

**BLOOD,
MEDICINE
and
The LAW of GOD**

LIFE is a most precious possession and one that is worth vigorous efforts to safeguard it. In its endeavors to alleviate the suffering of humankind and extend life, medical science has introduced numerous treatments for use when health and life are endangered. Prominent among these is blood transfusion. The prevalence of this type of therapy makes it a matter on which all persons, both doctors and those who seek their help, ought to be informed. Does the medical profession endorse the routine administration of blood by doctors? Should patients request blood when under a doctor's care? Are there dangers to the health and life of those who receive such transfusions? Is it safe to donate one's blood? Does the medical profession consider the administration of blood or blood fractions indispensable in cases of hemorrhage due to accident or surgery? Most important, what does the law of God as recorded in the Holy Bible have to say about the use of blood? In the case of an individual who conscientiously rejects the use of blood in any form because of his religious faith, is it compatible with accepted medical practice for a doctor to refrain from administering it? These are questions to which you should know the answers and which you will find thoroughly discussed on the following pages.

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BLOOD, MEDICINE AND THE LAW OF GOD

MEDICAL practice in this twentieth century has forced the issue of blood transfusion before the public. In every part of the world every day blood transfusions are administered. It has been reported that the number of blood transfusions given has increased tenfold in the last decade, over fiftyfold since 1938. According to the president of the American Association of Blood Banks, in the United States alone there are five million blood transfusions in a year.¹*

Reports of severe reactions, disease and even death as a result of the transfusion of blood call for a careful appraisal of the wisdom of this treatment. And the stand taken by nearly a million sincere Christians throughout the world, that blood transfusion violates the law of God and for that reason must be rejected by them, has made it necessary for doctors to give thoughtful consideration to other methods of treatment. It is an issue on which all persons ought to be informed.

GOD'S LAW ON BLOOD

The most important consideration from the standpoint of the Christian is, of course, the law of God. What does it say about blood? Does it permit medical use of blood to sustain life or not?

* Source material indicated by the reference numbers (1 to 89) is all listed on pages 59 to 62.

Divine regulation of the handling of blood dates back to God's pronouncement to Noah immediately after the global flood, over 4,300 years ago. There, for the first time, God granted permission for man to add meat to his diet, saying: "Every moving animal that is alive may serve as food for you. As in the case of green vegetation, I do give it all to you. Only flesh with its soul—its blood—you must not eat." (Genesis 9:3, 4) Before this the question had not been raised. Man ate only the soulless fruits and vegetables. But now when meat was given to man as food, the Creator specifically forbade any eating of blood.

When the nation of Israel was brought into covenant relationship with Jehovah God, he again emphasized the restriction on blood. "It is a statute to time indefinite for your generations, in all your dwelling places: You must not eat any fat or any blood at all." (Leviticus 3:17) Absolutely no blood, regardless of the source, animal or human, was to be taken into the body as food. Instructions on how to handle animals that were to be used for food were specific: "As for any man of the sons of Israel or some alien resident who is residing as an alien in your midst who in hunting catches a wild beast or a fowl that may be eaten, he must in that case pour its blood out and cover it with dust. For the soul of every sort of flesh is its blood by the soul in it. Consequently I said to the sons of Israel: 'You must not eat the blood of any sort of flesh, because the soul of every sort of flesh is its blood.'" (Leviticus 17:13, 14) It was not to be eaten; it was not to be stored. The soul—the life—was in the blood; it belonged to God, and he commanded that it be poured out upon the ground. Not just once, but over and over again this commandment was stated. "Simply be firmly resolved not to eat the blood, because the blood is the soul and you must not eat the soul with the flesh. You must not eat

it. You should pour it out upon the ground as water. You must not eat it, in order that it may go well with you and your sons after you, because you will do what is right in Jehovah's eyes."—Deuteronomy 12:23-25.

The matter was not to be taken lightly. Any violation of the law on blood was a serious sin against God, and God himself would call the law violator to account. "As for any man of the house of Israel or some alien resident who is residing as an alien in your midst who eats any sort of blood, I shall certainly set my face against the soul that is eating the blood, and I shall indeed cut him off from among his people."—Leviticus 17:10.

Even in time of stress it was recognized that there was no justification for setting aside the divine law concerning abstinence from blood. This came to light on one occasion when the Israelites under King Saul were fighting against the Philistines. It had been a hard fight and the men were exhausted. "And the people began darting greedily at the spoil and taking sheep and cattle and calves and slaughtering them on the earth, and the people fell to eating along with the blood." This was no trivial matter, to be passed over because of the physical condition of the men. It was reported to Saul: "Look! The people are sinning against Jehovah by eating along with the blood." (1 Samuel 14:32, 33) It was not merely a dietary indiscretion; it was a sin against God, and immediate steps were taken to put an end to it.

How much more this restriction would have application in the case of human blood! This is well illustrated in an incident that occurred during the reign of King David when the Philistines still had a garrison in Bethlehem near Jerusalem. "David showed his craving and said: 'O that I might have a drink of the water from the cistern of Bethlehem, which is at the gate!' At that the

three forced their way into the camp of the Philistines and drew water from the cistern of Bethlehem, which is at the gate, and came carrying and bringing it to David." What they brought was nothing more than water, but they did it at the risk of their lives, and David knew it. "And David did not consent to drink it, but poured it out to Jehovah. And he went on to say: 'It is unthinkable on my part, as regards my God, to do this! Is it the blood of these men that I should drink at the risk of their souls? For it was at the risk of their souls that they brought it.' And he did not consent to drink it." (1 Chronicles 11:16-19; 2 Samuel 23: 15-17) David had respect for the law of God, and he wanted to avoid doing anything that even resembled violation of that law. He was a man after God's own heart. The course that he took has been recorded for our guidance.

APPLICATION TO CHRISTIANS

When the law covenant ended, being superseded by the new covenant made over the blood of Jesus Christ, did the restrictions on the use of blood pass away too? No, because this law did not originate with the law covenant; it was only repeated and emphasized there. Of interest in this connection is the observation made in Benson's *Commentary*, Volume I, which says: "It ought to be observed, that this prohibition of eating blood, given to Noah and all his posterity, and repeated to the Israelites, in a most solemn manner, under the Mosaic dispensation, has never been revoked, but, on the contrary, has been confirmed under the New Testament, Acts xv.; and thereby made of perpetual obligation."² And Dr. Franz Delitzsch, noted Bible commentator, in agreement with this, says that this is not a requirement of the Jewish law to be abolished with it; it is binding on all races of men and was never revoked; there must be a sacred

reverence for that principle of life flowing in the blood.⁸

The prohibition of the consumption of blood was no mere dietary law of the Jews. It is applicable to all mankind, all of whom are the descendants of Noah. In harmony with this and underscoring the importance of the matter, just sixteen years after Jesus established the Christian congregation the visible governing body made up of the apostles and other mature Christian men at Jerusalem focused the attention of all Christians on their obligation in connection with the matter, saying: "For the holy spirit and we ourselves have favored adding no further burden to you, except these necessary things, to keep yourselves free 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.

This cannot properly be viewed as a decree of merely temporary concern, designed to avoid stumbling first-century Jewish converts, as some have speculated. The decision was made as a result of the guidance of God's holy spirit, his active force, and, far from being a mandate that could later be dispensed with, it was clearly stated that these were "necessary things." Note the wording of the decision as it touches on the matter of blood. Its scope is not limited as to time, nor is it restricted to animal blood or to the taking of blood into the body through the mouth. The terminology is all-inclusive: "Keep yourselves free . . . from blood."

Since it was forbidden to take the blood of another creature into one's own body, it would necessarily follow that it would be wrong to give one's blood to be infused into the body of another person. This is implied in the greatest commandment of the Law, which says: "You must love Jehovah your God with your whole heart and with

your whole soul and with your whole mind." (Matthew 22:37) And what is involved in loving God with our whole soul? Remember that in his post-Flood statement of the law to Noah, God equated the soul with the blood, saying: "Only flesh with its soul—its blood—you must not eat." (Genesis 9:3, 4) Later he restated the principle to the Israelites: "The blood is the soul." (Deuteronomy 12:23) We cannot drain from our body part of that blood, which represents our life, and still love God with our whole soul, because we have taken away part of 'our soul—our blood—' and given it to someone else. Nor would it be sound to argue that loving one's neighbor as oneself would warrant such giving of blood to another person. Love of neighbor is the second commandment and is limited by the first one, which requires complete love of God, consequently obedience to his commandments.—1 John 5:3.

Jehovah God, who is lovingly obeyed by his worshipers, has authorized only one arrangement among his Christian witnesses by which the blood of one creature may be used on behalf of another to save life, and that is by means of the ransom sacrifice of Jesus Christ. "By means of him we have the release by ransom through the blood of that one, yes, the forgiveness of our trespasses, according to the riches of his undeserved kindness." (Ephesians 1:7) The blood of Jesus was poured out on behalf of mankind, not by way of transfusion, which could have been administered to a few persons at most, but by means of sacrifice, and its benefits are available to all from among mankind who exercise faith in that divine provision. Wisely, worshipers of the true God, knowing that the blood represents life, avoid using their blood or that of any other creature for any purpose that has not been authorized by the Life-giver.

OBEDIENCE OF EARLY CHRISTIANS

By their obedience to God's law requiring abstinence from blood early Christians stood out in contrast to the world around them. It is reported that ancient Egyptian princes bathed in human blood for rejuvenation. Other men would greedily devour flesh that had been freshly slashed from a living animal, considering it a delicacy because it was still quivering with life and dripping with blood. Treaties were made by some peoples by cutting their arms and presenting the gashes to each other to draw out some of the blood by mouth. Spectators at the Roman gladiatorial contests would even rush into the arena to suck the blood from the vanquished gladiators, supposing that they might thereby acquire the strength of the dying man.⁴ What a contrast to the Christian respect for the sanctity of life!

So well known was it that the Christians would not consume blood that one's consenting to eat even a little bit of blood sausage was taken as evidence that he was not a Christian or that he had renounced the faith. It is reported that "during the persecutions the pagans tested the Christians by leaving them only the choice of suffocated meats and blood-sausage."⁵

At one time, in a propaganda move to make the public abhor the Christians, the Romans charged that these followers of Jesus Christ slew their own children and drank their blood at their secret meetings. But Tertullian, writing in their defense, showed how ridiculous the charge was, arguing that the prohibition of animal blood from their diet obviously precluded the much more gross wrong of consuming human blood. And he produced evidence to show that the Romans were well aware of this Christian stand. "Let your error blush before the Christians, for we do not include even animals' blood in our natural diet," he said. "We abstain on

that account from things strangled or that die of themselves, that we may not in any way be polluted by blood, even if it is buried in the meat. Finally, when you are testing Christians, you offer them sausages full of blood; you are thoroughly well aware, of course, that among them it is forbidden; but you want to make them transgress."⁶ But faithful Christians would not transgress, even if doing so would mean release from a punishment of death.

Although there was a drifting away from the true faith after the death of the apostles, it is reported that "in the Christian Church the custom of refraining from things strangled and from blood continued for a long time."⁷ Even in the year 692, a religious council in Troullos (in Constantinople) prohibited any food made of blood. It decreed: "We suitably rebuke those, who in some way prepare a meal with the use of the blood of any animal and they thus eat it in order to satisfy the glutinous belly. If, therefore, anyone will henceforth attempt to eat the blood of any animal in whatsoever way, he will, if a priest, be unfrocked and excommunicated if a layman."⁸

VIOLATIONS OF GOD'S LAW

Christians in this twentieth century are faced with both local and national practices involving the use of blood that are not at all unlike those prevalent in the days of the apostles. In some places in Africa natives tap the jugular vein of cattle to drink the blood. In many places men wait in line to drink the hot blood of animals killed in the slaughterhouses. Blood puddings and blood sausages are sold under various names almost everywhere. Blood is commonly used in some Oriental countries in soups and gravies, and it may be prepared and sold as candy or used in other dishes that are considered to be great delicacies. These misuses of blood are

obvious violations of God's law on blood, and Christians avoid them.

