

Frist Offers Hope for Embryonic Stem Cell Research (UPDATED: A Wolf in Sheep's Clothing?)

By ACSH Staff — August 4, 2005

In a surprising move pitting him against President Bush and religious conservatives, Senate majority leader Bill Frist announced last week his support for a bill to expand federal funding for embryonic stem cell research. The bill, sponsored by Rep. Michael Castle (R-DE), passed in the House but has stalled in the Senate, where several alternative stem cell bills are vying for consideration.

Amidst the applause for Frist, though, it may be forgotten that he has not necessarily changed his views much at all. Expanding stem cell research only to leftover embryos from in vitro fertilization (IVF) procedures that would otherwise have been discarded does not necessarily mean Frist has stopped seeing those embryos as human beings -- in which case, his small step in favor of expanded research could easily be followed by his support for, say, a ban on all somatic cell nuclear transfer (SCNT), that is, the creation of new embryos specifically for research purposes. That means the man lauded for advancing stem cell research today could easily prove to be one of its most restrictive opponents at the same time, and without any changes in his underlying position throughout.

Current policy restricts use of federal funding to research on the seventy-eight embryonic stem cell lines created before August 2001, only twenty-two of which have proved viable for study. These limitations, many researchers argue, have held back U.S. progress in the burgeoning field of regenerative medicine. Countries such as the UK and South Korea have made far more headway in this arena.

The new bill would allow federal funding on stem cell lines extracted from frozen embryos left over from in vitro fertilization procedures, embryos that would otherwise be discarded. If the bill passes in the Senate, President Bush has threatened to stop the measure with the first veto of his presidency.

Embryonic stem cells have long been the hypothesized key to understanding, treating, and perhaps one day curing numerous diseases and conditions suffered by millions of Americans. Their use, however, is controversial, as the extraction of these cells, which have the potential to develop into all of types of human tissue, necessarily destroys the five-day-old embryos from which they are removed. To those who believe these thirty- to 150-celled embryos are morally equivalent to human beings, embryonic stem cell research is tantamount to murder.

Frist's announcement is surprising given his statement just last month that he did not back expansion of the current policy "at this juncture." Frist's new stance that "the president's policy should be modified" on grounds that the current limitations will "slow our ability to bring potential

new treatments for certain diseases" may give undecided Senate republicans political license to back the legislation, likely to be voted on in September. As the Senate's only physician, Frist is often looked to by his colleagues for advice on medical matters.

Second Thoughts on Frist Thoughts

While Senator Frist's announcement seems a boon to embryonic stem cell research, it has raised some understandable suspicions and led many to speculate that this apparent reversal of opinion might be a wolf in sheep's clothing. Frist maintains that his moral convictions have not changed. He continues to view embryos as nascent human life, the argument relied upon by opponents of policy expansion, but says he now views this matter as one of science as well as faith. "I am pro-life. I believe human life begins at conception," Frist claims on one hand. He also states, however, "Cure today may be just a theory...but the promise is powerful enough that I believe this research deserves our increased energy and focus. Embryonic stem cell research must be supported. It's time for a modified policy."

Translated, Frist believes an embryo is human life, but he also believes that there are cases in which it is justifiable to destroy human life. Such a tension can only be resolved if the Senator qualifies his position by saying that he only condones the use of frozen embryos in research *because they will otherwise be discarded* and these already existing embryos can and should be put to use to save other lives. Given Frist's unchanged views on the status of the human embryo, it stands to reason that this is the stance he is now taking, though he has not explicitly said as much.

As a result, scientists wary of this unprecedented shift fear that the expansion of federal funding to leftover embryos might come with a tremendous caveat. There have been murmurs of legislation that, while granting researchers access to surplus embryos, would bar any and all use of a stem cell-producing technique called "somatic cell nuclear transfer" (SCNT) -- on the grounds that the new availability of surplus embryos would negate any need for SCNT. To many stem cell experts, including Bernard Siegel of the Genetics Policy Institute, this is anti-science at its absolute worst.

SCNT involves the insertion of the genetic material from an "adult" (non-embryonic) cell into an egg from which the nucleus has been removed. This new cell, with the appropriate stimulus, will behave like a fertilized egg and will be allowed to develop for three to five days, at which point embryonic stem cells would be extracted. These individual cells would be an exact genetic match to the adult cell donor and, ideally, could be used for various disease treatments in that individual. This procedure would bypass the risk of immune rejection typically posed by transplantation procedures; instead, a patient could receive perfectly matched cells -- genetically, his own.

This technique, called therapeutic cloning, has too frequently been lumped together with the more ominous sounding "reproductive cloning," considered abhorrent by most researchers. The only difference is that a therapeutically cloned embryo only develops to the thirty-to-150-cell stage, whereas reproductive cloning involves the implantation of the cloned embryo into a uterus with the intent of live birth. The latter is the technique first employed by Dr. Ian Wilmut in the creation of Dolly the sheep and most recently used by Dr. Woo-Suk Hwang in the creation of the world's first cloned dog.

Many researchers feel that access to federal funding for research using surplus IVF embryos

should not come at the cost of SCNT, given its potential to overcome tissue rejection and other immunity-related problems. Those in favor of SCNT-restricting legislation often fear that the use of SCNT for therapeutic purposes will necessarily lead us down a slippery slope to human reproductive cloning.

The Frist decision might impact the efforts of American researchers who have been lagging behind countries like South Korea, the UK, and Singapore in the field of stem cell research. Be warned, it is possible that there might be serious drawbacks to what seems like progress toward expanded research. Advocates of embryonic stem cell research are advised to pay close attention to the fine print of any proposed stem cell legislation, particularly as we approach a possible Senate vote in September.

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