

Won't Prop 71 funded research provide cures for a host of diseases?

Proponents of Proposition 71 claim that the research funded will cure a host of diseases. However, on their website, they fail to distinguish adult stem cell research successes (which are *not* funded by Prop 71) from the failures of embryonic stem cell research (which Prop 71 specifically funds). A recent scientific review admitted that “So far, there are few examples of ES [embryonic stem] cell-based therapy using animal models of diseases that have provided encouraging and promising results” (1). Several diseases for which stem cell research will never provide treatment have been included on the proponent’s list to artificially inflate the numbers of people affected by possibly treatable diseases to garner support from unsuspecting voters. Below is a list of diseases in which stem cells may or may not be useful for therapy.

Disease	Reality
Cystic Fibrosis	Successes have occurred using adult stem cells (not funded by this proposition) to generate new lung cells (2). Human cloning would be ineffective for this genetic disease.
Spinal cord injury	Both embryonic (3) and adult stem cells (bone marrow and umbilical cord derived) (4) have shown promise in treatment of spinal cord injuries.
Alzheimer’s disease	Alzheimer’s disease was thrown into the stem cell pot because it adds to the number of people who have affected family members. However, according to Michael Shelanski, Taub Institute for Research on Alzheimer’s Disease and the Aging Brain (Columbia University Medical Center), “I think the chance of doing repairs to Alzheimer’s brains by putting in stem cells is small.” Regarding stem cell therapy for Alzheimer’s, Ronald D.G. McKay, National Institute of Neurological Disorders and Stroke says, “To start with, people need a fairy tale.” (5)
Type I diabetes, type II diabetes	Proponents cite studies in which cultured mouse embryonic stem cells produced insulin. However, these cells were not beta cells (cells found in the pancreas), but of neurological derivation, and insulin secretion was very low and <i>not</i> glucose dependent. The reported “success” for embryonic stem cells was actually a dismal failure (6). Any stem cell treatment for diabetes would have to simultaneously solve the problem of autoimmune damage caused by the patient’s immune system (which would destroy the transplants), making treatment difficult or impossible.
Multiple sclerosis	Numerous studies (including some preliminary clinical trials) have examined the use of stem cells in the treatment of multiple sclerosis. These studies have used adult stem cells (7) (not funded by this proposition) or endogenous neural stem cells (8), but <i>not</i> embryonic stem cells.
Amyotrophic lateral sclerosis	A study in mice showed that cord blood stem cells (not funded by this proposition) are beneficial in reversing the behavioral effects of spinal cord injury, even when infused 5 days after injury (9). A 2004 review of scientific literature indicated that adult stem cell treatments showed promise for treatment of ALS (10).
Heart disease	Both embryonic (11) and adult stem cells (12) show promise in treatment of ischemic heart disease, with adult stem cells being used this year in clinical trials.

Cancer	Cancer is caused by cells of the body multiplying uncontrollably due to genetic mutation or viral infection, in some cases. Stem cells would not be useful in therapy. This wide spectrum of diseases was added simply because there are a lot of people who have been affected who might vote for the initiative.
Parkinson's disease	Proponents cite studies in which embryonic stem cells produce dopamine in the brain of rats. However, only 50% of the rats had improvement of function and 25% developed brain tumors and died! (13) Anybody want to volunteer for the clinical trials?
Mental health diseases	Since the cause of most mental health diseases is unknown, it is not known whether stem cells could be useful in therapy. However, since many people suffer from these diseases, it was added to garner additional support for the proposition.
HIV/AIDS	AIDS is caused by an infectious virus (HIV) that attacks the immune system. Stem cell treatments could improve the function of the immune system, but the effect would be temporary until the new stem cells became infected themselves. Adult (not embryonic) stem cells would be the preferred treatment, although improvement would be only temporary.

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