

The Ethics of Stem Cell Research

By Rev. Tadeusz Pacholczyk, Ph.D.

Advocates are quick to point out that stem cell research is about helping those who are living. This is not quite correct. Only *adult* stem cell research is about helping the living. *Embryonic* stem cell research is about destructively harming some of the living, in the name of helping others who may be struggling with diseases. To promote this particular research agenda, advocates will often seek to dehumanize embryos, suggesting that because they are so microscopic, and appear to be so very different from us, they *couldn't* really be one of us. Such argumentation stems from a basic error in understanding human biology.

Getting the Biology Right

Early embryos, it is true, are remarkably unfamiliar to us. They lack hands and feet. They don't have faces or eyes for us to look into. They look nothing like what we expect when we imagine a human being. Yet they are precisely as human as each of us. When we look at a scanning electron micrograph of a human embryo, a small cluster of cells, sitting on the point of a sewing pin, we do well to ask ourselves a simple question: "Isn't that exactly what a young human is *supposed* to look like?" The correct answer to that question doesn't depend on religion, revelation or theology, but only on embryology. Although we may be unaccustomed to seeing photomicrographs of embryos, we need to remind ourselves that what we are really viewing is a kind of family photo.

So while science makes it clear that human embryos are *human* beings, rather than cow, zebra or cat beings, religion and ethics step in *after* that fact, to ask: Is it correct that all human beings should be treated in the same way, or is it allowable to discriminate against some human beings in the interests of others?

Although it is a fundamental embryological truth that each of us was once an embryo, the advocates of embryonic stem cell research are eager to portray human embryos as different from the rest of us, unable to make the grade, and hence fair game for destruction at the hands of those who themselves are no longer embryos. Recognizing the inviolability of human embryos really does not depend on religion at all, but rather on an accurate understanding of where each of us originated, and of the shared rights we all possess regardless of age, size, or state of dependency. Those rights are highlighted in the text of the Declaration of Independence, where it emphasizes that "... all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life ..."

An Example from the Animal Kingdom

Bald eagles, the living symbol of our national freedom, spirit, and pursuit of excellence, have protection by law from those who would kill or harm them. In the United States we

have a stringent federal law, the Bald Eagle Protection Act, passed in 1940, that protects not only the national bird, the bald eagle, but also that bird's eggs. If you chanced upon some of those eggs in a nest out in the wilderness, it would be illegal for you to destroy them. If you did so, you would suffer the same penalties and sanctions as if you had shot the adult bird out of the air. By the force of law, we acknowledge the scientific truth that the eagle's egg (that is to say, the *embryonic eagle* inside that egg) is the same creature as the beautiful bird that we witness flying overhead. Therefore we pass laws to safeguard not only the adult but also the very youngest member of that species.

Even atheists can see how a bald eagle's eggs ought to be protected; it's not a religious question at all. If bald eagles are valuable (in this case, for pragmatic reasons of conservation), then it is right and fitting to protect them at all stages of their existence. The same logic holds for humans, who are valuable not for pragmatic but for intrinsic reasons. It is rather striking how we are able to understand the importance of protecting the earliest stages of various forms of animal life, but when it comes to our own human life, we go through deceptive mental gymnastics to dissociate ourselves from our own humble embryonic origins. It is indeed a sad commentary on the moral confusion of our times that we readily protect embryonic animals, but are eager to offer up our own human embryonic brothers and sisters for dismemberment on the altar of stem cell sacrifice.

The Importance of Morally Acceptable Alternatives

Yet opposition to embryonic stem cell research should not be confused with opposition to stem cell research generally. Most types of stem cell research, in fact, are morally acceptable and laudable. We can all support many kinds of exciting and forward-looking avenues of stem cell research, like umbilical cord and adult stem cell research, with a clear conscience. New discoveries using a technique called de-differentiation promise new and more powerful stem cells obtained in morally acceptable ways. Ever more flexible (or "pluripotent") forms of adult stem cells are being discovered in various tissues and organs all the time. Our laws need to promote *these* kinds of stem cell research.

Below is an ethical overview of some of the current types of stem cell research:

- *Embryonic Stem Cells* (pluripotent stem cells harvested from living embryos which are 3-5 days old) — always morally objectionable, because a young human must be destroyed in order to harvest his or her stem cells
- *Embryonic Germ Cells* (pluripotent stem cells derived from germ cells [sperm or egg-producing cells] of fetuses) — morally objectionable when utilizing cells derived from elective abortions, but morally acceptable when utilizing cells from spontaneous abortions (miscarriages) if the parents give informed consent
- *Adult Germ Cells* (pluripotent stem cells derived from testicular biopsy) – morally acceptable, assuming informed consent of the adult donor