However, refraining from eating blood by itself and from deliberately mixing it in foods being cooked at home is not the extent of the prohibition imposed by God. Animals that are used as food must be properly bled. This rules out the eating of any animal that has been smothered or found dead in a trap or an animal that did not have its throat slit to allow proper bleeding after being shot. The custom in many places of killing chickens by strangulation, breaking the neck but not cutting it, also renders these unfit for consumption by Christians. If one learns that his butcher does not properly bleed the animals sold for food, he wisely finds another place to do business or even refrains from eating those meats if nothing properly bled is available. Likewise, a conscientious person refrains from eating chicken or other meat in restaurants in places where he knows that little or no attention is given to the matter of proper bleeding. Under these circumstances, if a Christian wants to have meat in his diet he may buy a live animal or fowl and do the killing himself.

Disrespect for God's law forbidding consumption of blood has become so prevalent in the world that whole blood, blood plasma and blood fractions are used in numerous products that are in common use. Some meat-packing houses put whole blood or blood plasma into their wieners, bologna and other cold-meat loaves. In certain localities bakers use powdered blood plasma in pastry as a substitute for eggs. Numerous tonics and tablets sold at drug-stores contain such blood fractions as hemoglobin. So it is necessary for one to be on the alert, to make reasonable inquiry at places where he buys meat and to read the labels on packaged products. As the old world becomes more careless in its attitude toward the law of God it is vital for the Chris-

tian to become ever more watchful if he is to keep himself "without spot from the world."—James 1: 27.

MEDICAL USE OF BLOOD

Over the centuries man's use of blood has taken different forms. Even as it was used by Egyptian princes in efforts at rejuvenation, so in 1492, it is reported, the blood of three young men was used in an unsuccessful endeavor to revive Pope Innocent VIII. But not until after William Harvey's research into the circulation of the blood, in 1616, was there any extensive effort made to transfuse the blood of one living creature into the veins of another. In an early attempt at blood transfusion lamb's blood was used, with apparently good results, but later when a patient died as a result of such treatment, the physician was tried for murder. Though there was further experimentation in the field, in the latter half of the nineteenth century the use of salt solution in the treatment of shock and hemorrhage proved itself much safer and virtually replaced the transfusion of blood.⁹

Research by Austrian-born pathologist Karl Landsteiner at the turn of the century again shifted the tide of interest in blood transfusion when he discovered that there are certain factors that cause the red cells of the blood to clump together when mixed with blood of another type, and he declared that with regard to this agglutinating reaction there are three blood types. A few years later clinical methods were developed for typing and matching blood in order to avoid incompatibility reactions. Bolstered by the emergency of World Wars I and II and the Korean war, blood transfusion became established as standard medical treatment.

In the endeavor to understand the human body and maintain health, man has learned much about

the composition and purpose of the human blood. It is known that the blood includes plasma, which is the fluid part and which carries in solution various other substances, and that there are suspended in the plasma red blood cells (erythrocytes), white blood cells (leukocytes), and blood platelets (thrombocytes). The plasma, which is about 91 percent water, makes up about 55 percent of the blood volume; it contains various plasma proteins, such as albumin, globulin and fibrinogen, in addition to other organic and inorganic substances. The plasma plays a vital role in carrying food and water to the body cells to sustain life. The red cells, which contain hemoglobin, are the oxygen carriers, and without them all life processes in the body would rapidly end. It is said that these red cells, numbering approximately thirty million million in an average adult man and with a life span of about 100 to 120 days, are worn out and replaced at the rate of ten thousand million an hour. White cells are not as numerous as the red cells, but they carry on warfare against disease and infection in the body. The platelets occupy a key role in blood coagulation, stopping bleeding by plugging up unwanted openings in the vascular system. Thus even a very brief résumé of the functions of the blood spotlights the fact that our life processes are dependent upon blood.

With the progress of medical research, methods have been developed by which the blood could be separated into its component parts. Doctors can use plasma instead of whole blood. Red cells can be used apart from the plasma, and the plasma proteins can be separated for specialized treatment.

GOD'S LAW AND BLOOD TRANSFUSION

Is God's law violated by these medical procedures that involve the use of blood? Is it wrong to sustain life by administering a transfusion of blood or

plasma or red cells or others of the component parts of the blood? Yes! The law God gave to Noah made it unlawful for anyone to eat blood, that is, to use it for nourishment or to sustain life. Since this is wrong in the case of animal blood, it is even more reprehensible in the case of human blood. The prohibition includes "any blood at all." (Leviticus 3:17) It has no bearing on the matter that the blood is not introduced to the body through the mouth but through the veins. Nor does the argument that it cannot be classed with intravenous feeding because its use in the body is different carry weight. The fact is that it provides nourishment to the body to sustain life.

Of interest in this connection is the statement found in the book *Hemorrhage and Transfusion*, by George W. Crile, A.M., M.D., who quotes a letter from Denys, French physician and pioneer in the field of blood transfusion. It says: "In performing transfusion it is nothing else than nourishing by a shorter road than ordinary—that is to say, placing in the veins blood all made in place of taking food which only turns to blood after several changes."

In view of the constant developments in the field of medical research, new treatments involving the use of blood and its component parts are constantly coming to the fore. But regardless of the method used to infuse it into the body and regardless of whether it is whole blood or a blood substance that is involved, God's law remains the same. If it is blood and it is being used to nourish or to sustain life the divine law clearly applies.

Mature Christians who are confronted with a decision to make as to the acceptability of medical therapy that involves the use of blood are not going to take the viewpoint that since technique has changed the law no longer applies. They are not going to feel that if they have some of their own blood stored for transfusion, it is going to be more

acceptable than the blood of another person. They know that God required that shed blood be poured out on the ground. Nor are they going to feel that a slight infraction, such as momentary storage of blood in a syringe when it is drawn from one part of the body for injection into another part, is somehow less objectionable than storing it for a longer period of time. They are not trying to see how close they can walk to the line without overstepping the law. Instead, they copy the fine example of David, the one whom Jehovah said was a man after his own heart and who, in the matter of blood, avoided doing anything that even resembled violation of the divine prohibition.

In recent years the stand taken by the Christian witnesses of Jehovah in harmony with the law of God forbidding the consumption of blood has received wide publicity. News reports have played on the ignorance and emotions of the public to misrepresent Jehovah's witnesses as a group of religious fanatics that ignore the pleas of their families to listen to the doctor, forbid proper medical care for their children, and would rather die than submit to the treatment recommended by medical science. Since Jehovah's witnesses bear the name of God, this besmirching of their name has turned many persons against God and his Word as unreasonable and unloving. But God's way is not unreasonable and unloving. His is the right way, and a sincere consideration of his Word enables us to get matters in proper focus. He is the Creator of the universe, the One who made us, and who knows what we need in order to live. Our life is dependent upon obedience to him. Moreover, by his laws God lovingly protects man from unwise courses that he might pursue in ignorance and that would lead to either temporary or lasting harm. The facts have proved this to be true in regard to his law prohibiting the consumption of blood.

MEDICAL VIEWPOINTS

Is the viewpoint of Jehovah's witnesses compatible with the findings of medical science? Apparently not, if the basis for judgment is the frequency with which doctors administer blood to their patients. Blood is viewed as lifesaving, vital to successful treatment in countless cases. Its use has become routine. "As we all know," says the *Bulletin* of the American Association of Blood Banks, of January, 1960, "the general tendency if in doubt is to give blood in the belief that it will 'do some good.'" A doctor who is deprived of it often feels that his hands are tied and there is nothing he can do. True, there are plasma expanders that can be used, but, he emphasizes, none of these can take the place of blood. The doctor usually feels that any risks are far outweighed by the advantages.

It should be emphasized that the viewpoint of Jehovah's witnesses on the matter is entirely religious, based on the law of God as recorded in his Word the Bible, not on medical findings. Whether the procedure is considered safe or dangerous from a medical standpoint in no way influences their position, but it does influence the thinking of doctors to whom Jehovah's witnesses go for treatment; so it is good to look at both sides of the picture.

While some of Jehovah's witnesses are doctors and nurses, the majority are not, so they are not going to try to tell the doctor that they know more about his business than he does. However, since the refusal of blood transfusion is an issue that particularly involves Jehovah's witnesses, we are glad to co-operate with doctors, saving them time in research in their own medical literature, by putting at their disposal information from medical publications that will help them to appreciate that even from a medical viewpoint the religious belief of Jehovah's witnesses on the matter of blood is not unreasonable and that, even without the use

of blood, there is much that can be done for those who need treatment.

It ought to be of great interest both to doctors and their patients to consider what medical journals have to say about the prevalent view that the routine use of blood is completely safe. Adopting this viewpoint that has been fostered by many doctors in their efforts to allay any fears on the part of their patients in regard to blood transfusion, lawyers have argued that the doctrine of *res ipsa loquitur* ought to apply in all cases where transfusions result in death. The expression *res ipsa loquitur* means "the thing speaks for itself," and its application to these cases implies that, since it is generally accepted that blood transfusion is safe, any fatality is strong evidence of negligence on the part of the one administering it, and it places upon him the duty to prove in court that he was not negligent, while the plaintiff need produce no evidence other than the fact of death following transfusion.¹⁰

Medical literature argues that this view, popular among both doctors and the public, that the routine use of blood is safe, is wrong. In a straightforward appraisal of modern therapeutic use of blood, Lester J. Unger, Director of the Blood Bank at New York University Bellevue Medical Center, wrote in the *New York State Journal of Medicine*: "Blood transfusions have been administered on the theory that they can never do any harm and might possibly benefit the patient. This idea is wrong because there are dangers inherent in blood transfusion."¹¹ The dangers associated with it exclude it from the field of simple medication and call for a careful reappraisal of its use. In *The Blood Bank and the Technique and Therapeutics of Transfusions* it says: "The procedure is very often considered only a simple intravenous medication or a minor operation, while in reality its potential dangers place it

with major operations.' Perhaps this realistic view has been insufficiently appreciated."¹² "The opinion that the transfusion of blood is a simple therapeutic measure is not true," says the book *Surgery for the House Doctor*, used in the Netherlands. "In accordance with our increase of knowledge, the responsibility which one takes upon himself with the transplantation of the blood of one man to another takes on more weight."¹³ It would be far better for everyone concerned if physicians had not lost their fear of blood transfusions and patients were not so anxious to request them. Yes, "it is unfortunate," says the journal of the American Academy of General Practice, "that many have lost the fear of transfusion and now order a transfusion as blithely as ordering a bottle of saline."¹⁴

That there are risks associated with the transfusing of blood was well known in years gone by, but the passing of time and the frequency with which blood is used tend to dim appreciation of those risks. British doctor J. D. James warns of this in *Practical Blood Transfusion*: "The world-wide increase in the therapeutic use of blood has by familiarity led to the danger that the risks associated with it will not be appreciated or will have been forgotten."¹⁵ The Medical Director of the Milwaukee, Wisconsin, Blood Center further emphasizes this point, deplored the routine manner in which blood is dispensed and encouraging doctors to realize that it is not merely on a rare occasion that blood can be dangerous, but that every bottle of blood is potentially lethal. He says: "A request for a blood transfusion requires no more effort than an order for aspirin.... This simplification has led to a frightening disregard of the potential lethal dangers which lurk in every bottle of blood."¹⁶

