

Umbilical Cord Blood

Human life must be respected and protected absolutely from the moment of conception. From the first moment of his existence, a human being must be recognized as having the rights of a person - among which is the inviolable right of every innocent being to life. Since it must be treated from conception as a person, the embryo must be defended in its integrity, cared for, and healed, as far as possible, like any other human being. (*Catechism of the Catholic Church, 2270, 2274*)

Church teaching

- ★ Umbilical cord blood stem cells have successfully treated thousands of patients with dozens of diseases. They also exhibit properties once associated chiefly with embryonic stem cells: They grow rapidly in culture, producing enough cells to be clinically useful in both children and adults; they can treat patients who are not an exact genetic match, without being rejected as foreign tissue; and they seem able to produce a wide array of different cell types. (*Cardinal William Keeler, Chairman, Committee for Pro-Life Activities, U.S. Conference of Catholic Bishops*)
- ★ Respect of the dignity of the human being excludes all experimental manipulation or exploitation of the human embryo. (*Pontifical Council for the Family, Charter of the Rights of the Family*)
- ★ Embryonic stem cell research raises grave moral objections because it requires the destruction of human life, and its possible use in future treatments remains a speculation. By contrast, area of stem cell research and treatment is indisputably acceptable on moral grounds and remarkably promising in terms of clinical benefits: The use of umbilical cord blood retrieved immediately after live births. (*Cardinal William Keeler, Chairman, Committee for Pro-Life Activities, U.S. Conference of Catholic Bishops*)
- ★ Let us be clear—we are not opposed to stem cell research, only that stem cell research that kills human embryos. We fully support adult stem cell research since it does not take the life of the donor and we ask our legislature to help these morally acceptable efforts. (*Catholic Bishops of Texas, Statement on Human Embryos and Human Cloning, May 23, 2005*)

Resources

- ★ **Texas Catholic Conference** Stem Cell Research page (www.TXcatholic.org/ESCR.asp)
- ★ **US Conference of Catholic Bishops** Stem Cell page (www.USCCB.org/prolife/issues/bioethic/)
- ★ **Texas Cord Blood Bank** (www.BloodnTissue.org)
- ★ **National Catholic Bioethics Center** The NCBC conducts research, consultation, publishing and education to promote human dignity in health care and the life sciences, and derives its message directly from the teachings of the Catholic Church (www.NCBCenter.org)
- ★ **Pontifical Academy for Life** The Pontifical Academy for Life was established to study and to provide information and training about the principal problems of law and biomedicine pertaining to the promotion and protection of life, especially in the direct relationship they have with Christian morality and the directives of the Church's Magisterium (www.AcademiaVita.org)

(Last updated August 5, 2008)

The Texas Catholic Conference (TCC) is the association of the 15 Roman Catholic dioceses of the State of Texas, and is the Official Public Policy Voice of the Catholic Bishops of Texas.

Umbilical Cord Blood

"A team of Texas and British researchers says it has produced large amounts of embryonic-like stem cells from umbilical cord blood, potentially ending the ethical debate affecting stem-cell research – the need to kill human embryos. The international researchers said the cells – called cord-blood-derived-embryonic-like stem cells, or CBEs – have the ability to turn into any kind of body tissue, like embryonic stem cells do, and can be mass-produced using technology derived from NASA....Scientists believe the ability to replicate tissue could lead to the development of ways to replace organs as well as treat life-threatening diseases such as diabetes, Alzheimer's and Parkinson's, which have been the focus of stem-cell research."

- J. Price, "Advance made in stem-cell debate," The Washington Times, August 20, 2005

What is [Umbilical] cord blood?ⁱ Cord blood is the blood that remains in the placenta after a baby is born. Cord blood has been found to be a rich source of stem cells and is currently being used as an alternative to bone marrow in treating a number of life-threatening diseases.

Benefits of cord blood:

- There is no risk to the donor.
- Since cord blood immune cells are less mature, they are more easily accepted by the patient when used in transplantation. As a result, patients with a less than perfect immune match can now be treated.
- There are fewer immune complications after transplantation.
- Since cord blood is banked and ready to use, it is immediately available when a patient needs it.

Catholic Church supports most stem cell research, which uses cells obtained from adult tissue, **umbilical cord blood**, and other sources that pose no moral problem. Useful stem cells have been found in bone marrow, blood, muscle, fat, nerves, and even in the pulp of baby teeth. Some of these cells are already being used to treat people with a wide variety of diseases.ⁱⁱ

Can stem cells be stored in a bank? Yes, like donated blood or bone marrow, they can be frozen and banked. In 2003, for example, Congress approved funds to help create a nationwide **umbilical cord blood stem cell bank**, in light of the many clinical benefits being discovered from these cells now usually discarded after live births. Many of the embryonic stem cell samples eligible for federally funded research under the current policy also remain frozen in banks, to be thawed and turned into stem cell lines when needed.

What are the advantages of harvesting donor cells from the intended recipient of the stem cell therapy? Because these cells come from the patient, they are an exact match and will not be rejected by the body as foreign tissue. Also, because no foreign substance is placed in the body, there are fewer regulatory barriers to their medical use.

Who is funding stem cell research? What role is federal funding playing in determining research priorities? Many private foundations and for-profit biotechnology companies fund stem cell research, but the federal government (especially through the National Institutes of Health) remains the largest source of funds. The government's funding priorities have a large influence on the direction that medical research takes.

In 2001 the Texas Legislature created The Texas Cord Blood Bank to establish a statewide cord blood bank. The Bank is a division of the South Texas Blood & Tissue Center in San Antonio.

ⁱ "Texas Cord Blood Bank." South Texas Blood & Tissue Center. <<http://bloodntissue.org/texascordbloodbank.asp>>.

ⁱⁱ "Stem Research and Human Cloning: Questions and Answers." Pro-Life Activities. U.S. Conference of Catholic Bishops. <<http://www.usccb.org/prolife/issues/bioethic>>.