

# Destructive Embryonic Stem Cell Research

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The stem cell debate is about the value of human life at its beginning. Stem cells are “blank” cells which can become all 210 different kinds of human tissue. Researchers hope that someday these cells could provide cures for all kinds of serious diseases, even repairing vital organs. We have stem cells throughout our bodies, but they are most abundant in human embryos. To get embryonic stem cells, however, requires killing those human beings. A raging debate is going on in our nation now, over whether taxes should support killing human embryos in order to harvest their stem cells for experimentation.

Many influential groups have taken sides in the debate. You can guess where the pro-abortion groups stand (to find a positive justification for abortion is their dream come true!). Drug and research companies also defend destructive embryonic stem cell research. Pro-life groups, of course, are against it. The Vatican condemned research using human embryos as “gravely immoral,” because removing cells kills an unborn child. The Associated Press reported, “The Roman Catholic church teaches that life begins at conception and must be safeguarded from that point. It encouraged the use of cells from adults instead of embryos, which it called ‘the more reasonable and humane step.’” U.S. Senator Sam Brownback debated on the floor of the senate: “For the first time in our history, it is acceptable for medical researchers to kill one human being to help save another. Ultimately, what lies at the heart of this debate is our view of the human embryo. The central question in this debate is simple: Is the human embryo a person or a piece of property? If unborn persons are living beings, they have dignity and worth, and they deserve protection under the law from harm and destruction. If, however, unborn persons are a piece of property, then they can be destroyed with the consent of their owner.”

The one, holy, catholic and apostolic Orthodox Church has spoken, too. The position of the Orthodox Church on embryonic stem cell research, according to this newspaper, is, “In light of the fact that Orthodox Christianity accepts the fact that human life begins at conception, the extraction of stem cells from embryos, which involves the willful taking of human life — the embryo is human life and not just a ‘clump of cells’ — is considered morally and ethically wrong in every instance.”

In this article, we will look at why the Orthodox Church has taken such a stand, how the Church has always stood uncompromisingly for the personhood of the human embryo, and what moral alternatives exist for stem cell research.

Legally, research on human embryos is allowed because of a faulty Supreme Court definition of “personhood” at “viability” (when a baby can live outside his/her mother) as worthy of state interest for legal protection. In fact, the whole pro-abortion argument hinges on the lie that there is such a thing as human life which is less than a person,

hence unworthy of legal protection. Conversely, Orthodox Christians affirm the image of God from the beginning of human life, and we do not say at any time of development that one human being is of less value or less of a person than another human being.

## **THE CHURCH CONDEMNS ABORTION AT ANY STAGE**

Stem cells can be “harvested” from human embryos only by killing them, while the Church has always denounced any such killing and championed the sanctity of human life. The earliest extra-biblical document we have, The Didache, commands, “Do not murder a child by abortion,” and warns that “the Way of Death is filled with people who are...murderers of children and abortionists of God's creatures” (5:1-2). The Epistle of Barnabas, another very early document, was equally clear: “You shall not destroy your conceptions before they are brought forth.” Both call the embryo a “child.” The Epistle to Diognetus (second century) stated, “Christians...like everyone else, beget children, but they do not cast away fetuses.” The Apocalypse of Peter (given canonical status by St. Clement of Alexandria) prophesied the damnation of men and women involved in abortion: “Those who slew them will be tortured forever.” It included a vision of hell including the torment of “those who procured abortions.” St. Athenagoras, to refute the charge of murder, wrote, “What reason would we have to commit murder when we say that women who induce abortions are murderers, and will have to give account of it to God? For the same person would not regard a fetus in the womb as a living thing and therefore an object of God's care, and at the same time slay it.” St. Clement of Alexandria, in the third century, used Luke 1:41 (where John the Baptist leaped in Elizabeth's womb) to prove that an embryo is a living person. He calls the earliest conceived embryos “human beings who are given birth by Divine Providence,” and he condemns “those who use abortifacient medicines..., causing the outright destruction, together with the fetus, of the whole human race.” Hippolytus wrote how concubines “gird themselves round, so as to expel what was being conceived... Behold, into how great impiety that lawless one has proceeded, by inculcating adultery and murder at the same time!” St. John Chrysostom called abortion “murder before birth,” exhorting, “Why do you abuse the gift of God, and fight with His laws...and make the chamber of procreation a chamber for murder, and arm the woman that was given for childbearing for slaughter?” So also so many others, in fact all Fathers and all Councils of the Church unanimously condemn abortion at any stage of development, acknowledging that life begins at conception. The basis of the Church's fervent opposition to abortion was that the preborn are God-created human beings. The distinguishing mark of the Christian position was concern for the fetus as a person.