Widespread misconceptions obviously lead to widespread abuses. Though a doctor may sincerely prescribe blood, the medical profession feels that

too often he does so unwisely. Thus an article in *The Surgical Clinics of North America* reports: "Partially as a result of the ease and availability, as well as a distorted impression as to its value in many situations, injudicious use of this potent therapeutic agent occurs not infrequently."¹⁷ And just how frequently is blood injudiciously prescribed? In an article published in the *Canadian Medical Association Journal* of December 1, 1957, Bruce Chown, M.D., of Winnipeg, Manitoba, charges: "At least half of all transfusions are unnecessary; personally I think the proportion is much higher than that." He is not alone in his view. When the American College of Surgeons recently met in San Francisco it complained that perhaps 55 percent of transfusions are of only a single pint and that far too many of these are both unnecessary and unwise from a medical standpoint.¹⁸ Some contend that no single-pint transfusion for an adult is needed badly enough to be worth the risk.¹⁹

In view of these facts, how should a doctor view the use of blood? Again, let the answer come from those associated with the medical profession. The answer that they give is that there probably is no other treatment that is as dangerous! Listen to what Emanuel Hayt, counsel for the Hospital Association of New York State, says in discussing "Legal Problems of Blood Transfusion": "There is probably no biological product in medical therapy that carries with it more possibilities of dangerous error than blood."²⁰ His opinion is not an isolated one. "The problems, both clinical and technologic, that are involved in the injection of [blood and blood substances] are unparalleled in parenteral therapy," says the book *Essentials of Medicine*.²¹ It is "potentially highly dangerous"²² and "the risk inherent in blood transfusion is not inconsiderable,"²³ say other doctors. And in a Med-

ical Bulletin of the U.S. Army, William H. Crosby, chief of the Department of Hematology at the Walter Reed Army Institute of Research, sternly charges that the way blood is being administered today is "playing Russian roulette with bottles of blood instead of a revolver."²⁴ That is no game for doctors to play with their patients.

In other words, doctors everywhere are being urged to change their viewpoint on the use of blood. Medical science does not support the claim that blood transfusions are necessarily lifesaving; rather, it underscores the fact that they are dangerous.

COMPLEX NATURE OF BLOOD

To appreciate the problems involved, it is necessary to draw attention to the blood groups, which are determined by a study of factors present in the blood cells and the plasma. Generally it is said that there are four main blood groups, designated A, B, AB, and O.²⁵ So when blood transfusions are planned, the blood type of the donor must be determined to assure that he is given "compatible" blood. But this is a dangerous oversimplification of the problem. There are not merely four blood groups that have to be taken into consideration. Blood is extremely complex; yes, it has been called "the most complex biologic product used routinely in clinical therapy."²⁶ In fact, some years ago, Dr. A. S. Wiener, one of the foremost living authorities on the subject, contended that human blood may well prove to be as individualistic as fingerprints.

More factors are constantly being discovered, not factors that are of little consequence, but factors that cannot be ignored. Almost every year a new blood system is being found.²⁷ As the *American Professional Pharmacist*, of March, 1960, presented the situation: "There have been more than twenty new blood factors, each with its own sub-groups capable of causing agglutination in sensitized per-

sons, discovered since 1940. In different combinations they are present in various individuals, and more than 15,000,000 combinations of blood factors are possible."²⁸ What doctor can administer a substance like that without causing harm? No wonder *The Surgical Clinics of North America* has said: "Serologic heterogeneity of its component parts poses serious problems to prevent reactions."²⁹ And in a similar vein, *Medical Science* for July 25, 1959, warned: "Since the number of known red-cell antigens is growing yearly, it seems probable that no person's blood can be given to another without some danger of producing isosensitization." In other words, in the administration of blood the doctor is introducing into the body of his patient a substance that, while he feels it may do some good, almost invariably does harm—harm that may manifest itself by grave reactions almost immediately or harm that may not take its toll for many years. But whether the effect is immediate or delayed, damage is done.

TRANSFUSION REACTIONS

One of the more immediate difficulties that may arise is a hemolytic reaction, that is, the red cells are attacked by antibodies in the blood in an all-out war that results in their rapid destruction. This may cause the patient to complain of bursting headaches, pains in the chest and the back. The kidneys may cease to function, with the result that poisons back up into the system. Death may ensue within a few hours or a few days. In other cases none of these symptoms appear at the time of the transfusion, or if the patient is under anesthesia at the time of the administration of blood they may not be discernible, and as a result large quantities of blood may be administered without suspecting that there is any incompatibility.³⁰

Emphasizing the danger of hemolytic reactions even when care has been exercised to check for compatibility is a report from the Fifth International Congress of Blood Transfusion,³¹ which reported on a case as follows: "A patient who had been operated on for a simple ovarian cyst and whose recovery had been uneventful was about to be discharged from the hospital. The physician noted a slight pallor and a complete blood count revealed a low-grade, secondary anemia. He explained to the patient that she could go home that afternoon if she wished, but that it would then be necessary for him, at his office, to treat the anemia, probably for a period of 6 months. He further stated that if, however, she would stay in the hospital one additional day and receive a blood transfusion, she would most likely not need any further treatment. She chose the latter course. Laboratory examination showed that her blood was group B Rh-positive, and 500 cc. of group B Rh-positive were ordered and admittedly received, cross-matched, declared compatible and administered. By that evening the patient's temperature was 106° F. and by the next morning she was jaundiced and had anuria. Within 24 hours she was dead. . . . There was no question about the fact that this was a hemolytic post-transfusion reaction."

This problem is not obsolete. "In spite of the general knowledge of the danger of a hemolytic transfusion reaction resulting from mismatching of the major blood-group antigens A, B, and D (Rh), and notwithstanding the care taken to avoid such errors, the incidence of hemolytic reactions to blood transfusions is substantial . . . The mortality of hemolytic transfusion reactions is approximately 50 percent." So says the textbook *Principles of Internal Medicine*.³² It is something to which no doctor can shut his eyes; he cannot honestly argue that there is no danger to his patient. "Try as we

may we can only reduce the incidence of reactions," says W. H. Crosby of the Walter Reed Army Medical Center. "We cannot eliminate them, and patients will continue to be damaged as a result of blood transfusions."³³

There are numerous other dangers, some of which are considered to be of major consequence and others of minor consideration from a medical standpoint, but all of them are of serious concern, because all of them can cause death. For example, there is the danger of circulatory overload, putting too much blood into the body, so forcing the circulatory system to a stop. Air may be introduced to the blood stream, producing fatal reactions. Contaminated blood too is death-dealing. And it has been found that blood stored under certain conditions develops a high potassium content, and in cases of massive transfusion it can cause cardiac arrest.³⁴

Are these situations only theoretical, but in actuality nothing about which an individual needs to be concerned? Not at all! If they were a thing of the past, there would be no reason for medical journals to carry the numerous articles that are currently appearing warning against all these dangers and citing cases in which they have cost the lives of patients.

Consider the danger of circulatory overload. It might seem to be an easily avoided complication. A doctor might dismiss it as of little concern, since he is careful in his work. But is it really inconsequential? If a patient is in shock, but there has been no external hemorrhage, blood fluids having been lost into the body tissues, how is the doctor to know exactly how much blood he can administer? And even if the blood loss has been due to hemorrhage, how is the actual blood loss to be determined if there has been profuse bleeding even before the doctor arrived on the scene? That the situation is

not hypothetical or one to be brushed aside as of little importance is emphasized by the statement in *Medical Science* of July 25, 1959: "The frequency of circulatory overload is difficult to ascertain accurately, but it is the impression of pathologists that this is the most common cause of death from blood transfusion."³⁵

Air embolism too can be deadly. It is true that equipment can be used that largely eliminates the difficulty, but not all blood transfusions are administered with such equipment. Even in sizable cities in the United States, which it might be thought would have access to the best of medical equipment, there are cases of fatality.³⁶ There is more than the mechanical procedure that must be taken into consideration; there is the human element. And when the one administering the transfusion forgets the danger because of its infrequency and allows himself to be diverted, difficulty easily arises.

As to contamination of blood, it may be thought that the care with which blood is handled would eliminate the problem, and that any danger that could arise in spite of that care would be eliminated by the refrigeration of the blood in storage. Not so! The fact is that no satisfactory means has been found to prevent chance contamination of blood to be transfused.³⁷ Even when reasonable care is exercised, contamination can take place when the blood is being collected, before it is used or at the very time of administration. It has even been found that certain bacteria found in the air, dust and water, and known as "gram-negative bacilli," are able to utilize the citrate in stored blood and reproduce at refrigerator temperatures, liberating into the blood poisons that are deadly to human recipients. "Transfusion of as little as 50 ml. of blood contaminated with gram-negative bacilli is sufficient to produce shock, circulatory failure and death within a few hours," reports the *Bulletin of*

the Association of American Blood Banks.³⁵ According to a news report from Copenhagen, Denmark, such contamination of blood resulted in the death of five patients in a hospital there in just one week.³⁹

Is it any wonder that Dr. Lester J. Unger, of the New York University Bellevue Medical Center, in speaking on the matter of transfusions, said: "Blood is dynamite!"?⁴⁰ In no uncertain terms the medical profession warns doctors who feel that it is a harmless procedure that they are wrong!

RH SENSITIZATION

Damage done by incompatible blood does not terminate with these complications that come to light soon after the transfusion. In the case of women, for instance, great harm can be caused by Rh sensitization. The majority of the population have what is called an Rh factor in their red blood cells, and their blood is termed Rh positive. A minority do not show this characteristic, and so are said to be Rh negative. If an Rh-negative woman is given a transfusion of Rh-positive blood, it results in a build-up of antibodies in her blood, and if such blood should again be introduced to her system it might result in a serious reaction, even causing death. Once this sensitization has been developed, it lasts for life.

The introduction of incompatible blood to an already sensitized woman might occur during pregnancy. While there is no direct flow of blood between the mother and the fetus, yet by osmosis there is some transfer of blood between the mother and the baby through the placenta. If the unborn child has Rh-positive blood, and its Rh-negative mother has, as a result of an incompatible blood transfusion, developed a strong force of antibodies to it in her blood, this transfer of blood may set in operation a hemolytic, or red-cell destroying, re-

action in the unborn child, leading to damage of the brain cells. The disease is known as erythroblastosis fetalis. If it progresses far enough, the child may be stillborn, or after birth severe jaundice may set in, leading to death within a short period of time.⁴¹

It does not take much of the incompatible blood to sensitize the mother. A single transfusion can do it; so might an injection of even a very small amount of incompatible blood.

Consider the case of a woman who was given a blood transfusion during an operation in 1940. Seven years later she gave birth to a child, and it was then that the transfusion took its toll. In spite of the medically prescribed exchange transfusion of blood, the child died within a few hours after birth. Two years later she again became pregnant, but after only five months she gave birth to a macerated fetus. Commenting on the case, Mollison's *Blood Transfusion in Clinical Medicine* says: "It seems unlikely that this couple will have any living children, and the transfusion in the past of a single bottle of Rh positive blood must be held responsible for this."⁴²

Of course, today, knowing that the danger exists, doctors give it consideration, and in most places blood is carefully checked for Rh compatibility. Yet that is no basis for confidence. Why not? Note what Bruce Chown, M.D., associated with the University of Manitoba Rh Laboratory in Winnipeg, relates: "One day in 1951 Mrs. Schmaltz, let us call her, then three months gone in her third pregnancy, went to bed feeling well. In the night she woke to find her waters had broken, and early next morning she delivered herself of a fetus. For a day and a night she bled at home; then she went to the hospital. She was pale; her haemoglobin was not measured. She was no longer bleeding. Next day towards noon she was taken to the operating

room, curetted and, while still under the anaesthetic, given a transfusion. (Luck was with the operator; she didn't have a reaction.) Next day she felt fine and was given another transfusion, and a few days later she went home. Death played his trump cards five years later when a baby was born to Mrs. Schmaltz with erythroblastosis, from which it died before it could be transfused. The erythroblastosis was not due to the Rh factor . . . but to an entirely unrelated blood group system. The most careful selection of the donor blood under our present methods of selection would not have prevented this sensitization of the mother and the consequent death of the baby."⁴³

No wonder medical literature pleads with doctors to slow down on their use of blood, and that out of consideration for both their patients and the generation yet to be born!

