



Frequently Asked Questions & Answers . . .

About the Kansas Coalition for Lifesaving Cures

What is the Kansas Coalition for Lifesaving Cures?

We are a non-profit coalition of concerned citizens, medical experts, patient and medical organizations, and civic and business groups organized to support stem cell research and cures in Kansas.

Who are the members of your Coalition?

Our broad coalition includes concerned citizens throughout the state and dozens of medical and patient organizations – including the Juvenile Diabetes Research Foundation International, Christopher Reeve Foundation, Parkinson’s Action Network, American Association for Cancer Research, Coalition for the Advancement of Medical Research (which represents more than 90 patient advocacy, disease and research organizations), Alliance for Aging Research, the Leukemia & Lymphoma Society, American Diabetes Association, Project A.L.S. and United Spinal Association. An updated list of our notable members is online at www.KansasCures.com/coalition.php.

What is the Coalition’s position on stem cell policies?

Our Coalition’s position is that any stem cell research, therapies or cures that are permitted by federal law should be allowed in Kansas – provided that such activities are conducted ethically and safely and do not involve human reproductive cloning. Like the overwhelming majority of medical experts, medical organizations and patient advocacy groups, we agree that all types of stem cell research should be pursued in the effort to find lifesaving cures, including research involving adult stem cells, Somatic Cell Nuclear Transfer (SCNT) and stem cells from excess fertility clinic embryos (also called blastocysts or pre-embryos) that would otherwise be discarded. We also agree that human cloning to create babies should be banned.

Why was the Coalition formed?

Our Coalition was formed to coordinate efforts to support all types of stem cell research and cures in Kansas – and to oppose any efforts to ban or restrict stem cell research and cures in the state. Early in 2005, state legislation was proposed that would have banned and criminalized some of the most promising types of stem cell research and cures. Although that legislation was tabled, it is likely that opponents of stem cell research will continue to push for legislation that would ban, criminalize or restrict one or more types of stem cell research and cures in Kansas. Any such bans would unfairly prevent Kansas patients from having access to future stem cell therapies and cures, and would impose unfair and harmful restrictions on medical researchers and institutions in our state. Thus, it is important for stem cell supporters to keep working together to protect stem cell research and cures in Kansas.

How does someone become a member of your group?

Any person, organization or business can become a member simply by filling out one of our member forms. You can join online by going to the “Join Us” page on our website at www.KansasCures.com/join.php. You can also call us at 800-821-2658 to request a member form that can be faxed or mailed back to us.

Is there any cost or obligation involved in becoming a member of the Coalition?

No. Signing a member form simply confirms that you can be listed publicly as a member of our Coalition along with other citizens, businesses and groups who support stem cell research, therapies and cures. This helps us show that there is broad support for our efforts to protect lifesaving stem cell research and cures in Kansas.

About Stem Cells

What are stem cells?

Stem cells are the building blocks of our bodies. They have the unique ability to turn into other types of specialized cells that make up our tissues, bones and organs. Basically, there are two types of stem cells: adult type stem cells; and early, or embryonic, stem cells (ES cells). Adult type stem cells are found in body tissues, including tissues in the bodies of adults and in discarded umbilical cords and placentas. ES cells are available from two basic sources. One source is leftover fertility clinic embryos that would otherwise be discarded and destroyed. ES cells can also be produced with Somatic Cell Nuclear Transfer (SCNT), a process that uses a patient's own cells and an unfertilized human egg to make ES cells.

What's the basic difference between adult stem cells and ES cells?

Adult stem cells are partially specialized cells that can turn into a limited number of body cells and tissues. For example, blood-forming adult stem cells in bone marrow can turn into some types of blood-related cells. In contrast, ES cells are "pluripotent," meaning that they are totally unspecialized cells that have the potential to turn into and regenerate any type of cell or tissue in the human body. As a result, ES cells could provide cures for diseases and injuries that cannot be cured with adult stem cells, or could provide more effective treatments than adult stem cells.

What diseases and injuries could benefit from ES cell research?

