflict with God’s stated principles. For instance, many Christians have allowed some of their blood to be withdrawn for testing or analysis, after which the sample is discarded. Other more complex procedures involving one’s blood may also be recommended.

For example, during certain surgical procedures, some blood may be diverted from the body in a process called hemodilution. The blood remaining in the patient is diluted. Later, his blood in the external circuit is directed back into him, thus bringing his blood count closer to normal. Similarly, blood that flows into a wound may be captured and filtered so that the red cells can be returned to the patient; this is called cell salvage. In a different process, blood may be directed to a machine that temporarily carries on a function normally handled by body organs (for example, the heart, lungs, or kidneys). The blood from the machine is then returned to the patient. In other procedures, blood is diverted to a separator (centrifuge) so that damaging or defective portions of it can be eliminated. Or the goal may be to isolate some of a blood component and apply that elsewhere on the body. There are also tests in which a quantity of blood is withdrawn in order to tag it or to mix it with medicine, whereupon it is put back into the patient.

The details may vary, and new procedures, treatments, and tests will certainly be developed. It is not our place to analyze each variation and render a decision. A Christian must decide for himself how his own blood will be handled *in the course of a surgical procedure, medical test, or current therapy*. Ahead of time, he should obtain from the doctor or technician the facts about what might be done with his blood during the procedure. Then he must decide according to what his conscience permits. (See box.)

Christians should bear in mind their dedication to God and obligation ‘to love him with their whole heart, whole soul, whole strength, and whole mind.’ (Luke 10:27) Unlike most in the world, Jehovah’s Witnesses highly treasure their good relationship with God. The Life-Giver urges all to trust in Jesus’ shed blood. We read: “By means of him [Jesus Christ] we have the release by ransom through the blood of that one, yes, the forgiveness of our trespasses.”—Ephesians 1:7.

\* Professor Frank H. Gorman writes: “The pouring out of the blood is best understood as an act of reverence that demonstrates respect for the life of the animal and, thus, respect for God, who created and continues to care for that life.”

<sup>†</sup> *The Watchtower* of July 1, 1951, answered key questions about this subject, showing why transfusions of donated blood are not appropriate.

### QUESTIONS TO ASK YOURSELF

If some of my blood will be diverted outside my body and the flow might even be interrupted for a time, will my conscience allow me to view this blood as still part of me, thus not requiring that it be ‘poured out on the ground’?

Would my Bible-trained conscience be troubled if during a diagnostic or therapeutic procedure some of my own blood was withdrawn, modified, and directed back into (or onto) my body?



## Plasmapheresis – Information on Healthline

### Definition

Plasmapheresis is a blood purification procedure used to treat several autoimmune diseases. It is also known as therapeutic plasma exchange.

### Purpose

In an [autoimmune disease](#), the [immune system](#) attacks the body's own tissues. In many autoimmune diseases, the chief weapons of attack are antibodies, proteins that circulate in the bloodstream until they meet and bind with the target tissue. Once bound, they impair the functions of the target, and signal other immune components to respond as well.

Plasmapheresis is used to remove antibodies from the bloodstream, thereby preventing them from attacking their targets. It does not directly affect the immune system's ability to make more antibodies, and therefore may only offer temporary benefit. This procedure is most useful in acute, self-limited disorders such as [Guillain-Barré syndrome](#), or when chronic disorders, such as [myasthenia gravis](#), become more severe in symptoms. In these instances, a rapid improvement could save the patient's life. Neurologic diseases comprise 90% of the diseases that could profit from plasmapheresis.

### Precautions

Patients with [clotting disorders](#) may not be suitable candidates for plasmapheresis.

### Description

The basic procedure consists of removal of blood, separation of blood cells from plasma, and return of these blood cells to the body's circulation, diluted with fresh plasma or a substitute. Because of concerns over viral infection and allergic reaction, fresh plasma is not routinely used. Instead, the most common substitute is saline solution with sterilized human albumin protein. During the course of a single session, two to three liters of plasma is removed and replaced.

Plasmapheresis requires insertion of a venous catheter, either in a limb or central vein. Central veins allow higher flow rates and are more convenient for repeat procedures, but are more often the site of complications, especially bacterial infection.

When blood is outside the body, it must be treated to prevent it from clotting. While most of the anticlotting agent is removed from the blood during treatment, some is returned to the patient.

Three procedures are available:

- "Discontinuous flow centrifugation." Only one venous catheter line is required. Approximately 300 ml of blood is removed at a time and centrifuged to separate plasma from blood cells.
- "Continuous flow centrifugation." Two venous lines are used. This method requires slightly less blood volume to be out of the body at any one time.
- "Plasma filtration." Two venous lines are used. The plasma is filtered using standard [hemodialysis](#) equipment. It requires less than 100 ml of blood to be outside the body at one time.

A single plasmapheresis session may be effective, although it is more common to have several sessions per week over the course of two weeks or more.

### Preparation

Good **nutrition** and plenty of rest make the procedure less stressful. The treating physician determines which of the patient's medications should be discontinued before the plasmapheresis session.

### Aftercare

The patient may experience [dizziness](#), [nausea](#), [numbness](#), [tingling](#), or lightheadedness during or after the procedure. These effects usually pass quickly, allowing the patient to return to normal activities the same day.

### Risks

Reinfusion (replacement) with human plasma may cause **anaphylaxis**, a [life threatening allergic reaction](#). All procedures may cause a mild allergic reaction, leading to [fever](#), chills, and rash. Bacterial infection is a risk, especially when a central venous catheter is used. Reaction to the citrate anticoagulant used may cause cramps and numbness, though these usually resolve on their own. Patients with impaired kidney function may require drug treatment for the effects of citrate metabolism.

Plasma contains clotting agents, chemicals that allow the blood to coagulate into a solid [clot](#). Plasma exchange removes these. Bleeding complications are rare following plasmapheresis, but may require replacement of clotting factors.

### Normal results

Plasmapheresis is an effective temporary treatment for:

- Guillain-Barré syndrome (an acute neurological disorder following a viral infection that produces [progressive muscle weakness](#) and [paralysis](#))
- Myasthenia gravis (an autoimmune disease that causes muscle weakness)
- [chronic inflammatory demyelinating polyneuropathy](#) (a chronic neurological disorder caused by destruction of the myelin sheath of peripheral nerves, which produces symptoms similar to Guillain-Barré syndrome)
- [thrombotic thrombocytopenic purpura](#) (a rare blood disorder)
- paraproteinemic [peripheral neuropathies](#) (a neurological [disorder affecting](#) the peripheral nerves)
- blood that is too thick (hyperviscosity)

Other conditions may respond to plasmapheresis as well. Beneficial effects are usually seen within several days. Effects commonly last up to several months, although longer-lasting changes are possible, presumably by inducing shifts in immune response.