



Emerging Issues in Reproductive Law & Policy

Introduction

New technological and medical advances that impact human reproduction frequently spark moral and ethical controversy. Federal and state policy approaches tend to reflect these concerns. This fact sheet summarizes the policy debates and legal quandaries that surround some major scientific advancements relating to reproductive health, rights, and justice.

Stem Cell Research

Stem cells are undifferentiated cells which could potentially develop into a variety of specialized cells and tissues.¹ Researchers hope that stem cell research will eventually result in artificial tissue and/or organ generation, which could provide treatments for various diseases.² Adult stem cells, obtained from the blood, bone marrow, brain, pancreas, and fat of adult bodies, have the potential to develop into a limited number of related cell types. Embryonic stem cells, on the other hand, can become any type of human cell.³ Researchers obtain embryonic stem cells from unused embryos donated by couples undergoing in vitro fertilization (IVF) treatment. A new technique called Somatic Nuclear Cell Transfer (SCNT) would create clonal embryos that could be used to harvest stem cells, but scientists have not yet achieved working cell lines.⁴

- Stem cell research using new stem cell lines has lost all federal funding. In August 2001, President Bush announced that federal funding for embryonic stem cell research would be limited to projects using existing cell lines. Biomedical science in the U.S. depends heavily on federal funds, so this change significantly affected stem cell research.⁵
- State regulation and funding for stem cell research varies widely. States such as California, Connecticut, Massachusetts, New Jersey and Illinois encourage embryonic stem cell research, regardless of the source of the embryos. In 2004, California voters approved Proposition 71 which provides \$3 billion in state funding of stem-cell research over ten years. South Dakota, on the other hand, strictly prohibits all research on embryonic stem cells. Many states simply forbid use of state funds for cloning and/or stem cell research.⁶
- Those who believe life begins at conception often oppose embryonic stem cell research. Opponents believe embryonic stem cell research involves the destruction of potentially viable embryos, even those “left over” from an IVF procedure when a patient does not need them anymore.⁷
- Research using adult stem cells has earned near-universal support. Many researchers, however, prefer embryonic cells because of their developmental flexibility.
- Those who support stem cell research, including embryonic stem cell research, contend that it has the potential to result in valuable medical treatments. Researchers hope embryonic stem cell research will aid tissue and/or organ generation and improve the treatment of various diseases.

¹ Center for Genetics and Society, Stem Cell Technologies, <http://www.genetics-and-society.org/technologies/other/stemcell.html> (last visited Aug. 17, 2008).

² Id.

³ Id.

⁴ Id.

⁵ NOVA, scienceNOW Dispatches: The Politics of Stem Cells, <http://www.pbs.org/wgbh/nova/sciencenow/dispatches/050413.html> (last visited Aug. 17, 2008).

⁶ National Conference of State Legislatures, State Embryonic and Fetal Research Laws (2008), <http://www.ncsl.org/programs/health/genetics/embfet.htm> (last visited Aug. 17, 2008).

⁷ ReligiousTolerance.org, Background Information on Adult and Embryonic Stem Cells, http://www.religioustolerance.org/res_stem1.htm (last visited Aug. 17, 2008).

- Somatic cell nuclear transfer (SCNT), sometimes called “research cloning,” involves inserting the nucleus of an adult body cell into a denucleated egg.⁸ SCNT would use a patient’s cells and an unfertilized egg to create stem cells. It would not require an embryo and the cells produced are the patient’s genetic match, reducing the chance that the immune system will reject a transplant.⁹ However, SCNT would still require human eggs. Many women’s health advocates have expressed concerns about SCNT because of the medical risks of egg donation, recommending more research and stringent regulation.¹⁰ Some fear unregulated SCNT will lead to reproductive cloning and inheritable genetic engineering. Finally, the issue of compensation for women who donate their eggs raises questions about potential exploitation and commodification of women’s bodies.

Pre-implantation Genetic Diagnosis (PGD)

PGD allows the testing of embryos created by in vitro fertilization (IVF) for a variety of single-gene traits, such as sex, Down’s Syndrome, Tay-Sachs disease, cystic fibrosis, sickle cell disease, Huntington’s Chorea, increased likelihood of some cancers, and Cooley’s anemia. Embryos can then be selectively implanted based on the presence or absence of certain characteristics.

- Health insurance typically does not cover PGD. This adds about \$3,000 to the cost of IVF,¹¹ which costs an average of \$10,000.¹²
- PGD provides a potential alternative to prenatal testing. Some prefer it to screening during pregnancy and performing selective abortion if certain traits are identified.
- The U.S. does not currently regulate PGD, although some argue for its prohibition beyond screening for a specified set of genes related to disease. Disability rights advocates and allies worry that PGD potentially devalues the lives of disabled people.
- Some other countries, including Canada, Germany, and the U.K., prohibit sex selection for reasons of cultural or parental preference.
- Some scientists believe that there might be a “gay gene.” Although some believe identifying this gene will prove that homosexuality is not an “unnatural” or chosen lifestyle, others fear that if a “gay gene” is identified, parents may use PGD to deselect embryos that carry it.¹³
- PGD sparks controversy because couples use it to avoid passing along genes for certain identifiable conditions to their children. Some argue that PGD resembles eugenics and that de-selecting embryos for disability devalues the lives of those who live with disabilities. Many object to PGD being used to choose a child of a preferred sex, or to select a future child’s non-disease traits, such as cosmetic or behavioral qualities.¹⁴ Since wealthy parents

⁸ Wikipedia Commons, Image: Cloning Diagram, http://en.wikipedia.org/wiki/Image:Cloning_diagram_english.svg (last visited Aug. 17, 2008).

