World Cloning Policies*

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Abstract

This module is a summary of the different stem cell policies from around the world. This module covers policies concerning derivation of embryonic stem cells, therapeutic cloning, and reproductive cloning from around the globe.

1 North America

1.1 United States

- Officially, embryonic stem cell research, therapeutic cloning and reproductive cloning are legal as there is currently no federal regulation or policies overseeing it.
- Reproductive and therapeutic cloning are specifically not federally funded. However, research on human embryonic stem cells is federally funded if these cell lines were created before August 9, 2001. Private industry research is not affected by these policies and is allowed to proceed with the creation of new stem cell lines.
- Some individual states have made their own laws against reproductive and/or therapeutic cloning. (See State Cloning Legislation module)

1.2 Canada

- Embryonic stem cell research is permitted, but reproductive cloning and therapeutic cloning are banned.
- Researchers can use an embryo from IVF if it is no longer needed for reproductive purposes and consent is given by the donor. Creating a human clone is restricted to improving or providing instruction in assisted reproduction procedures.

1.3 Costa Rica

- Embryonic stem cell research, as well as therapeutic and reproductive cloning, is banned.

- Any manipulation of an embryo's genetic code is prohibited, as well as any experimentation on the embryo (two laws as of 1995 and 1998).

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1.4 Panama

- Embryonic stem cell research is not specifically prohibited, but therapeutic and reproductive cloning and the funding of such activities are as of 2004.

1.5 Trinidad and Tobago

- Embryonic stem cell research as well as therapeutic and reproductive cloning is banned.
- The law states that the manipulation of **ovum**[1], **zygotes**[2], and/or embryos for the purpose of producing one that is genetically equivalent to a living or deceased human being, embryo, zygote, or **fetus**[3] – or implantation of this – is prohibited. The ovum may not be retrieved to be fertilized, to mature outside of the human body, or to be implanted (as of 1999).

1.6 El Salvador

- Embryonic stem cell research as well as therapeutic and reproductive cloning is banned.

2 South America

2.1 Argentina

- Embryonic stem cell research is permitted, but all forms of cloning (reproductive and therapeutic) are banned.
- The law specifically states that experiments concerning cloning of human cells in order to generate human beings are prohibited.

2.2 Brazil

- Embryonic stem cell research is allowed on IVF embryos that have been frozen for at least three years. Therapeutic cloning and reproductive cloning are banned (Bio-Safety Law, March 24, 2005).

2.3 Chile

- Embryonic stem cell research is not specifically prohibited, but therapeutic and reproductive cloning and the funding of such activities are.
- The law states that the cloning of human beings and interventions which results in the creation of a human being genetically identical to another is prohibited.

2.4 Columbia

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- The criminal code (2000) prohibits fertilization of a human ovum with intent other than procreation and prohibits genetic manipulation for the purpose of reproductive cloning. The code does allow the fertilization of human ova for research and diagnostic purposes, if there is a therapeutic goal.

[1] "Glossary", Definition 28: "Ovum" <http://cnx.org/content/m14759/latest/#ovum>
[2] "Glossary", Definition 41: "Zygote" <http://cnx.org/content/m14759/latest/#zygote>
[3] "Glossary", Definition 14: "Fetus" <http://cnx.org/content/m14759/latest/#fetus>

2.5 Ecuador

- Embryonic stem cell research as well as therapeutic and reproductive cloning is banned.
- Research on human embryos (and therefore cloning) is prohibited as of June 1998.

2.6 Peru

- Embryonic stem cell research is not specifically prohibited, but therapeutic and reproductive cloning are banned.
- Fertilization of a human ovum with intent other than procreation is prohibited, as well as human cloning (General Health Law, 1997).

2.7 Uruguay

- Embryonic stem cell research and therapeutic cloning are not specifically prohibited, but reproductive cloning is.

3 Europe

3.1 Austria

- Embryonic stem cell research as well as therapeutic and reproductive cloning is banned.
- Reproductive medicine is acceptable only within stable heterosexual relationships for the purpose of reproduction. Embryos can be used only for implantation in the woman who has donated the **oocytes**[4], and for no other purposes. Donation of **embryos**[5] or **gametes**[6] is prohibited (Federal Law of 1992 Regulating Medically Assisted Procreation).

3.2 Belgium

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned as of May 2003.

3.3 Czech Republic

- Embryonic stem cell research is permitted using lines created from unused IVF eggs.

3.4 Denmark

- Embryonic stem cell research is not specifically prohibited, but therapeutic and reproductive cloning and the funding of such activities are as of 2003.

