

## Stem Cell Debate Literatures

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**Abstract:** The stem cell is the origin of an organism's life that has the potential to develop into many different types of cells in life bodies. In many tissues stem cells serve as a sort of internal repair system, dividing essentially without limit to replenish other cells as long as the person or animal is still alive. When a stem cell divides, each new cell has the potential either to remain a stem cell or become another type of cell with a more specialized function, such as a red blood cell or a brain cell. This article introduces recent research reports in the stem cell debates as references.

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### 1. Introduction

The stem cell is the origin of an organism's life that has the potential to develop into many different types of cells in life bodies. In many tissues stem cells serve as a sort of internal repair system, dividing essentially without limit to replenish other cells as long as the person or animal is still alive. When a stem cell divides, each new cell has the potential either to remain a stem cell or become another type of cell with a more specialized function, such as a red blood cell or a brain cell. This article introduces recent research reports as references in the related studies.

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Baylis, F. and C. McLeod "The stem cell debate continues: the buying and selling of eggs for research." *J Med Ethics*. 2007 Dec;33(12):726-31.

Now that stem cell scientists are clamouring for human eggs for cloning-based stem cell research, there is vigorous debate about the ethics of paying women for their eggs. Generally speaking, some claim that women should be paid a fair wage for their reproductive labour or tissues, while others argue against the further commodification of reproductive labour or tissues and worry about voluntariness among potential egg providers. Siding mainly with those who believe that women should be financially compensated for providing eggs for research, the new stem cell guidelines of the International Society for Stem Cell Research (ISSCR) legitimise both reimbursement of direct expenses and financial compensation for many women who supply eggs for research. In this paper, the authors do not attempt to resolve the thorny issue of whether payment for eggs used in human embryonic stem cell research is ethically legitimate. Rather, they want to show specifically that the ISSCR

recommended payment practices are deeply flawed and, more generally, that all payment schemes that aim to avoid undue inducement of women risk the global exploitation of economically disadvantaged women.

Block, W. "A libertarian perspective on the stem cell debate: compromising the uncompromisable." *J Med Philos*. 2010 Aug;35(4):429-48. doi: 10.1093/jmp/jhq033. Epub 2010 Jul 11.

The present paper attempts to forge a compromise between those who maintain that stem cell research is out-and-out murder of young helpless human beings and those who favor this practice. The compromise is predicated upon the libertarian theory of private property rights. Starting out with the premise that not only the fetus but even the fertilized egg is a human being, with all rights thereto, it offers a competition between those who fertilize eggs for research and those who wish to adopt them. If and only if the former win this competition will they be allowed to use these very young human beings for the purposes they have constructed them. This is justified on grounds of avoiding child abuse.

Bondolfi, A. "[The stem cell debate: in favor of ethical clarification]." *Ther Umsch*. 2002 Nov;59(11):561-4.

Stem cell research raises ethical issues, the grounds for which however are fairly unclear. As a form of fundamental research, it should be assessed according to the same classical ethical criteria. The strategic scientific question of the priority of adult stem cells versus embryonic stem cells cannot be dogmatically answered in advance, but rather contextually. The question of the moral status of the embryo outside the woman's body will always involve personal beliefs. But legislation will have to regulate this issue from a "middle-of-the-road" position

reflecting the convictions of most of the citizens (e.g., embryos will be protected, but not the same as already-born persons).

Capps, B. "Authoritative regulation and the stem cell debate." Bioethics. 2008 Jan;22(1):43-55.

In this paper I argue that liberal democratic communities are justified in regulating the activities of their members because of the inevitable existence of conflicting conceptions of what is considered as morally right. This will often lead to tension and disputes, and in such circumstances, reliance on peaceful or orderly co-existence will not normally suffice. In such pluralistic societies, the boundary between permissible and impermissible activities will be unclear; and this becomes a particular concern in controversial issues which raise specific anxieties and uncertainty. One context that has repeatedly raised issues in this regard is that of biotechnology and, in particular, the recent stem cell debate, on which this paper concentrates. While such developments have the potential to make significant improvements to therapeutic progress, we should also be sceptical because predicting the impact of these developments remains uncertain and complex. For the sake of socio-political stability, it will therefore be necessary to enact and enforce rules which limit these competing claims in public policy but which may not be compatible with what individual moral commitments ideally permit. One way to achieve this is to establish procedural frameworks to resolve potential disputes in the public sphere about what is right, wrong, or permissible conduct. I argue that for one to commit to authoritative regulation, an idea of harm prevention through state intervention is necessary; and that this requires optimum mechanisms of procedure which allow the individual the opportunity to compromise and yet to continue to oppose or fight for changes as demanded by his or her moral position.

de, S. C. N. M. Research ethics, science policy, and four contexts for the stem cell debate, J Investig Med. 2006 Jan;54(1):38-42.

