

## JUDAISM AND REPRODUCTIVE TECHNOLOGY

### Different Branches of Judaism

Judaism as a religion today is not well defined. Jews are a common people, but the religion of Judaism is divided into three main branches: “Orthodox,” “Conservative,” and “Reformed.” Only about 10% of Jews worldwide are Orthodox, and only Orthodox Judaism is quite well defined. Approximately 85% of Jews worldwide are “Reformed,” and these Jews are, for the most part, secular in their views. About 5% of Jews are “Conservative,” which is a sort of a hybrid between Orthodox and Reformed Judaism. Thus, with the exception of Orthodox Jews (10%), most Jews would have a very difficult time defining their belief system. In fact, Orthodox Jews often define themselves as “religious” Jews so as to distinguish themselves from the other 90% (Reformed and Conservative) who are viewed by the Orthodox as ethnic and historical Jews, but who are not following the traditional Jewish religion. Thus, to simplify the discussion of Judaism and modern reproductive technology, it is much easier to concentrate on the more clearly defined “Orthodox” branch of Judaism since it has the most severe set of rules.

### Basic Tenets of Orthodox Judaism

The basic and unshakeable tenets of Judaism prior to the Reform and Conservative movements in the last century is that the Torah is the revealed word of God handed down at Mount Sinai 3500 years ago, and witnessed by 600,000 people. The “written Torah” is the first five books of both the Jewish and Christian Bible. Judaism believes that its basic responsibility is to transmit reliably to each succeeding

generation the fact that God appeared to 600,000 people on Mount Sinai, so that no one person could claim that he or she had an exclusive revelation from God. Rather, the entire nation of Jews observed it, and therefore no one could have simply been making it up. Judaism believes that it is not unreasonable to assume that what was witnessed 100 generations (3500 years) ago was so important in the lives of these desert nomadic people that it has been transmitted accurately from parent to child, and represents the absolute truth of what God expects of us. In fact, the word "Torah" literally means "instructions for living." The Orthodox Jewish view is that life is so complex, challenging, and confusing, that without such a "handbook" so-to-speak, like an instruction manual, it would be impossible to know how to live life in the best possible way. That is why at the stage when humanity was ready to receive these instructions, 3500 years ago, after Noah had discovered the principles of moral behavior, and after Abraham had discovered the universal validity of monotheism, the world was finally ready for the very specific revelation of the law on Mount Sinai after the exodus from Egypt.

The "Torah" consists of the classical "written" Torah, which is the first five books of the Bible, i.e., the five books of Moses and the "oral" Torah, which is the "Talmud." The Talmud contains the directions that were also given on Mount Sinai to the "children of Israel," but which were too cumbersome and laborious, and too subject to subtle interpretation to be allowed to be "written down." In fact, the oral Torah continued to be added to by religious scholars, rabbis, and sages over the last 3500 years in the form of legal opinions and disagreements regarding the interpretation of the commandments. Thus, the Talmud consists of rules that were considered to be an oral expansion and clarification of the written Torah composed of the arguments and views and opinions from sages down through the centuries.

In early Judaism, it was felt that the oral Torah must not be written down because the very concept of oral Torah allows for re-interpretation of absolute rules and commandments according to new conditions as life changes with the coming centuries. Nonetheless, it was written down after the first century A.D. when it was feared by the rabbis of the time (after the Romans expelled the Jews from Israel) that it might be lost if it were simply left to being handed down orally as it had been in the previous 1600 years.

The basic tenet of Orthodox Judaism is that this written and oral Torah contains a complete guide to how God expects you to live your life. It is critical that you follow these commandments, and it is critical that when there appears to be conflicts or ambiguities in these commandments, that you use all of your intellectual ability to try to discern from these ambiguities and conflicts what exactly it is that God meant for you to do in every single situation that comes up in your life.

### **Orthodox Jewish Legal System**

The Orthodox Jewish legal system can be viewed as an extraordinary exercise in deductive logic, and can be compared for the sake of clarity to “Euclidean” and “Non-Euclidean” geometry. Euclidean geometry, which we all studied in high school, is not just a math course about shapes and lines. It is a study in the concept of deductive reasoning. In Euclidean geometry there are a set of six axioms and nineteen postulates, which are basic “obvious” truths from which the entire geometric structure of the world was derived. For example, one of the six axioms is that the “total is equal to the sum of its parts.” Axioms are basic truths that are not specific to geometry but to math in general. Postulates are basic truths that are specific to geometry. An example of one of the nineteen postulates is that “the shortest distance between two points is a straight

line.” From these basic axioms and postulates, with which no one would argue represent basic general truths, the entire system of Euclidean geometry, involving areas of triangles, and squares, polyhedrons, and circles are derived. A complex system whose truth seems incontrovertible could be constructed using deductive logic from these very simple sets of axioms and postulates.

