

## The Ethicist

# Jack Coulehan

“The strongest moral position is that the embryo is a fully human person.... At the opposite pole, an embryo may be considered solely from an instrumental perspective as having essentially no moral standing.”

The first step in analyzing an ethical issue is to get the facts straight. The second step is to clarify the question. Unfortunately, much of the ethical discourse about stem cell research in the United States today skips these steps of the reasoning process and jumps immediately to a bottom-line position, usually couched in impressive terms like *rights*, *dignity*, *sacred*, *person*, and *natural*. This approach tends to create provocative sound bites but makes little or no progress toward responsible public policy. I want to concentrate first on the facts and the issue, which provide a basis for

discussion, and then elaborate on the moral territory in which stem cell research belongs.

When we say “stem cells” in this context, what are we speaking about? We are neither talking about bone marrow stem cells, which can differentiate into many different types of blood cells, nor about fetal cells from the umbilical cord, which may be able to differentiate into a wide variety of tissues. There are active research programs in both of these areas, looking into the potential for use in treating disease. One practical result, of course, has been the emergence of bone marrow transplantation. The use of these pluripotent stem cells, which may turn into many different types of cells, is not ethically problematic. Rather, the current controversy surrounds totipotent cells that come only from embryos. These cells eventually differentiate into every organ and tissue in the human body. If that potential could be harnessed, we would be able to use them to regenerate tissue severely damaged by disease; for example, specific types of nerve cells to treat degenerative diseases of the brain. It was in 1998 that researchers at the University of Wisconsin first developed methods of identifying and isolating embryonic stem cells, so the possibility of this type of research has only been around for about six years. In that time it has generated a lot of excitement and some progress, but there have been no practical results.

Thus far, most stem cell research has taken place outside the United States in countries like England, Canada, Belgium, China, Singapore, and Korea. In 2001, President Bush severely compromised our research programs in the United States by limiting federal funding exclusively to projects that utilized already established stem cell lines. At the time the President said there were 66 of these cell lines, but in fact far fewer of them existed, and many of these were unavailable to American scientists. The reason, of course, for the partial ban on federal funding was the Administration’s unwillingness to support programs that, in its opinion, encourage abortion.

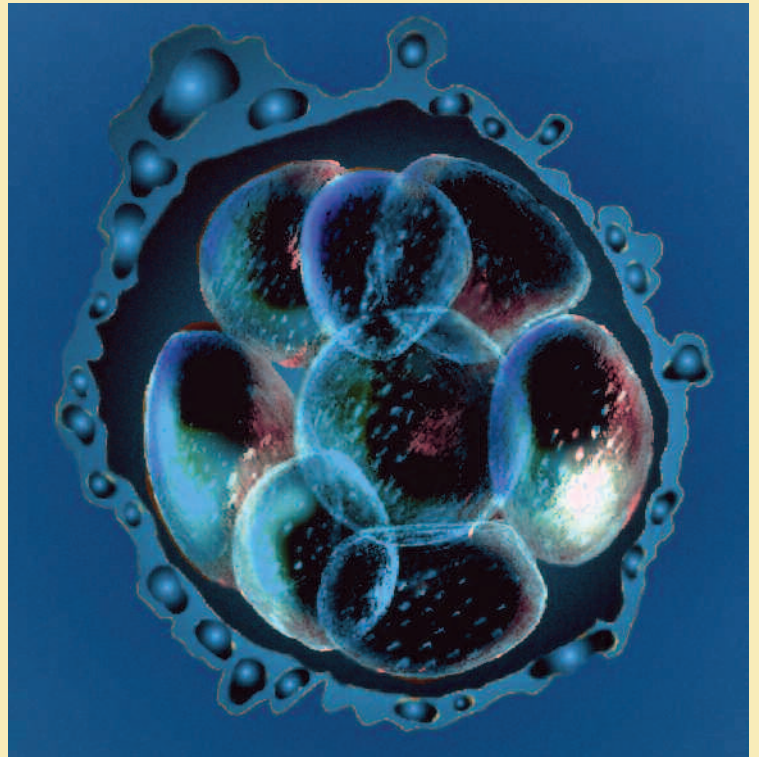
This raises the question of where stem cell researchers obtain embryos. The specter of aborted fetuses generates a great deal of moral indignation. However, for the most part such fetuses—whether miscarried or electively aborted—could not serve as totipotent stem cell sources, since tissues and organs are already differentiated. In fact, the best source of stem cells is embryos in the blastocyst stage; i.e., clumps of approximately eight or 16 cells. There are hundreds of thousands of such embryos available in this country, created by *in vitro* fer-

tilization (IVF), and frozen, but not implanted, in the woman’s uterus. Frozen embryos are maintained for varying periods of time but are eventually destroyed. Thousands are destroyed every year. Such embryos could be utilized for stem cell research.

