

State Cloning Laws

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The information in this section is provide to illustrate the diversity of approaches various states are taking with regard to regulation of human cloning and embryonic stem cell research. The brief summary is based on a review of relevant literature and websites and should be considered preliminary.

Overview

While the United States has no laws on the books concerning human cloning, individual states have laws prohibiting one or all forms of cloning as well as restrictions on embryonic stem cell research. Arkansas, California, Iowa, Michigan, Rhode Island, North Dakota, Virginia, New Jersey, and South Dakota have laws that prohibit reproductive cloning. Arkansas, Iowa, Michigan, North Dakota, and South Dakota also prohibit therapeutic cloning (SCNT or non-reproductive medical application). Michigan also specifically prohibits the use of state funds for any human cloning, while Missouri prohibits state funding for reproductive cloning only. Virginia fails to define "human being," and so it is unclear if all human cloning is banned. California, New Jersey, and Rhode Island allow therapeutic cloning, and California and New Jersey have gone so far as to pass laws funding such research with state funds.

Some of the states that do not have specific laws on human cloning do place restrictions on embryonic research. Twenty states do not explicitly prohibit or allow embryonic research, but do address and prohibit certain means of obtaining a fetus/embryo for experimentation. Louisiana is the only state to prohibit experimentation on IVF embryos, and Illinois is the only state to prohibit experimentation on live embryos. These two states, as well as the other eighteen, do not specifically prohibit human cloning. Finally, twenty states neither address embryonic research nor human cloning and therefore have no policy or legislation on record.

States with Legislation Concerning Human Cloning

Arkansas (2003, 2004)

- Embryonic stem cell research is not specifically addressed.
- There is a ban on research on cloned embryos (therapeutic and reproductive cloning).
- Cloning is defined as asexual human reproduction, which is accomplished by introducing the genetic material from one or more human somatic cells into a fertilized or unfertilized oocyte whose nuclear material has been removed or inactivated so as to produce a living organism, at any stage of development, that is genetically virtually identical to an existing or previously existing human organism.

California (2004)

- The state specifically permits embryonic research and therapeutic cloning. However, reproductive cloning is banned.
- The law defines cloning as the nucleus transfer from a human cell from whatever source into a human or nonhuman egg cell from which the nucleus has been removed for the purpose of, or to implant with the resulting product to initiate a pregnancy that could result in the birth of a human being.
- **Funding:** Stem cell research is funded by the state. On November 2, 2004 the state passed a proposition (the *California Stem Cell Research and Cures Initiative*) which created the California Institute for Regenerative Medicine and authorized \$3 billion dollars in state bonds to fund the research.

States with Cloning Legislation		
	ESC*	Therapeutic
Arkansas	✓	
California	✓	✓
Iowa	✓	
Michigan	✓	
Missouri	✓	✓
New Jersey	✓	✓
North Dakota	✓	
Rhode Island	✓	
South Dakota	✓	
Virginia	✓	

*Some prohibit the derivation of embryonic stem cells, but don't specifically prohibit the research using existing lines.

Iowa (2004)

- Embryonic research is not addressed.
- There are bans on research on cloned embryos and research which destroys a human embryo.
- The state defines cloning as human asexual reproduction, accomplished by introducing the genetic material of a human somatic cell into a fertilized or unfertilized oocyte whose nucleus has been or will be removed or inactivated, to reproduce a living organism with a human or predominantly human genetic constitution.

Michigan (2004)

- Embryonic research is not specifically permitted and there is a ban on research on cloned embryos and live embryos.
- The state defines cloning as the use of human somatic cell nuclear transfer technology (transferring the nucleus of a human somatic cell into an egg from which the nucleus has been removed or rendered inert) to produce a human embryo.
- **Funding:** State funding banned for human cloning research.

Missouri (2004)

- Embryonic research is not specifically permitted. The state bans both reproductive and therapeutic cloning.
- The state defines cloning as the replication of a human person by taking a cell with genetic material and cultivating such a cell through the egg, embryo, fetal and newborn stages of development into a new human person.
- **Funding:** State funding banned for human reproductive cloning research.

New Jersey (2002-3, 2004)

- Embryonic research is not specifically permitted.

- They permit therapeutic cloning, but ban reproductive cloning.
- The state defines cloning as the replication of a human individual by cultivating a cell with genetic material through the egg, embryo, fetal and newborn stages into a new human individual.

North Dakota (2003, 2004)

- Embryonic research is not specifically addressed.
- The state bans both reproductive and therapeutic cloning.
- The state defines cloning as human asexual reproduction, which is accomplished by introducing the genetic material of a human somatic cell into a fertilized or unfertilized oocyte, the nucleus of which has been or will be removed or inactivated, to produce a living organism with a human or predominantly human genetic constitution.

Rhode Island (2004)

- Embryonic research is not specifically permitted.
- The state bans therapeutic cloning.
- Cell transfer and other cloning technologies are not included in the ban. Mitochondrial, cytoplasmic and gene therapy are not prohibited for research or animal creation.
- The state defines cloning as the use of somatic cell nuclear transfer for pregnancy prohibited (transferring the nucleus of a human somatic cell into an oocyte from which the nucleus has been removed.)
- The law will last until July 2010.

South Dakota

- Embryonic research is not specifically permitted.
- Therapeutic and reproductive cloning are banned.
- The state defines cloning as human asexual reproduction accomplished by introducing the nuclear material of a human somatic cell into a fertilized oocyte whose nucleus has been removed or inactivated to produce a living organism, at any stage of development, with a human genetic constitution.

Virginia

- Embryonic research is not specifically permitted.
- It is unclear if therapeutic cloning is permitted because the law failed to define a “human being”.
- Reproductive cloning is banned.
- The state defines cloning as the transferring the nucleus from a human cell from whatever source into an oocyte from which the nucleus has been removed or rendered inert in order to create a human being.

States with Restrictions* on Embryonic Research, but no Legislation on Cloning

Arizona, Florida, Indiana, Kentucky, Maine, Massachusetts, Minnesota, Montana, Nebraska, New Hampshire, New Mexico, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Utah, Wyoming

Louisiana is the only state that bans research on IVF embryos, but this does not cover somatic cell nuclear transfer (SCNT); therefore you can still do reproductive or therapeutic cloning if you obtain a blastocyst from another source. Thus cloning is not explicitly restricted.

Illinois prohibits research on live embryos, but again, this does not completely restrict cloning.

**States do delineate what kind of embryonic research is prohibited, and this includes research on an aborted fetus/embryo, consent provisions, embryo or fetus resulting from sources other than abortion, and the sale of fetal/embryonic tissue.*

States with no Legislation on Either Cloning or Embryonic Research

Alabama, Alaska, Colorado, Connecticut, Delaware, Georgia, Hawaii, Idaho, Kansas, Maryland, Mississippi, Nevada, New York, North Carolina, Oregon, South Carolina, Vermont, Washington, West Virginia, Wisconsin

Further Suggested Readings

State Legislation

- (1) The Institute of Biotechnology & the Human Future:
http://www.thehumanfuture.com/topics/humancloning/clon_policy.htm
- (2) National Conference of State Legislatures:
<http://www.ncsl.org/programs/health/genetics/rt-shcl.htm> and
<http://www.ncsl.org/programs/health/genetics/embfet.htm>
- (3) President's Council on Bioethics. (2004), *Monitoring Stem Cell Research*;
<http://www.bioethics.gov/reports/stemcell/index.html>