In the same way, the Jewish legal system was derived via deductive logic, extrapolation, and argumentation based on the basic commandments in the Torah that were considered incontrovertible and irrefutable axioms and postulates. The result was a legal system that encompasses every imaginable detail of what one should and should not do based on Gods primordial directions to mankind from Mount Sinai.

However, Euclidean geometry (as logical and unassailable as it appears to be) has rather unexpected potential deviations if just one of those nineteen postulates is challenged. For example, the nineteenth Euclidean postulate states, “Only one line can be drawn through a point which is parallel to another line.” That postulate seems to be pretty obvious. But in the nineteenth century, a completely different system of geometry based on the world’s being curved rather than a rectangular structure, assumed that through a point, any number of parallel lines can be drawn parallel to any existing line. This “non-Euclidean” system of geometry was the basis for much of Einstein’s computations of relativity. It is this “risk” that any of the commandments (like postulates) might have been misinterpreted that in Judaism requires constant study, review, and argumentation. The Orthodox Jewish legal system supports this constant questioning process as the only way to attempt to approximate the truth, which Orthodox Jews do believe ultimately derives from Torah.

Lest one misconstrue that orthodox Judaism is simply a very complex system of rules and regulations based purely on left brain rationalism, it is also an orthodox

Jewish concept that by intensely studying, and indeed intellectually questioning, the rules which are derived from the many commandments of the torah, in an effort to be as certain as possible that we are following G-d's directions properly, one gets closer emotionally to G-d. At this point, a feeling of spritual exhilaration and absolute faith evolves from what was otherwise a purely cerebral endeavor. So despite Judaism's goal as a purely logical religion that transcends the irrational leap of faith, there is still room for the irrational and impulsive when difficult matters come up.

### **Major Jewish Themes**

The major themes throughout Judaism are that God is one, that life has a purpose, and that purpose is to live a good and moral life. However, life is very confusing and filled with potential conflict. Therefore, the essence of Orthodox Judaism is that only through intense and relentless study involving argument and counter-argument via logic and extrapolation, can Jews be guided through this confusion into leading the proper life.

Therefore, the Orthodox Jewish essence is that one must study Torah from the earliest years with all of their intellectual might. The purpose is to try to figure out through logic and introspection, debate and counter-debate, all based on Torah, what it is that God expects of us. Only through critical study of Torah can Orthodox Jews figure out how to manage every single detail of living.

### **The Most Important Two Commandments**

The first commandment to appear in the Torah (and of course also in the Christian old testament bible) is that mankind should be "fruitful and multiply." As a corollary, the next commandment is that human life should be preserved above all. For example, if all there is to eat is pork, and otherwise you would die if you did not eat the

pork, you are commanded to disobey the injunction against eating pork, so that you can continue to live. The only thing you are not allowed to do to save your life is either to deny the existence of God, or to cause someone else to die. Every other law can be forsaken if otherwise you would die. To either kill yourself or allow yourself to die unnecessarily, or to kill someone else, is strictly forbidden because the most important tenet in Orthodox Judaism is that human life is to be preserved above almost all other laws.

Other examples of Jewish law are that you must say a blessing over every meal and over every single pleasure so as not ever to take anything for granted. The reason for the commandment to say blessings is not because God needs to receive our thank you. The reason that God gives the commandment to say blessings is so that our pleasure in life can be enhanced by never taking the preciousness of life for granted. For example, you must thank God whenever you wake up in the morning for “renewing” your life. You must even remember to say a blessing over your sphincter whenever you’re finished going to the bathroom. This may sound humorous and always gets a giggle from the audience. But just think about it. We take our sphincter for granted, unless we have an ileostomy, or incontinence. As we walk around and live our normal lives, we don’t derive any true joy from appreciating how wonderful it is that we have a properly functioning sphincter, unless we remember to say a blessing every time we finish going to the bathroom.

### **Confusion Which Can Result From Attempting to Follow the “Commandments”**

It is well known that Jews must not do any work on the Sabbath so as to remember and be grateful for the creation of the universe. The Sabbath is considered very holy because it is a celebration of our very existence, and it is the most important

holiday in Judaism, occurring every single week on the seventh day, the day that God rested from creating the universe. Keeping the Sabbath holy is one of the most important and unassailable commandments in Judaism. That is the day that Orthodox Jews interface most directly with God, by following the specific commandment not to do any work on the Sabbath. That sounds easy, but how do you define “work”? Rabbis and sages over the last 3500 years have continually debated this simply to try to figure out what is and what is not “work” that is or is not allowable on the Sabbath.

