



## **BIOTECHNOLOGY: FINDING CURES WE ALL CAN LIVE WITH**

### **INTRODUCTION**

The monumental leaps that medical science has taken in recent years have in many ways outpaced efforts to comprehend the moral and ethical implications of these new technologies. Biotechnology, in particular, is forging new paths in genetic engineering and manipulation of human cell development and growth. Discoveries in this area have forced consideration of moral and ethical questions regarding, for example, the privacy of genetic information, the potential to “bio-engineer” for desirable human traits, and human cloning.

In the midst of these concerns stands a fundamental question regarding the means by which those engaged in biotechnology conduct their research. In order to obtain material for research and treatments, scientists may use animal and/or human cells and tissue. Human cells may be obtained from adult subjects and also fetal tissue, obtained sometimes as the result of abortion, and human embryos.

Due, in part, to the work of scientists at the University of Wisconsin, there is currently great interest in the potential of embryonic stem cells. Moreover, the Governor in his recent budget address proposed making our state one of the nation’s leaders in biotechnology, including in the area of embryonic stem cell research. While the desire to help the state’s economy is laudable, the means by which this is achieved raise serious ethical concerns.

### **What are stem cells?**

A stem cell is basically an unspecialized or “parent” cell that has the potential to divide into more stem cells or develop into more specialized cells that form into one of the many components of the human body (blood, bone, muscle, etc.). Stem cells may be derived from a variety of sources including embryos, adult human tissues, and umbilical cord blood. The regenerative capacity of stem cells makes them very attractive to researchers working on treatments and cures for a wide range of diseases and conditions.

Some scientists favor research on embryonic stem cells, believing that they are the most versatile of stem cells, with the greatest capacity to differentiate into different human tissues. However, in order to obtain embryonic stem cells for research, the embryo in which they are developing must be destroyed.

### **APPLYING THE PRINCIPLES OF CATHOLIC SOCIAL TEACHING**

**Human Life is Sacred at All Stages.** Human life is sacred, even life at the earliest stages of development. As such it must be respected and protected. When embryonic stem cell research treats embryos as *things*; things that people own and have the power to either keep, destroy, or donate to science, the sacredness of life is undermined.

**The Ends Do Not Justify the Means.** Catholic teaching regards science and technology as valuable tools that can serve noble ends – such as curing disease, feeding the hungry, and furthering life in many other ways. As such they should be respected and encouraged. However, Catholic teaching has consistently rejected experimentation that exploits or endangers human life. We Catholics also reject the notion that some lives may be deemed less valuable and therefore can be sacrificed to benefit the rest of us.

Embryonic stem cells may well provide some opportunities and some answers, but the ends do not justify the means. If it is not objectionable to destroy donated or discarded embryos for research, then should we object to the formation of embryos solely for the purpose of research? What about cloning an individual in order to obtain a perfect cell match?

**Alternatives Are Available.** Stem cells taken from various sources, including adults and umbilical cord blood, avoid the ethical dilemmas that embryonic stem cells present. Indeed, scientists have found that the sources for adult stem cells in the tissues of the human body are far more numerous than originally thought. In addition, patients may serve as their own adult stem cell donor, thereby effectively eliminating the significant risk of immune system rejection. Nearly 60 different conditions have been successfully treated with adult stem cell therapies, while no human subjects have yet benefited from embryonic stem cell treatments.

Advances in the ability to cure and treat life threatening and debilitating illnesses should be encouraged, however, research that proposes to advance some human lives at the expense of other human lives should be resisted.

### **ACTION REQUESTED**

Urge legislators to consider the following as they seek to support policies that best serve the inherent dignity of the human person and the common good:

- Science and technology are great gifts. We are not opposed to the advancement of knowledge, but we do not advance as a society if knowledge is gained through the destruction of our humanity.
- Support legislation that would prohibit research that relies on the termination of the life of unborn children. This would include research using stem cells obtained from embryos and fetuses obtained through abortion.
- Public money should not support scientific experimentation that relies on the termination of embryonic or fetal life. All efforts in the Governor's budget to promote the University of Wisconsin as a public institution on the cutting-edge of biotechnology should focus on benefiting human life and not simply on being the best or first research center.
- Adult stem cells and cells obtained from umbilical cord blood are current examples of viable, ethical alternatives to embryonic stem cells. Research into promising treatments will therefore continue even if we prohibit the destruction of embryos.

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