

LifeNOTES



Right to Life of Michigan Educational Fund

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Sacrificed without consent: Taking from the unborn, ending lives

What are stem cells and what is their potential?

Stem cells are the cells from which all other cells originate. In a human embryo, a large portion of the embryo's cells are stem cells. As the young child grows in her mother's womb, most of these cells begin to differentiate and become heart, liver, kidneys and all of the 210 kinds of tissue found in a human body¹. Even though most of these cells become differentiated, all humans retain some stem cells. Stem cells are incredibly versatile cells that can be replicated indefinitely. These cells, with the correct chemical cue, can develop into specialized cells which the body might need.

Most of the potential good such research may produce has revolved around the use of stem cells from human embryos, but there is also research being done on adult stem cells and stem cells from blood in the umbilical cord.

Since stem cells are so versatile and many diseases result from the lack of or dysfunction of a single type of cell, there is hope within the medical community that some day cells can be reprogrammed to cure various diseases. Some of the diseases include Parkinson's, diabetes, spinal cord injuries, and heart disease.

Where do stem cells come from?

There are many sources of stem cells. In adults, stem cells can be found in numerous kinds of tissues and organs including bone marrow, blood, fat, skin, the liver and the pancreas. Another ethical source of stem cells is the blood found in umbilical cords and placentas after birth. Stem cells removed from these sources don't harm the patient.

Despite the multiple sources of stem cells, most of the media's attention is focused on embryonic stem cells. These are cells that would eventually become a child's organs and tissues but are removed from a human embryo in the first week of life. When these cells are removed, a human embryo dies.

Advocates of embryonic stem cell research want to use embryos that have been frozen at fertility clinics as the main source of embryonic stem cells. These "leftover" embryos were conceived to bring about an in vitro fertilization pregnancy, but they were never implanted into a woman's womb. When a woman gets pregnant with in vitro fertilization and not all of the embryos are implanted, fertility clinics allow couples to destroy them, donate them to another couple or freeze them in case they want to give birth to another child at a later time. Most couples freeze their embryonic children.

Some scientists have gone a step further by creating embryos whose sole purpose is to be used for research while others hope to use cloning to create human embryos that can be killed for their stem cells.

Federal funding?

The National Institutes of Health (NIH) and the Department of Health and Human Services (DHHS) have determined that federal funds can now be legally used to support research on embryonic stem cells. On the surface, this decision appears to contradict the law. Passed in 1996, the "Dickey Amendment" states that federal funds can't be used for "research in which a human embryo or embryos are destroyed, discarded or knowingly subjected to risk of injury or death."

The NIH has avoided this law by using the DHHS's rationale that stem cells aren't embryos and research



Even though cloning was once considered science fiction, it became a reality on February 27, 1997. On this date, English scientists announced they had used the somatic cell nuclear transfer process to create a cloned sheep named Dolly. In this experiment it took 277 attempts at cell manipulation and 29 embryo implants before Dolly was born. This means that 276 sheep embryos, fetuses and newborns died to create a single sheep.

using stem cells is separated from the act of obtaining those stem cells by destroying an embryo. Currently, the NIH is stating that federal funds will not be used for the actual removal of the stem cells from the embryo (which kills the embryo). However, once stem cells are removed from the embryo, the NIH will provide federal funds².

The problem with these NIH guidelines is that in order to do research on embryonic stem cells, embryos have to be destroyed. There is no way of separating the two. By providing federal funds for research on embryonic stem cells, the NIH is promoting the destruction of innocent lives.

On August 9, 2001, President George W. Bush announced that he would allow federal funds to be used for research on the stem cell lines created before August 9, 2001. These stem cell lines were created from embryos that were destroyed before the president's decision. Right to Life of Michigan is opposed to any research that requires the intentional

destruction of human life. On the positive side, President Bush also announced that our government would allocate \$250 million to research involving stem cells from non-controversial sources and took a strong stand against human cloning.