DISEASE DANGERS

If the law of averages works in favor of the patient and there is no immediate or delayed transfusion reaction that snuffs out life, neither the doctor nor the patient can feel at ease if blood has been administered. Disease may lie ahead, and the patient may find himself reduced to a condition worse than that for which he was being treated when the transfusion was given. For this reason, *Nursing Times*,⁴⁴ the journal of the Royal College of Nursing in England, after itemizing some of the dangers of incompatibility reaction, adds this word of caution: "Possibly less well appreciated by those who see only the administration of blood is the risk of transmitting to the patient diseases or undesirable conditions present in the donor. Four types of conditions have been repeatedly reported as having been transmitted by blood transfusion—syphilis, malaria, hepatitis and allergic conditions. These four remain the

main problem children of those responsible for the provision of blood."

The danger of syphilis is nothing to shrug off as inconsequential. The preliminary unpleasant effects may be followed by far more severe reactions months or even many years later. It is said that syphilis is responsible for a significant proportion of all untimely births. It also leads to numerous other pitiful conditions, such as blindness, deafness, paralysis, heart disease, insanity and death.⁴⁵ There are treatments that can be administered, but not all who contract the disease report their condition to the doctor so they can receive treatment, and, it must be added, a surprising percentage of those who are treated fail to respond to the antibiotics that are given.

This complication in the use of blood might be eliminated if blood were never accepted from a syphilitic donor, but that is not only difficult but even impossible to realize. Most blood banks do not even ask donors if they have syphilis, because it is an embarrassing question and they know full well that they cannot expect a truthful answer. People who engage in sexual promiscuity are not honorable, and very few of them are going to volunteer an account of their deviations unless they are forced to do so in order to regain their own health. If they have no compunction about corrupting a person of the opposite sex in order to gratify their sexual lust, surely they are not going to suffer pangs of conscience at the thought of infecting through a blood transfusion a person they do not even know, especially if there is some personal financial gain involved.

Well aware that personal questioning of donors will not yield reliable information, blood banks rely on their own analysis of the blood, usually the Wassermann test. In the majority of cases syphilitic blood will be detected and eliminated,

but not always. Dr. Brunn-Pedersen, Danish army medical officer, pointed out the weakness when he said: "The so-called Wassermann reaction which is to prove the presence of syphilis, if any, will not be positive until some time after the disease has been contracted, and if blood transfusion takes place in this interval the unfortunate thing may happen."⁴⁶ In view of the fact that recent reports show a sharp upswing in venereal disease in all parts of the world—as much as 800 percent in just four years in some large cities—this apparently small margin of danger takes on hideous proportions.

Even if cases do not prove to be numerous in a given locality, individual cases may well prove disastrous to the persons involved. One such incident was reported at the six-day International Congress of Blood Transfusions at Lake Hakone, Japan, in September, 1960: A forty-one-year-old woman treated in a hospital had been given four blood transfusions. Apparently well, she returned home. Not long after this she fell sick again and returned to the hospital, this time with syphilis, which, it was discovered, had been transmitted by the transfused blood. Within six months she was cured and discharged, but her life had been ruined. Her husband had divorced her as a result of her contracting VD.

The possibility of transmitting malaria by the transfusion of blood has been recognized ever since 1911, and in the years that have passed the danger has not been eliminated. The blood may be carefully examined for evidence of malaria, but "examination of blood smears is rarely of use in selecting malarial donors as even in the very few cases where parasites are demonstrable in the blood their presence may well be missed due to their scanty occurrence," says *Nursing Times* of January 17, 1958. *Medical Science*⁴⁷ concurs in

discounting these tests as ineffective, and adds that "refrigeration of donor's blood is ineffective" too.

It is contended that transmission of malaria can be prevented only by donor selection. Yet the ineffectiveness of this is well illustrated by numerous cases. As an example, *The Medical Journal of Australia*⁴⁸ reports that when a woman contracted malaria as a result of a blood transfusion it was traced to a young man who was born in Algeria but who moved to Australia at the age of nine months. Although the boy's mother had had malaria, they knew of no fever attacks attributable to malaria on the part of the boy; yet he had been born in a locality where there was malaria. Nineteen years later, when he donated blood, the recipient contracted malaria. Another case involves a father who transmitted malaria to his daughter by means of transfused blood, though he lived in a locality where the disease was virtually unknown, had left his previous homeland over twenty-five years before, and knew nothing of his ever having had malaria.⁴⁹

The exclusion of malarial donors is becoming more and more an impossibility. In some tropical areas where the disease is prevalent the rejection of all donors who have malaria would virtually close down the blood banks, so doctors administer the malarial blood and then give treatment to counteract the malaria. The problem is not limited to the tropics, however. There are countless persons who have served in the military forces in malarial areas and who, though unaware of the presence of the parasites in their blood stream, are carriers of malaria. Are all of them going to be rejected as blood donors? Increased international air travel is another factor, because a brief stopover in any malarial area may be enough for an otherwise healthy person to become a carrier, and that

unknown to himself. Thus the threat of malaria is increasing rather than diminishing.⁵⁰

If the malaria resulting from transfusion is caught early and treated, the seriousness of it may be minimized. But infants have paid with their lives for malarial blood transfusions.⁵¹ And *The Medical Journal of Australia*⁵² warns: "If diagnosis is not made quickly and appropriate therapy administered, the malaria attack may well reduce the patient to a condition worse than before the transfusion was given."

Serious though the transfusion dangers of syphilis and malaria are, they pale out of sight in comparison with the hepatitis plague. There is more than one type of hepatitis, but unfortunately the more serious form is the one transmitted by transfusions of blood. "This type can be so dangerous to health and even life that I would never permit anyone to give me a transfusion unless I felt it was needed to save my life," says Dr. Walter C. Alvarez, Emeritus Consultant in Medicine, Mayo Clinic. He adds: "This illness can cost the patient much money, it can leave him crippled with shriveled and cirrhotic liver, and it can even cause his death."⁵³ Dr. Alvarez attributes to the flood of transfusions a large share of the responsibility for the recent great upswing in the incidence of hepatitis.

Is there nothing that can be done to prevent the spread of hepatitis by blood? Short of banning blood transfusions, doctors can only inquire of prospective donors as to whether they have ever had hepatitis. In some cases the answer they get may be influenced by the need of money on the part of the poverty-stricken or derelict person who is trying to sell his blood. More often, however, the donor has never had symptoms that could be satisfactorily diagnosed. "No laboratory test is known which will detect donors who are carriers of the

hepatitis virus" and so give warning of the danger, says John B. Alsever, M.D., Medical Director of the Southwest Blood Banks, Phoenix, Arizona.⁵⁴ Repeatedly it has been stated that the prevention of serum hepatitis is one of the unsolved problems of transfusion therapy.⁵⁵

If the patient is one of the hapless individuals to get hepatitis as a result of a transfusion, he is not immediately confronted with a realization of that fact. The incubation period is said to be from forty days to about five months.⁵⁶ But when he does find out what has happened, there is little he can do. Since it has not been possible to isolate the hepatitis virus, no vaccine for hepatitis has yet been produced.⁵⁷ To date, it is reported, there has not been found any entirely satisfactory dietary or drug treatment for serum hepatitis. So the best the patient can do is take reasonable care of himself and let it run its course. In perhaps 12 percent of the cases that course will lead to death; in other cases life is not lost, but patients are saddled with some debility for life.⁵⁸

Admittedly, the danger is prevalent enough so that doctors and the public everywhere have cause to be concerned about it. In Britain's highly respected medical journal, *The Lancet*,⁵⁹ it is reported that hepatitis occurs as the result of "one in every 200-500 transfusions," which, for the United States, would mean 10- to 25,000 cases each year. So prevalent is it that in some large hospitals in the United States every bottle of blood contains this warning on the label: "Despite careful selection of donors, this blood may contain the virus of homologous serum hepatitis."⁶⁰

In Japan a strong warning was issued in August, 1960, by officials in the Medical Academy: 'If more than 5 percent of the population contract the hepatitis virus, it will not be possible to use blood transfusions any longer, except in serious emer-

gencies.⁶¹ In the United States the *Medicolegal Digest*⁶² declares that danger figure has already been passed, that "6 percent of the population are carriers of the virus of serum hepatitis." The situation is a serious one, and R. A. Zeitlin, Medical Director of the South London Blood Transfusion Center, warns: "The serious nature of the disease and its unpredictability should be a powerful deterrent to frivolous transfusion."⁶³

These facts cover only a limited number of the dangers of blood transfusion. There are also at hand reports from doctors showing that numerous other disorders, including cancer and tendencies to insanity, may be transmissible by blood. Reports from doctors in both North and South America show that personality traits have been so altered that formerly clean-cut individuals who have been transfused with the blood of criminals and sex perverts have been changed into degenerates.⁶⁴ Surely the dangers of blood transfusion cannot be overemphasized.

Some doctors may unconcernedly argue that these problems have been eliminated, that they are things of the past. Nothing could be farther from the truth. Transfusion reactions are not of merely historical interest; they are causing deaths at the present. Nor is death-dealing hemolytic anemia in the newborn a now unheard-of circumstance. It is still claiming lives, and sensitization of mothers-to-be by factors just now being observed, as shown by Dr. Chown, is still going on. Transmission of disease by blood transfusion is also a full-blown problem of the present, as the foregoing facts testify. Even if the medical profession had at its disposal knowledge sufficient to stop transfusion reactions and disease as a result of transfusion—and they admittedly do not have such knowledge—the issue would not be obsolete. The discovery of a given highly technical procedure does not

mean that every doctor in the world has the equipment and knowledge with which to apply it. To the contrary, there is a wide gap between theory and practice in the field of medicine, so that practices known by some doctors to be dangerous are thought by others to be safe.

SOURCES OF BLOOD

How true this is in the basic procedure of obtaining blood from donors! The majority no doubt suppose that there is little or no danger to the donor himself. Yet that is not what is inferred by Whitla's *Dictionary of Medical Treatment* when it speaks of the "donor who gives his blood at some little personal risk."⁶⁵ Nor is it the viewpoint expressed by Dr. S. H. Waddy in the *British Medical Journal*,⁶⁶ when he said: "I am not satisfied that the sacrifice of the donor is as harmless as is generally supposed." And in the book *Physiology and Clinic of Blood Transfusion*,⁶⁷ published at Jena, Germany, as recently as 1960, the statement is made: "As the latest research shows, considerable health disorders can arise on the part of the blood donor."

Of course, it may be assumed that blood is normally obtained from persons who are in good health, so there should be little danger to the donor; and at the same time it may be assumed that the care exercised in obtaining blood assures safety for the patient. Apart from the overwhelming evidence already presented to show that transfusion reactions and disease make it very unsafe, the manner in which blood is collected in some places also argues against this assumption.

In Port-au-Prince, Haiti, for example, a doctor demonstrated his disgust with their source of blood by pointing to a line-up of bums and alcoholics at the hospital. They were asked only one question: "Have you ever had jaundice?" For a

payment of \$10, it is not difficult to imagine the answer that was given.