There are plainly conscientious differences of opinion among scientists, politicians, and the public in respect of both the ethics of embryonic stem cell research and the more general question of the role of public policy in setting parameters for what is legal and what is funded in the biosciences. Although professional discussion of embryonic stem cell research is not hampered by the often misleading oversimplifications of the press, it remains true that the wide range of ethical options is rarely explored. These varied positions arise from a series of at least six logically distinct policy options, which we may summarize in these terms: (a) All use of human

embryos for research is wrong. (b) Excess in vitro embryos may be used, but others should not be created for the purpose. (c) In vitro embryos, but not clonal embryos, may be created with the intent of using them for research. (d) Clonal embryos, but not in vitro embryos, may be created with the intent of using them for research. (e) Only certain excess embryos destroyed before a certain date should be used. (f) Only certain excess embryos created before a certain date should be used. Moreover, in any policy permitting research use of the embryo, two further sets of issues are raised. First is the question of consent. Second is the question of time limits. As advancements in biotechnology shape the possibilities of the twenty-first century and hold out both promise and threat to the human future, it is crucial that we develop a national and global conversation that both encourages science and its potential and takes wider social responsibility for the purposes for which science is engaged.

Devolder, K. "What's in a name? Embryos, entities, and ANtities in the stem cell debate." J Med Ethics. 2006 Jan;32(1):43-8.

This paper discusses two proposals to the US President's Council on Bioethics that try to overcome the issue of killing embryos in embryonic stem (ES) cell research and argues that neither of them can hold good as a compromise solution. The author argues that (1) the groups of people for which the compromises are intended neither need nor want the two compromises, (2) the US government and other governments of countries with restrictive regulation on ES cell research have not provided a clear and sound justification to take into account minority views on the protection of human life to such a considerable extent as to constrain the freedom of research in the area of stem cell research, and (3) the best way to deal with these issues is to accept that many people and most governments adopt a gradualist and variable viewpoint on the human embryo which implies that embryos can be sacrificed for good reasons and to try to find other, less constraining, ways to take into account minority views on the embryo. Finally, another more efficient and time and money sparing compromise will be proposed for those who accept IVF, a majority in most societies.

Doerflinger, R. M. "Old and new ethics in the stem cell debate." J Law Med Ethics. 2010 Summer;38(2):212-9. doi: 10.1111/j.1748-720X.2010.00481.x.

The debate about embryonic stem cell research is a conflict not between "religion" and "science," but between two ethical approaches to the dignity of human beings. The newer, more pragmatic

ethic is not necessarily more conducive to rapid medical progress as is often assumed.

Green, R. M. "Embryo as epiphenomenon: some cultural, social and economic forces driving the stem cell debate." *J Med Ethics*. 2008 Dec;34(12):840-4. doi: 10.1136/jme.2008.027425.

Our human embryonic stem cell debates are not simply about good or bad ethical arguments. The fetus and the embryo have instead become symbols for a larger set of value conflicts occasioned by social and cultural changes. Beneath our stem cell debates lie conflicts between those who would privilege scientific progress and individual choice and others who favour the sanctity of family life and traditional family roles. Also at work, on both the national and international levels, is the use of the embryo by newly emergent social groups to express resentment against cultural elites. The organisational needs of religious groups have also played a role, with the issue of protection of the embryo and fetus serving as a useful means of rallying organisational allegiance in the Roman Catholic and evangelical communities. Because the epiphenomenal moral positions on the status and use of the embryo are driven by the powerful social, cultural or economic forces beneath them, they will most likely change only with shifts in the underlying forces that sustain them.

Kitzinger, J. and C. Williams "Forecasting science futures: legitimising hope and calming fears in the embryo stem cell debate." *Soc Sci Med*. 2005 Aug;61(3):731-40. Epub 2005 Apr 22.

Controversies about biotechnologies often centre not so much on present scientific facts as on speculations about risks and benefits in the future. It is this key futuristic element in these arguments that is the focus of this article. We examine how competing visions of utopia or dystopia are defended through the use of diverse vocabularies, metaphors, associations and appeals to authority. Our case study explores how these rhetorical processes play out in the debate about embryo stem cell research in UK national press and TV news media. The findings show how predictions from those in favour of embryo stem cell research are supported by both hype and by anti-hype, by inconsistent appeals to the technologies' innovative status and by the selective deconstruction of concepts such as 'potential' and 'hope'. The debate also mobilises binary oppositions around reason versus emotion, science versus religion and fact versus fiction. This article highlights how traditional assertions of expertise are now combined with ideas about compassion and respect for democracy and diversity. It also highlights the fact that although news reporters are often responding to topical events the

real focus is often on years, even decades ahead. Close attention to how images of the future are constructed, and the evolution of new strategies for legitimation are, we suggest, important areas of on-going research, particularly in discussions of scientific and medical developments and policy.

