



<http://www.ncsl.org/IssuesResearch/Health/EmbryonicandFetalResearchLaws/tabid/14413/Default.aspx>

Stem Cell Research

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Many state statutes that have an impact stem cell research were enacted to address other issues such as abortion and in vitro fertilization over the last few decades. There are four primary sources for embryonic stem cells: existing stem cell lines, aborted or miscarried embryos, unused in vitro fertilized embryos, and cloned embryos. Research on only one, multiple, or all sources may be subject to state law. Current federal policy limits federally funded research to research conducted on embryonic stem cell lines created before August 2001. Federal funding of research involving cloning for the purpose of reproduction or research is prohibited. However, there is no federal law banning human cloning altogether. The Food and Drug Administration has claimed authority over the regulation of human cloning technology as an investigational new drug (IND) and stated that at this time, they would not approve any projects involving human cloning for safety reasons, but Congress has not passed legislation confirming the FDA's authority to prohibit cloning.

State laws may restrict the use of embryonic stem cells from some or all sources or specifically permit certain activities. State laws on the issue vary widely. Approaches to stem cell research policy range from statutes in California, Connecticut, Illinois, Iowa, Maryland, Massachusetts, New Jersey, and New York, which encourage embryonic stem cell research, to South Dakota's law, which strictly forbids research on embryos regardless of the source. States that specifically permit embryonic stem cell research have established guidelines for scientists such as consent requirements and approval and review processes for projects.

Many states restrict research on aborted fetuses or embryos, but research is often permitted with consent of the patient. Almost half of the states also restrict the sale of fetuses or embryos. Louisiana is the only state that specifically prohibits research on in vitro fertilized (IVF) embryos. Illinois and Michigan** also prohibit research on live embryos. Finally, Arkansas, Indiana, Michigan, North Dakota and South Dakota prohibit research on cloned embryos. Virginia's law also may ban research on cloned embryos, but the statute may leave room for interpretation because human being is not defined. Therefore, there may be disagreement about whether human being includes blastocysts, embryos or fetuses. California, Connecticut, Illinois, Iowa, Massachusetts, New Jersey, New York and Rhode Island have statutes that prohibit human cloning only for the purpose of initiating a pregnancy, or reproductive cloning, but allow cloning for research. *** MCSCRC NOTE: Michigan law was modified 11-4-08*

Several states limit the use of state funds for cloning or stem cell research. Missouri law forbids the use of state funds for reproductive cloning but not for cloning for research, and Maryland's statutes prohibit state-funded stem cell researchers from engaging in reproductive cloning. Arizona law prohibits the use of public monies for reproductive or therapeutic cloning. Nebraska statutes limit the use of state funds for embryonic stem cell research. Restrictions only apply to state healthcare cash funds provided by tobacco settlement dollars. State funding available under Illinois Executive Order 6 (2005) may not be used for reproductive cloning or for research on fetuses from induced abortions.

Several states have authorized funding for stem cell research. Below is a list of state activities.

- In November 2004 voters in California quickly followed the path of New Jersey with the passage of Proposition 71 to fund adult and embryonic stem cell research. The measure authorized the issuance of bonds in the amount of \$3 billion beginning in 2005 not to exceed sale of over \$350 million per year. Training grants have been awarded, but the award of research grants has been slowed by litigation. As a result, the Governor decided to loan the institute \$150 million in August 2006, and the institute is currently seeking proposals. The California Institute of Regenerative Medicine (CIRM), which administers the state stem cell research program, has developed a Scientific Strategic Plan approved by its governing board in December 2006. The plan projects that CIRM will spend over \$622 million through FY 2008-09.
- In 2005 the Connecticut legislature passed Senate Bill 934, which created a fund to provide ten million dollars in grants a year over ten years to do the same. Applications for the first round of grant awards were due in July 2006.