Is this only in smaller countries? By no means! Repeatedly photographs have been printed in American newspapers showing line-ups of crusty alcoholics in New York city that were being accepted as blood donors. And the *Japan Medical Association Magazine* of September 15, 1960, reports on the situation in that land: "The people who supply the blood are selling their blood, and it is mainly from a limited group of poverty-stricken people that we obtain this supply of blood . . . Blood suppliers are accepted without discrimination, and these are usually obtained from among those whose health is affected by social and economic poverty, as well as by supplying the blood." Keep in mind that Tokyo and New York city are two of the largest cities in the world. If in these locations blood is obtained under such unsavory circumstances and from such questionable sources, what must be the situation in other localities? And, remember, even when the blood is supplied by reputable individuals and is processed in the most careful manner, it may convey diseased conditions of which neither the donor nor the doctor may be aware. A doctor who administers this blood may think that he is giving a lifesaving fluid to his patient, whereas it just may be that he is causing his death.

In Russia and Spain another blood source is tapped—the bodies of those who have just died.⁶⁸ Obviously they are not in position to answer any questions at all concerning diseases they may have had. Cadaver blood is not generally used in other countries, although some doctors in the United States have experimented with it, as reported in the *Bulletin of the American Association of Blood Banks*.⁶⁹ Generally speaking, it would not appeal to a person to have the blood of a dead man put

into his veins, but you can be sure that would not prevent its use if it should be deemed expedient. A simple change of terminology would easily veil the objectionableness of the procedure; and who that was willing to take a blood transfusion would object to what might be termed a "supravital transfusion"?

UNEXPLAINED COMPLICATIONS

But now let us take a view of the situation under the most favorable conditions from the standpoint of the doctor. Let us say that his source of blood is reliable, that all precautions known to medical science are taken, that his patient does not prove to be one of those whose blood is mismatched or improperly labeled or who contracts some dread disease as a result of the transfusion. Even with this unrealistic, but medically idealistic, situation, are blood transfusions safe? Will doctors be able to continue to administer them as they are able to now?

The answer given by Dr. A. Polak of Zagreb, Yugoslavia, in *The Lancet*⁷⁰ is: "Troubles are cropping up which we cannot explain: in spite of all precautions some patients react unfavourably to transfusions which are correctly administered." *The New England Journal of Medicine* of December 22, 1960, confirms this, saying: "Some of these serious reactions are caused by human error, a factor that can never be totally eliminated; in other patients who suffer reactions no cause will be demonstrated even when the typing and cross-matching technics are meticulously reinvestigated."⁷¹ This being the case, it is impossible to give a blood transfusion that is unquestionably safe.

The situation is not one that time will solve. The fact of the matter is that the situation is becoming increasingly complicated and the dangers are be-

coming more numerous every time a transfusion is given.

While it is generally true that blood is tested to determine compatibility as to the blood factors that are considered to be more important, *GP*⁷² says that "it is impossible at this time to give a blood transfusion under the usual hospital facilities which will be compatible for all known blood substances." Furthermore, most doctors are not well acquainted with all the known blood factors, because, as observed by Paul I. Hoxworth, M.D., F.A.C.S., "the increased use of blood transfusion in recent years has had the strange effect that most clinicians know less rather than more about the subject, simply because its growing complexity has thrust it into the province of specialized knowledge. The physician who orders blood for a patient cannot be expected to be well versed in all aspects of this knowledge."⁷³

Since the doctor may not know of all the factors to be considered, and the usual hospital facilities are not adequate to make the necessary tests even when doctors are well acquainted with them, each transfusion increases the possibility of sensitivity developing. Why? Because when anyone receives blood that contains factors not present in his own blood, antibodies develop as a result of these alien factors. If more blood of the same type is administered at a later date, the result may well be fatal. Consequently, "the increased use [of blood] has resulted in greatly increased hazards . . . because an increased number of recipients have received transfusions on a previous occasion and may have developed antibodies against blood group antigens," says *The Medical Journal of Australia*.⁷⁴ The *Journal of the Florida Medical Association*⁷⁵ nicely summarizes the situation when it reports: "A review of the literature on transfusion reactions makes one realize that the blood stream of any

patient who has received blood or plasma may contain a weird assortment of antibodies, which may prove to be the cause of crossmatching difficulties and may even endanger the life of the patient if he is given more blood."

Thus it is seen that the complications are snowballing. Problems are cropping up that cannot be explained. Reactions occur that were not expected. Doctors who administer the blood are, more often than not, taking a shot in the dark, whether they are aware of it or not. Regardless of the arguments that may be presented to defend the use of blood transfusions, the basis for the entire procedure is extremely questionable from a medical viewpoint.

This picture, black as it is, is not unwarranted. It is the picture that is urgently called for in view of the liberality with which blood is dispensed. It is in harmony with the advice found in *Whitla's Dictionary of Medical Treatment* (9th Edition, 1957), which says: "In the past the virtues of blood transfusion have been overstressed and the dangers minimized. We now know it is the dangers of blood transfusion which need to be stressed."

PROPER APPRAISAL OF THE FACTS

Of course, some may argue that what has been presented here is a one-sided picture, that much good has been done by blood transfusions. Jehovah's witnesses do not argue that blood transfusions have not kept alive patients who otherwise might have died. We do not take it upon ourselves to conduct an objective debate of the advisability of the use of blood in medical therapy. That point is not for us to determine. God himself has ruled on the matter, and it would be presumptuous for us, in the name of medicine or humanitarianism or anything else, to open the issue to debate, to pit human wisdom and experience against the law of God. However, it is our duty to publicize God's

law on the matter of blood, to make clear his requirement that we abstain from all manner of blood. And if, in the course of its research, medicine brings to light certain facts that highlight the wisdom of that divine law and the dangers that face the law violator, then we draw these to the attention of all persons.

The situation that confronts a Christian in this matter is the same as what would be involved if the issue involved fornication, which is included with blood in the prohibition recorded at Acts 15: 29. Worldly-wise psychologists may argue that no harm is done by a certain amount of sexual experimentation before one marries. God's law says they are wrong. It is not up to the Christian to publicize all their debased reasoning. Their twisted philosophy gets more than enough publicity the way it is because of the commercial exploitation of the depraved tendencies of men. However, since God's law is in harmony with what is right, it is only to be expected that a vast amount of information would come to hand showing that diseases and broken homes result from disobedience to God's law on marriage. These facts help reasonable persons to appreciate the rightness of God's way and encourage them to conform to it; so Christians properly draw this information to the attention of all people. The same principle applies to God's law prohibiting the use of blood.

Although Jehovah's witnesses will not eat blood as a food, nor in medical use consent to any kind of blood transfusion or, in place of it, an infusion of any blood fraction or blood substance, this does not rule out all medical treatment. While the type of treatment is a matter for personal choice, Jehovah's witnesses have no religious objections to any treatment that does not run counter to God's law. Doctors recognize that this limits what they can do, even as the physical condition of a

patient may rule out treatment that might otherwise be desirable, but the exclusion of one form of treatment certainly does not leave an experienced doctor with no alternate course to pursue.

OPERATING WITHOUT BLOOD

Rather, as a doctor at the Royal Liverpool Infirmary in England stated: "I find these cases a challenge." It is true that it may not be as simple a procedure to operate without the use of blood. More patience may be required in preoperative building up of the patient, and greater care must be exercised to avoid blood loss during the operation itself. But as Dr. E. Narvaez, of Managua, Nicaragua, expressed it: "The mania for blood indicates careless, lazy or impatient surgeons." He is not the only one who feels that way about it. The September, 1959, issue of *RN* contains an article by Dr. Paul I. Hoxworth, Fellow of the American College of Surgeons, in which he says: "The doctor grasps at 'blood' as an easy answer instead of asking himself, 'What can I do to make a transfusion unnecessary?'" Another surgeon who handles cases without the use of blood remarked: "It has become very evident from experience with various forms of heavier abdominal surgery, that these procedures can be done with relative safety, by careful preoperative preparation and reasonable care at the time of surgery to control blood loss. It is also apparent that extensive blood loss and shock can be successfully managed with volume expanders in the vast majority of cases in which most physicians request whole blood transfusion for treatment." Another doctor, with twenty years of surgical experience, said: "I don't expect to let my patients lose enough blood to need a transfusion. When a doctor knows he is not going to use blood he is just more careful."

Really, then, it is not so much that operations cannot be performed without blood as it is a matter of finding a doctor who is careful enough and patient enough and who has sufficient respect for the religious convictions of his patient to be willing to do it. This has been proved on countless occasions.

From England, for example, come these reports:

A woman in Birmingham was to be operated on for uterine fibroids, but when the doctor realized that she was adamant in her refusal of blood she was asked to leave the hospital. Said the surgeon: 'I do not want to run the risk of committing murder.' In another hospital a doctor whose viewpoint is that it is better to operate without blood when necessary than to let a person die co-operated in arranging for the operation without blood. Recovery was uneventful.

Another woman, aged forty, had a congenital dislocation of the hip. The doctor, confronted with the blood issue, scoffed: 'I could not believe in a religion that asked its people to commit suicide.' Another surgeon declared that if he thought it necessary he would give her a transfusion whether she consented or not. A doctor elsewhere was not so hasty to sit as judge of the religion of his patient, but accepted the challenge that it presented to his surgical skill. He performed the operation.

In yet another case, a forty-year-old woman who was to have a tumor removed from her neck was turned away by the surgeon, who insisted on a "free hand to use blood if needed." Another doctor, showing appreciation for the Scriptural position taken by the patient, was co-operative and operated successfully.

A patient in Whitehaven, England, got an angry response from her surgeon when he learned of her objections to blood transfusion. He painted a grim

picture of the possibility of cancer and other complications if he were not permitted to handle the case the way he wanted to. Finally he said: 'If you can find a surgeon to do it without blood then *find one!*' and with that he stalked out. She did find one, and, without blood, he performed a hysterectomy.

In Stoke on Trent, England, a fifty-two-year-old Witness, on explaining that she could not consent to the administration of blood, was told: 'No surgeon would operate under those conditions. There is nothing more we can do for you. You are going home to die.' They were wrong. There was a doctor who, although of a different religious persuasion, could appreciate her sincerity. He was willing to operate without blood, and did so. She did not die, but recovered nicely and was home in two weeks. A patient in the next bed was also operated on for gastric ulcer, but by a different surgeon and with blood; that patient died.

In Raymond, Washington, a three-year-old boy was found to have a tumor on his head. The doctor in the hospital where he was taken would not listen to the Scriptures, and he would not operate without blood. When the mother checked her son out of the hospital, the doctor told her that the boy had from six weeks to six months to live. Wanting to do everything they could for him, his parents took him to doctors in Seattle, Olympia, Tacoma and elsewhere over a period of three years, with no success. At one point the doctors threatened that if the parents would not give permission for them to use blood, they would take action to have the boy made a ward of the court and give him blood anyway. In a final attempt to get help, the parents got in touch with a neurosurgeon in Seattle. Although the doctors in the hospital where the boy was then located hesitated to let him go, the parents insisted. The surgeon in Seattle re-

moved the entire tumor in a six-hour operation in which saline water and glucose were successfully used instead of blood.

Other cases could be cited, but these should suffice to show that doctors who have the interests of their patients at heart, instead of demanding that they forsake the faith around which they have built their life, are willing to do all they can without blood to preserve life.

Although it is alien to the thinking of many doctors in this transfusion-conscious age, it should be recognized that blood loss does not demand transfusion. *The Lancet* of August 20, 1960, in discussing this point, said: "A loss of up to 600 ml. in the old or debilitated, or 1000 ml. in the healthy patient, can be called moderate. In the absence of anaemia, or expected continued blood-loss, blood replacement is not necessary. If the patient is collapsed the blood-volume requires adjustment, but there is not necessarily any need to increase the oxygen-carrying capacity of the blood. In these conditions dextran is the ideal means of replacement."

