

Stem Cell Research (Ethical Debates)

An examination of a decade and a half of political controversy, ethical debate, and scientific progress in stem cell research.

"What the editors have managed to accomplish with Fundamentals of the Stem Cell Debate is very significant. The book is well-informed, sophisticated, and attends to the moral and scientific complexities of stem cell research, rather than sweeping them under the rug. This book encompasses the complexities without sacrificing the other main virtue of the collection: to definitively illuminate the debate for all."—Jason Scott Robert, author of Embryology, Epigenesis, & Evolution: Taking Development Seriously

Is it acceptable from an ethical point of view to use stem cells from human embryos for scientific research and clinical therapy? And what are the weaknesses and strengths of various opinions and positions when they are critically evaluated? These are the main problems dealt with in this book. The various chapters as a whole give a comprehensive, many-sided and balanced discussion of the subject. The book contains contributions from biological, medical, social, political, philosophical and theological perspectives. The authors have been chosen because of their professional competence, many of them being respected scholars on a top international level. They give an updated contribution from their own discipline in order to enlighten the different aspects of the common theme. The authors cover various positions and evaluations with regard to the question of the use of embryonic stem cells for research and therapy. The book is written for several audiences: a) scholars and professionals working with stem cell research or with the ethical questions arising from this field (people from biology, medicine, law, philosophy, theology etc.), b) advanced and graduate students within the same professional disciplines and c) politicians and the general public interested in the burning ethical problems which are intensively debated in many countries.

Hope or Hype?

Hearing Before the Committee on Health, Education, Labor, and Pensions, United States Senate, One Hundred Seventh Congress, Second Session, on Examining Cloning Research, Focusing on the Clarification of how Stem Cell Research, Or Therapeutic Cloning, Differs from Human Reproductive Cloning, and the Ethical and Public-policy Issues Related to Both, and Related Issues of S. 1853 to Ban Human Cloning While Protecting Stem Cell Research, March 5, 2002

Interdisciplinary Perspectives

Ethical Issues in Human Stem Cell Research: Commissioned papers

Stem Cells, Ethics, and Public Policy

Stem Cell Research

Few recent advances in science have generated as much excitement and controversy as human embryonic stem cells. The potential of these cells to replace diseased or damaged cells in virtually every tissue of the body heralds the advent of an extraordinary new field of medicine. Controversy arises, however, because current techniques required to harvest stem cells involve the destruction of the human blastocyst. This even-handed, lucidly written volume is an essential tool for understanding the complex issues—scientific, religious, ethical, and political—that currently fuel public debate about stem cell research. One of the few books to provide a comprehensive overview for a wide audience, the volume brings together leading scientists, ethicists, political scientists, and doctors to explain this new scientific development and explore its ramifications.

Stem cell research has been a problematic endeavour. For the past twenty years it has attracted moral controversies in both the public and the professional sphere. The research involves not only laboratories, clinics and people, but ethics, industries, jurisprudence, and markets. Today it contributes to the development of new therapies and affects increasingly many social arenas. The matrix approach introduced in this book offers a new understanding of this science in its relation to society. The contributions are multidisciplinary and intersectional, illustrating how agency and influence between science and society go both ways. Conceptually, this volume presents a situated and reflexive approach for philosophy and sociology of the life sciences. The practices that are part of stem cell research are dispersed, and the concepts that tie them together are tenuous; there are persistent problems with the validation of findings, and the ontology of the stem cell is elusive. The array of applications shapes a growing bioeconomy that is dependent on patient donations of tissues and embryos, consumers, and industrial support. In this volume it is argued that this research now denotes not a specific field but a flexible web of intersecting practices, discourses, and agencies. To capture significant parts of this complex reality, this book presents recent findings from researchers, who have studied in-depth aspects of this matrix of stem cell research. This volume presents state-of-the-art examinations from senior and junior scholars in disciplines from humanities and laboratory research to various social sciences, highlighting particular normative and epistemological intersections. The book will appeal to scholars as well as wider audiences interested in developments in life science and society interactions. The novel matrix approach and the accessible case studies make this an excellent resource for science and society courses.

