
August 24, 2006

Stem Cell News Could Intensify Political Debate

By [NICHOLAS WADE](#)

Biologists have developed a technique for establishing colonies of human embryonic [stem cells](#) from an early human embryo without destroying it. This method, if confirmed in other laboratories, would seem to remove the principal objection to the research.

It could also redirect and intensify the emotional political debate over current limits on federal financing for research on human embryonic stem cells, which give rise to the cells and tissues of the body and which scientists and patient advocate groups see as a potential source for treatments for diseases like Alzheimer's, Parkinson's and [diabetes](#).

But the new method, reported yesterday by researchers at Advanced Cell Technology on the Web site of the journal Nature, had little immediate effect on longstanding objections of the White House and some Congressional leaders yesterday. It also brought objections from critics who warned of possible risk to the embryo and the [in vitro fertilization](#) procedure itself, in which embryos are generated from a couple's egg and sperm.

The new technique would be performed on a two-day-old embryo, after the fertilized egg has divided into eight cells, known as blastomeres. In fertility clinics, where the embryo is available outside the woman in the normal course of in vitro fertilization, one of these blastomeres can be removed for diagnostic tests, like for Down syndrome.

The embryo, now with seven cells, can be implanted in the woman if no defect is found. Many such embryos have grown into apparently healthy babies over the 10 years or so the diagnostic tests have been used.

Up to now, human embryonic stem cells have been derived at a later stage of development, when the embryo consists of about 150 cells. Both this stage, called the blastocyst, and the earlier eight-cell stage, occur before the embryo implants in the wall of the womb. Harvesting the blastocyst-stage cells kills the embryo, a principal objection of those who oppose the research.

“There is no rational reason left to oppose this research,” Dr. Robert Lanza, vice president of Advanced Cell Technology and leader of the research team, said in an interview.

With the approach of midterm elections, in which some candidates are already making the research a central theme, some scientists speculated that President Bush might embrace the new method as meeting his principal objection to the research and showing that he had been right all along to wait for a better technique to turn up.

But Emily Lawrimore, a White House spokeswoman, suggested that the new procedure would not satisfy the objections of Mr. Bush, who vetoed legislation in July that would have expanded federally financed embryonic stem cell research. Though Ms. Lawrimore called it encouraging that scientists were moving away from destroying embryos, she said: "Any use of human embryos for research purposes raises serious ethical questions. This technique does not resolve those concerns."

Last year, Dr. Lanza reported that embryonic stem cell cultures could be derived from the blastomeres of mice, a finding others have confirmed. He now says the same can be done with human blastomeres, and that the colonies of cells behave in the same way as those derived from blastocysts.

Although he used discarded human embryos, he said that anyone who wished to derive human embryonic stem cells without destroying an embryo could use a blastomere removed for the test, called preimplantation genetic diagnosis.

"By growing the biopsied cell overnight," he said, "the resulting cells could be used for both P.G.D. and the generation of stem cells without affecting the subsequent chances of having a child."

Ronald M. Green, an ethicist at [Dartmouth College](#) and an adviser to Advanced Cell Technology, said he hoped the new method "provides a way of ending the impasse about federal funding for this research."

Professor Green said he believed the method should be seen as compatible with the Dickey-Wicker amendment, the Congressional measure that prohibits using federal money for any research in which a human embryo is destroyed or exposed to undue risk.

Dr. James Battey, head of the stem cell task force at the [National Institutes of Health](#), said that it was not immediately clear if the new method would be compatible with the Congressional restriction, since removal of a blastomere subjected the embryo to some risk, but that embryos on which the genetic test was performed seemed to be as healthy as other babies born by in vitro fertilization.

Mr. Bush has allowed federal financing for research on human embryonic stem cells, provided they were established before Aug. 9, 2001. Although that might seem to rule out any new cell lines derived from blastomeres, Dr. Battey said that was not clear because the embryo would not be destroyed, and that he would seek guidance on the point.

The federal policy does not affect privately financed stem cell research, like that done by Advanced Cell.