In an article reprinted in *Postgraduate Medicine*⁷⁶ W. H. Crosby, of the Walter Reed Army Medical Center, reprimands doctors for their over-use and abuse of blood transfusions. He says: "The proper use of blood transfusion . . . poses a problem, and many of us deserve criticism for the way in which we have met this problem. The reason for misuse of blood transfusions is that we are not sufficiently aware of the valid indications for this procedure. A surgical operation is not an indication for blood transfusion. Uterine bleeding is not an indication. Neither is a low hematocrit reading. Blood transfusion is not a tonic. It is not a placebo. It does not improve wound healing. Nor is it a substitute for careful consideration of the patient and his problem.

" . . . Anemia alone is not a sufficient justification. The requirement of the anemic patient for oxygen-carrying capacity should be balanced against his present capacity. Much of a person's 15 gm. of hemoglobin is a reserve against strenuous exertion. Where there is no requirement for exertion an individual can well tolerate a lower level of hemoglobin. For a sedentary life, 10 gm. is often sufficient, and most bedfast patients are comfortable with as little as 5 or 6 gm. Many patients can learn to live with chronic anemia, and a little quiet encouragement is often as helpful as repeated blood transfusions.

"Acute blood loss must also be regarded with a critical judgment. A healthy adult can sustain the rapid loss of one-third of his blood volume without serious derangement of circulatory stability. . . .

"It is commonplace to insist that the hemoglobin concentration be 'normal' before a patient comes to surgery. This is another instance where common sense appears to ignore physiology. It seems only common sense that the patient should have 14 gm. of hemoglobin. Actually, however, the hemoglobin concentration represents oxygen-carrying capacity, which is rarely a limiting factor during surgery. Blood dilution studies made on patients during surgical operations have demonstrated that, when blood volume is maintained, the vital signs do not begin to show a deficiency of oxygen-carrying capacity until the hemoglobin concentration is less than 7 gm."

The human body itself is marvelously equipped, not only for routine activity, but also to meet emergencies. If there is blood loss, the body of a normal individual is ready to deal with the situation. Reserve supplies of fluid in the body are utilized to augment the fluid volume of the blood stream, and the bone marrow and spleen act to compensate for loss of blood cells.⁷⁷

If more fluid is needed, a quart of water with a teaspoonful of salt and a half teaspoon of sodium bicarbonate in solution can be taken by mouth, and this will help to bolster the fluid volume.⁷⁸ Cell production can be supported by taking iron, Vitamin B₁₂ and folic acid.⁷⁹ It is not blood transfusion that is the most desirable treatment for blood loss even from a medical standpoint. "It is not to be forgotten," says *The Surgical Clinics of North America*,⁸⁰ "that iron therapy is the treatment of choice for blood loss anemia." Instead of being hasty to administer blood, Julius R. Krevans, Director of the Blood Bank at Johns Hopkins Hospital, counsels physicians: "Often a re-examination of the problem will reveal another therapeutic path—more circuitous perhaps, but safer."⁸¹

PLASMA EXPANDERS

However, there are going to be cases in which the doctor feels that the blood loss calls for more direct and immediate action. There is no real substitute for blood. So-called "blood substitutes" cannot do for the body what blood does. They are only expanders of the fluid volume, and for that reason are more often called "plasma volume expanders." Will they serve the purpose? Dr. Alonzo J. Shadman, M.D., reports from his own personal experience: "In performing upwards of twenty thousand surgical operations, I never gave a blood transfusion and never had a patient die from lack of it. I have given many 'transfusions' of normal Salt Solution. It is better and safer. I have used it in cases of all degrees of exsanguination and none died. Some were white as chalk and cold as stone, but they lived."⁸²

Even though there are "very definite indications for transfusion, it will be possible to avoid transfusion in many cases," claims George Discombe, M.D., B.Sc. "Many patients bleed, but few *must* have

whole blood, and most can be kept alive and will recover quickly even if they receive only plasma or dextran.⁸³ The dextran will not accomplish what blood can; it has no oxygen-carrying ability. However, it does supply the fluid necessary for the red cells that are available to be kept in circulation so that oxygen will reach the body cells.

Some doctors have rejected expanders as not worth using. They may be suspicious of their effects or unwilling to use something other than blood. However, on the basis of experience had in the use of plasma volume expanders, *The Lancet* of August 20, 1960, makes the following report and recommendation: "Some clinicians are suspicious of the effects of dextran and reluctant to use it for supportive therapy. It has been said to increase bleeding, and its fate in the body is stated to be uncertain. A brief summary of the facts should dispel these doubts. . . . Clinically there is overwhelming evidence that dextran is a safe and satisfactory blood-volume expander, and there is no reason to believe that, in moderate amounts, it increases bleeding."

There are a number of different plasma volume expanders, such as dextran, gelatin, PVP, and so forth, that have been used with varying degrees of success.⁸⁴ In some places blood is used so freely that doctors are not aware of the availability of these plasma expanders, but they are obtainable in most places. Of interest to those who have occasion to use them is the viewpoint expressed by a doctor from the National Academy of Science, Washington, D.C., in a speech to the Eighth Congress of the International Society of Blood Transfusion in Japan during September, 1960: "The NRC [National Research Council] Committee on Shock continues to hold the conviction that dextran is the most useful plasma volume expander, other than blood derivatives, available at the present

time and that it appears safe to administer the usual dose of dextran (1000 ml.) in the treatment of traumatic and hemorrhagic shock."

THE DOCTOR'S POSITION

There are, of course, problems that the doctor must resolve to be sure that he is following the right course. If in the face of the tremendous volume of medical testimony as to the dangers of blood transfusion he still conscientiously feels that the life of the patient depends on his giving blood, is he justified in withholding it? The fact is that he knows that he cannot legally administer blood to a patient over that one's objections. So the issue is being distorted if it is viewed in that way. There is no question as to whether the doctor should do it or not. He legally cannot!

Since the patient for religious reasons has refused the use of blood, there are only two courses that lie open to the physician: (1) He can refuse to treat the patient at all since he will not abandon his faith, and so deprive him of any help that might be available through medical attention, or (2) he can do for the patient what he would want done for himself in like circumstances. He can show respect for the religious conscience of his patient, and do all he can, apart from using blood, to help the individual pull through. For a doctor who is honestly concerned with the life and health of his patient, the decision is not a difficult one to make. Obviously an experienced doctor will urge the course that he feels to be best, but when he finds that he cannot use it, he is not going to quit, especially not when many of his colleagues in all parts of the world are having success with other treatments.

Some physicians may contend that the patient has distorted the issue in his own mind, that it is not a matter of religion, but solely a question of

medicine. To the doctor that may well be, but to his patient it is not. To the patient, taking blood is an act of unfaithfulness to God. The situation is comparable to the one that faced early Christians. In the eyes of the world consuming blood was not particularly wrong, but for a Christian it was a violation of the law of God. What doctor wants to take upon himself the position of dictator of religious beliefs, telling his patients what is and what is not religion? Today the world in general limits religion to a few formalities and does not let it govern the matters of daily life. As a result murder is rampant, morals are lax, broken homes increase in number and venereal disease is taking a dreadful toll. Even medical treatment is often thwarted in its efforts because mental peace is lacking. What doctor would want to contribute to this pitiful condition by urging his patients who do endeavor to apply Christian principles to daily life to discard the one thing that has given their life meaning?

If a doctor is of the Jewish faith, he should not find it difficult to appreciate the position of one of Jehovah's witnesses. How would the doctor feel if he were the one in need of medical aid, but the one who was treating him insisted that he kiss the cross before he would do more? He would feel that he was renouncing his faith. What if a Roman Catholic were told that he could not be treated until he had discarded his religious images and medals? A Protestant might think refusal foolish, but to the Catholic it is important. Or what if a Protestant were asked to renounce his faith in Christ before being treated? The demand that Jehovah's witnesses agree to accept blood before they can be treated is of even greater consequence in their lives.

It is nothing new for doctors to be called upon to refrain from certain forms of treatment out of re-

spect for the religious belief of a patient. Roman Catholics object to mechanical and chemical means of birth control, sterilization and abortions even to save the life of a woman. Doctors comply with their request. There is no great hue and cry heralded through the public press when a Catholic requests such consideration, nor should there be when one of Jehovah's witnesses asks that consideration be shown for his sincere desire to conform to the law of God forbidding the use of blood.

The question of treating Jehovah's witnesses without blood has frequently arisen in nearly every country of the world. The issues involved have been discussed both publicly and privately, by both doctors and laymen. In *Surgery, Gynecology & Obstetrics*, official scientific journal of the American College of Surgeons, for April, 1959, appears such a discussion of this matter. The question at issue was: "Should the members of the medical profession submit to the wishes of the followers of this faith and promise to treat them without blood transfusions?" The article relates: "The authors of this article made such an agreement recently, held to it, and were both vigorously denounced and stoutly defended by different segments of the hospital staff. We made the decision knowing that the easiest way out for us would be to deny treatment, but believing that such evasion of the problem might only result in the patient being treated in a facility less well equipped than our own to deal with the exigencies of a difficult situation. Moreover, we believed that if we treated the patient as we ourselves would want to be treated, we should accede to his wishes." During the course of the discussion, it was pointed out that the question was one that revolved around the total welfare of the patient, which includes the spiritual welfare and integrity of the patient as much as his physical well-being. The best medical treatment takes into considera-

tion the total welfare of the individual and does not give consideration to the physical cure at the expense of spiritual integrity.

Of course, doctors naturally think of their own well-being too. And in view of the rash of malpractice suits with which they have been confronted in recent years, it is understandable why a doctor who lets fear of legal action dictate his medical practice might hesitate to take a case in which he could not administer treatment that he personally felt would bring about the most rapid recovery. For that reason when Jehovah's witnesses know that they are going to need medical attention that may possibly involve the use of blood, they make an effort to call on the physician ahead of time and acquaint him with the situation, sincerely explaining from the Bible the reasons for their request that blood not be used. This enables the physician to meet the issue before a crisis arises, and under these circumstances he is better able to view the matter objectively and give adequate thought to other treatment that might be used if necessary.

Just as patients who enter a hospital to have an operation are usually asked to sign a form that grants the doctor permission to administer blood and freeing him of legal responsibility in the event of unexpected complications due to its use, so the American Hospital Association has recommended the use of a form entitled "Refusal to Permit Blood Transfusion" for those who do not want blood. It reads: "I request that no blood or blood derivatives be administered to _____ during this hospitalization. I hereby release the hospital, its personnel, and the attending physician from any responsibility whatever for unfavorable reactions or any untoward results due to my refusal to permit the use of blood or its derivatives and I fully understand the possible consequences of such re-

fusal on my part."⁸⁵ The form would show the name of the hospital and the date and would be signed by both the patient and that one's mate, if married. In the case of a minor or one incompetent to sign for himself, another authorized person could sign, indicating his relationship to the patient, and his signature would be witnessed by another person.

Of course, in an emergency a patient may not be in position to sign such a form, and there may be no relatives present that understand his desire in the matter. The doctor may know that the patient wants no blood simply because he carries on his person a card that requests "No Blood Transfusion." Regardless of the circumstances, the doctor ought to respect the wishes of his patient and not seek to circumvent them. He ought to treat the patient the same way that he would want to be treated if he had the same religious faith as the patient does.