It is sometimes said that the Bible is silent on abortion, but that's not true. While the word “abortion” isn't in the Bible (neither is the word, “Trinity”), the New Testament forbids pharmakeia, the use of potions or poisons which cause abortion (in Sorano's Gynecology, pharmakeia refers exclusively to abortifacients). Galatians 5:20 condemns pharmakeia along with fornication, impurity, licentiousness (promiscuity) “and the like.” The context makes clear that abortion is what is being prohibited. Pharmakeia is one of the wicked deeds of Babylon, deceiving the nations (Rev 18:23). It is an activity of unrepentant evildoers (Rev 9:21). The lot of those who

participate in pharmakeia is, along with fornicating murderers, "in the lake that burns with fire and sulphur, which is the second death" (Rev 21:8). Revelation 22:15 says that outside the Heavenly city are "pharmakos and fornicators and murderers and idolaters, and every one who loves and practices falsehood."

Today the Church continues to decry abortion, no matter how soon after conception. Protopresbyter John Meyendorff, of blessed memory, insisted: "The fact that [an abortion] takes place at an initial stage of the human life process...does not change the nature of the act of abortion, being killing... The hundreds of thousands of legal abortions performed in New York hospitals are a case of mass killing." In 1973, Metropolitan IRENY lamented: "The very moral foundations of society are being subjected to doubt... As a horrible symbol of this moral decay, I cite the legalization of abortion, this frightening transgression of the most sacred of all commandments." The Twenty-Third Clergy-Lay Congress of the Greek Archdiocese of North and South America (1976) issued this statement: "The Orthodox Church has a definite, formal, and intended attitude toward abortion. It condemns all procedures purporting to abort the embryo or fetus, whether by surgical or medical means. The Orthodox Church brands abortion as murder, that is, the premeditated termination of the life of a human being. Decisions of the Supreme Court and State Legislatures by which abortion is allowed, with or without restrictions, should be viewed by practicing Christians as an affront to their beliefs in the sanctity of life."

## **THE CHURCH TEACHES LIFE BEGINS AT CONCEPTION**

The Church has always resoundly affirmed that human life — and She does not distinguish human life from human personhood — begins at conception. This is most obvious in our Feasts celebrating the conception of Christ at Annunciation, the conception of the Theotokos, and the conception of John the Baptist, all of which have hymns proclaiming the personhood of Jesus, Mary, and John. At his conception, the Church proclaims: "From a barren womb buds forth today the fruit of prayer, John the Forerunner... For, behold, the Herald of repentance begins to take flesh in his mother's womb." And to Elizabeth, the Church sings: "Rejoice, O Woman who before was barren! For, behold, you have conceived the Lamp of the Sun, who will illumine the whole universe which is suffering in blindness." The idea that what is conceived is a "potential" entity that sometime later becomes a person is completely foreign and antithetical to Orthodox Tradition. John himself was conceived, not a "conceptus" with only potential for personhood. The whole amazement of the Annunciation is that in Mary's womb was a Person, not just a "fertilized egg." At the Feast of the Annunciation, the Church sings about Mary: "She conceived You, the pre-eternal God, who was pleased to become man for the salvation of our souls." We marvel with the angels, that "He who cannot be contained is contained in a womb." This is the mystery of the Christian Faith, and it teaches us that the womb holds persons, not things. At Great Compline for the Annunciation we sing, "God empties Himself, takes flesh, and is fashioned as a creature, when the angel tells the pure Virgin of her conception." The Church teaches us that a pregnant woman is a mother; she has a person growing inside her.

It is important to note in all this that the point at which the baby can live outside his mother ("viability") is utterly irrelevant. A human embryo may be totally dependent on his mother for nutrition and protection, but he is still a person. Bishop John Zizioulas teaches that "person is prior to being." Just as we can't speak of "divinity" without personhood (there is no impersonal "Force," but a Tri-Personal God), so also we can't speak of a human existence which is less than personal. If a human exists, s/he is a person. Also irrelevant is the Latin debate over "ensoulment." In the West, St. Augustine fluctuated on the question of the soul's origin, and St. Jerome made a distinction between formed and unformed, but both unequivocally condemned abortion at any gestational stage. Fr. Stanley Harakas teaches, "The Roman Catholic theological tradition has long involved itself in the dispute regarding when the soul enters the body, and how this takes place, thus giving credence to the 'quickening theory.' The Orthodox Christian Tradition has never done so. In fact, St. Basil, in his second canon, makes a point in ruling out this kind of discussion: ...'Among us there is no exact definition of that which is formed and that which is unformed.' He goes on to indicate that...destruction of the embryo is murder."

