

What are stem cells?

Cells are the basic building blocks in our bodies, and we have over 200 distinct types. Some cells last for our entire lives, and are difficult to replace if lost or damaged by disease. Other cells are designed to wear out quickly and are constantly replaced by “stem cells” present in adult tissues. **Adult stem cells** are vital to our health and not controversial. Some of them have been used for years to save lives.

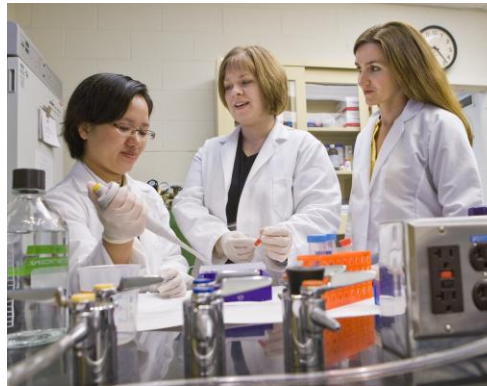
There are different types of adult stem cells, but they have two things in common. They can divide to make exact copies of themselves or they can turn into one kind of tissue. For example, stem cells for blood normally cannot make skin. Stem cells for skin do not normally turn into blood. Thousands of people with diseases involving blood cells have been successfully treated with stem cell transplants. That is commonly called “bone marrow transplantation” because most blood stem cells live within bones.

Advances in stem cell research have caused a great deal of excitement and hope for incurable diseases. However, there has also been a lot of confusion and controversy. Given their unique regenerative abilities, stem cells offer new potentials for treating diseases such as diabetes, and heart disease. However, **much work remains to be done** in the laboratory and the clinic to understand how to use these cells for **clinical therapies**.



Our goals are:

- To provide funding for stem cell researchers for projects, education, and equipment.
- To assist with and support recruitment of stem cell researchers to Oklahoma.
- To educate the lay public related to Adult Stem Cell research.



Stem cells have been collected from adult human bone marrow and used to save thousands of lives. Until recently, these treatments were largely restricted to blood diseases. However, new studies suggest many other types of adult stem cells can be used for medical treatment. The Oklahoma Center for Adult Stem Cell Research (OCASCR) was created to promote this exciting new branch of medical research. Results of early experiments suggest that many diseases should benefit from this type of research including heart, Alzheimer's and Parkinson's diseases, as well as cancer, diabetes and spinal cord injuries. The field is often referred to as “regenerative medicine”, because of the potential to create good cells in place of bad ones. We are fortunate that many Oklahoma scientists are already working in this area and CASCRC will encourage their studies with funding and information. We hope to attract new stem cell scientists to Oklahoma. In addition, we will promote public understanding of adult stem cells by providing information via the website, Facebook and in other ways.