

Stem Cell Research
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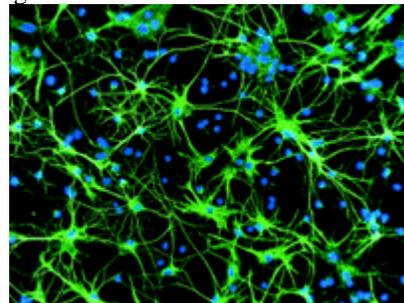
A stem cell is an undifferentiated cell in the Central Nervous System. The Central Nervous System contains the brain and the spinal cord. An undifferentiated cell is one that does not have a specific job. It is unspecialized. These cells are thought to give aid to the broad array of the specialized cells of the CNS. Those are ones with specific jobs or functions in the CNS. Long thought to be an exclusive component of the developing CNS, neural stem cells have been demonstrated to exist in the adult animal and human, CNS. New research shows that these cells can be isolated and cultured. Because of this characteristic, stem cells are being harvested and transplanted to replace damaged tissue. Stem cells could potentially help people recover from strokes or even paralyzed people. Because they are unspecialized cells when transplanted they specialize into the cells which you want and will replace the damaged spinal cord tissue etc.

The big issue involved with stem cell research is that there is some groups, including anti-abortion conservatives, oppose the destruction of human embryos for any reason. The main concern is with the advancement of research. Embryo stem cell extraction actually will kill the embryo after the stem cell is extracted. The other problem is with the advancement of research; many scientists require human testing to further the research of stem cells. And although it would be beneficial to the human race, it's immoral.

Christopher Reeve is a chief supporter of stem cell research and believes that many states will follow the lead of California, which passed a law in September allowing therapeutic cloning and had this to say about the issue: "Once that happens in about a half a dozen states with a vital research community and a vital pharmaceutical industry, a momentum will have been created that the federal government probably won't be able to stop." This research has to be passed by state laws because President Bush is against further embryonic stem cell research. President Bush put on a number of regulations and restrictions on stem cell research. Right now there are 60 genetically diverse stem

cell lines. The funding is going to go to the further research of those 60 lines but also towards research into harvesting stem cells from the umbilical cord placenta and adult and animal stem cells.

Despite the many issues surrounding stem cell research it has been proven to be very beneficial. There is evidence that they can aid damaged hearts. The scientists from the University of Rostock in Germany believe that the cells may help new tissue to grow within the organ. When the heart is deprived of blood during a heart attack, heart muscle cells die because of the lack of oxygen. Even if the patient survives the attack, the heart may never recover to the level it was prior to the attack. Laboratory experiments have shown that if bone marrow cells are injected into damaged heart tissue, it triggers the growth of fresh blood vessels to supply the damaged region. And bone marrow contains



stem cells.

Stem cells also have a very good possibility to aid in cancer treatment. Chemotherapy not only kills cancer cells but is also kills the healthy cells too. This is why chemotherapy is taken in steps (That are weeks apart). Because chemotherapy kills so many healthy cells it has to be taken in high doses and doesn't kill all the cancer cells. A higher dose of chemo could kill all the cancer cells in one dosing. With the aid of stem cells would allow doctors to do this because they can replace the healthy cells that are killed and recovery from chemotherapy would be that much quicker.

Paraplegics