Fast-moving and ever-changing, stem cell science and research presents ongoing ethical and legal challenges in many countries. Each development and innovation throws up new challenges. This is the case even where new developments initially seem to solve old dilemmas. Sometimes it becomes evident that new science does not in fact solve old problems and, for that reason, the ethical issues remain. In recognition of this, this book presents innovative and creative analyses of a range of ethical and legal challenges raised by stem cell research and its potential and actual application. The editors of this collection have brought together experts from ethics and law to bring fresh perspectives on the use of and research on stem cells. The chapters in this collection range across a number of different issues in the debate on stem cells, from the ethical dilemmas of conducting stem cell research to those of the clinical application of stem cell technology. Each chapter gives an in-depth and comprehensive analysis of the ethical or legal issues at stake. The early chapters give engaging new expositions on the permissibility of using embryos in stem cell research, in particular challenging our views about how we view and 'construct' the embryo in debates regarding stem cells. Later chapters move on to actual and potential clinical uses of stem cells and present novel arguments about these. Contents:New Frontiers in Stem Cell Science & Ethics: Current Technology & Future Challenges (Muireann Quigley, Sarah Chan and John Harris)The Monopoly of Moral Status in Debate on Embryonic Stem Cell Research (Sorcha Uí Chonnachtaigh)The Construction of the Embryo and Implications for Law (Sheelagh McGuinness)Legal Regulation of Human Stem Cell Technology (Loane Skene)Human Embryos in Stem Cell Research: Property and Recompense (Sarah Devaney)Against the Discarded-Created Distinction in Embryonic Stem Cell Research (Katrien Devolder)Stem Cell Therapies & Benefiting from the Fruits of Banned Research (Muireann Quigley)Who Do You Call a Hypocrite? Stem Cells and Comparative Hypocritology (Søren Holm)Stem Cell Research and Same-Sex Reproduction (Thomas Douglas, Catherine Harding, Hannah Bourne and Julian Savulescu)The Permissibility of Recruiting Patients with Spinal Cord Injury for Clinical Stem Cell Trials (Anna Pacholczyk and John Harris) Readership: Researchers and academics in bioethics, healthcare professionals, policy makers. Keywords:Stem Cells;Ethics;Bioethics;Stem Cell Law;Regulation;PolicyKey Features:Includes innovative and creative analyses of a range of ethical and legal challenges raised by stem cell research and its clinical applicationWill appeal to a diverse range of audiences concerned with how to address ethical, legal and policy issues regarding stem cells. It will be of particular interest to those who want to get a deeper and more nuanced understanding of some of the ethical and legal arguments since the chapters in this book present more than a mere overview of key issuesSeeks to combine a range of perspectives to dealing with the implications of a fast-moving stem cell science; in particular, bioethics and law. The ethical issues inherent in stem cell research are universal; as such, the book will appeal to readers (policy-makers, healthcare professionals, academics etc.) beyond the UK

Cord Blood

America Debates Stem Cell Research

The Dangers of Cloning and the Promise of Regenerative Medicine

Ethical Issues in Human Stem Cell Research

Embryonic Stem Cell Research

The Stem Cell Dilemma

Discusses the ethical issues surrounding stem cell research and the potential for human cloning.

This book is a balanced overview of the issues surrounding stem cells and their potential to revolutionize medicine and provide cures, with a focus on the use of embryonic stem cells. The ethical and moral debates over how cells are obtained, the definition of "personhood," and various religious perspectives are explored, as well as how politics play a part in the discussion of this issue. It includes a look at stem cell research around the world and how the United States could be left behind.

