World Human Cloning Policies

By Kathryn Wheat and Kirstin Matthews, Ph.D.

The information in this section is provided to illustrate the diversity of approaches various different parts of the world 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

World policies on human or reproductive cloning range from complete prohibition to no policies on record. Over 30 countries, including France, Germany, and the Russian Federation, have banned human cloning altogether. Fifteen countries, such as Japan, the United Kingdom, and Israel, have banned human reproductive cloning, but permit therapeutic cloning. A few countries such as Hungary and Poland do not explicitly prohibit embryonic stem cell research or therapeutic cloning, partially because their legislation was drafted before embryonic stem cells were first produced (1998). Many other countries, similar to the United States, have yet to pass any official legislation concerning human cloning allowing all types of stem cell and cloning research to occur.

In addition to countries developing their own policies, several international organizations, including the United Nations, the Council of Europe, and the European Union, have published human cloning policies and recommendations, which are described below. Several other organizations including the African Union and the Arab Leagues have discussed the issue, but have yet to release a formal declaration. Furthermore, a group led by Johns Hopkins Phoebe R. Berman Bioethics Institute, known as the Hinxton Group, is working to outline principles for human embryonic stem cell international collaboration and cooperation.

World Cloning

	ESC*	Ther.	Ban**
Argentina	✓		✓
Australia	✓		✓
Austria			✓
Belgium	✓	✓	
Brazil	✓		✓
Canada	✓		✓
Chile	✓		✓
China	✓	✓	
Columbia	✓	✓	
Costa Rica			✓
Czech Republic	✓		✓
Denmark	✓		✓
Ecuador			✓
Egypt	✓		✓
Estonia	✓		✓
Finland	✓	✓	
France	✓		✓
Georgia	✓		✓
Germany	✓		✓
Greece	✓		✓
Hungary	✓		
Iceland	✓		✓
India	✓		
Iran	✓		
Ireland			✓
Israel	✓	✓	
Italy			✓
Japan	✓	✓	
Latvia	✓		✓
Lithuania			✓
Netherlands	✓		✓
New Zealand	✓	✓	
Norway			✓
Panama	✓		✓
Peru	✓		✓
Poland			✓
Portugal	✓		✓
Russian Federation	✓		✓
Singapore	✓	✓	
Slovakia			✓
Slovenia	✓		✓
South Africa	✓		✓
South Korea	✓	✓	
Spain	✓		✓
Sweden	✓	✓	
Switzerland	✓		✓
Taiwan	✓		✓
Thailand	✓	✓	
Trinidad & Tobago			✓
Tunisia	✓		✓
Turkey	✓	✓	
Ukraine	✓		
United Kingdom	✓	✓	
United States	✓	✓	
Uruguay	✓		
Vietnam	✓		✓

*Some prohibit the derivation of embryonic stem cells, but do not specifically prohibit the research using existing lines.
**Ban refers to countries which banned human cloning (both reproductive and therapeutic).

United Nations

On March 8, 2005, the United Nations General Assembly adopted the nonbonding 'Declaration on Human Cloning', by which member states were called on to adopt "all measures necessary to prohibit all forms of human cloning inasmuch as they are incompatible with human dignity and the protection of human life." The vote was 84 in favor (including United States, Germany, and Italy), 34 against (including United Kingdom, South Korea, and Brazil), 37 abstaining (including South Africa and Israel) and 35 were absent. This Declaration is arguably weakened by the fact that it was not even passed by a majority of the UN membership.

Many countries, in formal explanations of their votes, expressed disappointment that there was no consensus on the language of the declaration and said that it was regrettable that it did not cover the well-known differences between reproductive cloning and therapeutic cloning (somatic cell nuclear transfer). The original mandate to the Legal Committee was to elaborate on the issue in an international treaty against human reproductive cloning. Instead, text of the declaration blurred the line separating reproductive and therapeutic cloning.

Council of Europe

The Council of Europe is an international organization of 46 countries in Europe, which was established in 1949. The Council was set up to defend human rights and democracy, develop continent-wide agreements to standardize social and legal practices and promote European interests. Membership to the Council is open to all European democracies, which accept the principle of the rule of law and guarantee fundamental human rights and freedoms to their citizens.

The Council of Europe has several conventions that can be applied to human embryonic stem cell research and human cloning. The Council's 1997 Convention on Human Rights with Regard to Biomedicine highlights the "need to respect the human being both as an individual and as a member of the human species." The protocol on cloning states that "any intervention seeking to create a human being genetically identical to another human being, whether living or dead is prohibited." While this specifically bans reproductive cloning it does not necessarily ban therapeutic cloning. The Council left the interpretation of 'human being' to national Parliaments, allowing therapeutic cloning where it is accepted. In several European countries without specific stem cell or cloning legislation (Bulgaria, Croatia, Cyrus, Moldova, Romania, and San Marino) this convention is interpreted to mean that they allow human embryonic stem cell cloning, but ban both reproductive and therapeutic cloning.

European Union

The European Union is an intergovernmental and supranational union containing 25 member states from Europe. It was established in 1950 by six countries (Belgium, France, Germany, Italy, Luxembourg, and the Netherlands) and dealt with economic and trade issues. It now has an additional 19 member states (Denmark, Ireland, United Kingdom, Greece, Portugal, Spain, Austria, Finland, Sweden, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia) for a total of approximately 450 million people and deals with a wide range of issues including health, the environment, and international peace and stability.

The European Union supports funding embryonic stem cell research (where permitted), but has banned the funding of human cloning. There is no legal ban on therapeutic cloning, but the European Union will not fund research using SCNT to create embryos. It allows for countries to determine within their boarder what embryonic stem cell research can be funded allowing that it is carefully regulated, peer reviewed, scientifically sound, directed towards sustainable goals, and ethically sound.

North America

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 page 13 “State Cloning Legislation”)

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.

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).

Panama

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

Trinidad and Tobago

- Embryonic stem cell research as well as therapeutic and reproductive cloning is banned.
- The law states that the manipulation of **ovum**, **zygotes**, and/or embryos for the purpose of producing one that is genetically equivalent to a living or deceased human being, embryo, zygote, or fetus -- 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).

South America

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.

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).

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.

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.

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.

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).

Uruguay

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

Europe

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**, and for no other purposes. Donation of embryos or **gametes** is prohibited (Federal Law of 1992 Regulating Medically Assisted Procreation).

Belgium

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

Czech Republic

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

Denmark

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

Estonia

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

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).

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.

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).

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.

Greece

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

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.

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).

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.

Italy

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

Latvia

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

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).

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.

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).

Poland

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

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).

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).

Slovakia

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

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).

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.

Sweden

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

Switzerland

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

Turkey

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

Ukraine

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

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) in order to understand the development of embryos and to develop treatments for serious disease.

Asia

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.

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.

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).

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.

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.

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.

Thailand

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

Vietnam

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

- Human cloning and surrogacy banned as of May 2003.

Oceania

Australia

- Embryonic stem cell research is permitted, but all forms of cloning (reproductive and therapeutic) are banned.
- The law specifically states that one cannot intentionally create a human embryo clone; you may only harvest and do medical research with human embryos from donors (Prohibition of Cloning Act, 2002).

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.

Middle East

Egypt

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

Iran

- Embryonic stem cell research is permitted.

Israel

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

Africa

South Africa

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

Tunisia

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