St. Basil the Great repeatedly affirmed, "Those who give potions for the destruction of the child conceived in the womb are murderers... The hairsplitting difference between formed and unformed makes no difference to us. A woman who deliberately destroys a fetus is answerable for murder." Father John Kowalczyk comments, "This demonstrates that Basil was aware that a fetus passed through several stages of development. But he also held that during this whole process...to destroy a fetus is to go against the will of the Creator." Significantly, St. Gregory of Nyssa affirmed that the fetus possessed a soul from conception: "There is no question about that which is bred in the uterus... The point of commencement of existence is one and the same for body and soul." St. Gregory considers there no difference, in terms of human personhood, between a newborn and the developing baby in the womb. He writes that an infant has "no advantage over the embryo in the womb except that he has seen the air." He takes great pains to prove that from the baby's earliest beginning, the child is not only alive but endowed with a personal, human soul. "No one with good sense would imagine that the origin of the soul is later and younger than the formation of the bodies... Soul and body have one and the same beginning... We understand that a common transition into being takes place for the compound constituted from both soul and body. The one does not go before, nor the other come later." Tertullian, while a leading apologist in the Church, wrote that "Abortion is a precipitation of murder, nor does it matter whether or not one takes a life when formed, or drives it away when forming," and he simply and clearly states, "We acknowledge that life begins with conception."

Holy Scripture calls pregnancy --from the moment of conception--"to be with child" (Isaiah 7:14). King David wrote, "You formed my inward parts, You knit me together in my mother's womb... You know me right well; my frame was not hidden from You, when I was being made in secret... Your eyes beheld my unformed substance" (Ps 139:13-17). At the earliest stage of development, not yet visibly recognizable in their "unformed substance," the tiniest individuals are the subjects of God's love as persons. This is seen many other times, such as in the cases of Jeremiah (Jere 1:4-5), Isaiah (Is

44:32; 49:1), Job (Job 10:8-12), St Paul (Gal 1:15), and John the Baptist (Lk 1:15, 41-44 -- note the preborn child is a *brephos*, literally, "baby"). Exodus 21 gives the penalty for domestic violence causing a premature but healthy birth ("*yatza*," a live birth, not a "*shakol*," miscarriage) of a normal child ("*yeled*," child, not "*golem*," fetus, or "*nefel*," stillborn). If "no harm follows" (the Hebrew refers to the mother, the child, or both), a lesser penalty is exacted. If there is harm to either the mother or the child, the penalty is "life for life, eye for eye, tooth for tooth, hand for hand, foot for foot, burn for burn, wound for wound, stripe for stripe." Clearly, the baby in the womb is of equal value to human life outside the womb. In fact, this passage shows that life in the womb is of greater value, in the sense of being worthy of greater protection, because the punishment for accidental harm to a pregnant woman or her child is more strict than that for accidental death in general (Ex 21:13).

ANY abortifacient — no matter how immediately applied after conception — is absolutely condemned by holy Scripture, the Fathers, and the Councils of the Church. Categories of development ("*zygote*," "*embryo*," "*fetus*") are modern inventions for more technical description of the developing child, not Church-sanctioned divisions in stages of value. (Even the Latin word "*fetus*" simply means "unborn baby," at any stage after conception.) Dr. Wanda Franz explains, "Each level of development is directly dependent on the earlier level for the form it takes... The entire life of a human being is continuously evolving from conception. No one level of functioning is superior to any other, since each one depends on and evolves out of lower, less functional forms, and is the basis for the next, higher form... Nothing is added to what he is (at fertilization) except nutrition, time and oxygen, which simply cause him to grow... A human being does not come from an embryo or fetus; he once was one. These terms are nothing more than stages of human development." The Church unanimously affirms human life starts at the very beginning, conception, not at a later stage. Modern medicine affirms what Orthodoxy has always known: Dr. Jerome Lyeume, geneticist who discovered the genetic basis for Down's Syndrome, writes, "Life has a very long history, but each human being has a very neat beginning: the moment of conception."