RESPECT FOR PARENTAL RIGHTS

This is no less true in the case of a child than with an adult. Children are under the jurisdiction of their parents, and parents have the legal and God-given right and duty to make the decisions called for in the rearing of their offspring. This is true not only in matters of daily routine but also when crises arise. Yet on many occasions when Witness parents have declined to accept blood transfusions for their children emotional appeals have been made in the public press for the children to be taken from their custody and given the transfusion anyway. Doctors have testified that the children would die without infusions of blood, and judges, in hastily convened sessions, have held that such medical opinion is of greater weight than parental rights and religious freedom. The public, confident that the doctor must be right,

has been swept along on the emotional tide. But has the testimony of doctors in these cases been sound? Have their arguments been valid from a medical standpoint? And were the decisions of the judges who acceded to their demands really in the best interests of the individual and the community?

The facts, surprising though they may be to those who have always accepted pronouncements made in the name of science as unquestionable truth, do not back up the testimony of those doctors. Dr. J. H. Dible, Professor of Pathology in London, England, soberly observed: "Medical progress . . . is a study of trial and error, of false paths, of whole generations under the sway of wrong ideas leading to wrong treatment and God knows what in the way of casualties—and the old tale yet goes on. A friend of mine said to me the other day, 'In the 18th century hundreds of people lost their lives through blood being taken out of them needlessly; today people are being killed through blood being put into them needlessly,' and I—who only that morning had seen the body of a young man, dead as the result of an incompatible blood transfusion, given after an operation of convenience, could only agree with him sadly."⁸⁶

Anyone who views the matter realistically, stripping away the ill-advised emotional pleas for parental rights to be cast aside, knows that medical treatment is an ever-changing picture. Dr. A. A. Klass, of Winnipeg, Canada, said this about it: "First and foremost is the very nature of medical practice itself. In a field of rapid discovery, the accepted treatment of today was risky yesterday; and will be obsolete tomorrow. During the period of yesterday, the treatment was new and hazardous, perhaps experimental in the eyes of the court, and few doctors would come to its defense. During the period of tomorrow it is obsolete, antiquated, proven to be wrong, condemned in the witness box

and accepted as negligent by the court. It is only during the brief period of today that the treatment is right and proper and this period is made ever shorter by the rate of discovery."⁸⁷ These facts render completely untenable the claim by any physician that a patient absolutely must have blood transfused in order to live. And when such a claim is accepted by a judge as the basis for discarding the rights of parents and taking custody of a child for treatment at the discretion of the doctor, the judgment violates human rights and religious freedom.

Doctors themselves object to such highhanded, overconfident conduct on the part of their colleagues. Dr. Arthur Kelly, Secretary of the Canadian Medical Association, for one, wisely counseled against such action when he said: "Patients and parents have a perfect right to accept or reject treatment offered. No doctor can be positive that a person will die if he doesn't get a transfusion or live if he does."⁸⁸ This is borne out by the recovery of countless adults who refused blood transfusions urged by their doctors as vital to their recovery. It is also borne out by the death of children who were taken at court order and given transfusions in spite of the protest of their parents.

Even more important considerations are brought into focus by Dr. Kelly's further remarks: "Patients have the right to accept or reject a doctor's advice according to their own desires. A doctor has no right to insist you accept his advice. I deplore methods of trying to force a transfusion or any kind of treatment. You are putting yourself in the position of God."⁸⁹ It is true that a doctor may give the treatment with the approval of a court and under laws framed by men, but he does so in violation of the law of God and in disregard of rights conferred on parents, not alone by men, but by God himself.

If such maneuvers to overrule parental rights continue to have the approval of judges and the public, it is wise for all parents to consider what it can lead to. Are they prepared to accept the thesis that, when parents disagree with a physician on any form of treatment, their child has in the eyes of the law become a "neglected" child, and can for that reason be taken by the state and subjected to the treatment in spite of parental protest? Is the right of parents to exercise their good judgment in the upbringing of their children going to be offered up in sacrifice before the ancient Spartan theory that children are the property of the State? The application of this rule in Nazi Germany meant that boys were taken from their parents to be trained for the "Hitler Youth," and young girls were used for breeding, out of wedlock, what the rulers proclaimed would be a scientifically superior race. Those considered unfit were sterilized; many were even put to death. When doctors and the courts conspire together to override family rights and force the application of certain medical procedures that are currently in vogue, it is but one step in the destruction of freedom. Once the God-given rights of Jehovah's witnesses to exercise their discretion in harmony with God's Word in the upbringing of their children have been trampled underfoot, whose rights will be next?

Jehovah's witnesses do not reject blood for their children due to any lack of parental love. They have sincere love for their children and will do anything within their means to help them, but they are not foolish enough to think that they do good for their offspring by turning their back on God. They know that if they violate God's law on blood and the child dies in the process, they have endangered that child's opportunity for everlasting life in God's new world. Their love is not moti-

vated by overriding emotion that seeks satisfaction only at the moment, but their love is deep, seeking the everlasting welfare of their loved ones.

MAINTAINING INTEGRITY TO GOD

Realistically viewed, resorting to blood transfusions even under the most extreme circumstances is not truly lifesaving. It may result in the immediate and very temporary prolongation of life, but that at the cost of eternal life for a dedicated Christian. Then again, it may bring sudden death, and that forever. (Matthew 10:39) How much better to abide by the law of Jehovah God, the Source of life, and abstain from blood than to incur his disapproval as a lawbreaker. At all times, and certainly when one's life forces are ebbing, the course of wisdom is to put confidence in the One in whose hands rests the power of life. God will not forsake those who lovingly obey his commands concerning the sanctity of life. He will reward their confidence in his means of salvation by extending to them the life-giving benefits of the blood of his Son—benefits that will sustain them, not for mere days or years, but forever. They know that none who trust in Jehovah God and his now-glorified Son "will by any means come to disappointment."—1 Peter 2:6.

Even if blood could be administered with absolutely no danger from a medical viewpoint—which cannot be done—would it show love for the patient for others to insist that he accept it in an endeavor to extend his present life, when disobedience to God means the forfeiture of the reward of everlasting life? No! It is a time when all interested persons, whether doctors or friends or relatives, can show their sincere concern for the patient and their fear of God by encouraging the patient to hold fast his faith, not to fear, but to trust in God, who is Almighty.

Men who lack faith in God argue that principles of righteousness and laws, no matter how good, may be set aside when the life of an individual is at stake. Even religious leaders join in arguing that the application of the laws of God may be suspended to save a life. But that is not godly reasoning. It finds a basis only in the charge made by Satan the Devil when he said to God: "All that a man has he will give for his life." (Job 2:4, *RS*) Satan was confident that men would forsake God when obedience seemed to put them in personal jeopardy. But he is a liar! And men of faith of all ages have proved it. Faithful David would not perform an act that even suggested a violation of God's prohibition on the consumption of blood. Early Christians preferred to die than to buy their freedom by denial of their faith. And modern-day witnesses of Jehovah, faced with an issue that involves the most widespread misuse of blood in human history, join in declaring that they too will hold fast their integrity to God. For their faithfulness God will reward them, even by raising them from the dead, with everlasting life in vigorous health in his righteous new world.

While many may admire such faith, only those who themselves possess it can truly appreciate it. But what is faith—true faith? It is not wishful thinking; it is not blind credulity. "Faith is the assured expectation of things hoped for, the evident demonstration of realities though not beheld." (Hebrews 11:1) Yes, true faith is built on a solid foundation.

Faith in God and the resultant confidence in the rightness of his law has such a firm foundation. The psalmist David, who as a shepherd had spent many nights in the fields with his flock, looked into the heavens and saw there good reason to believe in God. Said he: "The heavens are declaring the glory of God; and of the work of his

hands the expanse is telling." (Psalm 19:1) Doctors study the human body, and there they behold equally compelling evidence testifying to the fact that there is a Great Designer, a Creator whose wisdom far surpasses that of the wisest of men. To say that it is all a product of chance would be to ignore the facts; it would be retreating from reality. The body evinces design; design calls for an intelligent designer; and the caliber of design manifest in the human organism and its life processes bespeaks the handiwork of God. Sincere appraisal of the evidence has moved men from every walk of life to join with the psalmist in exclaiming: "I shall laud you because in a fear-inspiring way I am wonderfully made. Your works are wonderful, as my soul is very well aware."

—Psalm 139:14.

It is this God, not one who is the product of human imagination or who has been fashioned by the hands of men, but the One who himself created man—he it is to whom all men are accountable. And the apostle Paul, when speaking to an audience in the Areopagus in Athens, Greece, emphasized this, saying: "True, God has overlooked the times of such ignorance [as manifested by those who thought they could represent God by the works of their own hands], yet now he is telling mankind that they should all everywhere repent. Because he has set a day in which he purposes to judge the inhabited earth in righteousness by a man whom he has appointed, and he has furnished a guarantee to all men in that he has resurrected him from the dead."—Acts 17:30, 31.

Some of Paul's auditors scoffed when they heard mention of a resurrection, but not all. Dionysius, a judge of the court and one who was accustomed to weighing evidence to determine the truth, recognized the reliability of the testimony he heard, and he accepted it. And Luke, who traveled with

Paul and was himself a physician, not only believed but was a public teacher and a writer in defense of the resurrection hope. These men, and many like them, recognized that, by the resurrection of Jesus Christ, God had indeed "furnished a guarantee to all men." A guarantee of what? Why, of the certainty of the "day in which he purposed to judge the inhabited earth in righteousness" and that their own hope for life by means of a resurrection would be realized.—1 Corinthians 15:12-20.

When brought before the Roman governor Felix, Paul again expressed his confidence in this hope when he said: "I have hope toward God, which hope these men themselves also entertain, that there is going to be a resurrection of both the righteous and the unrighteous. In this respect, indeed, I am exercising myself continually to have a consciousness of committing no offense against God and men." (Acts 24:15, 16) Paul was keenly aware of his accountability to God; he appreciated the importance of conforming to the law of God in order to have a clean conscience before the One to whom he owed his present life and who could bless him with future life by means of a resurrection.

Jehovah's modern-day Christian witnesses are of the same persuasion as was the apostle Paul, Judge Dionysius and the physician Luke. They too look only to God for life, and they urge all men to do the same. They know that they are living in the time of the end of this wicked system of things and that the time is near at hand when God, who created the earth, will cleanse it of all who practice unrighteousness. Then, in fulfillment of the prayer that Jesus himself taught his followers, God's will will be done here on earth as it is done in heaven. Earth itself will be transformed into a breathtaking paradise, and those who survive into it as well as those who gain life there by means of a resurrection will have before them the prospect of

everlasting life in human perfection. What a marvelous prospect!—1 John 2:17; Matthew 6:9, 10; John 6:40; Revelation 21:4, 5.

You owe it to yourself to learn about that new world and to conform to the laws of God so that you and your loved ones may gain life in it. Jehovah's witnesses, who carry out a program of free home Bible instruction in all parts of the earth, will, at your request, be glad to call at your home to share with you this heart-cheering good news.

REFERENCES

- 1 *Whitla's Dictionary of Medical Treatment*, 9th Edition (1957); *Journal of the American Medical Association*, February 20, 1960; *Today's Health*, October, 1960, p. 84; *The Modern Hospital*, November, 1960, p. 106.
- 2 *Benson's Commentary*, Vol. I, published by T. Mason & G. Lane (1839).
- 3 Dr. Franz Delitzsch's *Commentary on Genesis*, Vol. I, pp. 284, 285.
- 4 Tertullian's *Apology*; *GP*, September, 1960, p. 127.
- 5 *Oeuvres complètes de Saint Cyrille patriarche de Jérusalem*, Vol. 1, published in Lyons, France (1844).
- 6 Tertullian's *Apology*, translated by T. R. Glover, pp. 51-53 (1931).
- 7 *A Dictionary of the Bible*, by Philip Schaff, 2d Edition, p. 137.
- 8 *Great Greek Encyclopaedia* of Paul Drandakis, pp. 708, 709; *A History of the Councils of the Church, From the Original Documents*, translated from Gefman by H. N. Oxenham, M. A. (1896).
- 9 *Modern Medicine of Canada*, February, 1959, pp. 47-57.
- 10 *Blood Transfusion*, by George Discombe, M.D., B.Sc., p. 2 (1960); *Time*, November 28, 1960, p. 50; see also *The AMA News*, May 16, 1960, "Medicolegal."
- 11 *New York State Journal of Medicine*, January 15, 1960.
- 12 *The Blood Bank and the Technique and Therapeutics of Transfusions*, by Robert A. Kilduffe, A.B., A.M., M.D., F.A.S.C.P., and Michael De Bakey, B.S., M.D., M.S., F.A.C.S., p. 481 (1942).
- 13 *Chirurgie voor de huisarts*, p. 33.
- 14 *GP*, September, 1960, p. 128 (Published by the American Academy of General Practice), "The Use and Abuse of Blood Transfusion and Blood Derivatives," by Bernard Pirofsky, M.D., Division of Experimental Medicine, University of Oregon Medical School.