⁹ Christopher and Dana Reed Foundation, Stem Cells/SCNT, http://www.christopherreeve.org/site/c.geIMLPOpGjF/b.1029337/k.AC23/Stem_CellsSCNT.htm (last visited Aug. 17, 2008).

¹⁰ Emily Galpern, Beyond Embryo Politics: Women’s Health and Dignity in Stem Cell Research, WOMEN’S HEALTH ACTIVIST, May/June 2006, available at http://www.nwhn.org/newsletter/article.cfm?content_id=88 (last visited Aug. 17, 2008).

¹¹ Institute for Reproductive Medicine and Genetic Testing, Frequently Asked Questions, <http://www.preimplantationgenetictesting.com/Faq.htm> (scroll down to bottom of page) (last visited Aug. 17, 2008).

¹² Center for Fertility and Reproductive Medicine, Frequently Asked Questions, <http://www.csmc.edu/3830.html> (last visited Aug. 17, 2008).

¹³ Edgar Dahl, Ethical Issues in New Uses of Preimplantation Genetic Diagnosis, 18 HUMAN REPRODUCTION, June 1, 2003, available at <http://www.geneticsandsociety.org/article.php?id=183> (last visited Aug. 17, 2008).

¹⁴ Center for Genetics and Society, Genetic Selection Arguments Pro and Con, <http://www.geneticsandsociety.org/article.php?id=945> (last visited Aug. 17, 2008).

are more likely to have the option of selecting their children's genetic characteristics, some fear that unregulated PGD will result in increasing inequalities, creating a "gene-rich" class.

Human Papillomavirus (HPV) & Gardasil

On June 8, 2006 the FDA approved Merck's HPV vaccine, Gardasil, for use in girls and women age 9 to 26.¹⁵ The vaccine targets the most common HPV strains, which cause about 70% of cervical cancers and 90% of genital warts.¹⁶ HPV is among the most common STIs in the U.S. One study found that more than 50% of college-aged women had acquired an HPV infection within four years of having sex for the first time.¹⁷ The virus is extremely contagious and transmission can occur through sexual activity other than intercourse, including skin-to-skin contact. Research shows that 99.7% of cervical cancers are caused by HPV.¹⁸

- Cost—Gardasil costs about \$360 total for the three needed doses. Over 120 private health insurance companies cover all or part of the cost, but many plans do not include preventative vaccines for adults.¹⁹ Merck has added Gardasil to its Patient Assistance Program for adults who cannot afford the vaccine.²⁰
- Federal Coverage—The federal program Vaccines for Children (VFC) provides free vaccines, including Gardasil, to children and teens under 19 who are uninsured, Medicaid-eligible, American Indian, or Alaska Native.²¹
- State Coverage—Legislators in at least 41 states have introduced legislation to require, fund, or educate the public about the HPV vaccine. New Hampshire and South Dakota provide the vaccine at no cost to girls under 18, and Washington currently spends \$10 million to voluntarily vaccinate 94,000 girls in the next two years. Virginia is the only state with a school requirement for the vaccine, and the policy provides for parental exemptions.²²
- Opponents argue that Gardasil promotes promiscuity because abstinence still provides the best protection against HPV. Some reject mandatory Gardasil vaccinations for students in public schools, believing parents should control.²³
- Some women's health advocates oppose state-mandated HPV vaccination so soon after Gardasil's FDA approval. They argue that the health impacts of Gardasil should be studied more before the vaccine is required (instead of simply optional).
- The American Cancer Society and the Federal Advisory Committee on Immunization Practices both recommend the vaccine be given regularly to girls aged 11-12.²⁴

¹⁵ Press Release, FDA, FDA Licenses New Vaccine for Prevention of Cervical Cancer and Other Diseases in Females Caused by Human Papillomavirus (June 8, 2006), <http://www.fda.gov/bbs/topics/NEWS/2006/NEW01385.html> (last visited Aug. 17, 2008).

¹⁶ American Cancer Society, Frequently Asked Questions About Human Papilloma Virus (HPV) Vaccines, http://www.cancer.org/docroot/CRI/content/CRI_2_6x_FAQ_HP_Vaccines.asp (last visited Aug. 17, 2008).

¹⁷ Id.

¹⁸ New York State Department of Health, Questions and Answers about Human Papilloma (HPV) Vaccine, http://www.health.state.ny.us/prevention/immunization/human_papillomavirus/ (last visited Aug. 17, 2008).

¹⁹ Bethany Lye, The FAQ on the HPV Vaccine, MSN Health and Fitness, available at <http://health.msn.com/womens-health/articlepage.aspx?cp-documentid=100154748> (last visited Aug. 17, 2008).

²⁰ Gardasil.com, Assistance Programs for Gardasil, <http://www.gardasil.com/what-is-gardasil/hpv-and-gardasil/assistance-programs/> (last visited Aug. 17, 2008).

²¹ Center for Disease Control, HPV Vaccination Information for Young Women, <http://www.cdc.gov/std/hpv/STDFact-HPV-vaccine.htm#hpvvac4> (last visited Aug. 17, 2008).

²² National Conference of State Legislatures, HPV Vaccine: State Legislation, <http://www.ncsl.org/programs/health/HPVvaccine.htm#hpvlegis> (last visited Aug. 17, 2008).

²³ Elizabeth M. Whelan, Cancer Triumph and Travail, WASHINGTON TIMES, June 14, 2006, available at http://www.acsh.org/healthissues/newsID.1352/healthissue_detail.asp (last visited Aug. 17, 2008).

²⁴ American Cancer Society, *supra* note 17.