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Dennis M. Sullivan

Cedarville University, sullivan@cedarville.edu

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Making Sense of the Stem Cell Controversy

by Dennis Sullivan, M.D.

It is a difficult and confusing time in our public discourse. Back in the 1970s and 1980s, social conservatives rallied against the ready availability of abortion. Yet the pro-life movement suffered major setbacks, first in the 1973 *Roe v. Wade* Supreme Court decision, and again in *Planned Parenthood v. Casey* in 1992. The result has been unrestricted access to abortion in the United States.

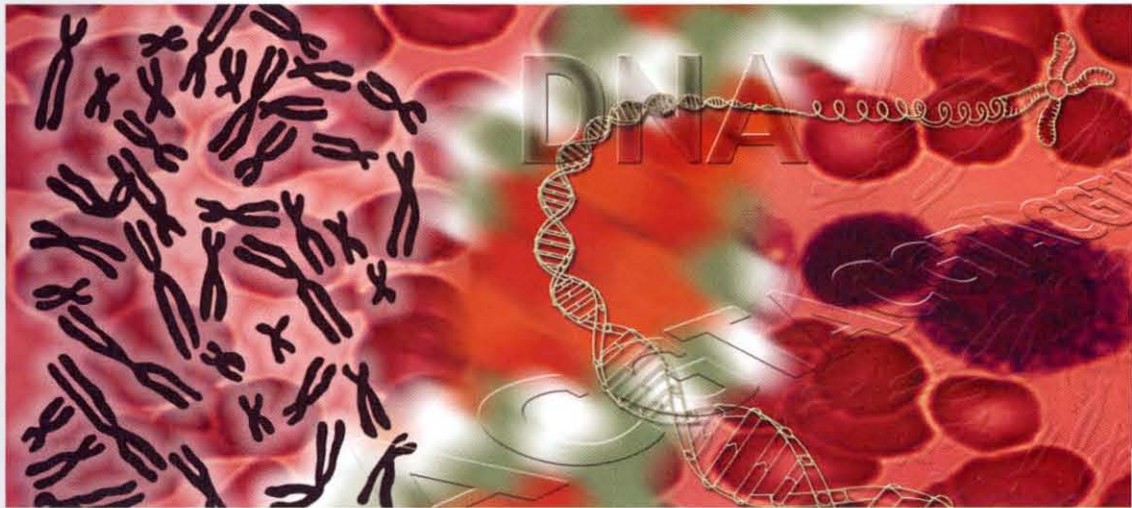
In recent years, the culture wars have begun again, and the debate over human life has become sharper and even more divisive. In the past, the discussion always focused on the rights of the unborn child against the rights of the mother. The new debate over stem cell research centers on the rights of the tiniest of humans, in the form of little embryos, against the rights of researchers to experiment on them in the hope of developing medical cures for a variety of diseases.

The background for all this dates back to 1978, when Louise Joy Brown, the world's first "test tube baby," was born. Reproductive technologies allow childless couples to combine sperm and egg outside the womb to create embryos, which can then be implanted back into the womb. Yet there may be unused embryos resulting from these procedures, which are often frozen for future use. What is the status of these frozen embryos? Are they persons or property? Many medical researchers would use them as research material, to produce stem cells.

Stem cells are the "starter" cells that may become various mature cells of the body. All

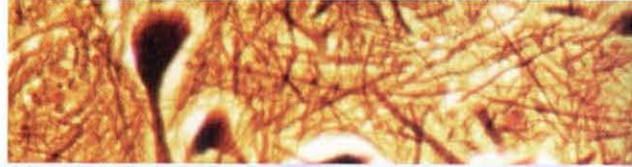
human beings have such cells. For example, human bone marrow contains stem cells. These are often called "pluripotent" cells (Latin: "many" + "powers"), because each one of these cells can become a variety of different mature blood cells. These include the white blood cells that protect against infection, platelets that help the blood to clot, and red blood cells that carry oxygen.

Some organs of the body no longer contain stem cells. For example, consider the muscle cells that make up the heart. If repeated heart attacks damage these cells, they cannot be replaced, and the heart just gets weaker. There is a limit to how much damage the heart may sustain before permanent disability or death occurs.



What if stem cells could replace damaged heart muscle? This could conceivably prolong a person's life. Or imagine if stem cells could replenish neurons in the brain, helping to heal the brain after a head injury or a stroke. The biological possibilities are intriguing. A compelling case can also be made for the use of stem cells to repair spinal cord injuries, to provide new pancreatic cells in diabetes mellitus, or to cure Parkinson's disease.

Where would such stem cells come from? Unfortunately, the stem cells of the



bone marrow have already become fairly specialized and are destined to become blood cells of one type or another. These



traditional understanding for centuries, and many secular philosophers agree with this idea. Nonetheless, the seductive promise of stem cell research has fostered a mentality that the end justifies the means.

Yet here's a fact that may surprise you: ***For all of the hype and promise of embryonic stem cell research, there is not a single research study or medical treatment that is currently helping any human being.*** Conservative ethicists are often accused of a lack of compassion because of their opposition to destructive embryo research, yet there is not a single study that has demonstrated any benefit for any medical condition. All of the excitement is about a future potential not yet realized.