Alternatives to Embryo Stem Cell Research

The argument about stem cell research is over scientists taking stem cells out of an embryo and effectively killing the child. This debate wouldn't exist if scientists would turn their focus from human embryonic stem cells to alternative methods of stem cell research.

The most promising of these alternative methods is the use of adult stem cells. Initially, adult stem cell research was not extensive because adult stem cells were thought to be less available and versatile; however, recent reports continue to show the usefulness of adult stem cells. The British Medical Journal has stated that research on embryonic stem cells "may soon be eclipsed by the more readily available and less controversial adult stem cells³." Adult bone marrow stem cells have been shown to form tissues including bone, muscle, fat, liver and neural cells⁴. British researchers found that stem cells from bone marrow in mice transformed into kidney cells and may provide a new method to treat kidney disease that could reduce the need for transplants⁵. Adult stem cells have already been used clinically while use of embryonic stem cells is still years away. It is also important to point out that adult stem cells taken from a person's own body don't face the risk of being rejected by the patient's body, unlike embryonic stem cells.

Proponents of embryonic stem cell research have tried to get around this problem by advocating "therapeutic cloning" where the patient is cloned, and then stem cells from the cloned embryo are removed and placed in the patient. Besides opening up doors for more ethical arguments, there might also be the possibility of side effects. Dr. Lorraine Young of the Roslin Institute in Scotland, a leading specialist in cloning, said there was a possibility that patients getting transplants of tissue created by embryonic cloning could get cancer. Cancer could develop if the

embryonic stem cells don't differentiate like they're supposed to⁶.

Another promising alternative to embryonic stem cell research that doesn't have ethical implications is research on stem cells found in the blood of umbilical cords. The small amount of blood found in umbilical cords after birth is rich in stem cells. There is a company called Viacord that collects and stores blood from umbilical cords for possible future stem cell uses within the family⁷. The Catholic University of Rome is another group working on storing umbilical cord blood so in the future there will be a large collection of stem cells available at short notice⁸.