- *Umbilical Cord Stem Cells* — morally acceptable, since the umbilical cord is no longer required once a baby has been delivered
- *Placentally-derived Stem Cells* — morally acceptable, since the afterbirth is no longer required once a baby has been delivered \
- *Post-Natally Derived (Adult) Stem Cells* (e.g. stem cells from bone marrow or blood or fat from liposuction) — morally acceptable, assuming informed consent from the adult donor
- *De-Differentiation Strategies* (pluripotent stem cells derived from treating adult cells with chemicals or other bio-active substances to “back-differentiate” them towards a more primitive state) — morally acceptable as long as the de-differentiation procedure doesn’t go so far as to make a human embryo
- *Reprogramming Strategies* (pluripotent stem cells derived using a modified nuclear transfer technique, for example ANT-OAR) — morally acceptable as long as the reprogramming generates a distinctly non-embryonic entity, that is to say, a cell or group of cells that is not an organism, from which stem cells could be obtained.

Where the Successful Therapies Are Coming From Today

Many people imagine that, given the impassioned discussion and pervasive media pressure to use embryos, many sick human patients must have already benefited from embryonic stem cell therapies. It comes as a surprise to many people, then, to learn that all the human stem cell therapies developed to date have actually come from adult or umbilical cord stem cells — not embryonic stem cells. Such therapies range from using bone marrow stem cells in the treatment of heart attack victims, to using umbilical cord stem cells in the treatment of rare enzyme disorders like Krabbe’s leukodystrophy. It makes sense that adult stem cells would prove effective in the clinic, since they already exist in our bodies in various locations where they comprise part of the natural repair mechanism for many tissues. They properly belong in the microenvironment of an adult body. Embryonic stem cells, by contrast, belong in the microenvironment of an early embryo, not in an adult body, where they tend to cause tumors and immune system reactions. As of the date of this publication, *NO therapies in humans have ever been successfully carried out using embryonic stem cells.* Yet the drumbeat to go after human embryos remains remarkably persistent, and the mythology surrounding patient treatments continues to expand unabated.

Fallacies of the “Frozen Embryo Approach”

Even various patient-advocacy groups have fallen prey to the myth that “embryos = cures” for their loved ones who are sick or in wheelchairs. “Just give us the frozen embryos,” is the cry that is usually heard. “They’re all going to be thrown away anyway. We can get healing and cures if you allow us to destroy frozen embryos with federal dollars.”

Americans tend to be rather pragmatic, so the proposal to get some good out of something that will be thrown into the dumpster seems like a “no-brainer.” Yet the matter is not so simple. The first lapse in reasoning occurs when we draw the conclusion that it is somehow OK to discard very young humans. We lull ourselves into thinking that this is inevitable and thus acceptable. We tell ourselves that we really can’t stop scientists from flushing young human beings down the toilet or discarding them as medical waste, when in point of fact we could and should work to stop such practices. Then we use that first error of judgment to justify a second, equally grave error, namely, that it is okay to directly cause the death of that young human growing in the Petri dish on the laboratory bench in front of us. In other words, if others are going to destroy a human, that somehow makes it OK, or even laudable, for me to step in and beat them to the punch by destroying that young human first myself.

Some will further argue that many embryos in nature, perhaps even 50% of all conceptions, don’t survive anyway and are flushed from the woman’s body. Why get all worked up about using frozen embryos in research, when so many early embryos die naturally from miscarriages? But the difference between a natural miscarriage and the intentional destruction of embryos is precisely the difference between the unfortunate natural case of Sudden Infant Death Syndrome and the unconscionable case of deliberately smothering an infant with a pillow.

Some also seek to justify the destruction of human embryos by arguing that the parents, the mother and father who created the embryos, need only give their consent for the use of their frozen embryos. All they have to do is to sign on the dotted line. Parents, however, cannot ever provide valid consent for the destruction of their own progeny. Such consent is automatically null and void, no matter how many piles of paperwork they put their “John Hancock” to. We are witnessing a kind of “inner corrosion” and “ethical unmooring” of the scientific research enterprise, as procedural steps and legal maneuvers of this sort are multiplied to provide cover for the immoral project of embryonic stem cell research.

The argument that cryo-preserved human embryos are all we need to bring about wonderful cures is flawed for other reasons as well. Making use of stem cells from a frozen embryo to treat a sick patient can be expected to fail, for the simple reason that the patient would mount an immune response to the transplanted cells. If Jane Doe were to walk in off the street to an *in vitro* fertilization clinic, and request that a random frozen embryo be destroyed so its stem cells could treat her, there would be a problem. When those cells or their derivatives were introduced into Jane, her body would attack those tissues as foreign because they came from an embryo that she was not genetically related to.

