

# LifeNotes

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## Sacrificed without consent: Taking from the unborn, ending lives

Right to Life of Michigan is opposed to research which destroys a developing human being. When stem cells are removed from human embryos, a unique individual dies. It's an undeniable truth that human life begins at fertilization. This fact sheet on stem cell research contains information about stem cells and their potential. It also describes the current legal situation regarding human embryonic stem cell research and federal funding, as well as information about ethical alternatives such as research on adult stem cells and blood from the umbilical cord which have provided actual treatments to patients.

### 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 the heart, liver, kidneys and all of the 210 kinds of tissue found in a human body.<sup>1</sup> 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, given the correct cues, 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, stem cells from umbilical cord blood, and induced pluripotent stem cells.

Since stem cells are so versatile and there are many diseases that result from the lack of or dysfunction of a single type of cell, there is hope within the medical community that

someday cells can be reprogrammed to cure various diseases. Some of these diseases include Parkinson's, diabetes, spinal cord injuries, and heart disease.

There are many sources for 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 even baby teeth.<sup>2</sup> 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 these multiple sources of stem cells, most of the media's attention is focused on embryonic stem cells.<sup>3</sup> 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 for human 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 their mother’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 to save them for later birth attempts.<sup>4</sup>

## **FEDERAL FUNDING OF HUMAN EMBRYONIC STEM CELL RESEARCH**

In August 2000, the National Institutes of Health (NIH) and the Department of Health and Human Services (DHHS) determined that federal funds could be legally used to support research on human embryonic stem cells, despite a federal law forbidding federal funding of research that destroys human embryos. Passed in 1996, the Dickey-Wicker 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 avoided this law by using the DHHS’s rationale that stem cells aren’t embryos, so research using stem cells is separated from the act of obtaining those stem cells by destroying an embryo. The NIH stated that federal funds would 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 would provide federal funds.

The problem with the 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.

The language of the Dickey-Wicker Amendment is obviously intended to cover more than just research whose only purpose is the destruction of embryos. The language of the law implies that research where an embryo will be destroyed, including cases where this destruction will occur in order for the research to take place, should not receive federal funds.

Before any federal funding began, President George W. Bush sought a compromise soon after his election. On August 9, 2001, he announced that he would allow federal funds for the first time to be used for human embryonic stem

cell research, but only on cell lines created before August 9, 2001. These stem cell lines were created from embryos that were destroyed before the president’s decision. On the positive side, President Bush also announced that he would allocate \$250 million to research involving stem cells from non-controversial sources and took a strong stand against all forms of human cloning.

Shortly after taking office, President Barack Obama issued an executive order on March 9, 2009, to remove President Bush’s funding restrictions and allow the federal government to fund research on human embryonic stem cells as long as the cell lines were taken from human embryos created by in vitro fertilization for reproductive purposes and were donated by their parents. The Dickey-Wicker Amendment is still on the books, but its original intent continues to be violated.

## **ALTERNATIVES TO HUMAN EMBRYO RESEARCH**

The search for treatments and cures need not include the destruction of innocent, vulnerable human embryos. Stem cell research can move forward because alternatives to human embryonic stem cells exist.

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. Adult stem cells have been shown to form different tissues, including muscle, fat, cartilage and bone.<sup>5</sup> American and Brazilian researchers were able to use bone marrow stem cells to help 20 of 23 type-1 diabetic patients become insulin-free for a period of time.<sup>6</sup> Adult stem cells have already been used clinically while embryonic stem cells have yet to cure a single patient. 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 immune system, unlike embryonic stem cells.<sup>7</sup>

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 transplanted.<sup>8</sup>

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. Private companies and some states have cord blood banks where the stem cells can be saved

for future use. Michigan Blood operates a public cord blood bank where anyone can easily donate cord blood as a part of the birthing process.

Despite ethical alternatives, many researchers still insist that embryonic stem cells are superior because they can turn into any cell in the human body. Another alternative allows all of the supposed benefits of embryonic stem cells without destroying human life. Induced pluripotent stem cells (iPS cells) are ordinary human skin cells that have been reverted back to an embryonic-like state by genetic reprogramming. Creating iPS cells does not harm the patient and requires no destruction of human life.<sup>9</sup>

These cells are pluripotent, like those taken from destroyed human embryos, which means they have the potential to change into any type of tissue in the body. The original process for making iPS cells was discovered in November of 2007 and experiments are ongoing.

