

Clone Ban Comeback Likely

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President Bush briefly and vaguely alluded to stem-cell research and cloning during his State of the Union address, instigating much speculation on what to expect in 2005.

Many of the speculators don't believe the president will change his position on strict limits for embryonic stem-cell research funding, which he [outlined in 2001](#). But legislation on human cloning still hangs in the balance. The outcome will affect state efforts to usurp federal policy and fund the research on the state level because embryos for stem-cell research come from just two sources: in vitro fertilization clinics and therapeutic cloning.

Sen. [Sam Brownback](#) (R-Kansas) and Rep. [Dave Weldon](#) (R-Florida) have been trying to push their anti-human-cloning bills through Congress since 2001, with Bush's unofficial stamp of approval. If either bill becomes law, researchers who violate the law would face up to \$1 million in fines and jail time. Such a law could also put a kink in [California's stem-cell initiative](#), which dedicates \$3 billion to stem-cell research over the next decade, and could cause problems for similar efforts in New Jersey, Maryland, Wisconsin and several other states.

"I think what we have here is a real civil war over stem cells, and if the president has his way with this policy and we see the Brownback bill passes, it's going to undercut every single state funding initiative for stem-cell research," said Bernie Siegel, director of the [Genetics Policy Institute](#), which advocates therapeutic cloning and embryonic stem-cell research.

Both sides of the debate agree Bush's statements were purposely ambiguous: "We should all be able to agree on some clear standards," Bush said during his address. "I will work with Congress to ensure that human embryos are not created for experimentation or grown for body parts, and that human life is never bought and sold as a commodity."

Legislators haven't agreed on Brownback's bill thus far (Weldon's version has passed in the House), and it's unlikely to pass in the Senate unless the text changes, most pundits agree.

That's unlikely, however. Aaron Groote, a spokesman for Brownback, said the legislation will likely remain substantially similar to the previous version.

The difficulty lies in the fact that the bill would outlaw both therapeutic cloning, which researchers believe could be a key technology in achieving stem-cell therapies, as well as reproductive

cloning, which would lead to cloned babies. All legislators say they believe reproductive cloning should be outlawed, but the same cannot be said for therapeutic cloning.

Therapeutic cloning, also called somatic cell nuclear transfer, would produce a human embryo, but would not lead to the birth of a human clone. Rather, researchers extract stem cells from a several-days-old clone, which destroys the cloned embryo. Opponents have at least two problems with the technology. They say it's unethical to kill the embryo, which they believe deserves the same rights as any walking, talking human. And, they say, it's a slippery slope toward women carrying clones to term.

Researchers at the [Reproductive Genetics Institute](#) in Chicago have also used therapeutic cloning to [develop](#) disease-specific stem-cell lines, which they can study to learn how to interfere in the disease process.

"I would expect to see the Weldon and Brownback bills reintroduced soon," said Nigel Cameron, president of the [Institute on Biotechnology and the Human Future](#) at the Chicago-Kent College of Law, who is against allowing embryonic stem-cell research or therapeutic cloning. "What's interesting about the president's statement is that he goes further than Brownback in seeking a ban on all embryo creation for research, whether through (somatic cell nuclear transfer) or in vitro techniques, and states his intention to work with Congress to get this into law."

"In vitro techniques" would include [in vitro fertilization](#), or IVF, a common assisted-reproduction technology in which technicians fertilize embryos in a dish, choose the healthiest specimens, then implant them in the womb. Typically, the technicians create more embryos than they'll use, and IVF clinics are often cited as an ethical source of embryos for stem-cell research.

But if Cameron's interpretation is accurate, the United States could be heading toward a policy like Italy's, which maintains that no more than three eggs can be fertilized for each patient, and all embryos created must be implanted. The stipulation increases the chance of multiple births and decreases the likelihood of creating a viable embryo that will successfully implant.

However, reproductive technologies have a long history of freedom from government regulation in the United States, and such a move is unlikely, others say.

"IVF is too entrenched in medical practice to be the subject of federal attention, as much as it would be consistent as a matter of principle to do so," said [R. Alta Charo](#), professor of law and bioethics at the University of Wisconsin law and medical schools, who is in favor of allowing embryonic stem-cell research and therapeutic cloning.

But she does wonder if the Brownback bill will take another form, since it is unlikely to pass as is.

"The real risk is having the substance of the Brownback bill tacked on as a non-germane amendment to some other Senate legislation," she said.