Embryonic Stem Cells and the Next Turn: Therapeutic Cloning

The frozen embryo approach, in fact, is really just a stepping stone so scientists can proceed to the next step, namely “*therapeutic*” cloning. Therapeutic cloning purports to

get around the rejection problem by producing a genetically related embryo, that is to say, a cloned embryo (an identical twin) starting from one of Jane Doe's body cells. This new embryonic twin sister would then be destroyed to extract the desired stem cells. Because identical twins can exchange kidneys and other organs without rejecting them, stem cells taken from the cloned embryo (the younger twin) would not be rejected upon transplantation into Jane (the older twin). Yet creating our own twin brothers or sisters as embryos merely to strip-mine them for their desired cells – creating life simply to extinguish it – is gravely and inherently unethical.

Conclusion — The Path of Ethical Science

Until we take legal steps to assure that the powerful, the well-heeled, and the self-interested are not allowed to run roughshod over embryonic humans, we will never be worthy of the claim that ours is a civilized society. We can never sanction the creation of a subclass of human beings, comprised of those still in their embryonic or fetal stages, to be freely exploited and discriminated against by those fortunate enough to have already passed safely beyond those early and vulnerable stages. We stand at a critical moment in our national discussion about stem cells and biotechnology. We must chart a path toward a future in which the power of science is carefully ordered to serve and safeguard human life and human dignity. With God's help we can benefit from the remarkable advances opened up by science if we face the moral concerns raised by these emerging technologies today, and choose to walk courageously and uncompromisingly along the right path, the path of ethical science.

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Activities for Parishes

- Keep apprised of federal bills relating to stem cell research and cloning at HYPERLINK "http://www.nchla.org" www.nchla.org.
- Keep current on state legislative efforts through your diocesan pro-life/Respect Life office or State Catholic Conference. Join state lobbying efforts in favor of bans on embryonic stem cell research and cloning, and bans on funding these activities; join state lobbying efforts to support funding of adult stem cell research initiatives, cord blood banks, and other pro-life initiatives.
- Write letters to the editor to correct misinformation on this issue, and encourage your friends and colleagues to write as well.
- Organize a phone or an e-mail “tree” to pass along the latest information on legislative battles and on the latest cures from adult stem cell therapies.
- Include *Stem Cell Research and Human Cloning: Questions and Answers* (Pro-Life

Secretariat) in your Sunday bulletin, inviting parishioners to sign up for e-mailed news alerts.

Resources

Teaching Documents

The Gospel of Life. Pope John Paul II, 1995. Washington, D.C.: USCCB (English and Spanish, \$9.95); also available from Pauline Books & Media. Available at HYPERLINK "http://www.usccb.org/prolife/docs/evangel/evangeli.htm"

<http://www.usccb.org/prolife/docs/evangel/evangeli.htm>.

Donum vitae (Instruction on Respect for Human Life in its Origin and on the Dignity of Procreation). Congregation for the Doctrine of the Faith, 1987. Washington, D.C.: USCCB (\$4.25). Available at HYPERLINK

"http://www.usccb.org/prolife/docs/donumvitae.htm"

<http://www.usccb.org/prolife/docs/donumvitae.htm>.

Print

The following papers, and others, are available from the Pontifical Academy for Life: *Declaration on the Production and the Scientific and Therapeutic Use of Human Embryonic Stem Cells (2000)*; *The Dignity of Human Procreation and Reproductive Technologies: Anthropological and Ethical Aspects (2005)*; *Ethics of Biomedical Research for a Christian Vision (2003)*. These may be found at HYPERLINK

"http://www.vatican.va/roman_curia/pontifical_academies/acdlife/index.htm"

http://www.vatican.va/roman_curia/pontifical_academies/acdlife/index.htm.

The Case Against Funding Human Embryonic Stem Cell Research. Anton-Lewis Usala, M.D., 2001. Washington, D.C.: USCCB Pro-Life Secretariat (no. 0101; 40 cents each).

Catholic Bioethics and the Gift of Human Life. William E. May. Huntington, Ind.: Our Sunday Visitor Books, 2000 (\$17.95).

Consumer's Guide to a Brave New World. Wesley J. Smith. San Francisco: Encounter Books, 2004 (\$25.95).

Embryonic Problems. Article on South Korean cloning scandal. Robert George & Eric Cohen. In *National Review*. Available at HYPERLINK

"http://www.nationalreview.com/comment/george_cohen200603200801.asp"

http://www.nationalreview.com/comment/george_cohen200603200801.asp.

"Federal Funding of Human Embryonic Stem Cell Research – Illegal, Unethical and Unnecessary." Susan E. Wills, Esq. *The Journal of Contemporary Health Law and Policy*, vol. 18: 95-145. Washington, D.C.: The Catholic University of America, 2001.

