Timeline of major events in stem cell research policy

Stem cells have been used in medicine since the 1950’s when bone marrow transplants were first used to treat leukemia. Congressional involvement in stem cell policy started as early as 1974. The first major amendment related to the use of federal funds for research involving embryonic stem (ES) cells occurred in 1996. From this point onward, this timeline provides policy landmarks affecting the course of stem cell research in the U.S. For information prior to 1996, click here (link is external) (link is external).

1996 - The Dickey-Wicker Amendment

Congress bans federal funding for research on embryos through the Dickey-Wicker Amendment, named after Reps. Jay Dickey (R-AR) and Roger Wicker (R-MS). The amendment prohibits the use of federal funds for the creation of a human embryo or embryos for research purposes, or research in which a human embryo or embryos are destroyed, discarded or knowingly subjected to risk of injury or death greater than that allowed for research on fetuses in utero.

August 25, 2000 - NIH guidelines for research using human pluripotent stem cells go into effect

The National Institutes of Health (NIH), interpreting the Dickey-Wicker Amendment, releases guidelines for research on ES cells. The guidelines stipulate that:

* Human embryonic stem cells must be derived with private funds from frozen embryos from fertility clinics;
* That they must have been created for fertility treatment purposes;
* That they be in excess of the donor's clinical need; and
* That they be obtained with consent of the donor.

June 7, 2001 - President Bush prohibits federal funding of most human embryonic stem cell research

President George W. Bush prohibits the federal funding of any research using ES cell lines derived after August 9, 2001, but his policy does not affect research in the private sector or research conducted with state funding. The President claims that more than 60 stem cell lines are still available for funding. Research on adult stem cells is not affected by this executive order.

June, 2005 - Congress passes the Stem Cell Research Enhancement Act (H.R. 810)

H.R. 810, which would have expanded federal funding for stem cell research to include stem cells derived from embryos created for, but subsequently not used in, the in vitro fertilization process, passes both the House and the Senate in the 109th Congress, attracting bipartisan support. However, the bill is quickly vetoed by President Bush. The House votes 235-193 in favor of the bill, but the two-thirds majority needed to override the veto is not reached.

July, 2007 - Congress passes the Stem Cell Research Enhancement Act (S. 5)

In the 110th Congress, the Senate passes their version of The Stem Cell Research Enhancement Act (S. 5) with strong bipartisan support, 63-34. The House also passes the Senate's version of the bill 247-176. Again, the bill is vetoed by President Bush, and again Congress cannot override the veto.

March 9, 2009 - President Obama reverses 2001 executive order

President Barack Obama issues an executive order, titled "Removing Barriers to Responsible Scientific Research Involving Human Stem Cells."

July 7, 2009 - Sherley v. Sebelius, the most noteworthy court case regarding the government's funding of embryonic stem cell research, is filed

A group of plaintiffs led by adult stem cell scientists James Sherley, M.D., Ph.D., and Theresa Deisher, Ph.D., file a lawsuit against the National Institutes of Health (NIH) and the Department of Health and Human Services, arguing that federal funding of ES cell research is in violation of the Dickey-Wicker amendment. The case was brought up against Kathleen Sebelius, the U.S. Secretary of Health and Human Services at that time.

July 27, 2011 - U.S. District Court for the District of Columbia rules in favor of embryonic stem cell research in Sherley v. Sebelius

"Therefore this Court, following the [U.S. Court of Appeals for the D.C. Circuit] reasoning and conclusions, must find that defendants reasonably interpreted the Dickey-Wicker Amendment to permit funding for human embryonic stem cell research because such research is not 'research in which a human embryo or embryos are destroyed' ...The NIH reasonably concluded, as expressed in the notice of proposed rulemaking, that the fundamental policy question of whether to provide federal funds for embryonic stem cell research wasn’t a question for it to decide. That policy question is not answered by any congressional law, and it has fallen on three presidential administrations to provide an answer. For all three such administrations, Democratic and Republican, the answer has been to permit federal funding. They have differed only as to the path forward." — Royce C. Lamberth, Chief Judge.

February 13, 2012 - Transplantation of adult stem cells into heart attack patients helps regrow new heart tissue

Researchers at Cedars-Sinai Medical Center and Johns Hopkins University publish results from a clinical trial in which adult stem cells were extracted from patients following a heart attack. The stem cells were grown in a petri dish and were then returned to the patient’s heart. In the first demonstrated case of therapeutic regeneration, the treatment decreases scarring and leads to regrowth of heart tissue.

August 24, 2012 - U.S. court of appeals for the D.C. circuit hears arguments about human embryonic stem cell research funding

In a decision favorable to proponents of ES cell research, the U.S. Court of Appeals for the D.C. Circuit upholds a lower court ruling that dismisses a lawsuit challenging the Obama administration’s expansion of federal funding for stem cell research.

January 7, 2013 - Supreme Court declines to hear Sherley V. Sebelius

The Supreme Court announces that it will not hear Sherley v. Sebelius, thereby upholding the previous ruling of the D.C. Circuit Court's ruling. “This is a major victory for scientifically and ethically responsible innovative research,” Bernard Siegel, spokesperson for the Stem Cell Action Coalition and executive director of the Genetics Policy Institute, says in a statement.

May 15, 2013 - Scientists generate human nuclear-transfer embryonic stem cells

Researchers at the Oregon Health and Science University successfully reprogram human skin cells into ES cells, using a technique called somatic cell nuclear transfer (SCNT). By removing the DNA from an egg cell and replacing it with genetic material from a skin cell, scientists create stem cells that can be programmed into becoming many different cell types, including the contracting cardiomyocytes that make up our heart muscle. Nuclear transfer (NT)-ES cells hold great promise for regenerative medicine because the resulting stem cells are a genetic match to the skin cell donor.

October 15, 2014 - Transplantation of embryonic stem cells improves sight in legally-blind patients

An FDA-approved clinical trial finds that treatment with ES cells improves sight in over half of 18 patients suffering from macular degeneration. The study, published in *The Lancet*, shows that transplantation of ES cells is safe in the long-term.