

# Stem cells debate essay example

[Health & Medicine](#), [Pregnancy](#)



Stem cells have increasingly sparked debate. It divides religion and science around the world. Stem cells refer to a class of undifferentiated cells that differentiate into specialized cell types. Stem cells arise from two sources: adult stem cells and embryonic stem cells. Both types of stem cells have potential to differentiate into different types of cells like muscle, skin and bone. Adult stem cells exist in the body after embryonic development. They are located inside of different types of tissues, which include blood, brain, bone marrow, blood vessels, Liver and skeletal muscles. This type of stem cells can divide indefinitely permitting them to generate a wide range of cell types from the original organ or even generate the whole organ. Embryonic stem cells originate from a five-day-old human embryo in the blastocyst phase of its development. These embryos are extras created in in vitro fertilization clinics. Several eggs undergo fertilization in the test tube and only one egg implanted into the woman.

Stem cells have potential benefits to humankind. They offer possible source of replacement of tissues and cells. They have the potential of treating conditions, disabilities and myriad of diseases. Stem cells treat cancer, leukemia and Alzheimer's disease (Stemcell. ny. gov, 2014). Research on stem cell differentiation processes allows researchers and scientists to know how humans develop from embryo to adult. The growth of cells or tissues has specific purposes like modeling of diseases and drug screening.

Diseases like cancer occur because of difficulties in the differentiation process. This means that understanding the differentiation of stem cells help scientists to understand conditions like birth defects. Scientists are able to treat this type of developmental errors. Stem cells form tissues and cells

used in medical therapies. Donated tissues and organs come from stem cells. The dysfunctional ones undergo removal and the generated tissues and organs take their roles in the human body. They offer a viable solution for the replacement of tissues and organs. This is significant because it will help in reducing mortality and morbidity of patients that want transplanting of their organs.

There are other areas that stems cells have potential benefits. They include treatment of arthritis, type I diabetes, Parkinson’s disease and various cardiovascular diseases. Victims who have their skin burned can now receive replacement. The patients that have burns endure a very severe pain in the wounds. This pain can disappear easily by using stem cells to produce new healthy tissues. Genetic defect present during childbirth can be eliminated through the introduction of normal healthy cells that do not have genetic defects. Directing stem cells to differentiate into specialized types offer a high possibility of reversing diseases. For example, a person who suffers from a heart attack could have the damaged tissue undergo replacement with a new healthy muscle cells.

Stems cells are beneficial in the field of pharmacy. It allows pharmacists and drug developers to test and assess the safety of drugs before they test them on human and animal models. It helps scientist to achieve accurate results in their drug tests.

As the controversy over stem cells continues, many people have benefited from this innovation. The continuing research presents hope to people suffering from serious and chronic diseases. Time remains as the final judge to the success of stem cell therapies. Research continues to teach us more

on the use of stem cells to treat diseases while the controversy continues. The moral dilemmas on whether to respect the value of humans or to alleviate pain will continue.

## **References**

Stemcell. ny. gov. (2014). What are the potential benefits of stem cell research? | NYSTEM. [Online] Retrieved from: <http://stemcell.ny.gov/faqs/what-are-potential-benefits-stem-cell-research> [Accessed: 27 Mar 2014].