Critics have a range of objections to deriving human embryonic cell lines with the new method. The [United States Conference of Catholic Bishops](#), in particular, oppose both in vitro fertilization and preimplantation genetic diagnosis, and therefore still object to the research.

Richard Doerflinger, deputy director for pro-life activities at the conference of bishops, said the church opposed in vitro fertilization because of the high death rate of embryos in clinics and because divorcing procreation from the act of love made the embryo seem “more a product of manufacture than a gift.”

Asked if he meant that the parents of a child conceived through in vitro fertilization would love it less, Mr. Doerflinger said he was referring to the clinic staff. “The technician does not love this child, has no personal connection with the child, and with every I.V.F. procedure he or she may get more and more used to the idea of the child as manufacture,” he said.

Dr. Leon Kass, former chairman of the President’s Council on Bioethics, said, “I do not think that this is the sought-for, morally unproblematic and practically useful approach we need.”

Dr. Kass said the long-term risk of preimplantation genetic diagnosis was unknown and that the present technique was inefficient, requiring blastomeres from many embryos to generate each new cell line. It would be better to derive human stem cell lines from the body’s mature cells, he said, a method researchers are still working on.

Dr. Andrew La Barbera, scientific director of the American Society for Reproductive Medicine, said that more than 2,000 babies had been born in the United States after a preimplantation genetic diagnosis. There is no sign yet that they have any greater risk of disease than other in vitro fertilization babies, but the society needs more data to be sure, Dr. La Barbera said.

Scientists welcomed the new development but also expressed concerns. Dr. Irving Weissman, a stem cell expert at [Stanford University](#), said the new method, if confined to blastomeres derived from preimplantation genetic testing, would not provide a highly desired type of cell, those derived from patients with a specific disease.

Many scientists have come to regard this use of the cells, to explore the basic mechanisms of disease, as more likely to provide new therapies than direct use of the cells themselves.

Dr. Weissman said the new advance could lead into a “Congressional trap” if Congress permitted new lines to be established only during the preimplantation genetic diagnosis procedure. This test looks for only a handful of diseases, he said, and not for Alzheimer’s and the other degenerative diseases for which better therapies are needed.

Congressional [Republicans](#) who led the resistance to the embryonic stem cell legislation that had

bipartisan support in the House and Senate also said the new technique did not ease their opposition. Brian Hart, a spokesman for [Senator Sam Brownback](#), Republican of Kansas and a prominent opponent of federal financing for embryonic stem cell research, said Mr. Brownback's moral objection remained.

"You are creating a twin and then killing that twin," Mr. Hart said.

Dr. Lanza said, however, that twinning is a phenomenon that occurs at a later stage of embryonic development and that there was no evidence that a single blastomere could develop into a person.

[Democrats](#) and others who had pushed for added research using embryos that were ultimately going to be discarded stepped up their criticism of the president and his allies for holding back science.

"It's tragic that the current Republican Congress continues to rubber stamp the restrictions that deny federal funding for scientists engaged in medical research that could save or improve countless lives," said Senator [Edward M. Kennedy](#), Democrat of Massachusetts.

Political analysts said the new findings could elevate embryonic stem cell research as a campaign issue by both keeping it in the news and making it more difficult for opponents to explain their position.

"It paints the pro-life community into a corner," said Stuart Rothenberg, a nonpartisan analyst of Congressional races. "As a rule, you don't want to oppose scientific advances."

Gardiner Harris and Carl Hulse contributed reporting for this article.

[Home](#)

- [World](#)
- [U.S.](#)
- [N.Y. / Region](#)
- [Business](#)
- [Technology](#)
- [Science](#)
- [Health](#)
- [Sports](#)
- [Opinion](#)
- [Arts](#)
- [Style](#)
- [Travel](#)
- [Jobs](#)

- [Real Estate](#)
- [Automobiles](#)
- [Back to Top](#)

[Copyright 2006 The New York Times Company](#)

- [Privacy Policy](#)
 - [Search](#)
- [Corrections](#)
 - [XML](#)
 - [Help](#)
- [Contact Us](#)
- [Work for Us](#)
- [Site Map](#)