Medical researchers believe that ES cells could provide cures for many currently incurable or common diseases and injuries, including diabetes, Parkinson's, MS, cancer, heart disease, ALS, sickle cell disease, spinal cord injury and dozens of other debilitating medical conditions. In fact, it is estimated that over 70 different diseases and injuries could benefit from ES cell research. (For more information, please visit the "Diseases and Injuries" page on our website at www.KansasCures.com/diseases.php.)

How many people suffer from diseases and injuries that could benefit from ES cell research?

It is estimated that the various medical conditions that could someday be cured or treated with ES cells currently afflict hundreds of thousands of Kansans and millions of other Americans – including a child, parent or grandparent in over half of all families. In fact, almost everyone has a family member or friends who could benefit from ES cell research.

How could ES cells be used to cure a disease or injury?

Most diseases and injuries involve defective or damaged cells and tissues. ES cells, or more specialized cells made from ES cells, could be transplanted into a patient's body, where they could regenerate or repair a patient's damaged cells or tissues. For

FOR MORE INFORMATION

FAQs about stem cells and stem cell research, prepared by the National Institutes of Health
<http://stemcells.nih.gov/info/faqs.asp>

FAQs about stem cells, prepared by the International Society for Stem Cell Research
<http://www.isscr.org/science/faq.htm#1>

FAQs about stem cell therapy, prepared by the Stem Cell Research Foundation
<http://www.stemcellresearchfoundation.org/About/FAQ.htm#1>

FAQs and background information, prepared by the Coalition for the Advancement of Medical Research
http://camr.ctsq.com/stem_cell_main.html

FAQs about stem cell research, prepared by the Juvenile Diabetes Research Foundation International
http://www.jdrf.org/index.cfm?page_id=102094

"Stem Cells 101," prepared by the University of Kansas Medical Center
<http://www.kumc.edu/stemcell/>

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example, recent research indicates that ES cells could: be used to cure Type I Diabetes by generating healthy new pancreatic cells; provide cures for cardiovascular diseases by restoring damaged regions of the heart; or, be used to regenerate healthy nerve and brain cells, potentially providing cures for diseases like Parkinson's and ALS. In addition to providing cures for diseases, ES cells could be used to treat various types of injuries, such as spinal cord injury. For example, in recent experiments, ES cell transplants have repaired damaged spinal cords in rats, allowing previously paralyzed rats to regain the ability to walk.

Are there other ways in which ES cell research could lead to new cures?

Yes. ES cell research involving SCNT has given medical researchers a method of growing cells that have the defects associated with a disease in a laboratory setting. This provides new ways to study how a disease progresses at the cellular level and to test the effectiveness of new drugs or other treatments that may cure or slow the progress of the disease.

Who supports ES cell research?

Because of the huge potential it offers to save lives and reduce human suffering, ES cell research is strongly supported by the overwhelming majority of medical researchers, including more than 60 Nobel Prize winning scientists; by many major medical organizations, like the American Medical Association; by dozens of disease foundations and patient groups, like the American Diabetes Association, Christopher Reeve Paralysis Foundation, Parkinson's Action Network, Juvenile Diabetes Research Foundation and National Coalition for Cancer Research (NCCR); and by leading patient advocates, like Michael J. Fox and Nancy Reagan. Public polls also show that the majority of Kansans and other Americans support ES cell research. (Examples of some recent polls are available online at www.KansasCures.com/publicpolls.php.)

Do supporters of ES cell research also support adult stem cell research?

Yes. Every type of stem cell has its own special characteristics and potential uses for curing different diseases and injuries. That's why the overwhelming majority of medical experts, medical organizations and patient advocacy groups – including the Kansas Coalition for Lifesaving Cures – agree that all types of stem cell research should be pursued in the effort to find lifesaving cures.

Are all types of ES cell research and cures legal in the United States?

Yes. The only federal limitations on stem cell research and cures are on the use of federal funds. Current federal policy limits federal funding for ES cell research to a limited number of existing stem cell lines derived from fertility clinic embryos. However, the U.S. Congress is now considering the Castle-DeGette bill. This bill, which has already been approved with bipartisan support by the House of Representatives, would allow federal funding to be used for research involving an expanded number of ES cell lines.

What are other states and countries doing in the field of ES cell research?