At no time in gestation is there a change, going from being "lifeless" to being "alive," or from a "vegetable" to a "human." Dr. E. Blechschmidt explains, "A human being does not become a human being, but rather is a human being from the instant of its fertilization." The preborn child does not develop human organs and limbs in anticipation of life, which do not begin functioning until birth. He is never just "there," formed but without life, as was mistakenly thought by some in the past. Rather, the preborn child is already a functioning human being whose development becomes more and more complex. The Supreme Court in 1973 made up the "trimester" divisions of pregnancy, based on the earliest stage of "viability" then possible, but according to Orthodox truth, "viability" has nothing to do with human personhood, or when human life begins. Dr. David Prentice, professor of life sciences at Indiana State University and adjunct professor of medical and molecular genetics at the Indiana University School of Medicine, writes, "Scientifically there is no disputing that we are a human being even at the one-cell stage."

The Orthodox Faith proclaims that we are created in the image of God (Gen 9:6). Although the image of God in us has been made hard to see because of sin, it is indelible. It cannot be lost (we are not Calvinists). We are unique and distinct from animals, angels, and all the created universe because God personally formed us in His likeness and breathed His Spirit in us. The child born severely deformed or retarded is created in the image and likeness of God just as we are, and to the same degree that we are. Our degree of biological development is irrelevant to the fact of our being created in God's image. We affirm that life begins at conception.

## **EMBRYONIC STEM CELL RESEARCH KILLS**

In the mid-90's, Congress passed a law banning the use of tax dollars for research in which human embryos are harmed or killed. Richard Doerflinger of the National Conference of Catholic Bishops explains what then happened, under the Clinton administration: "Based on a legal opinion by Health and Human Services attorney Marcy Wilder (former legal director of the National Abortion Rights Action League), the National Institutes of Health proposed funding research that uses stem cells from 'spare' embryos at fertility clinics." The National Right to Life Committee responded to the Clinton administration's averting the law: "If a law said no taxes may fund research in which porpoises are destroyed,' and a federal agency then told its grantees to arrange for porpoises to be caught and killed for use in federally approved experiments, everyone would recognize this as illegal." Detroit's Roman Catholic Cardinal, Adam Maida, summarized, "By appropriating taxpayers' money for such experiments with human life, our elected officials would make all of us unwitting partners along the way."

"Harvesting" stem cells kills human embryos. Though the hope is to someday help people, if we harm others in the process, we have done wrong. The Church opposes embryonic stem cell research because there is no way, at least today, to take stem cells from human embryos –preborn children-- without killing them. Dr. J. Wilke of Life Issues Institute writes, "You can't have it both ways. You can't profess to be pro-life and support experimentation on these tiny children that will result in their deaths. As physicians we first pledge to do no harm. (Embryonic stem cell research) flies in the face of a doctor's primary responsibility."

Some say the possible benefits justify destructive embryonic stem cell research. This "noble use" argument is simple: the end justifies the means. But the intentional harm of a human being for the benefit of another is wrong. Stem cell research's ultimate goal may be to heal, but countless human beings have to be killed first.

Fr. Frank Pavone, Roman Catholic president of Priests For Life, explains, "This is not a debate about whether or not we should do research to assist the perennial fight against disease. The Church does not oppose research. But the task of research, the efforts to cure disease, and the ability to manipulate nature has certain moral parameters." The 14,000-member Christian Medical Association states, "Defining the value of lives by how we use them is the grossest violation of human worth."

Others, including President Bush, agree that killing humans for experimentation is wrong, but feel it should be allowed on embryos "already slated to die," such as victims of abortion or "spare" human embryos frozen in fertility clinics. This is faulty thinking,

