Written by **Raven Clabough** on October 2, 2010

Alternative to Embryonic Stem Cells: Skin

Researchers may have discovered a less controversial alternative to stem cells that could potentially treat conditions like Parkinson's disease and diabetes. This alternative is allegedly so effective that it has the potential to be used by the military to mitigate battlefield injuries.

Researchers in Boston have succeeded in creating stem cells from human skin, rather than from human embryos, the latter a highly controversial form of science that has drawn the ire of Christian and human rights groups across the nation. The use of embryonic stem cells involves the destruction of the same embryo, a violation of a 1996 law which federally-funded scientists have circumvented by simply using privately-funded embryos to collect stem cells with the use of federal funds. In August, a federal judge banned federal funding for embryonic stem cell research, but on September 28 an Appeals Court lifted the ban until legal proceedings are completed.

The process of creating stem cells from human skin is relatively new, dating back to 2007. It involves "reprogramming cells" to produce induced pluripotent stem cells. Fox News explains, "The technology first used to make them [stem cells] involved disrupting the DNA of the skin cells. That method would introduce a risk of cancer to any patient who gets transplanted tissue derived from the iPS cells. So researchers have been developing alternate methods." The human skin alternative treats "skin cells with modified forms of RNA, a chemical cousin of DNA, and therefore does not distort DNA," explains Derrick Rossi of Children's Hospital Boston. Overall, it has proven to be more effective.

According to Dr. Manny Alvarez, "The transformation of adult stem cells into more 'embryonic-like' cells is quite important. It will allow scientists to discover ways where we might be able to eradicate certain diseases. But at the same time it will provide a platform where more cellular re-engineering could take place. This means these cells can potentially create organs and improve the lives of patients."

While researchers are excited by the results of the newest study using these methods, iPS researcher Marius Wernig adds, "It will take further work to see if the initial promise is borne out. It would be the first practical method for generating iPS cells that could be used for transplant therapies."

Wernig contends, "If it turns out to be a very efficient way of generating iPS cells without any genetic modification, then it would be a big advance."

While adult stem cells have proven to be the more effective approach to treating conditions, embryonic stem cell research has continued to be strongly supported by liberal groups. Fortunately, the results of the recent study prove that there may be an alternative approach to the regular destruction of embryos.