- Illinois Governor Blagojevich signed an executive order to create the Illinois Regenerative Medicine Institute (IRMI) and provide for grants to medical research facilities for adult and embryonic stem cell research. At the same time, the Governor transferred \$10 million to this new program, and grants were awarded in April 2006. In August 2006 an additional \$5 million in FY 07 funds appropriated to the health department was allocated to the stem cell program and grants were awarded. The Illinois legislature passed a bill in August 2007 permitting IRMI to conduct stem cell research on cells from any source.
- Indiana legislators created an adult stem cell research center at Indiana University. \$50,000 dollars has been appropriated to establish the center.
- In 2006 the Maryland legislature created the Maryland Stem Cell Research Fund, which will provide grants for adult and embryonic stem cell research. Unused donated materials under this program may not include oocytes. The Maryland budget for FY 2007 included \$15 million for the fund.
- After overriding the Governor's veto, Massachusetts legislators added two new sections to the statutes on stem cell research. The first creates an institute for stem cell research and regenerative medicine at the University of Massachusetts with an appropriation of \$1,000,000 to be spent on the stem cell biology core. The second establishes a life sciences center to promote life sciences research in advanced and applied sciences, including but not limited to stem cell research, regenerative medicine, biotechnology, and nanotechnology and creates the Life Sciences Investment Fund to make appropriations, allocations, grants or loans to leverage development and investments in stem cell research and other areas. \$10,000,000 was appropriated to the fund.
- In early 2004 New Jersey became the first state to appropriate funds specifically for adult and embryonic stem cell research. State funding for adult stem cell research was already occurring in at least one state, Ohio. In FY 2005 and FY 2006 a total of \$23 million in general revenues were allocated to the New Jersey Stem Cell Institute, according to New Jersey's Commission on Science and Technology. The state of New Jersey awarded its first grants in December 2005. Grants were awarded to 17 institutions for research on stem cells from embryos and other sources. In 2007, voters rejected a ballot measure to allow the sale of bonds to fund stem cell research.
- In 2007 New York legislators created The Empire State Stem Cell Trust to support stem cell research on cells from any source. \$100 million was earmarked for FY 2007-2008, and \$500 million was earmarked at \$50 million per year for ten years beginning in FY 2008-2009. Applications for the first grant awards are due January 4, 2008.
- The Center for Stem Cell and Regenerative Medicine was established in 2003 with \$19.4 million in state funding to support research on adult stem cells. The center also received \$8 million from the state in 2006.
- The Washington legislature created the Life Sciences Discovery Fund, which may result in grants for stem cell research in the future. Planning for the fund is still in process.
- On October 10, 2006 the Wisconsin Governor announced \$1 million in funding for Stem Cell Products, Inc., which creates blood products from embryonic stem cells.
- The Virginia legislature has created a fund to support adult stem cell research only. Money was not appropriated at the time the fund was established.

For more information on state stem cell research programs please visit the following URL's:

(NOTE: NCSL does not necessarily endorse any views expressed on Web sites below)