since two wrongs don't make a right. In cases of abortion, it is wrong to benefit from an immoral act. This is a universally accepted ethical principle. Ken Connor, president of the Family Research Council, explains, "The law has long recognized that you may incur moral and legal responsibility for your response to someone else's prior criminal act, even though you weren't a participant in the original wrongdoing. For example, the law holds that you may be punished for knowingly receiving stolen goods even though you didn't participate in the original act of larceny. To hold otherwise would provide thieves with an incentive to keep on stealing. And, it is no defense to the crime that the one who knowingly received the stolen goods gave them to a church in an attempt to ennoble an otherwise ignoble act. Even an innocent party (i.e., the church that received the goods without knowledge that they were stolen) is required to cough up the ill-gotten gains." In cases of conceived human beings frozen in fertility clinics, again the Church opposes the killing of these little ones for experimentation. Human life is human life, whether conceived in the fallopian tubes or in a petri dish. Pro-life couples going through in-vitro fertilization can (and Orthodox faithful do) specify that no "extras" be conceived than will be implanted in the mother. Deacon Dr. Mark Studebaker explains, "Each one is conceived with the hope that it will become implanted in the mother's womb and survive, even though some often do not. This is no different than what happens in a natural setting through a couple with normal fertility." (Here in Lima, Ohio, I personally know a previously infertile Roman Catholic couple who has become a family in just this way.) Even in cases of non-Christian in-vitro fertilization where more embryos are conceived than implanted, "spare" embryos are not necessarily destroyed. Parents can preserve "excess" embryos for future pregnancies as well as donate them to other couples. The New England Journal of Medicine reports that in a recent study, 59% of parents who initially planned to discard their embryos after three years later changed their minds, choosing another pregnancy or donation to infertile couples. The U.S. Conference of (Roman) Bishops argues, "What's more, we now know that the scientists calling for federal funds have themselves moved on to creating human embryos solely to destroy them for stem cells. So much for the "discarded anyway" argument." Kevin Fitzgerald of Georgetown University testified before Congress, "We do not consider it appropriate to take organs from dying patients or prisoners on death row before they have died in order to increase someone else's chances for healing or cure. Neither, then, should we consider any embryos 'spare' so that we may destroy them for their stem cells." Albert Schweitzer once wrote, "If a man loses reverence for any part of life, he will lose his reverence for all of life."

Advocate Gary Bauer summarizes, "Common sense tells us that no one has the right to kill another human being, no matter how much good they claim will come from that act. Most people instinctively reject the notion that doctors are qualified to decide who should live and who should die 'for the greater good.' That is why doctors have for centuries taken an oath declaring their first duty not to harm, let alone kill, anyone in their care. The consequences of this terrible new power are already apparent. The British Parliament recently announced that it would allow the cloning of human beings so long as the people created are quickly destroyed for their stem cells." (In yet another fulfilled slippery slope, research has now become the justification for human cloning.

Embryologist Jonathan Van Blerkom of University of Colorado clarifies, "To claim that an embryo produced by cloning is not really an embryo, in order to justify destructive experimentation on it, is arbitrary and self-serving." Princeton University Professor Lee Silver agrees: "Cloned children will be full-fledged human beings, indistinguishable in biological terms from all other members of the species. Thus, the notion of a soulless clone has no basis in reality.")

Even if there were a way to experiment on human embryos without killing them (which there isn't), such use of preborn children would, I believe, constitute abuse. Remember, according to Holy Tradition, we're talking about people here! It would be equal to experimenting on you or me, alive, and without our consent. "Human beings, no matter how small, weak, or dependent, possess inherent dignity and intrinsic worth by virtue of their humanity... Of all human beings, pre-born human life is most vulnerable to abuse and exploitation." The president of the U.S. Conference of Catholic Bishops, Joseph A. Fiorenza, describes destructive embryonic research as "treating some lives as nothing more than objects to be manipulated and destroyed for research purposes." Attorney and consumer advocate Wesley J. Smith says it turns "human life (into) a mere natural resource... A crop to be harvested."

Some say embryonic stem cell research is acceptable if done on miscarried children. Since they will die anyway, this is equated with transplanting needed organs from someone newly dead. There may be room for this view in our Church, but personally I would argue against it. First of all, it differs from transplantation in that experimentation is done without the donor's permission or consent –an important legal requirement for all "protected" human life. (This is especially important for Orthodox, who respect our bodies as Temples of the Holy Spirit and do not want unnecessary experimentation, embalming, etc. legally allowed on human beings without consent.) Secondly, if this is upheld as a moral act, then abuse will follow and quickly escalate. Haven't we seen enough proof in the last century that prophetic "slippery slopes" come true? Finally, I would argue that using is abusing. It would require artificially keeping the child alive (or at least part of him or her alive) long enough to harvest her stem cells, thereby killing her. Such manipulation of life has no humility, no reverence, no place for God. William Saunders of the Family Research Council explains, "Too often, we think of an embryo as a thing that can be donated or thrown away, the way someone donates unwanted clothes to charity or throws them in the trash. Yet a human embryo is a living human being—a being with a human destiny and a purpose." History has proven "the greater good" type of utilitarian logic to lead to horrible abuses, whether on mentally ill patients in Nazi Germany, or on minorities injected with syphilis at Tuskegee, or on soldiers exposed with radiation during World War II. Applying the logic that aborted-babies-are-dead-anyway-so-why-not-use-them, Ken Connor writes, "look for using victims of partial birth abortion as the next objects of medical research... What about death row prisoners and victims of homicide and auto accidents?" Clearly, this is not the road we wish to go on. Thanks be to God, there are stem cells useable for research from countless sources other than embryos, some of which are beginning to prove more valuable than embryonic stem cells.