Another source of embryos for research is cloning. Although we have hundreds of thousands of naturally cloned human beings living among us (identical twins), the concept of artificially inducing the cloning process raises many irrational fears as well as significant moral questions, which require thoughtful consideration. However, stem cell research and cloning are separate issues.

Now we get to the locus of contention—what is the moral status of an embryo in the unimplanted, blastocyst stage? Clearly, we are dealing with an entity unknown in the past which, therefore, does not fit easily into traditional moral categories. The strongest moral position is that the embryo is a fully human person. Hence, it is entitled to all the rights and respect given to babies. This is the consistent position of the Catholic Church, which teaches that personhood begins at conception. At the opposite pole of the moral spectrum, an embryo may be considered solely from an instrumental perspective as having essentially no moral standing. This is the view held by Professor Peter Singer, a thoroughgoing utilitarian philosopher who believes that personhood begins only with the onset of fully human consciousness, somewhere around the end of the first year of life.

While positions like these delimit the territory, there is obviously an enormous range of principled positions between the extremes. No one would disagree that a blastocyst contains the genetic machinery necessary to develop into a person; it is at least a potential person. However, most would also acknowledge that, at present, such an embryo lacks any of the characteristic (detectable, at least) attributes



The best source of stem cells is embryos in the blastocyst stage—eight or 16 cells.

of personhood. Hence, it seems reasonable to accord the embryo some respect, as a living entity out of which human dignity eventually develops, yet not to insist that the embryo is somehow a person in itself.

Just how much respect should we bestow the blastocyst, and how does that impact on stem cell research? I suggest three considerations that are important in helping us evaluate the moral status of embryos:

First, embryos produced by IVF techniques, yet remaining outside the uterus, may well be different in their moral status from implanted embryos. The process of development requires complex interaction between mother and fetus. The uterus is not simply a vessel in which the fetus grows, but rather part of a unified fetus-placenta-mother system that ultimately leads to the birth of a new person. Thus, the genetic blueprint is necessary but not sufficient for development of personhood. Frozen embryos, or “fresh” embryos created by IVF, are not “potential persons” to the same extent, or in the same way, as normally or artificially implanted embryos. If that is true, it would be ethical to use externally created embryos for stem cell research but not ethical to induce abortion for the same purpose.

The second consideration has to do with consistency. The Catholic Church has a consistent position that states it is immoral to fertilize eggs (and hence create embryos) outside the woman’s body. Therefore, IVF and most other forms of assisted reproduction are intrinsically immoral. If an embryo is formed, it must be considered a person. Consequently, allowing frozen embryos to die—whether they are used for stem cell research or not—is wrong. I don’t agree with this analysis, but I admire its consistency. On the other hand, many people who believe that assisted reproduction is good and see no problem with killing extra embryos will argue against using embryonic cells for stem cell research. This is inconsistent and does not hold up under scrutiny.

Finally, some writers have recently argued that the United States needs to get its act together and start funding stem cell research because otherwise we will slip far behind and eventually have to purchase leading-edge treatments (derived from stem cells) from foreign countries. While this is likely to be true, I don’t think the argument has moral bite. If countries like England and Canada develop sophisticated new therapies by manipulating stem cells, which we consider an immoral form of research, it is not morally consistent to say that we want to benefit by eating the fruit of that poisoned tree. Of course, the persons urging us to keep up with the Brits do not think stem cell research is unethical, but I can easily imagine many Americans now opposed to such research changing their minds as soon as an effective stem cell treatment for a serious degenerative disease develops.

What lies in the future for embryonic stem cell research? At this point we have no idea. It is very early in the game, which makes it exciting because of all the possibilities. Yet, who knows whether any of them will pan out? One thing is certain. Research employing human blastocysts raises important ethical concerns and ought to be carefully regulated. Thoughtful analysis of the level of respect due to embryos ought to be the first step in developing our national policy. n

Jack Coulehan, M.D., Masters in Public Health, Professor of Preventive Medicine at Stony Brook, is the Director of the Institute for Medicine in Contemporary Society. He is the author of numerous articles dealing with ethical issues in medicine. Recent books include *Medicine Stone* (2002) and *Chekhov’s Doctors: A Collection of Chekhov’s Medical Tales* (2003).