

Somatic Cell Nuclear Transfer (SCNT)
“Therapeutic Cloning”
Overview of the Somatic Cell Nuclear Transfer Issue

Somatic Cell Nuclear Transfer (SCNT), commonly referred to as therapeutic cloning, may prove to be a vital tool in allowing scientists to fully develop the promise of stem cell research. The procedure, more accurately described as *nuclear transplantation to produce stem cells*, has great potential to increase the understanding and treatment of many diseases and debilitating disorders, including Parkinson’s, spinal-cord injury, diabetes, Alzheimer’s, rheumatoid arthritis, ALS, heart disease, and cancer. Nuclear transplantation involves the following: DNA is taken from the body cell of a person suffering from a disease; it is then injected into an *unfertilized egg* from which the nucleus has been removed; and the egg is stimulated to divide and produce stem cells. These stem cells can potentially grow into any organ or tissue. The new organ or tissue would have the same DNA as the person suffering from the disease and may greatly reduce the likelihood that their body will reject that tissue, it may also help obviate the need for immunosuppressive drugs, which often have severe and potentially life-threatening side effects.

In short, nuclear transplantation to produce stem cells—so-called therapeutic cloning—cannot create life, but can potentially save millions of lives and relieve the suffering of millions more.

SCNT is not the same as reproductive cloning. SCNT uses only *unfertilized embryos*. The nation’s leading scientists, including two prestigious committees of the National Academy of Sciences and the American Association of the Advancement of Science, agree that cloning to produce humans should be illegal, but that SCNT technology should be permitted.

The Parkinson’s Action Network is working with the Coalition for the Advancement of Medical Research (CAMR) to ensure that SCNT remains a legal and viable form of scientific research. The U.S. Senate is now considering legislation that would ban and criminalize therapeutic cloning research. This legislation would impose criminal penalties to scientists who undertake this research, and make it illegal to import to the U.S. treatments that are developed with these techniques in other countries. Therapeutic cloning is a laboratory research procedure in which there is no possibility of producing a human being. This research is an important step to finding a cure for many diseases including Parkinson’s.

The Future of Somatic Cell Nuclear Transfer

The future of this promising research presently lies in the hands of the U.S. Senate. The Senate may vote on legislation that would ban somatic cell nuclear transfer (SCNT). The House of Representatives has passed a ban on all forms of cloning, including SCNT. The responsibility now falls on the Senate, where two anti-cloning bills wait for a vote. The two bills, H.R. 534, introduced by Representative Dave Weldon (R-FL) and S. 245, introduced by Senator Sam Brownback (R-KS) would ban all cloning including SCNT. Not only would these bills ban SCNT research, they would criminalize it as well, sending to jail any scientist who conducts research in this area. They would also criminalize the importation of any therapies developed from therapeutic cloning outside the U.S and make it illegal for U.S. citizens to seek SCNT treatment abroad.

Senators Orrin Hatch (R-UT), Dianne Feinstein (D-CA), Arlen Specter (R-PA), Edward Kennedy (D-MA), and Zell Miller (D-GA) have joined together to sponsor S. 303, the “Human Cloning Ban and Stem Cell Research Protection Act of 2003.” This legislation, which PAN strongly supports, would ban reproductive cloning to create another human being, but permit privately funded research involving SCNT. The legislation is widely supported among scientific, medical and patient groups. The Senate may vote on this bill as well.