Embryonic stem cell research holds unique promise for developing therapies for currently incurable diseases and conditions, and for important biomedical research. However, the process through which embryonic stem cells are obtained involves the destruction of early human embryos. Katrien Devolder focuses on the tension between the popular view that an embryo should never be deliberately harmed or destroyed, and the view that embryonic stem cell research, because of its enormous promise, must go forward. She provides an in-depth ethical analysis of the major philosophical and political attempts to resolve this tension. One such attempt involves the development of a middle ground position, which accepts only types or aspects of embryonic stem cell research deemed compatible with the view that the embryo has a significant moral status. An example is the position that it can be permissible to derive stem cells from embryos left over from in vitro fertilisation but not from embryos created for research. Others have advocated a technical solution. Several techniques have been proposed for deriving embryonic stem cells, or their functional equivalents, without harming embryos. An example is the induced pluripotent stem cell technique. Through highlighting inconsistencies in the arguments for these positions, Devolder argues that the central tension in the embryonic stem cell debate remains unresolved. This conclusion has important implications for the stem cell debate, as well as for policies inspired by this debate.

Bioethics and the Future of Stem Cell Research

The Ethical Choreography of Stem Cell Research

Good Science

Religious Perspectives: Volume III.

The Matrix of Stem Cell Research

Stem Cell Research and Science

In this timely collection, some of the world's leading ethicists grapple with the variety of issues posed by human embryonic stem cell research. Investigates the moral status of the embryo including the creation of chimeras and paying for gametes (eggs and sperm) and embryos for research purposes Provides a thorough evaluation of the ethics and politics of regulating hESC research, and the privacy, confidentiality, and informed consent in the conduct of research and clinical investigations Essential reading for scientists, philosophers, policy makers, and all who are interested in the ethical conduct of science Contributors include David DeGrazia, Lori Gruen, Elizabeth Harman, John Harris, Jeff McMahan, Don Marquis and Peter Singer

A discussion of all the key issues in the use of human pluripotent stem cells for treating degenerative diseases or for replacing tissues lost from trauma. On the practical side, the topics range from the problems of deriving human embryonic stem cells and driving their differentiation along specific lineages, regulating their development into mature cells, and bringing stem cell therapy to clinical trials. Regulatory issues are addressed in discussions of the ethical debate surrounding the derivation of human embryonic stem cells and the current policies governing their use in the United States and abroad, including the rules and conditions regulating federal funding and questions of intellectual property. The second edition of Stem Cells: Scientific Facts and Fiction provides the non-stem cell expert with an understandable review of the history, current state of affairs, and facts and fiction of the promises of stem cells. Building on success of its award-winning preceding edition, the second edition features new chapters on embryonic and iPSC cells and stem cells in veterinary science and medicine. It contains major revisions on cancer stem cells to include new culture models, additional interviews with leaders in progenitor cells, engineered eye tissue, and xeno organs from stem cells, as well as new information on "organs on chips" and adult progenitor cells. In the past decades our understanding of stem cell biology has increased tremendously. Many types of stem cells have been discovered in tissues that everyone presumed were unable to regenerate in adults, the heart and the brain in particular. There is vast interest in stem cells from biologists and clinicians who see the potential for regenerative medicine and future treatments for chronic diseases like Parkinson's, diabetes, and spinal cord lesions, based on the use of stem cells; and from entrepreneurs in biotechnology who expect new commercial applications ranging from drug discovery to transplantation therapies. Explains in straightforward, non-specialist language the basic biology of stem cells and their applications in modern medicine and future therapy Includes extensive coverage of adult and embryonic stem cells both historically and in contemporary practice Richly illustrated to assist in understanding how research is done and the current hurdles to clinical practice

Contemporary Challenges to Our Humanity

Report and recommendations of the National Bioethics Advisory Commission

Establishing a National Hematopoietic Stem Cell Bank Program

An Approach to Rethinking Science in Society

Renewing the Stuff of Life

New Frontiers in Science and Ethics

Stem Cell Research takes a multi-disciplinary approach to the topic of human embryonic stem cell research, starting with the breakthrough discovery up through the present day controversy. The book invites the reader to join the conversation by providing a well balanced approach to many of the issues surrounding the development of this controversial scientific field. It includes the thoughts and experiences of scientists, journalists and ethicists as it tried to approach the topic through a variety of different academic disciplines. The book will help the non-scientist understand the biology, research regulations and funding; and simultaneously it will help the scientist better comprehend the full spectrum of ethical, religious, and policy debates.