California: <http://www.cirm.ca.gov/>

Connecticut: <http://www.ct.gov/dph/site/default.asp>

Illinois: http://www.idph.state.il.us/irmi/stem_cells_overview.html

Maryland: <http://www.marylandtedco.org/>

New Jersey: <http://www.state.nj.us/scitech/>

New York: <http://ora.ra.cwru.edu/stemcellcenter/>

Ohio: <http://ora.ra.cwru.edu/stemcellcenter/>

State/Jurisdiction Statute Section	Specifically permits research on fetus/embryo	Restricts research on aborted fetus/embryo	Consent provisions to conduct research on fetus/embryo³	Restricts research on fetus or embryo resulting from sources other than abortion	Restrictions of purchase/sale human tissue for research
Arizona §§36-2302, 2303	No	Yes, prohibits research on aborted living/non-living embryo or fetus	No	Yes, prohibits the use of public monies for cloning for research	No
Arkansas §§20-17-802, 20-16-1001 to 1004	No	Yes, prohibits research on aborted live fetus	Yes, consent to conduct research on aborted fetus born dead	Yes, prohibits research on cloned embryos	Yes, prohibits sale of fetus/fetal tissue
California Health & Safety 2004 Proposition 71 §§ 123440, 24185, 12115-7, 125300-320	Yes, permits research on adult and embryonic stem cells from any source	Yes, prohibits research on aborted live fetus	Yes, consent to donate IVF embryo to research	Prohibits sale of embryos and oocytes; prohibits payment in excess of the amount of reimbursement of expenses to be made to any research subject to encourage her to produce human oocytes for the purposes of medical research	Yes, prohibits sale for the purpose of reproductive cloning or for stem cell research
Connecticut §§4-28e; 19a-32d et seq.	Yes, on embryos before gastrulation (a process during embryonic development)	No	Yes, consent to donate IVF embryo to research	No	Yes, prohibits payment for embryos, embryonic stem cells unfertilized eggs or sperm donated following IVF treatment
Florida §390.0111	No	Yes, prohibits on aborted live fetus	No	No	No
Illinois 720 ILCS 510/6, 510/12.1 Executive Order 6 (2005);410 ILCS 110/1 et seq.	Yes, permits research on embryonic stem cells, embryonic germ cells and adult stem cells from any source	Yes, prohibits on aborted living/nonliving fetus	Yes, written consent to perform research on cells or tissues from a dead fetus other than from an abortion	Yes, prohibits research on fetus/fertilized embryo; prohibits funding under E.O. 6 (2005) of research on fetuses from induced abortions and the creation of embryos through the combination of gametes solely for the purpose of research	Yes, prohibits sale of fetus/fetal tissue; prohibits purchase or sale of embryonic or fetal cadaveric tissue for research but permits reimbursement for removal, storage and transportation for research

Indiana §35-46-5-1, 16-18-2-5.5	Yes, permits fetal stem cell research on placenta, cord blood, amniotic fluid or fetal tissue	Yes, prohibits research on aborted living/non-living embryo or fetus	Yes, consent required for fetal stem cell research	Yes, prohibits research on cloned embryos	Yes, prohibits sale of human ovum, zygote, embryo or fetus
Iowa §§707C.4	Yes, ensures that Iowa patients have access to stem cell therapies and cures and Iowa researchers may conduct stem cell research	No	No	No	Yes, prohibits transfer or receipt of the product of human reproductive cloning
Kentucky §436.026	No	No	No	No	Yes, prohibits sale of fetus/fetal tissue
Louisiana §14: 87.2	No	No	No	Yes, prohibits research on fetus/embryo in utero, in vitro fertilized embryo	No
Maine 22§1593	No	No	No	Yes, prohibits research on fetus/embryo born or extracted alive, only applies to in vitro fertilized embryos post-implantation	Yes, prohibits sale of fetus/fetal tissue
Maryland 83A§5-2B-01 et seq.	Yes, permits research on adult and embryonic stem cells	No	Yes, written consent to donate unused IVF material to research	Yes, prohibits donation of unused oocytes for state funded stem cell research; cloning of an organism beyond the embryonic stage is prohibited	Yes, prohibits valuable consideration for the donation or production of IVF material
Massachusetts 112§12J, 2005 SB 2039	Yes, on embryos that have not experienced more than 14 days of development (not including days frozen)	Yes, prohibits research on embryo/live fetus	Yes, written consent to perform research on a dead fetus and informed consent to donate egg, sperm, or unused preimplantation embryos created for IVF	Yes, prohibits research on live embryo or fetus; also prohibits creation of fertilized embryo solely for research	Yes, prohibits sale of neonate, embryo or fetus for illegal purposes; prohibits sale of embryos, gametes or cadaveric tissue for research
Michigan ** §§333.2687-2688, §§333.16274-16275, 333.20197, 333.26401-26403,	No ** <i>MCSCRC NOTE: MI law was modified on 11-4-08</i>	Yes, live embryo/ fetus	Yes, written consent of mother to donate dead embryo, fetus or neonate to research	Yes, prohibits research on a live embryo or fetus, cloned embryo	No