For example, driving your car, even to Synagogue or anywhere else on the Sabbath is considered “work.” However, walking 20 or 40 miles on Sabbath, if you live that far away, is not considered “work.” Lifting a 50 pound weight inside your house is not considered “work,” but carrying a single feather outside your enclosed neighborhood, or outside of your house, is considered “work” which is not allowed on Sabbath. The mere flip of a switch, turning on a lightbulb is considered “work,” whereas serving a meal to 40 guests is not considered “work.” This is the type of confusion that can result when one sincerely attempts to follow the simplistic commandments of the Torah without having committed oneself to detailed and scholarly questioning. The logical answer has been to consider whatever was not allowable on Sabbath during the building of the tabernacle by Mount Sinai to be defined as “work.” Driving a car or turning on a light is considered work because it is the equivalent of starting a fire. Carrying a feather outside of the neighborhood is considered work because transporting from one area to another is not allowed, but rearranging furniture or other items in your house is not considered transport, and is not prohibited in the Torah.

What is the point of giving these examples of the difficulties that the most religious Jews have in deciding what actions do or do not conflict with what God

expects of us? It is to point out that the Orthodox Jewish views toward IVF and modern reproductive technology (like the Sabbath) have been subject to relentless intellectual scrutiny by some of the most brilliant minds in Judaism, attempting to extrapolate from ancient laws, believed to be handed down directly from God, what is and what is not allowable.

### **Infertility, IVF, Embryonic Stem Cells, Ovary Transplantation, and Judaism**

The Jewish views on IVF and modern reproductive technology issues are therefore readily deducible. According to the Talmud, the soul does not enter the embryo until 40 days. Furthermore, we all have an obligation to have offspring and to “be fruitful and multiply.” Therefore, IVF is absolutely obligatory when it is medically indicated in order for a couple to have children. It is not just allowable, but it is obligatory. Furthermore, PGD represents no moral or ethical risk, because the soul has not yet entered the embryo. Furthermore, selective reduction of a multiple pregnancy is acceptable if its goal is to enhance the possibility of life.

Embryo research to promote life is, therefore, acceptable. Furthermore, not only is therapeutic cloning acceptable, but it is an obligation to do any research which can enhance and promote life-saving treatment such as stem cell and cellular replacement therapy. In orthodox Judaism, which is otherwise a “right to life” and anti-abortion religion, the early embryo does not yet have a soul and so is NOT yet a person. Nonetheless it cannot be just discarded for no reason, because it is nonetheless a step toward the commandment “be fruitful and multiply”. But it would not be considered murder to utilize an early embryo for research that might eventually save lives.

### **Commandments in Conflict**

The Talmud specifically forbids “cutting the sperm ducts.” But yet the Torah insists “be fruitful and multiply.” So if we are not allowed to cut the sperm ducts, and yet we are obligated to do whatever we can to have children, what about “MESA” and what about “TESE?” These are procedures that allow us to retrieve sperm from men who are otherwise sterile, in order to perform IVF and give them children. Modern Talmud scholars, universally respected Orthodox Rabbinical minds, have weighed this conflict, and decided that the first commandment “to be fruitful and multiply” takes priority over the commandment not to “cut the sperm ducts.” Therefore, MESA and TESE are fully allowable and, in fact, mandatory.

However, such a decision, based on a clear conflict between two commandments is referred to as a “leniency.” In other words, the rabbi’s are not really happy about the prospect of an apparent violation of a Torah commandment, but it is understood that God’s intention in the commandment to avoid cutting the sperm ducts was meant to be a corollary of “be fruitful and multiply,” and not to be a prohibition against doing whatever you can to “be fruitful and multiply.” Nonetheless, because it is just a “leniency”, once the couple has had a boy and a girl, they are not allowed to have any further sperm retrieval procedures which would “cut the sperm ducts”. For this reason it is important that the first such procedure on any orthodox Jewish couple retrieve and safely freeze all the sperm they will ever need for as many future babies as they might wish to have.

### **Controversial Issues Such As Donor Gametes**

Most rabbinic authorities forbid either egg or sperm donation. The reason is that Jews are commanded “to build a wall” around the sacred marital bond. Women cannot

even touch via handshake another man. The same is true of course for men, who cannot even shake the hand of another woman, unless it is his wife or blood relative. Also men and women must dress modestly so as not to invite any sort of flirtatious breach of that marital firewall. However, what if the only way to fulfill the first commandment, “be fruitful and multiply” is donor gametes?