Mauron, A. and B. Baertschi "The European embryonic stem-cell debate and the difficulties of embryological Kantianism." *J Med Philos*. 2004 Oct;29(5):563-81.

As elsewhere, the ethical debate on embryonic stem cell research in Central Europe, especially Germany and Switzerland, involves controversy over the status of the human embryo. There is a distinctive Kantian flavor to the standard arguments however, and we show how they often embody a set of misunderstandings and argumentative shortcuts we term "embryological Kantianism." We also undertake a broader analysis of three arguments typically presented in this debate, especially in official position papers, namely the identity, continuity, and potentiality arguments. It turns out that these arguments do not support the strong, quasi-personal status accorded to the embryos in these official opinions.

Moore, K. E., J. F. Mills, et al. "Alternative sources of adult stem cells: a possible solution to the embryonic stem cell debate." *Gend Med*. 2006 Sep;3(3):161-8.

The complex moral and ethical debate surrounding the definition of the origins of human life, together with conflicting current and proposed legislation on state and federal levels, is hindering the course of research into the therapeutic uses of human embryonic stem cells. However, newly identified sources of adult stem cells, free from many of the ethical and legal concerns attached to embryonic stem cell research, may offer great promise for the advancement of medicine. These alternative sources may alleviate the need to resolve the stem cell debate before further therapeutic benefits of stem cell research can be realized. While legislation and ethics evolve to address the legal and moral issues of embryonic stem cell research, innovative researchers will continue to search for and find real and present solutions for cell-based therapies using adult stem cells.

Noble, M. "Ethics in the trenches: a multifaceted analysis of the stem cell debate." *Stem Cell Rev*. 2005 Dec;1(4):345-76.

The increasing understanding of stem cell biology has opened up the possibility of using cell transplantation to treat a large variety of diseases. The medical need to identify optimal therapies is being

challenged, however, by some members of society who seek to impose on this scientific quest their views--generally associated with particular religious beliefs--of what constitutes allowable research. This conflict mirrors earlier battles, extending over 150 years, between those implementing inoculation and vaccination to protect against smallpox and those who felt this to be unethical for religious reasons. For the many individuals who might benefit from the potential of stem cell medicine, such prolonged debate is unacceptable. In this review, conflicts in this debate are examined by holding opponents of embryonic stem cell (ESC) research to the standards applied to the science. The challenge of identifying optimal cells for tissue repair is juxtaposed with misrepresentations of stem cell science by those opposed to ESC research. Absolutist views on ethics are juxtaposed with examples of the bad science and unethical acts that occur when dogmatic religious filters and definitions of human-ness are forced upon scientific discussions. Finally, after considering how opponents of ESC research may, ironically, enhance commercial demand for cells derived from fetuses aborted for personal reasons of the mother, 10 proposals are offered that would--if followed by all participants in this debate--produce more ethically balanced discussions and a more comprehensive body of data from which evidence-based conclusions can be drawn.

Scott, C. T. and R. A. Reijo Pera "The road to pluripotency: the research response to the embryonic stem cell debate." Hum Mol Genet. 2008 Apr 15;17(R1):R3-9. doi: 10.1093/hmg/ddn074.

The controversies surrounding embryonic stem cell research have prompted scientists to invent beyond restrictive national policy and moral concerns. The impetus behind these reports comes from different sources, including individually held moral beliefs, societal pressures and resource constraints, both biological and financial. Along with other contributions to public policy such as advocacy or public testimony, experimentation and scientific curiosity are perhaps more natural responses scientists use to surmount impediments to research. In a research context, we review the history of the first stem cell discoveries, and describe scientific efforts leading up to recent reports of pluripotent lines made without the use of human embryos and eggs. We argue that despite the promise of these new lines, we must not lose sight of fundamental questions remaining at the frontiers of embryology and early human development. The answers to these questions will impact studies of genetics, cell biology and diseases such as cancer, autoimmunity and disorders of development. Human embryonic stem cell research is barely a decade old. The recent pace of discovery--

in spite of federal restrictions--is testament to the potential of these cells to uncover some of biology's most intractable mysteries.

Sitko, B. J. "Reconstructing the stem cell debate." Princet J Bioeth. 2002 Spring;5:92-104.

Human embryonic stem cells have been a major topic in science, medicine, and religion since their discovery in 1998. However, due to the complex discourse and rhetoric of scientific language, debate has remained within the professional realm via "expert bioethics." Using the tenets of pragmatism, the author examines the need to move the debate to society as a whole and disentangle the stem cell debate from the ideologies of the human cloning and abortion debates. Opening this issue to a societal debate will advance societal growth, resulting in informed decisions on moral issues, funding, or regulation associated with hES cell research.

The above contents are the collected information from Internet and public resources to offer to the people for the convenient reading and information disseminating and sharing.

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