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Minnesota §§145.421, 422	No	No	No	Yes, prohibits research on a live embryo or fetus up to 265 days post fertilization	Yes, permits the sale/purchase of cell culture lines from nonliving human conceptus
Missouri §§188.036, 037	No	Yes, prohibits research on a fetus alive pre-abortion	No	No	Yes, prohibits receipt of valuable consideration for aborted fetal organs or tissue
Montana §50-20-108(3)	No	Yes, prohibits research on a live fetus	No	No	No
Nebraska §§28-342, 346, 71-7606	No	Yes, prohibits research on aborted live fetus or the use of state funds for research on fetal tissue obtained from an abortion	No	Yes, limits the use of state funds for embryonic stem cell research; restrictions only apply to state healthcare cash funds provided by tobacco settlement dollars	Yes, prohibits sale, distribution or donation of viable aborted child
New Hampshire §§168-B:1, 15	No	No	No	Yes, prohibits the maintenance of a unfrozen fertilized pre-embryo past 14 days	Yes
New Jersey C.26:2Z-1 et seq.; C.2C:11A-1	Yes	No	Yes	No	No
New Mexico §24-9A-1, 3, 5	No	No	No	Yes, prohibits research on a fetus/embryo born or extracted alive, only applies to in vitro fertilized embryos post-implantation	Yes, prohibits abortion for the purpose of selling the fetus to researchers
New York Public Health Law Article 2, Title 5A	Yes, permits research on adult and embryonic stem cells from any source	No	No		
North Dakota §14-02.2-01, 2; 2003 HB 1424	No	Yes, prohibits research on a living/non-living embryo or fetus	Yes, requires consent to conduct research on a nonliving fetus or embryo other than from an abortion	Yes, prohibits research on a fetus born or extracted alive; cloned embryos	Yes, prohibits the sale of a fetus to be used for illegal purposes
Ohio §2919.14	No	Yes, prohibits research on a living/non-living	No	No	Yes, prohibits sale of fetus or fetal remains from an

		embryo or fetus			abortion
Oklahoma 63 §1-735	No	Yes, prohibits research on a fetus/embryo	No	No	Yes, prohibits sale of fetus or fetal remains
Pennsylvania 18 §§3203, 3216	No	Yes, prohibits research on a live embryo or fetus	Consideration may not be given to mothers consenting to research; in cases involving abortion, consent must be provided after decision to abort	No	Yes, consideration may not be given to mothers consenting to research or other transferring tissue except for expenses involved in actual retrieval, storage, etc.
Rhode Island §11-54-1	No	No	Yes	Yes, prohibits research on a fetus/embryo born or extracted alive, only applies to in vitro fertilized embryos post-implantation	Yes, prohibits sale of neonate, embryo or fetus for illegal purposes
South Dakota §§34-14-16, 17, 20; 34-23A-17	No	Yes, prohibits research on a living/non-living embryo or fetus	No	Yes, prohibits research on embryo outside of a woman's body; research on cells or tissues derived from an embryo outside a woman's body	Yes, prohibits sale of embryo
Tennessee §39-15-208	No	No	Yes, consent required to conduct research on aborted fetus	No	Yes, prohibits sale of aborted fetus
Texas Penal Code §48.02	No	No	No	No	Prohibits sale of fetus/fetal tissue
Utah §§76-7-301, 310	No	No	No	Yes, prohibits research on a live fetus, fertilized embryo post-implantation ¹	Yes, prohibits sale of fetus/fetal tissue; also prohibits sale of live unborn children, which is not defined, but are referred to in abortion statute ¹
Virginia §32.1-162.32-2	No	No	No	May prohibit research on a cloned embryo or fetus ²	Yes, prohibits shipping or receiving of the product of human cloning for commerce ²
Wyoming §35-6-115	No	No	No	No	Yes, prohibits sale, distribution or

					donation of live or viable aborted child, defined to include embryos, for experimentation
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Source: NCSL, Westlaw

1. Abortion is defined as a procedure undertaken to terminate a human pregnancy after implantation of a fertilized ovum or kill a live unborn child. Therefore, the statute may cover only *fertilized* ovum.
2. Virginia law does not expressly prohibit research on cloned embryos, but it is forbidden to possess the product of human cloning. Under the state human cloning statute human cloning is defined as the creation of or attempt to create a human being by transferring the nucleus from a human cell from whatever source into an oocyte from which the nucleus has been removed. Human being is not defined as to whether it includes neonates, embryos or fetuses only.
3. Some states have requirements for consent regarding the disposition of human embryos prior to in vitro fertilization that may impact donation to research. Please [click here](#) for more information.

8-10-09