3.5 Estonia

- Embryonic stem cell research is allowed, but reproductive and therapeutic cloning are banned.

[4] "Glossary", Definition 27: "Oocyte" <http://cnx.org/content/m14759/latest/#oocyte>
[5] "Glossary", Definition 11: "Embryo" <http://cnx.org/content/m14759/latest/#embryo>
[6] "Glossary", Definition 15: "Gamete" <http://cnx.org/content/m14759/latest/#gam>

3.6 Finland

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- The act defines embryo as a fusion of gametes, so therapeutic cloning is permitted, but reproductive cloning is prohibited (Medical Research Act of 1999).

3.7 France

- Embryonic stem cell research is allowed, but therapeutic and reproductive cloning are banned.
- Research on human embryonic stem cells is now allowed until embryos are 6-8 days old. Embryos cannot be created specifically for research – scientists must use existing embryos from IVF. Embryonic stem cell lines are typically imported from abroad.

3.8 Georgia

- Embryonic stem cell research is not specifically prohibited, but therapeutic and reproductive cloning are.
- Human cloning through the use of genetic engineering is prohibited (1997 Law on Health Care).

3.9 Germany

- Embryonic stem cell research is permitted, but all forms of cloning (reproductive and therapeutic) are banned.
- It is Illegal to create any new stem cell lines after December 2001.

3.10 Greece

- Embryonic stem cell research is permitted, but reproductive cloning is banned.

3.11 Hungary

- Embryonic stem cell research is not specifically prohibited, but reproductive and therapeutic cloning are.
- The national law (1997) does not explicitly address or prohibit embryonic stem cell research or therapeutic cloning.

3.12 Iceland

- Embryonic stem cell research is permitted using lines created from unused IVF eggs and for development or fertility research.
- Reproductive and therapeutic cloning are prohibited (Act on Artificial Fertilisation, 1996).

3.13 Ireland

- Embryonic stem cell research as well as therapeutic and reproductive cloning is banned.
- Human cloning is prohibited because the "right to life of an unborn child is equal to that of the mother" as stated in the Constitution of Ireland.

3.14 Italy

- Embryonic stem cell research, as well as therapeutic and reproductive cloning are banned.

3.15 Latvia

- Embryonic stem cell research is permitted, but therapeutic and reproductive cloning are prohibited, as of the 2002 Law on Sexual and Reproductive Health.

3.16 Lithuania

- Embryonic stem cell research as well as therapeutic and reproductive cloning are prohibited.
- Human embryos may be subjects only of clinical observations (non-invasive investigations).

3.17 The Netherlands

- Embryonic stem cell research is permitted, but all forms of cloning (reproductive and therapeutic) are banned.
- There is a five year moratorium (ending in 2007) prohibiting therapeutic cloning.

3.18 Norway

- Embryonic stem cell research, as well as therapeutic and reproductive cloning is banned.
- Research on embryos and the use of techniques aimed at the production of genetically identical individuals is prohibited (The Medical Use of Biotechnology, 1995).

3.19 Poland

- Human reproductive cloning and embryonic research are specifically prohibited.
- Human embryos may not be used for non-therapeutic research.

3.20 Portugal

- Embryonic stem cell research is permitted, but reproductive cloning is banned and therapeutic cloning is implicitly prohibited.
- The law states that the cloning of human beings is prohibited (National Council of Ethics for the Life Sciences, 1997).

3.21 Russian Federation

- Embryonic stem cell research is not specifically prohibited, but therapeutic and reproductive cloning are.
- For a five-year period starting in 2002, human cloning is prohibited, as well as the import and export of human cloned embryos (Law on Temporary Prohibition of Human Reproductive Cloning, 2002).

3.22 Slovakia

- Embryonic stem cell research as well as therapeutic and reproductive cloning are banned.

3.23 Slovenia

- Embryonic stem cell research is not specifically prohibited, but therapeutic and reproductive cloning are.
- Human cloning for reproductive and therapeutic purposes is prohibited by the Law on Medically Assisted Reproduction (2000) and the Penal Code (2002).

3.24 Spain

- Embryonic stem cell research is permitted, but reproductive and therapeutic cloning are banned.
- Any therapeutic intervention, investigation, or research activity in pre-embryos in vitro, pre-embryos, or embryos and fetuses in utero will be authorized only if it does not alter the genetic makeup of the embryo, and as long as it is not aimed at one particular individual or race-selection. Research on in vitro embryos is allowed with parental consent, after the embryos have been frozen for five years or more.