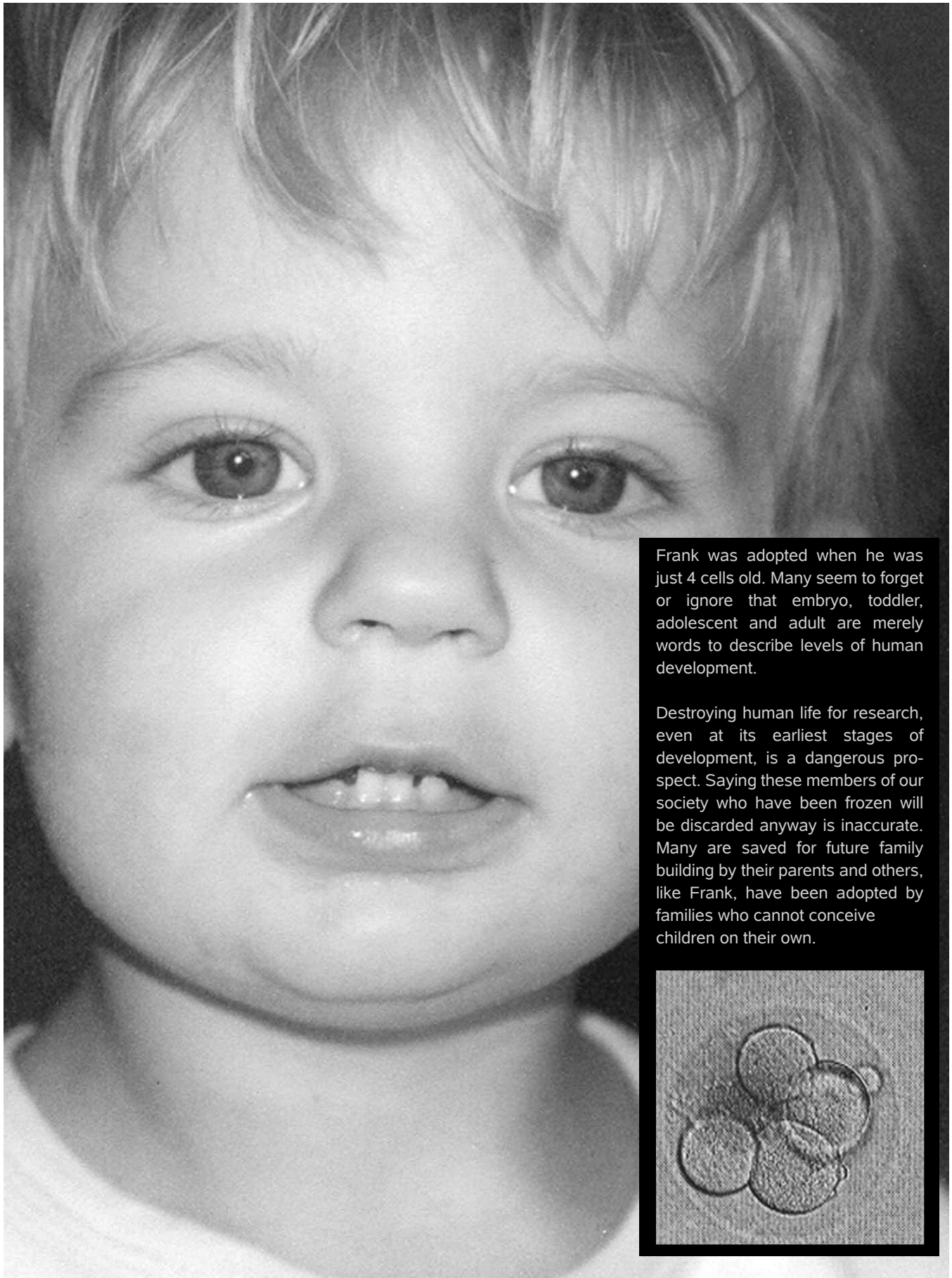
Polls on Stem Cell Research

A poll taken by International Communication Research in August of 2004 found that 47% of Americans oppose and 43% of Americans support using federal tax dollars to pay for embryonic stem cell research. The survey also found that 61% of Americans would prefer that their tax dollars be used on stem cell research using adult stem cells or other ways that do no harm to the donor. The survey also showed that Americans overwhelmingly oppose the use of human cloning to create human embryos for medical research by 80% to 13%. Unfortunately, many people do not understand many of the facts regarding stem cell research.

How Stem Cells from Adults and Umbilical Cords Have Helped

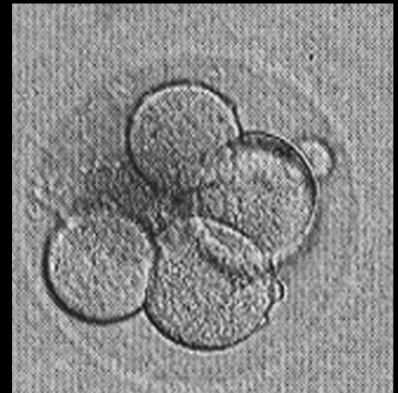
While some scientists talk about the potential of embryonic stem cells, stem cells from umbilical cords and adults are already helping people. Many of these stories aren't making the front page of newspapers or the evening news, but they are important breakthroughs for life-affirming research. Following is a list of breakthroughs in research involving types of stem cells that don't require innocent human life to be sacrificed:

- On July 10, 2001, the Detroit Free Press reported the story of a man who was diagnosed with leukemia in 1998 but received a cord blood transplant and has been living without leukemia. The June 14, 2001, issue of the New England



Frank was adopted when he was just 4 cells old. Many seem to forget or ignore that embryo, toddler, adolescent and adult are merely words to describe levels of human development.

Destroying human life for research, even at its earliest stages of development, is a dangerous prospect. Saying these members of our society who have been frozen will be discarded anyway is inaccurate. Many are saved for future family building by their parents and others, like Frank, have been adopted by families who cannot conceive children on their own.



Journal of Medicine published these results and the results of 17 other adults living without leukemia or lymphoma due to stem cells from umbilical cord blood.