## ALTERNATIVES TO EMBRYONIC STEM CELLS

The Coalition of Americans for Research Ethics (including former Surgeon General C. Everett Koop) has pointed out that real, viable alternatives exist. William Saunders writes, "Experiments conducted on stem cells taken from deliberately destroyed embryonic humans is always unethical and always unnecessary."

Dr. David Prentice of Indiana State University and the Indiana University School of Medicine comments, "There are several excellent alternatives to embryos, and they are actually better potential sources of stem cells for numerous reasons. The best sources are from our own organs... Another excellent source is cord blood; the small amount of blood left in an umbilical cord after it is detached from a newborn is rich in stem cells." Indeed, Wesley J. Smith reports that stem cells from umbilical cord blood have restored the immune systems of children whose cancer had previously destroyed their abilities to fight infection and disease.

In England, research has shown adult stem cells can help stroke victims regain movement, senses and understanding. They also show that the adult cells were more effective than cells from aborted babies. The Institute of Psychiatry in London and a biotechnology company, showed that transplanted adult stem cells made their way to whichever area of the damaged brain needed repair. The movement of adult stem cells to the damaged area of the brain differs from the behavior of fetal stem cells, which they say remain in one place when transplanted.

Besides umbilical cord stem cells, there are many other kinds of adult stem cells, all of which can be used in research without harming anyone, and which are already proven to have dramatic healing effects. The Toronto Globe and Mail reported that a young woman rendered paraplegic by a car accident can move her toes and legs after injection of her own immune-system cells into her severed spinal cord. The New England Journal of Medicine reports that several legally blind people can now see more clearly after their corneas were reconstructed with adult corneal stem cells. The scientific medical journal, Blood, found (adult) blood stem cells could be "maintained for prolonged periods, and sufficient numbers were generated for adult transplantation," something previously thought only possible with embryonic stem cells. In the last year, adult neural stem cells have been converted into heart, liver, muscle and blood cells. The Associated Press concluded that such findings "may eliminate the ethical dilemma blocking stem-cell studies that use human fetal tissues."

The National Institute for Neurological Disorders and Stroke has confirmed that patients' own bone marrow stem cells can be directed to generate nerve cells for brain repair. "The studies suggest that bone marrow may be a readily available source of neural cells with potential for treating such neurological disorders as Parkinson's disease and traumatic brain injury... Bone marrow cells taken from a patient's own body would not be rejected by the body's immune system." Use of bone marrow stem cells to repair damaged bone and cartilage is already in human clinical trials at Osiris Therapeutics in Baltimore and elsewhere. The New England Journal of Medicine reports on successful efforts by Italian and Russian researchers to repair "large bone defects" using these cells. The Washington Post also ran a story about two children born without immune systems, who have left their sterile environment and lead normal lives after bone marrow stem

cell treatment. The Los Angeles Times has reported that The Robert Wood Johnson Medical School in New Jersey found stem cells from adult bone marrow can convert into neurons quickly and can be grown in almost unlimited supply. Experiments prove these cells can be successfully transplanted into the spinal cord and brain, where they survive and connect to other neurons. The Washington Post published reports that bone marrow cells "might provide a nearly limitless supply of replacement neurons for patients with Parkinson's disease, Alzheimer's disease and spinal cord injuries." G. Vogel, in *Science* (the journal of the American Association for the Advancement of Science), announced results proving bone marrow stem cells from children and adults can "become brain cells and liver cell precursors, plus all three kinds of muscle... Besides skirting the ethical dilemmas surrounding research on embryonic and fetal stem cells, adult cells...might have another advantage: They may be easier to manage." *Science* journal (which supported destructive embryo stem cell research), admitted that "easily accessible cells from bone marrow might someday be used to treat a wide range of neurological diseases --without raising the ethical concerns that accompany the use of embryonic cells."

Skin has been discovered as a source of stem cells. The (Toronto) National Post reported that researchers at the Montreal Neurological Institute found stem cells in skin which can morph into neurons, bone, muscle, blood and other kinds of cells. A finger cut heals by means of skin, blood, and neural stem cells in the finger itself, restoring not only the outer finger but also the sense of touch. The discovery could lead to cures for diabetes and other degenerative illnesses by providing new cells to replace damaged or dead ones. Independent laboratory experiments indicate that neural cells can be grown from scalp tissue.

