

STEM CELL RESEARCH

MEDIA MYTHS IN THE DEBATE OVER STEM-CELL RESEARCH

by Father Tadeusz Pacholczyk

(With a doctorate in neuroscience from Yale and having done post-doctoral research at Massachusetts General Hospital, connected to Harvard Medical School, Fr. Tad, as he is known, is one of the church's top bioethicists.)

Note to Parish Bulletin Coordinator: Fr. Tad's Media Myths can be run one at a time in parish bulletins, either weekly or monthly. It would be preferable to feature the Myths in a special section. Have fun and be creative!

Myth 1 - Stem cells come only from embryos

The body has 220 different stem-cell types that can be extracted from nearly every part of the body including eyes, spinal cord, blood, brain, skin, and muscle. In most cases, stem cells can be extracted without harming the individual. Bone marrow transplants, for example, utilize stem cells.

Myth 2 - The church is against stem-cell research

The church has no problem with stem cell research when the stem cells are taken from adults, umbilical cords, or miscarriages. But, the church is against standard embryonic stem-cell research. Embryonic stem cells come from embryos that are about five to seven days old. The only way to extract the stem cells located in the inner mass of the embryo will kill the newly formed human being.

Myth 3 - Embryonic stem-cell research shows the most promise

Research using adult stem cells is 20 to 30 years ahead of embryonic stem cell research and actually holds greater promise. There are approximately 98 different diseases that can be treated using umbilical cord and adult stem cells. Currently, there is no scientific evidence where embryonic stem cells have been used successfully in animal trials. Embryonic stem cells actually end up generating tumors in the animals and do not assimilate into the body.

Myth 4 - Embryonic stem--cell research is against the law

There is currently no law or regulation against destroying human embryos for research purposes. While President George W. Bush banned the use of federal funding to support research on embryonic stem cells created after August 2001, it is not illegal. Anyone using private funds is free to pursue it.

Myth 5 - President Bush created new restrictions to federal funding of embryonic stem-cell research

In 1996, under President Bill Clinton, the Dickey Amendment prohibited the use of federal funds that would involve the destruction of embryos. President Bush's decision actually liberalized the law and permitted federal research on embryonic stem cell lines created before a certain date.

Myth 6 - Therapeutic cloning and reproductive cloning are fundamentally different

One creates an embryo to be used for research purposes, the other creates an embryo for having a baby. You use the same steps for each. The **reproductive** cloning process is still unstable. It took 230 attempts for us to get Dolly (the first

ever cloned sheep). There is a high rate of abnormalities and most die during gestation and right after birth.

Therapeutic cloning is cloning for tissue research. The procedure is the same until after the human embryo begins to develop. Rather than placing it in the uterus, it is destroyed.

Neither practice is condoned by the church.

Myth 7 - Somatic cell nuclear transfer (SCNT) is different from cloning

In some news programs scientists have made the claim that somatic cell nuclear transfer isn't the same as cloning but this is **not true**. You're taking the nucleus from the cell and transferring it into the egg; it's the same thing as cloning.

Myth 8 - By doing somatic cell nuclear transfer, we can directly produce tissues or organs without having to clone an embryo

In current research we cannot make tissues and organs directly. We must always first clone an embryo and then destroy it for tissue.

Myth 9 - Every body cell, or somatic cell, is somehow an embryo and thus a human life

Some people argue that every cell in the body has the potential to become an embryo so does that mean every time we wash our hands and are shedding thousands of cells we are killing life?

Such an argument overlooks the basic difference between a regular body cell and one whose nuclear material has been fused with an unfertilized egg cell resulting in an embryo. Skin cells will give rise to more skin cells when it divides, while an embryo will give rise to the entire adult organism.

Myth 10 - Because frozen embryos may one day end up being discarded by somebody that makes it allowable, even laudable, to violate and destroy those embryos

Embryonic inviolability doesn't hinge on whether the embryo is trapped in liquid nitrogen or not (reference to the process in which embryos are frozen for use in *in vitro* fertilization).

An analogy would be children permanently trapped in a schoolhouse through no fault of their own; that would not make it morally acceptable to send in a remote control robotic device which would harvest organs from those children and cause their demise.