- On April 9, 2002, the Washington Post reported on a man whose hand tremors and other symptoms of Parkinson's disease have largely stopped after stem cells were removed from his brain, cultivated, and then reinjected.
- On April 22, 2003, The Guardian reported that 14 people with severe heart failure were treated with their own stem cells and seem to be improving. The research, which took place in Brazil, included stem cells being removed from their bone marrow and then injected into the damaged parts of their hearts. "After two months, they had significantly less heart failure and less angina, and their hearts were able to pump more blood."
- On July 14, 2004, Susan Fajt and Laura Dominguez testified before Congress about how a transplant of stem cells from their olfactory sinus area has helped them walk with braces after being paralyzed in car accidents.

Killing Embryos for Research Banned in Michigan

Years before the debate over the federal funding of embryonic stem cell research hit the headlines, the state of Michigan passed a law that completely prohibits any research on live human embryos, fetuses or neonates. In 1978, Michigan passed PA368 or MCL (Michigan Compiled Law) 333.2685-2692. This law states that research cannot take place on an embryo if that research isn't designed to benefit the subject of the research (the embryo). Michigan and a handful of other states have laws that protect unborn children from the non-therapeutic research that is currently being debated. In Michigan, human embryo research is a felony punishable by imprisonment of up to 5 years.



Tom and Tina Harvey of Michigan adopted their son, Samuel, as a frozen embryo left over from another couples' attempts to conceive through in-vitro fertilization. Samuel is pictured here with his big sister, Alyssa.

In recent years, Michigan scientists have been analyzing non-destructive forms of stem cell research. A group of Michigan-based companies is working with adult stem cells in hopes of finding ways to cure some of today's deadliest diseases. The Associated Press reported that Aastrom Biosciences, located in Ann Arbor, has developed a system that lets researchers remove stem cells from bone marrow in order to grow more stem cells outside the body. Researchers are also using these bone marrow stem cells to grow bone cells to stop osteoporosis, working with stem cells from umbilical cord blood that could treat cancerous tumors through an immune system cell therapy, and a program has been developed so hospitals and other research centers can grow stem cells on their own.

The Option of Embryo Adoption

One of the main arguments behind embryonic stem cell research is that all of the embryos will be destroyed anyway. Why not use them to help cure diseases? Fortunately, these unique individuals don't need to die. A California-based adoption agency whose program, Snowflakes Embryo Adoption Program, allows infertile couples to adopt "leftover" embryos. Parents of three children who were adopted as embryos held a press conference in Washington, D.C., on July 16, 2001, to

show President Bush and members of Congress that “leftover” embryos can grow if given the chance.

Some believe that stem cells from embryos are human enough for research, but not human enough to join the human family. This logic defies the reality that life begins at conception, a truth some researchers and politicians would like to ignore.

Ethical Issue

One of the most important issues in the debate over stem cell research is the ethics involved. Taking the life of a human being at any stage in development for research is ethically wrong. The embryos that are being destroyed are more than just tissue. These unborn children already have the genetic blueprint that they will have for the rest of their lives. The stem cells that are taken from them would have eventually developed into, among other things, their heart, brain, liver, and kidneys.

Even though this research could be helpful, it is still never ethically correct to sacrifice the life of one human to save another without their consent. This kind of utilitarian thinking was the same kind of rationale used by Nazi scientists and during syphilis experiments on African-Americans in Tuskegee, Alabama. Medical advancement should continue but not through the taking of human life. No human being should be forced to be made the subject of research

without their permission, especially if that research leads directly to their destruction. Even death row inmates cannot be experimented on or have their organs removed without their consent.

Proponents of embryonic stem cell research often cite all the potentials of the research but usually fail to mention that a human life is destroyed every time stem cells are removed from an embryo. The goals of this research are noble, but that doesn't mean that we should abandon our respect for human life to attain these goals. Embryonic stem cell research is a case where the end doesn't justify the means. The possibilities for stem cell research are enormous; however, we should focus on the options that protect and acknowledge all human life, not just some of it.

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