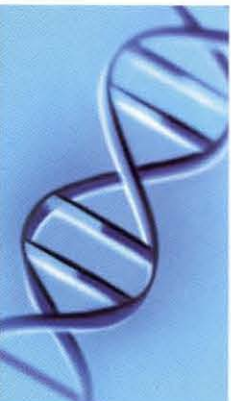
would not be much help in growing new brain or heart cells. Donated stem cells must be from an earlier stage of development. Some researchers claim that the best source is a human embryo, composed exclusively of unprogrammed early stem cells, any one of which may become the precursor of adult tissues and organs.

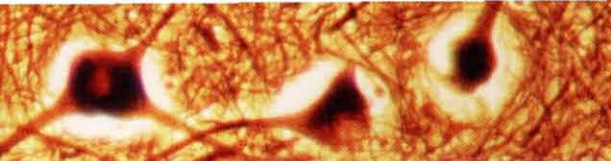
There are only two possible sources of human embryos. As we saw earlier, the leftover embryos from reproductive technologies are one possible source. A second source of embryos is human cloning, scientifically called "somatic cell nuclear transfer," where DNA is combined in a laboratory to create an embryo. The harvesting of stem cells from both of these sources destroys the embryos, and this creates a real ethical dilemma.

What are the ethics of destroying human embryos for research? Those who hold to the conception view of human personhood believe that an embryo is a human person. This has been the Christian church's

However, there is a form of stem cell research going on today, quietly helping people and saving lives, without any ethical controversy. At last count, more than 70 current studies have shown benefit from stem cells derived from the discarded umbilical cords of newborn babies, skin cells and fat cells of adults, and even cells from adult bone marrow. Since the cells derived from these sources are not truly pluripotent, there are limitations, yet the ongoing research has been creative and promising. No human beings are destroyed to achieve these modern medical miracles.

Because of the limitations of non-embryonic stem cells, many are still pushing to expand governmental funding of destructive embryo research. Along the way, some people have asked a thoughtful question: "In the case of frozen embryos left over from fertility treatments, why shouldn't we use them for research, since they are going to be destroyed anyway?" That is an important question, one we should not take lightly.





First of all, destruction of excess embryos is not inevitable, since their fate is entirely up to the couples who produced them. They could eventually be implanted, or perhaps even be adopted by another childless couple, an idea that is growing in popularity. And if embryos are persons, then morally they should be protected. After all, killing a human being is a moral evil.

We cannot justify destructive embryo research based on a vague utilitarian calculus that they are going to be destroyed anyway. We can do better morally.

Men and women of good faith from all worldviews must continue to debate these matters. In the end, our very human nature is at stake. Christians believe that all human beings are created in the image of God. We should think long and hard before we casually destroy our fellow image-bearers. **T**

Dr. Dennis Sullivan serves as director of Cedarville University's Center for Bioethics and is also a professor of biology. Before coming to Cedarville in 1996, he served as a medical missionary in both Haiti and the Central African Republic. Sullivan received his B.S. from Youngstown State University, his M.D. from Case Western Reserve University, and an M.A. in Bioethics from Trinity University. A member of the American Medical Association, the Christian Medical Association, and the Center for Bioethics and Human Dignity, he has been honored as a Diplomate by the American Board of Surgery (1985) and as a Fellow by the American College of Surgeons (1996).



A Bioethics Timeline

- 1968 Harvard University recommends brain death standards for organ transplantation.
- 1971 Judith Jarvis Thomson writes "A Defense of Abortion," an influential essay which defends abortion even while assuming the personhood of the unborn.
- 1972 Details of the Depression-era Tuskegee Syphilis Study, one of the greatest ethical breaches of trust between physicians and patients in a U.S. clinical study, are brought to light.
- 1973 The *Roe v. Wade* U.S. Supreme Court decision allows unrestricted access to abortion before viability.
- 1976 By a ruling of the New Jersey Supreme Court, Karen Ann Quinlan is taken off life support. Hers is the first major "right-to die" case involving persistent vegetative state (PVS). Quinlan lived for nine more years after being removed from life support.
- 1978 Louise Joy Brown, the first "test tube baby," is born.
- 1981 AIDS is first reported in the U.S.
- 1990 Nancy Cruzan, who is in a PVS, dies after a contentious "right-to-die" case before the U.S. Supreme Court.
- 1992 The *Planned Parenthood v. Casey* U.S. Supreme Court decision overturns the viability portion of *Roe v. Wade*, extending the right to abortion to any time of pregnancy.
- 1996 Dolly the sheep, the first cloned mammal, is born.
- 1997 Oregon voters approve the Death with Dignity Act.
- 1999 Dr. Jack Kevorkian is convicted for the voluntary euthanasia of a patient with Lou Gehrig's disease after assisting in the suicide of almost 100 others.
- 2001 President Bush permits limited government funding of embryonic stem cell research, using only embryos that had already been destroyed.
- 2003 The Human Genome Project is completed, marking the first complete draft of the sequence of human DNA.
- 2003 The Partial-Birth Abortion Ban Act, a federal ban of intact dilation and extraction as an abortion procedure, is passed.
- 2005 Terri Schiavo dies after her feeding tube is removed by ruling of the U.S. Supreme Court. In this "right-to-die" case, the diagnosis of PVS was hotly contested.
- 2007 The U.S. Supreme Court upholds the Partial-Birth Abortion Ban Act.