Fat contains stem cells. Reuters documents results from the University of Pennsylvania in Philadelphia, where researchers created bone cells out of stem cells harvested from abdominal fat. In another study, scientists grew cartilage cells from fat stem cells taken from liposuction samples. Dr. Prosper Benhaim of the University of California at Los Angeles comments, "In the future, liposuction may provide an abundant source of stem cells that are easily obtained."

The British Medical Journal reports that even people recently deceased can provide stem cells: "Early results suggest that ductal tissue taken from human cadavers can be grown in culture to form functioning (pancreatic) islet cells. Such a source of tissue... could prove better than relying on fetal tissue, and may even lead eventually to autologous pancreatic transplants." The American Diabetes Association reports that fifteen people with juvenile diabetes became "insulin free" after adult pancreatic islet cell transplants; nine still need no insulin injections. Researchers at the Salk Institute for Biological Studies grew neural cells from human tissue donated after death from people up to 72 years old.

The list of proven alternatives to embryonic stem cells goes on. As Senator Sam Brownback puts it, "We cannot secure a good life by ending the lives of others. There are other paths available--let us take them."

The Wall Street Journal reports Harvard Medical School researcher Evan Y. Snyder, "Scientists used to think that such potential for cellular regeneration was present only in

embryos--that, for example, humans had made their lifetime supply of brain cells by age 17. But that canon is steadily eroding... I think we will find these stem cells in any organ that we look." Science journal columnist E. Marshall: "Once thought to be less versatile than (embryonic) stem cells because they have already made a commitment to become particular cell types, these (adult stem) cells are now turning out to have greater than expected capabilities. What's more, they pose fewer ethical problems because they can be obtained from sources other than embryos or aborted fetuses. And the companies using them argue that it may require less work to transform them into specialized cells for transplantation."

In their zeal to justify abortion, some have distorted the facts to favor destructive embryo research. Dr. Prentice explains, "Knowledgeable people do not always perpetuate the truth... Celebrities are unfortunately ill-informed or deliberately misled... For example, the letter sent to President Bush says that "insulin-secreting cells have normalized blood glucose in diabetic mice." These experiments were done with ADULT stem cells from mice, NOT embryonic stem cells. In fact, there are as yet no reports of anyone being able to produce insulin-secreting cells from human embryonic stem cells, but human ADULT stem cells that secrete insulin HAVE been isolated. Studies done with adult stem cells DO show that adult stem cells have the capacity to form essentially any tissue."

The United States Conference of (Roman) Catholic Bishops states flatly the fact that "Embryonic stem cells have not helped a single human patient, or demonstrated any therapeutic benefit. By contrast, adult stem cells and other ethically acceptable alternatives have helped hundreds of thousands of patients, and new clinical uses expand almost weekly." Dr. Marcus Grompe of the Department of Molecular and Medical Genetics at Oregon Health Sciences University (an expert in cell transplantation to repair damaged livers), admits, "There is no evidence of therapeutic benefit from embryonic stem cells." Bert Vogelstein, Professor of Oncology and Pathology at Johns Hopkins University and Chairman of the Institute of Medicine's committee studying stem cell research, described all claims of benefit from embryonic stem cells as "conjectural": "There is no experience with embryonic stem cells in humans, and very little in mice."

Do No Harm, the Coalition of Americans for Research Ethics (<http://www.stemcellresearch.org>), has a wealth of articles about the alternatives on their website, plus links to other sources. For information on advances in stem cell research that do not require killing human embryos, visit <http://www.nccbuscc.org/prolife/issues/bioethic/factsheets.htm>.

## **STEM CELLS FROM EMBRYOS HAVE PROBLEMS**

Embryo stem cells are beginning to prove more harmful than helpful. Wesley J. Smith explains, "Alternative sources of stem cells offer at least equivalent potential to embryonic cells... Yes, embryonic stem cells seem more active, but that may actually make them less desirable for use in human medical therapy since this aspect of their biology may be impossible to control and could lead to embryonic stem cell therapy causing tumors." Science journal reports that "The human embryonic stem cells and

fetal germ cells that made headlines in November 1998 because they can, in theory, develop into any cell type...did not readily differentiate." Instead, "they stayed in a disorganized cluster, and brain cells near them began to die." In other words, they became a cancer-like tumor. Richard Doerflinger of the National Conference of (Roman) Catholic Bishops writes, "Human embryonic cells have proved harder to grow in culture than once thought... The leading corporation funding embryonic stem cell research in the United States has confirmed these reports... Now adult stem cells are proving easier to grow than many thought, and embryonic cells proving far more difficult."