3.25 Sweden

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned. (Act 1991/115 and Government Bill 2003/04:148)

3.26 Switzerland

- Embryonic stem cell research is allowed on excess stocks of embryos produced naturally for artificial insemination.
- Therapeutic and reproductive cloning are banned.

3.27 Turkey

- Embryonic stem cell research is not specifically prohibited.
- Therapeutic cloning is allowed, but reproductive cloning is not (as of 1996).

3.28 Ukraine

- Embryonic stem cell research and therapeutic cloning are not specifically permitted, but reproductive cloning is banned.

3.29 United Kingdom

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- Therapeutic cloning is regulated by **Human Fertilization and Embryology Authority (HFEA)**[7] in order to understand the development of embryos and to develop treatments for serious disease.

[7] "Glossary", Definition 17: "Human Fertilisation and Embrology Authority (HFEA)" <http://cnx.org/content/m14759/latest/#HFEA>

4 Asia

4.1 China

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- "Guidelines for Research on Human Embryonic Stem Cells" released in 2004 by China's Ministry of Science and Technology, and Ministry of Health.

4.2 India

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- The Indian Council of Medical Research released the Consultative Document on Ethical Guidelines for Biomedical Research on Human Subjects (2000), which cover the guidelines.

4.3 Japan

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- Production of cloned human embryos will be limited to basic research or regenerative medicine only (Bioethics Committee of the Council for Science and Technology Policy).

4.4 Singapore

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- The law allows the harvesting of stem cells from cloned human embryos, but it prohibits cloned embryos from developing more than two weeks.

4.5 South Korea (Republic of Korea)

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- The government approved research on somatic cell nuclear transfer based on guidelines of National Ethics Committees.

4.6 Taiwan (Republic of China)

- Embryonic stem cell research is allowed on excess stocks of embryos produced naturally for artificial insemination.
- Reproductive and therapeutic cloning are banned, as is the creation of embryos for research purposes.

4.7 Thailand

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.

4.8 Vietnam

- Embryonic stem cell research is not specifically prohibited, but therapeutic and reproductive cloning are.
- Human cloning and surrogacy banned as of May 2003.

5 Oceania

5.1 Australia

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- Researchers must apply for a license to experiment with embryos

5.2 New Zealand

- Embryonic stem cell research and therapeutic cloning are permitted, but reproductive cloning is banned.
- In 2004, the Human Assisted Reproductive Technology Bill was amended to ban reproductive cloning and genetically engineered babies.

6 Middle East

6.1 Egypt

- Bans reproductive cloning and potentially therapeutic cloning.
- The researcher is prohibited from conducting research involving mixing lineages.

6.2 Iran

- Embryonic stem cell research is permitted.

6.3 Israel

- Embryonic stem cell research and therapeutic cloning is permitted, but reproductive cloning is banned.
- Human reproductive cloning and germline genetic engineering is prohibited.

7 Africa

7.1 South Africa

- Embryonic stem cell research is permitted, but all forms of cloning (reproductive and therapeutic) are banned.

7.2 Tunisia

- Embryonic stem cell research is not specifically prohibited, but therapeutic and reproductive cloning are as of 1997.
- The law states that any technology related to human cloning is banned.

8 References and Further Suggested Readings

1. The Database of Global Policies on Human Cloning and Germ-line Engineering: http://www.glphr.org/genetic/genetic.h
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3. Stem Cell Policy: World Stem Cell Map: www.mbbnet.umn.edu/scmap.html[10]
4. European Commission, Directorate General – Research: Survey on opinions from National Ethics Committees or similar bodies, public debate, and national legislation in relation to human embryonic stem cell research and use. Volume I: EU Member States, July 2004: http://www.europa.eu.int/comm/research/biosociety/bi , Volume II: Countries associated to FP6 and Third Countries, July 2004: http://www.europa.eu.int/comm/research/bio
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6. The International Stem Cell Forum (May 2007) http://www.stemcellforum.org
7. The Hinxton Group World Policies Website (May 2007): http://hinxtongroup.org/wp.html
8. The Hinxton Group Consensus Statement, March 2006: http://www.hopkinsmedicine.org/bioethics/finalsc.doc[14] .
9. The Phoebe R. Berman Bioethics Institute. (March 2006) International Policy Trends: Embryonic Stem Cell Research.

To contact us, please visit our contact page[15].

[8] http://www.glphr.org/genetic/genetic.htm
[9] http://www.glphr.org/
[10] http://www.mbbnet.umn.edu/scmap.html
[11] http://www.europa.eu.int/comm/research/biosociety/bioethics/documents_en.htm
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