The great legal Orthodox Jewish minds are very cautious on this issue. Many Orthodox Jews assume that donor gametes are not allowable and don't even think to engage in detailed, syllogistic scrutiny of this issue. Therefore, most rabbinic authorities generally do not allow either donor sperm or donor eggs. However, there is no clear injunction in the Torah against donor sperm or donor eggs, and there is a clear imperative to “be fruitful and multiply.” In fact, the imperative to “be fruitful and multiply” is so strong that prior to modern reproductive technology, divorce (which is generally shunned among Orthodox Jews) would be allowed if the couple were infertile, just to allow them the chance to try via a different marital partner to have children.

One way for the couple who needs donor gametes to solve this issue is to search “for the right rabbi” who will go through the details of this complex issue with them privately and perhaps favorably. One of the greatest conflicts in all of orthodox Judaism arose out of this issue. The most respected Orthodox Jewish mind of the twentieth century was Rabbi Moshe Feinstein. Unfortunately he has passed away, but his views (however radical seeming) were regarded universally by Orthodox Jews, no matter what their hesitation, as most probably being correct guidelines. His knowledge and his reasoning were considered to be vaster than any other rabbi in the later twentieth century. He never had a chance to make a ruling on donor eggs, but on donor sperm he felt that it was a private matter for the couple to decide, and in certain

situations it would be recommended in order to fulfill the first commandment as well as to keep the marriage together. However, despite his favorable opinion, there is a universal “feeling” among most Orthodox rabbis against any use of donor gametes. When you press the rabbinic students on why there is this almost universal disagreement on this one and only issue with the otherwise unassailable Rabbi Moshe Feinstein, the answer is just that “sperm donation is disgusting”. Despite his great logic, and despite Judaism’s emphasis on rationality, most of the great rabbis today simply do not accept Rabbi Feinstein’s favorable ruling on gamete donation.

### **Ovary (and Testicle) Transplantation**

In a series of discordant identical twins ( one had no eggs at all and the other had two normal ovaries and was quite fertile ), we transplanted ovarian tissue from the fertile twin to the sterile twin, and in all cases normal reproductive function ensued, and in all natural conception and pregnancy resulted. So far frozen ovarian tissue has performed as well as fresh. Freezing ovarian tissue in cancer patients who will otherwise be rendered sterile from their treatment is the technology which is the center of our effort to preserve the fertility of young women so that they can have children eventually even if not now. Transplanting this tissue back to the same woman does not seem to raise any religious issues. But what about transplanting tissue from one woman to another who is in ovarian failure, in lieu of egg donation?

The severest orthodox rabbi’s fully approve of this approach to gamete donation. Although egg donation is not allowed, ovary tissue donation is allowed. Neither the rabbi’s nor the patients are fooled into thinking that the DNA of the child comes from anyone but the donor. There is no delusion on that point. They know full well that from a genetic point of view, this is no different from egg donation. However, from a

spiritual perspective, the egg is being ovulated within the body of the intended mother, and that makes all the difference. The DNA is not the big issue after all with gamete donation, but rather the possible intrusion past the safety firewall that orthodox Jews must build around the sanctity of the marriage. So as long as the ovulation is taking place inside the wife's body, it is consistent with the severest Jewish law, even if the DNA is not hers. Furthermore, the soul of the baby does not enter until 6 weeks of fetal life, and therefore is in a sense independent of the DNA.

### **Torah and Science Do Not Conflict**

Even the most fundamentalist Orthodox Jewish viewpoint is that Torah and Science do not conflict. Mankind must use its creative intelligence to resolve conflict and to figure out from the "basic" principles of Torah what is right, and never to be blinded by dogma. A good example is the Orthodox Jewish view of Creation and the concept of the Big Bang. Most physicists today believe that the universe is approximately 13 billion years old. That would seem to conflict with the biblical notion that the universe was created in six days, and on the seventh day, God rested. However, MIT physicists have studied this concept of the Big Bang mathematically using basic principles of the relativity of time and velocity popularized by Einstein.

As an object is proceeding at or near the velocity of light, time slows down dramatically in relation to a fixed observer. Einstein originally postulated that if you were to travel in a spaceship at the speed of light for thousands of years, and then return to earth, you will not have aged significantly, but back on Earth it will be thousands of years later. Time simply gets slower the faster your velocity in relation to a fixed observer. If G-d and the universe are considered one, a basic Jewish postulate,

and the universe is expanding near the speed of light, then the 13 billion years which astronomers measure as the age of the universe mathematically comes out for G-d to be approximately six days. Thus, there is no conflict between our observation that the universe is approximately 13 billion years old, and the traditional biblical view that the universe was created in six days. This is one example of the firm belief in Judaism that science, observation, and study do not, and should not conflict, with religion and spirituality. That is not considered to be God's wish. The Orthodox view of the most respected rabbinic minds is that Torah should be a window to view the universe with an open mind, and should not be a wooden shutter.