ES cell research is being actively pursued at medical research facilities in states throughout the country. Some states – such as California, New Jersey, Connecticut and Illinois – have recently passed legislation to support and encourage ES cell research. Researchers in many other countries that have advanced medical research facilities are also actively pursuing ES cell research, such as the United Kingdom, Canada, South Korea, Singapore, Japan, Sweden, India, Australia, Israel and Spain.

About Somatic Cell Nuclear Transfer

What is Somatic Cell Nuclear Transfer (SCNT)?

Somatic Cell Nuclear Transfer (SCNT) is a major new breakthrough in the field of stem cell research. SCNT is a process that allows medical researchers to use a cell from a patient's body and an unfertilized

human egg to make stem cells that could be put into the patient's body to cure a disease or injury by generating healthy new cells and tissues, such as heart, muscle or nerve cells.

What kinds of diseases and injuries could be cured by SCNT?

Medical researchers believe that SCNT could lead to cures for many currently incurable or common diseases and injuries, including diabetes, Parkinson's, MS, cancer, heart disease, ALS, sickle cell disease, spinal cord injury and dozens of other debilitating medical conditions.

How does SCNT make stem cells?

The specialized cells that make up our bodies – such as heart, muscle, skin and nerve cells – are called somatic cells. To make stem cells using the SCNT process, medical researchers take the nucleus from a patient's somatic cell, like a skin cell, and transfer it into an empty, unfertilized egg cell that has had its nucleus removed. This nuclear transfer essentially reprograms the nucleus from the patient's cell and causes it to produce unspecialized stem cells in a lab dish.

How could SCNT provide cures for diseases and injuries?

Most diseases and injuries involve defective or damaged cells and tissue. SCNT provides a way to make patient-specific stem cells that could be transplanted into a patient's body to generate the type of cells and tissues needed to cure the patient's disease or injury. For example, juvenile diabetes is caused by a lack of insulin-producing islet cells in the pancreas. SCNT could solve this problem by providing a way to generate healthy new islet cells. Many neurological diseases, such as Parkinson's and ALS, are caused by the loss or destruction of nerve cells. SCNT could be used to generate new nerve cells that could cure such diseases – and could someday be used to repair spinal cord injuries, allowing people who are paralyzed by accidents to walk again.

What advantages do SCNT stem cells have compared to other types of stem cells?

Because they will be made from a patient's own cell, stem cells made with the SCNT process will automatically be accepted by the patient's body. As a result, SCNT stem cells will avoid the need to find a genetically matching donor and the problem of immune system rejection – two limitations associated with both donated adult stem cells and early, or embryonic, stem cells from leftover fertility clinic blastocysts.

Who supports SCNT?

Because of its great potential to cure diseases and save lives, SCNT research is strongly supported by the overwhelming majority of medical researchers, including more than 60 Nobel Prize winning scientists; by many major medical organizations, like the American Medical Association; by dozens of disease foundations and patient groups, like the American Diabetes Association, Christopher Reeve Paralysis Foundation, Parkinson's Action Network, Juvenile Diabetes Research Foundation and National Coalition for Cancer Research (NCCR); and by leading patient advocates, like Michael J. Fox and Nancy Reagan. Public polls also show that the majority of Kansans and other Americans support SCNT. (Examples of some recent polls are available online at www.KansasCures.com/publicpolls.php.)

Is SCNT the same thing as human cloning?

No. The medical purpose of SCNT is to make lifesaving stem cells – not babies. Human cloning (which has never been done and may not even be scientifically possible) would involve creating a “duplicate” human being by implanting a cloned embryo into a woman's uterus to make a baby. Supporters of SCNT agree that any attempt at human cloning to create babies should be banned – and understand that human cloning is not the same thing as using SCNT to make stem cells that can cure diseases and save lives. SCNT is sometimes called “therapeutic cloning” because it will use a patient's own cell to make stem cells used for disease therapies. That is entirely different from “reproductive cloning” that uses cloning technology to create a duplicate animal or person.

Are the stem cells made with the SCNT process the same thing as an embryo?

No. The stem cells made with SCNT are a microscopic group of a few dozen undifferentiated cells in a lab dish. SCNT stem cells are made using a cell from a patient's own body and an empty, unfertilized egg. SCNT does not involve the fertilization of an egg by a sperm and its medical uses do not involve the implantation of a fertilized egg or anything else into a woman's uterus.