Among the many applications of stem cell research are nervous system diseases, diabetes, heart disease, auto-immune diseases as well as Parkinson's disease, end-stage kidney disease, liver failure, cancer, spinal cord injury, multiple sclerosis, Parkinson's disease, and Alzheimer's disease. Stem cells are self-renewing, unspecialised cells that can give rise to multiple types all of specialised cells of the body. Stem cell research also involves complex ethical and legal considerations since they involve adult, foetal tissue and embryonic sources. This book brings together leading research from throughout the world in this frontier field.

Stem Cell ResearchThe Ethical IssuesWiley-Blackwell

The Ethical Debates Reviewed

The Ethics and Regulation of Human Embryonic Stem Cell Research

Stem Cells

Science, Ethics, and Public Policy

Stem Cells, Human Embryos and Ethics

Embryonic stem cell research holds great promise for biomedical research, but involves the destruction of human embryos. Katrien Devolder explores the tension between the view that embryos should never be deliberately harmed and the view that such research must go forward, and provides an in-depth analysis of major attempts to resolve the problem.

This book provides a sophisticated yet accessible account of emerging trends in stem cell research and their accompanying ethical issues.

Human reproductive cloning is an assisted reproductive technology that would be carried out with the goal of creating a newborn genetically identical to another human being. It is currently the subject of much debate around the world, involving a variety of ethical, religious, societal, scientific, and medical issues. Scientific and Medical Aspects of Human Reproductive Cloning considers the scientific and medical sides of this issue, plus ethical issues that pertain to human-subjects research. Based on experience with reproductive cloning in animals, the report concludes that human reproductive cloning would be dangerous for the woman, fetus, and newborn, and is likely to fail. The study panel did not address the issue of whether human reproductive cloning, even if it were found to be medically safe, would beã acceptable to individuals or society.

Monitoring Stem Cell Research

The Scientific, Religious, Ethical, and Political Issues

Guidelines for Human Embryonic Stem Cell Research

New Frontiers in Science & Ethics

The Ethics of Embryonic Stem Cell Research

Scientific Facts and Fiction

Explains what stem cells are, current research utilizing them, and the controversy surrounding the use of stem cells.

For many years, the ethical discussion surrounding human embryonic stem cell research has focused on the moral status of the embryo. This text takes a wider moral berth and focuses on numerous ethical, legal and social aspects involved in translating the results of stem cell research into diagnostic and therapeutic applications. Translational Stem Cell Research is broken into ten sections. It opens with an overview of the latest in stem cell research, focusing on specific diseases and the treatment of burn victims. Part II discusses the issues involved in the many steps from bench to bedside, ranging from first research in vitro to clinical trials. Part III covers scientific, regulatory and ethical challenges to basic research, and Part IV details issues regarding stem cell banks. Part V explores ethical, economic and strategic issues involved in collaboration between universities and industry, and Part VI addresses legal problems raised by patents on human stem-cell based inventions plus the extent to which there can be technological solutions to a moral dilemma. Part VII presents imaginative ways of communicating research to the general public and how to create conditions for a constructive dialogue. Part VIII probes psychosocial and cultural factors affecting judgment and decisions about translational stem cell research, and Part IX explores problems and procedures raised by an examination of the evaluation of stem cell research projects in research ethics committees. The book closes with a look into the future of translational stem cell research and stem cell-based therapeutic applications.

This series shows balanced arguments for and against issues affecting our modern world. The books study each argument in detail and explore the history of each topic.

A Critical Analysis of the Debate

Ethical Issues

Scientific and Medical Aspects of Human Reproductive Cloning

Human Embryonic Stem Cells

Ethical Issues in Human Stem Cell Research: Report and recommendations of the National Bioethics Advisory Commission

Executive Summary

Human embryonic stem cells are often described as "master cells," able to develop into any other type of cell in the human body. Research on embryonic stem cells has given rise to ethical debates, as the removal of an embryonic stem cell from an embryo typically involves the destruction of that embryo. In 2007, researchers in Japan and the United States published reports that they had successfully induced adult human somatic cells to exhibit characteristics similar to embryonic stem cells. Some have argued that these new induced pluripotent stem cells render embryonic stem cell research unnecessary, while others contend that continued embryonic stem cell research is still important. This book consists of public domain documents which have been located, gathered, combined, reformatted, and enhanced with a subject index, selectively edited and bound to provide easy access.

