

# **Will new method of stem cell extraction solve ethical concerns?**

## **Procedure derives cells without destroying embryos: Procedure derives cells without destroying embryos**

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Scientists unveiled last month a new way to derive potentially life-saving stem cells from an embryo without destroying it, but some abortion opponents said they regard the proposed method as unethical.

In the online version of the journal *Nature*, researchers from Advanced Cell Technology (ACT) told how they extracted single cells from 16 embryos and let the cells grow overnight. Once the single cell had broken into two, scientists used one to grow new stem cell lines whose regenerative potential might hold keys to curing diseases such as Parkinson's. Of the 91 cells removed, two yielded viable stem cell lines.

The technique of extracting one cell from an eight-celled embryo has for 10 years been used in fertility clinics to assess the genetic health of an embryo before it is implanted in a woman's uterus. ACT says "more than 1,500 healthy children have been born following the use" of this method.

"Our ability to create human embryonic cell lines and therapies without harming the embryo should assuage the ethical concerns of many Americans," said William M. Caldwell IV, head of ACT. "We look forward to potentially working with partners to produce significant medical benefit through the use of this technique."

Objections, however, quickly surfaced from Roman Catholic ethicists. Among them was Edward J. Furton of the National Catholic Bioethics Center in Philadelphia. His concern centered on the fact that the technique exposes the embryo to “more than minimal risk” without offering it any potential benefit. “If you’re an eight-celled embryo and you have one of your cells removed, that’s obviously a major, invasive procedure and clearly beyond minimal risk,” Furton said.

More concerns came from the U.S. Conference of Catholic Bishops. Cells removed from an embryo might be “very early embryos” in their own right and therefore shouldn’t be destroyed, according to Richard M. Doerflinger, deputy director of pro-life activities for the bishops.

Other ethicists, however, expressed hope in the new procedure, primarily because the embryo isn’t destroyed.

“One of the major ethical objections of those who oppose the generation of human embryonic stems cells is that all techniques, until now, have resulted in the destruction of the embryo,” said Ronald Green, director of Dartmouth College’s Ethics Institute and chair of ACT’s ethics advisory board. ACT has facilities in Worcester, Massachusetts, and Alameda, California.

Added Green: “This technique overcomes this hurdle and has the potential to play a critical role in the advancement of regenerative medicine. It also appears to be a way out of the current political impasse in this country and elsewhere.”

In 2001 President Bush effectively banned federal funding for embryonic stem cell research. It is commonly practiced on an embryo at the blastocyst stage, with about 150 cells. But according to the study’s authors, the new technique, using technology developed for in vitro fertilization, leaves the embryo with the ability to develop into a fetus.

Nonetheless, *Nature* reported that the technique raises ethical questions for others. “There are fears that removing a cell from an embryo will lower its chances of implantation in the womb or alter its development and cause later health problems for the resulting child,” the journal said.

According to *Nature*, Robert Lanza, who headed the research team, “answers this by saying that the risks of the procedure are minimal and that it would only be performed on embryos that are to undergo pre-implantation genetic diagnosis anyway.” –*Religion News Service, Associated Baptist Press*