- 15 *Practical Blood Transfusion*, Blackwell Scientific Publications, Oxford (1958).
- 16 *Postgraduate Medicine*, March, 1956, "Why Not 'Cosmetic' Transfusions?" by Tibor J. Greenwalt, Medical Director of the Milwaukee Blood Center, and Assistant Clinical Professor of Medicine, Marquette University School of Medicine, Milwaukee, Wis.
- 17 *The Surgical Clinics of North America*, February, 1959, p. 121, "Whole Blood Transfusions in Surgical Practice," by T. W. Shields, M.D., W. A. Rambach, M.D., Northwestern University Medical School.
- 18 *Medical Tribune*, November 7, 1960; see also *Bulletin of the American Association of Blood Banks*, January, 1959, p. 8.
- 19 *The Surgical Clinics of North America*, October, 1958, p. 1221; *Blood Transfusion in Clinical Medicine*, 2d Edition, P. L. Molllison, p. 99 (1956).
- 20 At the Eighth Congress of the International Society of Blood Transfusion, Tokyo, Japan, September 12-15, 1960.
- 21 *Essentials of Medicine—The Art and Science of Medical Nursing*, 17th Edition (1955).
- 22 Surgeon Rear-Admiral S. G. Rainsford, in the *Journal of the Royal Naval Medical Service*, Autumn, 1958.
- 23 *Principles of Internal Medicine*, 2d Edition (1954).
- 24 *Postgraduate Medicine*, November, 1959, page A-46 (reprinted from *Medical Bulletin of the U.S. Army, Europe*); *GP*, September, 1960, p. 127.
- 25 *The Story of Blood*, The American National Red Cross.
- 26 *The Surgical Clinics of North America*, October, 1958, p. 1221; see also *An Introduction to Blood Group Serology*, chap. 18 (London, 1957).
- 27 *Today's Health*, October, 1960, p. 82, quoting Dr. Grove-Rasmussen.
- 28 See also *Journal of the American Medical Association*, December 4, 1954, pp. 1303, 1304.
- 29 *The Surgical Clinics of North America*, October, 1958, p. 1221; see also *Journal of the American Medical Association*, July 18, 1959, p. 1380.
- 30 *Medical Science*, July 25, 1959, pp. 102, 103; *A Guide to Blood Transfusion* (Australian Red Cross Society), p. 52 (1957).
- 31 September 13-19, 1954, Paris, France.
- 32 *Principles of Internal Medicine*, 2d Edition (1954); see also *The Surgical Clinics of North America*, February, 1959, p. 126.
- 33 *Postgraduate Medicine*, November, 1959, p. A-46.
- 34 *Journal of the American Medical Association*, June 18, 1960, p. 770; *The American Journal of Nursing*, December, 1959, p. 1674; *Modern Medicine*, October 1, 1960, p. 111.
- 35 See also *Annals of Surgery*, July, 1958, p. 73.
- 36 *Journal of the American Medical Association*, April 2, 1960, p. 1476; *RN*, August, 1960, p. 17.
- 37 *Acta Haematologica*, Vols. 16-20, p. 221 (1958), "Control of Contamination of Transfusion Blood."

- 38 *Bulletin of the Association of American Blood Banks*, August, 1960, p. 336, "A Review of Bacteriologic Problems in Blood Banking"; see also *Modern Medicine*, September 15, 1956, p. 80; *Journal of the Royal Naval Medical Service*, Autumn, 1958; *Medical Science*, July 25, 1959, p. 112; *Journal of the American Medical Association*, June 30, 1956, p. 785.
- 39 *Politiken* (Copenhagen, Denmark), March 7, 11, 1958.
- 40 *Medicolegal Digest*, June, 1960, p. 22.
- 41 *Synopsis of Obstetrics*, by Jennings C. Litzenberg, B.Sc., M.D., F.A.C.S., pp. 77-84.
- 42 *Blood Transfusion in Clinical Medicine*, 2d Edition, P. L. Mollison, p. 428 (1956).
- 43 *Canadian Medical Association Journal*, December 1, 1957, p. 1037, "Transfusions Are Dangerous," by Bruce Chown, M.D., Winnipeg, Manitoba.
- 44 *Nursing Times*, January 17, 1958.
- 45 *Practice of Medicine*, by Frederick Tice, M.D., Vol. 3.
- 46 See also *The Surgical Clinics of North America*, February, 1959, p. 124; *Hematology*, by Cyrus C. Sturgis, M.D., p. 1163 (1955).
- 47 *Medical Science*, July 25, 1959, p. 114, "Transfusion Reactions," by Elmer L. DeGowin, M.D.
- 48 *The Medical Journal of Australia*, September 17, 1960, "Investigation of Blood Donors in Accidental Transfusion Malaria."
- 49 *Nursing Times*, January 17, 1958.
- 50 *The Lancet*, August 27, 1960, p. 469.
- 51 *Blood Transfusion in Clinical Medicine*, P. L. Mollison, p. 418 (1956).
- 52 *The Medical Journal of Australia*, September 17, 1960, p. 449.
- 53 Newark, N.J., *Star-Ledger*, September 30, 1960.
- 54 *Today's Health*, October, 1960, p. 82.
- 55 *Medical Science*, July 25, 1959, p. 114; *Medicolegal Digest*, June, 1960, p. 23; *GP*, September, 1960, p. 130; *Journal of the American Medical Association*, December 4, 1954, p. 1305, "Prevention of Accidents in Blood Transfusions," by A. S. Wiener, M.D.
- 56 *Modern Medicine*, September 15, 1956, p. 81, "Complications of Blood Transfusion."
- 57 *British Medical Journal*, August 13, 1960, p. 519; *Newsweek*, March 28, 1960.
- 58 *Nursing Times*, January 17, 1958; compare *Postgraduate Medicine*, March, 1956, p. 203.
- 59 *The Lancet*, August 20, 1960, p. 423; see also *Today's Health*, October, 1960, p. 82.
- 60 *The AMA News*, May 9, 1960.
- 61 *Yomiuri Shimbun*, August 23, 1960.
- 62 *Medicolegal Digest*, June, 1960, "Responsibilities in Blood Transfusion," by Bernard D. Hirsh, p. 23.
- 63 *The Medical Press*, April 25, 1956, p. 351.

- ⁶⁴ *United States Congressional Record*, 82d Congress, March 3, 1952; *Ciência Médica*, Vol. XX, "Moral Deficiencies and Blood Transfusion," by Dr. Américo Valério; *Who Is Your Doctor and Why?*, by Alonzo J. Shadman, M.D., pp. 132, 133; see also *The Medical Journal of Australia*, September 17, 1960, p. 447.
- ⁶⁵ *Whitla's Dictionary of Medical Treatment*, 9th Edition (1957).
- ⁶⁶ *British Medical Journal*, February 21, 1953.
- ⁶⁷ *Physiologie und Klinik der Bluttransfusion*, 2d Edition, p. 17 (1960).
- ⁶⁸ *Medical World News*, July 29, 1960, report by Morris Fishbein, M.D.
- ⁶⁹ *Bulletin of the American Association of Blood Banks*, June, 1960, "Transfusions of Cadaver Blood."
- ⁷⁰ *The Lancet*, May 17, 1958, p. 1042.
- ⁷¹ Article by John H. Morton, M.D., Assistant Professor of Surgery and Surgical Anatomy, University of Rochester School of Medicine and Dentistry; see also *Blood Transfusion*, by George Discombe, p. 3 (England, 1960).
- ⁷² *GP*, September, 1960, p. 131; see also *Journal of the American Medical Association*, June 30, 1956, p. 785.
- ⁷³ *Bulletin of the American Association of Blood Banks*, March, 1960, p. 111, "Physicians' Responsibility in Blood Transfusion."
- ⁷⁴ *The Medical Journal of Australia*, September 24, 1960, p. 509; see also *Today's Health*, October, 1960, p. 83; *New York State Medical Journal*, May, 1954, p. 1292.
- ⁷⁵ *Journal of the Florida Medical Association*, September, 1952, "Blood Transfusion Problems."
- ⁷⁶ *Postgraduate Medicine*, November, 1959, pp. A-42-A-46.
- ⁷⁷ *Surgery and Clinical Pathology in the Tropics*, by Charles Bowesman, p. 820; *Physiology in Health and Disease*, by Carl J. Wiggers, M.D.
- ⁷⁸ *American Druggist*, August 27, 1956.
- ⁷⁹ *The Canadian Nurse*, November, 1960, p. 979.
- ⁸⁰ *The Surgical Clinics of North America*, February, 1959, p. 130.
- ⁸¹ *Postgraduate Medicine*, January, 1956, p. 44.
- ⁸² *Who Is Your Doctor and Why?*, by Alonzo J. Shadman, M.D., p. 133.
- ⁸³ *Blood Transfusion*, George Discombe, M.D., B.Sc., p. 36 (London, 1960).
- ⁸⁴ *The Journal of the South Carolina Medical Association*, November, 1960, pp. 456-470. "Plasma Substitutes"; *Physiologie und Klinik der Bluttransfusion*, chap. 10 (Published at Jena, Germany, 1960).
- ⁸⁵ *Hospitals*, Journal of the American Hospital Association, February 1, 1959.
- ⁸⁶ *The Postgraduate Medical Journal*, Vol. 29, pp. 59, 60.
- ⁸⁷ *Canadian Doctor*, December, 1960, p. 44.
- ⁸⁸ Toronto, Canada, *Daily Star*, November 26, 1958; *Canadian Bar Journal*, October, 1960, p. 412.
- ⁸⁹ Toronto, Canada, *Globe and Mail*, April 15, 1960; *Canadian Doctor*, December, 1960, p. 49.

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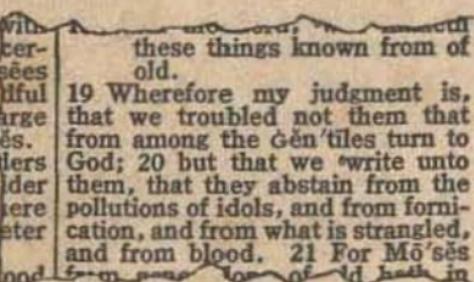
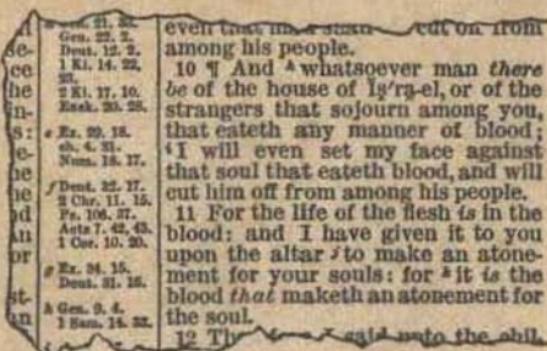
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