

## Secretariat for Pro-Life Activities

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Proponents of embryonic stem cell research have created a false impression that these cells have a proven therapeutic use. In fact the embryonic stem cells have *never* helped a human patient; any claim that they may someday do so is guesswork. Stem cells from adult tissues and umbilical cord blood have proven benefits, and new uses are currently being found:

## Current Clinical Use of Adult Stem Cells to Help Human Patients

Autoimmune diseases (multiple sclerosis, lupus, juvenile and other rheumatoid arthritis, scleroderma, scleromyxedema, Crohn's disease)

Stroke

Immunodeficiencies, including a new treatment for severe combined immune deficiency (when used with gene therapy)

Anemias, including sickle-cell anemia

Epstein-Barr virus infection

Corneal damage (full vision restored in most patients treated in clinical trials)

Blood and liver diseases

Osteogenesis imperfecta

Spinal cord injury

Healing of skin wounds

Cancer treatment (in combination with chemotherapy and/or radiation):

Brain tumors Retinoblastoma Ovarian cancer

Solid tumors Testicular cancer

Multiple myeloma, leukemias

Breast cancer Neuroblastoma

Non-Hodgkin's lymphoma

Renal cell carcinoma

Cardiac repair after heart attack

Type I diabetes (not stem cells as such, but pancreatic islet cells from donors)

Cartilage and bone damage

Parkinson's disease (first clinical trial in 2002)

Prevention of gangrene and amputation

Lysosomal storage diseases (Krabbe disease and Hurler's Syndrome)

(For details and citations see <a href="http://www.stemcellresearch.org">http://www.stemcellresearch.org</a>, especially <a href="http://www.stemcellresearch.org/facts/treatments.htm">www.stemcellresearch.org/facts/treatments.htm</a>)

List of Conditions for Which Embryonic Stem Cells have Helped Human Patients:

There is no list. These cells have never helped a human patient.

A recent warning from Stanford University experts on what women should be told if they want to donate eggs (oocytes) to make human embryos for stem cell research:

"[I]t is necessary that prospective donors recognize the large gap between research and therapy...Because it is likely that oocyte donors will be recruited from individuals with diseases and disabilities or their close family members, researchers must make every effort to communicate to these volunteers that it is extremely unlikely that their contributions will directly benefit themselves or their loved ones. Also, it is nearly certain that the clinical benefits of the research are years or maybe decades away. This is a message that desperate families and patients will not want to hear."

-David Magnus and Margaret Cho, "Issues in Oocyte Donation for Stem Cell Research," *Sciencexpress* (May 19, 2005), http://www.sciencemag.org/cgi/content/abstract/1114454v1?rbfvrToken=188de36838665b648cb2ea621ad62daf718a9105

"Within the [embryonic stem cell] research community, realism has overtaken early euphoria as scientists realize the difficulty or harnessing ESCs safely and effectively for clinical applications."

-Philip Hunter, "Differentiating Hope from Embryonic Stem Cells," *The Scientist*, Vol. 17, Issue 34 (December 15, 2003), http://www.the-scientist.com/yr2003/dec/hot\_031215.html

"Although they worked with mouse embryonic stem cells for 20 years and made some progress, researchers have not used these cells to cure a single mouse of a disease... Scientists say the theory behind stem cells is correct...but between theory and therapy lie a host of research obstacles...the obstacles are so serious that scientists say they foresee years, if not decades, of concerted work on basic science before they can even think of trying to treat a patient."

-Gina Kolata, "A Thick Line Between Theory and Therapy, as Shown with Mice," *The New York Times*, Section F, p. 3, Col. 1 (December 18, 2001)