



Cloned dog raises ethics, policy issues

Duplicating man's best friend may draw more public concern

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The first successful cloning of a dog, announced today, raises ethical issues and interesting questions about the crossroads of science and policy.

The breakthrough may lead to new research in canine stem cells that could ultimately prolong dogs' lives.

Yet given that President Bush is [trying to block](#) human stem cell research, the success raises the possibility that dogs will live longer while their owners die of diseases that stem cell research aims to cure, said the Executive Director of the Genetics Policy Institute, Bernard Siegel, who was not involved in the research.

"We could have this incredible and strange paradox where our pets might benefit from this research but human beings could not," Siegel told *LiveScience* in a telephone interview.

Not for pets

The cloning effort was led by Woo Suk Hwang of Seoul National University in South Korea and is reported in the Aug. 4 issue of the journal *Nature*. Hwang gained notoriety last year when he announced he had derived stem cells from a cloned human embryo.

The dog is called [Snuppy](#), a name that draws from the university's initials. It's now 13 weeks old.

Snuppy was carried by a yellow Labrador surrogate mother and delivered by caesarian section. He joins a brotherhood of cloned animals that includes mice, cows, goats, pigs, rabbits and a mule, all of which owe their existence to the first Xeroxed animal, [Dolly](#), the sheep.

Last year, the [first cloned-to-order cat](#) in the United States was sold in December. Your best friend, however, is not likely to be cloned anytime soon.

"This is not for cloning your pets," Siegel said. "This is an important piece of animal research." Siegel added just as stem cell research, the heart of the cloning effort, can be used to explore human disease, so can it be applied to veterinarian medicine.

Embryonic stem cells are unique cells that create all the cells of a living thing, from nerves to bone and muscle. Stem cell researchers hope to gain control over what the cells become, in attempts to cure from intractable diseases like diabetes and Parkinson's.

While the White House would prevent new lines of stem cells being used for research, scientists around the world are aggressively pursuing the work. Senate Majority Leader Bill Frist, who had sided with Bush on the issue, last week [jumped ship](#) and backed House-passed legislation to expand federal financing for human embryonic stem cell research.

What will people think?

Canines are difficult to clone because their eggs are released from the ovary earlier than in other mammals. The work is "much more of a challenge," said Randall Prather, a professor of reproductive biotechnology at the University of Missouri-Columbia. Prather, who did not

participate in the effort, said the eggs could not be matured in the lab as with other cloned animals, and so had to be removed at exactly the right stage of maturity.

The scientists removed eggs, then took out the genetic material and replaced it with a cell nucleus taken from the skin on an [Afghan hound's](#) ear.

It took 123 tries to create two puppies. The other one died of pneumonia in 22 days.

Siegel is curious to see how the public will react.

"It's one thing to clone livestock and lab mice, but when you clone a dog it's going to resonate," he said. "Dogs are man's best friend and have a special place in most cultures."

Laurie Zoloth, a professor of medical humanities, bioethics and religion at Northwestern University, said some people will be against the cloning of dogs because they are against any form of animal research. But, she said in an email interview, animal experimentation has led to many real cures that save human lives.

Zoloth and others see canine cloning as assisting the effort to understand human stem cells.

"This sort of work is a necessary first step to creating human stem cell lines and using them," she said.

Asked if dog duplication and other cloning advances might eventually lead people to be less averse to the idea of human cloning, Zoloth said no. "It is hard to imagine a way to set up the first safe, ethical experiment [on humans], she said. "The rates of risk to the mother, and to the baby would be unacceptable."

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