Like embryonic stem cells, iPS cells might share their risk of becoming cancer cells if they don't differentiate and grow properly. Another avenue of research being worked on is direct cell reprogramming, where scientists change a cell type without having to go through a stem cell stage, for example turning skin cells directly into blood cells.<sup>10</sup>

#### **HOW ETHICAL STEM CELL RESEARCH HAS HELPED**

While some scientists talk about the potential of embryonic stem cells, stem cells from umbilical cords and adults are already helping people. Many stories about ethical stem cell treatments aren't widely discussed or make the national evening news but they are important breakthroughs for life-affirming research. Following is a list of just recent breakthroughs in research involving types of stem cells that don't require innocent human life to be sacrificed:

- On October 2, 2018, Science Daily reported that umbilical cord blood stem cells were used in a surgery on an infant with a cleft lip and palate. When the baby was born, doctors saved a sample of the infant's umbilical cord blood. When the infant was five months, the stem cells were placed in a pocket of soft tissue bridging the gap in the upper jaw. Follow-up confirmed formation of new bone that closed the cleft palate.
- On September 13, 2018, TIME Magazine reported that a newborn baby's life was saved by a stem cell transplant in utero. The infant was diagnosed in an ultrasound with alpha thalassemia, a life-threatening blood disorder. The parents were told that the stem cell transplant was risky, but without it the infant

might not live till birth. The parents chose the in-utero procedure, and the mother donated stem cells from her bone marrow to her baby. The baby lived, and was born healthy. Though she still needs frequent blood transfusions, the doctors hope that the need for these will be eliminated.

- On April 4, 2018, CTV News reported that Revée Agyepong was the first recorded adult in Canada to be cured of sickle cell disease through a stem cell transplant. Sickle cell disease is a genetic condition in the blood which makes red blood cells unable to properly carry oxygen through the body. Through a bone marrow transplant donated by her sister, Agyepong appears to be cured of the disease.
- On May 21, 2015, FOX News reported that 29 stroke patients who received their own bone marrow stem cells were noted to recover motor skills and speech. The study showed that it is safe to inject the bone marrow stem cells directly by catheter through the carotid artery.
- On June 2, 2014, the Providence Journal in Rhode Island reported the stories of several people whose lives were saved by bone marrow stem cell treatments for their leukemia from marrow donors. The stories included a retired police officer who received his transplant in 2011, and another man who received his transplant in 1998 after chemotherapy and a relapse.

#### **KILLING EMBRYOS FOR RESEARCH LEGAL IN MICHIGAN**

In 2008, Michigan voters passed Proposal 2 by a margin of 53% to 47%. Proposal 2 was a ballot initiative which amended the Michigan Constitution to allow the killing of and research on human embryos who were created for fertility treatments. The language in Proposal 2 also deters legislation which would "prevent, restrict, obstruct, or discourage" or "create disincentives" for individuals who want to perform research on human embryos. Proposal 2 was supported by embryonic stem cell researchers in Michigan because, prior to Proposal 2, a 1978 law outlawed research on human embryos if that research wasn't designed to benefit the subject of the research (the embryo).

#### **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. Nightlight Christian Adoptions, a California-based adoption agency has a program called Snowflakes Embryo Adoption that allows couples to adopt "leftover" embryos. Parents of children

who were adopted as embryos held a press conference in Washington, D.C., on March 9, 2009, to show President Obama and members of Congress that “leftover” embryos can grow if given the chance.

According to the Snowflakes Embryo Adoption program, there have been almost 600 children born who were adopted through their program. Snowflakes is one of several adoption programs which facilitates embryo adoption. 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.

### THE ETHICS OF EMBRYONIC STEM CELL RESEARCH

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 are alive and 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 hearts, brains, livers, and kidneys.

It is 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 or 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 of the potentials of the research but usually fail to mention that a human life is destroyed when 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 ends don'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.

#### REFERENCES:

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