



THE ETHICS OF STEM CELL RESEARCH

INTRODUCTION

Every generation confronts the challenge of how — or whether — to use new technology. The knowledge that something can be done always comes with the question: Should it be done?

That is certainly true as we cope with the great strides that biotechnology has taken in recent years. These advances present ethical challenges for all of us. Here in Wisconsin, due to the work of scientists at the University of Wisconsin, we face this challenge in a very direct way.

DISCUSSION

What Are Stem Cells?

A stem cell is an unspecialized or “parent” cell that has the potential to divide into more stem cells or to develop into the specialized cells that make up the human body. The regenerative capacity of stem cells makes them very attractive to researchers working on treatments and cures for a wide range of diseases and conditions. Scientists are currently studying four main types of stem cells:

- 1) **Embryonic stem cells** are derived from the inner mass cells of a five to six-day-old embryo (or blastocyst). They are greatly valued because they have the potential to develop into any type of cell (pluripotency), and because they have the greatest capacity of any stem cells to regenerate over many generations. By extracting the stem cells, however, scientists destroy the embryo.
- 2) **Embryonic germ cells** are derived from that part of a fetus that will eventually produce eggs or sperm. Like embryonic stem cells, germ cells are pluripotent. Unlike embryonic stem cells, they have a more limited capacity for regeneration. But germ cells also do not develop as many tumors as the fast-dividing embryonic stem cells. Normally, embryonic germ cells are taken from a fetus that is older than eight weeks. Catholic teaching does not object if they are taken from a fetus that has miscarried.
- 3) **Adult stem cells** are found in tissues or organs after birth. They are called multipotent cells because they have a more limited ability to produce cells of a different tissue or organ from which they originated. To date, adult stem cells have successfully treated more diseases than any other type of stem cells, and they do not involve the destruction of human life.
- 4) **Umbilical cord blood stem cells** are collected from the umbilical cord just after birth. They too have been used to treat various disorders without destroying human life.

Ethical Issues

Promoters of embryonic stem cell research believe that these stem cells hold the greatest potential to cure such debilitating and potentially fatal diseases as juvenile diabetes and Parkinson’s disease. They consider this research to be ethical since they regard the blastocyst as simply a mass of cells that only possesses the

potential to become human. They also maintain that Wisconsin's economy stands to gain if this research is allowed to prosper at the University of Wisconsin and at private biotech firms around the state.

By contrast, the Catholic Church opposes embryonic stem cell research because it regards the blastocyst as a *developing* human being with an intrinsic sacredness and human dignity, fully deserving of protection from willful destruction or harmful experimentation. The Church, however, fully supports the other three types of stem cell research since they do not require the destruction of a developing human being. Furthermore, the Church teaches that economic growth cannot come at the expense of our humanity. The economy must always serve human beings, not the other way around.

APPLYING THE PRINCIPLES OF CATHOLIC SOCIAL TEACHING

Human Life Is Sacred at All Stages. Human life is sacred, even life at the earliest stages of development. As such, it must be respected and protected. When embryonic stem cell research treats embryos as *things*—things that people own and have the power to either keep, destroy, or donate to science—the sacredness of life is undermined.

The Ends Do Not Justify the Means. Catholic teaching regards science and technology as valuable tools that can serve noble ends—such as curing disease, feeding the hungry, and furthering life in many other ways. However, the Church has consistently rejected experimentation that exploits or endangers human life. Catholic teaching also rejects the notion that some lives may be sacrificed to benefit other lives.

Some argue that since frozen embryos from in-vitro fertilization clinics will be destroyed anyway, it is actually more ethical to use them to save lives. But by this same logic, we should also harvest organs from patients on the verge of death. Destroying one life to save another is never ethical.

Alternatives Are Currently Available. Stem cells taken from various sources, including adults and umbilical cord blood, avoid the ethical dilemmas that embryonic stem cells present. Indeed, scientists have found that sources for adult stem cells in the tissues of the human body are far more numerous than originally thought. In addition, patients may serve as their own adult stem cell donor, thereby effectively eliminating the significant risk of immune system rejection.

ACTION REQUESTED

Urge legislators to consider the following as they seek to support policies that best serve the common good and the inherent dignity of all human beings:

- Science and technology are great gifts. The Catholic Church is not opposed to the advancement of knowledge, but we do not advance as a society if knowledge is gained through the deliberate destruction of members of our human family. We can and must pursue cures we can all live with.
- Support legislation that would prohibit research that relies on the termination of the life of unborn children. This would also include research using stem cells obtained from aborted embryos and fetuses, though not from miscarried ones.
- Oppose spending public money on unethical scientific research.
- Encourage scientists and government to continue to search for new ways to derive stem cells without destroying human life. Adult stem cells, embryonic germ cells from miscarried fetuses, and umbilical cord blood stem cells are current examples of viable, ethical alternatives to embryonic stem cells.

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