The Future is Now: America Confronts the New Eugenics. William Kristol and Eric Cohen (eds.). Lanham, Md.: Rowman & Littlefield Pubs, 2002 (\$19.95).

Handbook on Critical Life Issues, 3rd ed., Rev. John A. Leies et al. Philadelphia: National Catholic Bioethics Center, 2005 (\$24.95).

Human Cloning vs. Human Dignity. Richard M. Doerflinger, 2003. Washington, D.C.: USCCB Pro-Life Secretariat (no. 0341; 40 cents each).

Editorial, "Human Cloning and Scientific Corruption: The South Korea Scandal and the Future of the Stem Cell Debate." *The New Atlantis* (Winter 2006). Available at HYPERLINK "<http://www.thenewatlantis.com/archive/11/soa/cloning.htm>"
<http://www.thenewatlantis.com/archive/11/soa/cloning.htm>.

Human Dignity in the Biotech Century. Charles W. Colson and Nigel M. de S. Cameron (eds.). Downers Grove, Ill.: InterVarsity Press, 2004 (\$15).

Life, Liberty and the Defense of Dignity: The Challenge of Bioethics. Leon R. Kass, M.D. San Francisco: Encounter Books, 2002 (\$26.95).

Moral Issues in Catholic Health Care. Kevin T. McMahon (ed.). Wynnewood, Pa.: St. Charles Borromeo Seminary, 2004.

The New Eugenics: Cloning and Beyond. M. Therese Lysaught, Ph.D., 2002. Washington, D.C.: USCCB Pro-Life Secretariat (no. 0244; 40 cents each).

Stem Cell Research. 31-page pamphlet, prepared by Office of Congressman Dave Weldon (contact the Congressman's office at 202/ 225-3671).

Stem Cell Research, Cloning & Human Embryos. Rev. Tadeusz Pacholczyk, Ph.D. Washington, D.C.: Family Research Council, 2004. A copy may be downloaded free at HYPERLINK "<http://www.frc.org/get.cfm?i=BC04C01>"
<http://www.frc.org/get.cfm?i=BC04C01> or purchased from FRC (\$1.50).

Stem Cell Research and Human Cloning: Questions and Answers. Prepared by Secretariat for Pro-Life Activities, 2004. Washington, D.C.: USCCB Publications (no. 5-566; \$10/100). Available at HYPERLINK "<http://www.usccb.org/prolife/issues/bioethic/stemcell/index.htm>"
<http://www.usccb.org/prolife/issues/bioethic/stemcell/index.htm> ("Stem Cell Q&A Bulletin Insert").

Testimony before the Commonwealth of Virginia Joint Subcommittee Studying Medical, Ethical, and Scientific Issues Relating to Stem Cell Research. Richard M. Doerflinger, 2005. Available at HYPERLINK "<http://www.stemcellresearch.org/testimony/20051115doerflinger.htm>"

<http://www.stemcellresearch.org/testimony/20051115doerflinger.htm>

Periodicals

Ethics & Medicine, an international journal of bioethics. Find at HYPERLINK "<http://www.ethicsandmedicine.com>" www.ethicsandmedicine.com

Ethics & Medics. Issued 12 times a year by the National Catholic Bioethics Center. Find at HYPERLINK "<http://www.ethicsandmedics.com>" www.ethicsandmedics.com

The Linacre Quarterly, Journal of the Catholic Medical Association. Find at HYPERLINK "<http://www.cathmed.org>" www.cathmed.org.

The National Catholic Bioethics Quarterly, Journal of the National Catholic Bioethics Center. Find at HYPERLINK "<http://www.ncbcenter.org>" www.ncbcenter.org.

The New Atlantis: A Journal of Technology & Society. Find at HYPERLINK "<http://www.thenewatlantis.com>" www.thenewatlantis.com.

DVD

Cutting Through the Spin on Stem Cells and Cloning. Rev. Tadeusz Pacholczyk, Ph.D. Available from National Catholic Bioethics Center (\$12.99).

Internet

HYPERLINK "<http://www.cathmed.org>" www.cathmed.org Catholic Medical Association

HYPERLINK "<http://www.cloninginformation.org>" www.cloninginformation.org Americans to Ban Cloning

HYPERLINK "<http://www.frc.org>" www.frc.org Family Research Council

HYPERLINK "<http://www.ncbcenter.org>" www.ncbcenter.org National Catholic Bioethics Center.

HYPERLINK "<http://www.nrlc.org>" www.nrlc.org National Right to Life Committee

HYPERLINK "<http://www.stemcellresearch.org>" www.stemcellresearch.org Coalition of Americans for Research Ethics

HYPERLINK "<http://www.usccb.org/prolife>" www.usccb.org/prolife U.S. Conference of Catholic Bishops' Secretariat for Pro-Life Activities