Cybercast News Service reports that scientists in the United States have been injecting cells from aborted babies into the brains of Parkinson's patients, but it was reported in early March that the experiment was being abandoned after "absolutely devastating" side-effects were observed. Lead researcher Dr. Helen Hodges concluded, "We expect that (adult) stem cells will prove far safer and more flexible for repair of brain damage than primary fetal cells." The Albert Einstein College of Medicine in New York came to similar conclusions, as did the Institute for Stem Cell Research in Milan, Italy. Dr. David Prentice: "Use of embryonic stem cells will require lifelong use of drugs to prevent rejection of the tissue. Adult stem cells have shown success at forming many specific tissues so far, certainly more than human embryonic stem cells in the laboratory. [Embryonic] stem cells can produce tumors. No such problems exist with adult stem cells."

Even pro-abortionists are beginning to indirectly admit problems with embryo stem cells. Dr. John Gearhart of Johns Hopkins University, after pleading on television for tax dollars based on his insistence that adult stem cells are no substitute for embryos, later decided to "extend work into adult stem cells as a source of tissue," because, in his own words, adult cells "offer the best hope for patients." The Alliance for Aging Research (a political group demanding tax dollars for embryo stem cells because "adult stem cells hold little promise"), commented on news that scientists have cured diabetes in mice using adult pancreatic stem cells, saying it was "the most promising sign to date that stem cell research might yield remarkable treatments for currently incurable diseases." (As far as tax dollars are concerned, there is plenty of private monies for embryonic research. One Johns Hopkins donor recently gave an unrestricted \$58.5 million cash grant for stem cell research.)

Embryonic stem cells are unstable, making them harder to manage. They can fail to differentiate into the needed cells, and can even cause harmful tumors. They can be rejected by the patient (who has to take drugs just to attempt accepting them), and they can transmit diseases. Michel Levesque, director of neurofunctional surgery at Cedars-Sinai Medical Center in Los Angeles, confirms that using adult stem cells, "we don't have to harvest 12 or 15 fetuses, we don't have to give immunosuppressant therapy, and we don't have to worry about viral disease transmission.

It is obvious who benefits most from destructive embryonic stem cell experimentation. The market for cell lines and tissue cultures made nearly half a billion dollars for corporations worldwide in 1996 alone, and the market has since skyrocketed. Fr. Andrew Morbey writes, "There is no need at all to use fetuses for stem cell research! So why use them? Who profits? Those with fetuses and fetal tissue certainly do.

Abortion clinics and fertility clinics will make a bundle from the 'by-products' of their 'services' --probably even more than they make from abortions and in-vitro fertilization... In fact these 'services' will, from a business point of view, simply be the means of harvesting the raw materials for the new mega bio-industry. Waste turns into gold... Those sad people grasping at stem-cell research to enhance their lives are the dupes of the abortion and in-vitro fertility industry. Their perceived needs could be met with cells other, uncontroversial tissues... There is, it would seem, no need to enhance or extend one's life by devouring one's children."

## **THE ISSUE IS CLEAR**

To the ungodly, the issue is clear. Outspoken pro-abortionist John Fletcher of the University of Virginia stated, "Obviously, whether you approve of fetal tissue research using abortion victims will depend on whether you approve of abortion." Newsweek columnist Anna Quindlen, an ardent pro-abortionist, argues that embryonic stem cell research should be tax funded because it will change people's attitude toward abortion. Destructive embryo experimentation, she writes, "might bring a certain long-overdue relativism to discussions of abortion across the board... Real live loved ones trump the imagined unborn..., a small price to pay for the health and welfare of millions." (Ramesh Ponuru of *The National Review* asks, "Doesn't The Brothers Karamazov have something to say about this kind of bargain?")

To Orthodox Christians, the issue is equally clear. We defend the life of preborn children, from the earliest, smallest and most fragile stages of development. We oppose killing innocent human life for experimentation, or for any other reason. As citizens, we call upon our government to sponsor only research which does not harm human life, "research we all can live with." As Orthodox faithful, alongside our holy Fathers, our Councils and our holy Scriptures, we continue and maintain Holy Tradition unchanged, which affirms the miracle of life begins at conception.