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MARCH 17, 2014

# STEM CELL ETHICS

**1** The Bioethics of Stem Cell Research and Therapy

STEM CELLS: SCIENCE AND SOCIETY





# THE BIOETHICS OF STEM CELL RESEARCH AND THERAPY

*Insoo Hyun, Jan 4 2010*

**\*Please Read “The Bioethics of Stem Cell Research and Therapy” Article by Following the Hyper-Linked Text above or by Copying the Address below the Abstract for the Quiz. The Additional Article “Risk Factors in the Development of Stem Cell Therapy” below is Optional.**

## Abstract

Discussion of the bioethics of human stem cell research has transitioned from controversies over the source of human embryonic stem cells to concerns about the ethical use of stem cells in basic and clinical research. Key areas in this evolving ethical discourse include the derivation and use of other human embryonic stem cell–like stem cells that have the capacity to differentiate into all types of human tissue and the use of all types of stem cells in clinical research. Each of these issues is discussed as I summarize the past, present, and future bioethical issues in stem cell research.

The main bioethical issues associated with human stem cells involve their derivation and use for research. Although there are interesting ethical issues surrounding the collection and use of somatic (adult) stem cells from aborted fetuses and umbilical cord blood, the most intense controversy to date has focused on the source of human embryonic stem (hES) cells. At present, new ethical issues are beginning to emerge around the derivation and use of other hES cell–like stem cells that have the capacity to differentiate into all types of human tissue. In the near future, as the stem cell field progresses closer to the clinic, additional ethical issues are likely to arise concerning the clinical translation of basic stem cell knowledge into reasonably safe, effective, and accessible patient therapies. This Review summarizes these and other bioethical issues of the past, present, and future of stem cell research.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2798696/>

## Risk Factors in the Development of Stem Cell Therapy

*Carla A Herberts, Marcel SG Kwa and Harm PH Hermsen*

Stem cell therapy holds the promise to treat degenerative diseases, cancer and repair of damaged tissues for which there are currently no or limited therapeutic options. The potential of stem cell therapies has long been recognised and the creation of induced pluripotent stem cells (iPSC) has boosted the stem cell field leading to increasing development and scientific knowledge. Despite the clinical potential of stem cell based medicinal products there are also potential and unanticipated risks. These risks deserve a thorough discussion within the perspective of current scientific knowledge and experience. Evaluation of potential risks should be a prerequisite step before clinical use of stem cell based medicinal products.

<http://www.ncbi.nlm.nih.gov/pubmed/17717515>