This volume looks at the state-of-the-science in stem cells, discusses the current challenges, and examines the new directions the field is taking. Dr. Turksen, editor-in-chief of the journal "Stem Cell Reviews and Reports," has assembled a volume of internationally-known scientists who cover topics that are both clinically and research-oriented. The contents range from sources of stem cells through their physiological role in health and disease, therapeutic applications in

regenerative medicine, and ethics and society. An initial overview and a final summary bookend the contents into a cohesive and invaluable volume.

Discusses the ethical issues involved in the use of human embryonic stem cells in regenerative medicine.

Medical Applications and Ethical Controversy

Stem Cells and the Future of Regenerative Medicine

The Ethical Issues

Translational Stem Cell Research

Fundamentals of the Stem Cell Debate

Key Ethical Issues in Embryonic Stem Cell Research

Since 1998, the volume of research being conducted using human embryonic stem (hES) cells has expanded primarily using private funds because of restrictions on the use of federal funds for such research. Given limited federal involvement, privately funded hES cell research has thus far been carried out under a patchwork of existing regulations, many of which were not designed with this research specifically in mind. In addition, hES cell research touches on many ethical, legal, scientific, and policy issues that are of concern to the public. This report provides guidelines for the conduct of hES cell research to address both ethical and scientific concerns. The guidelines are intended to enhance the integrity of privately funded hES cell research by encouraging responsible practices in the conduct of that research.

This volume brings together essays by an internationally distinguished and diverse group of scholars. Contributors thoughtfully explore the ethical, public policy, and scientific implications of embryonic and adult stem cell research. Part one of the book offers a variety of scientific and public policy perspectives, including essays on stem cell plasticity and using umbilical cord blood as an alternative source of pluripotent stem cells. Part two vigorously examines the ethics of stem cell research and considers issues of social justice, morality, and public policy. Scientific alternatives, a natural law perspective regarding federal funding, and a discussion of the possible moral complicity of Catholic researchers are among the distinctive contributions made to the stem cell research debate by this collection. The objective and balanced discussions contained in this volume serve as an accessible introduction to the bioethical questions, issues, and problems surrounding stem cell research.

With the potential for self-renewal and differentiation, the possibilities for stem cells are enormous. One specific type of stem cell, the hematopoietic progenitor cell (HPC), which is derived from umbilical cord blood (as well as adult bone marrow and mobilized peripheral blood), holds particular promise. To make the most of these HPCs, the Institute of Medicine was asked to consider the optimal structure for a national cord blood program and to address pertinent issues related to maximizing the potential of stem cell technology. Cord Blood: Establishing a National Hematopoietic Stem Cell Bank Program examines: The role of cord blood in stem cell transplantation The current status of blood banks already in existence The optimal structure for the cord blood program The current use and utility of cord blood for stem cell transplants The best way to advance the use of cord blood units and make them available for research Expert advice from leaders in the fields of economics, public health, medicine, and biostatistics combine to make this very timely and topical book useful to a number of stakeholders.

The Scientific Breakthroughs, Ethical Concerns, Political Tensions, and Hope Surrounding Stem Cell Research

The Human Embryonic Stem Cell Debate

Issues Beyond the Debate on the Moral Status of the Human Embryo

Stem Cell Research and Cloning

Background and Issues

Stem Cells: Current Challenges and New Directions

Stem cell therapy is ushering in a new era of medicine in which we will be able to repair human organs and tissue at their most fundamental level- that of the cell. The power of stem cells to regenerate cells of specific types, such as heart and extraordinary. In 1998 researchers learned how to isolate and culture embryonic stem cells, which are only obtainable through the destruction of human embryos. An ethical debate has raged since then about the ethics of this research advocates vs. those who see the great promise of curing some of humanity's most persistent diseases. In this book Cynthia Cohen agrees that we need to work toward a consensus on the issue of how we treat the embryo. But more broadly, she transform and expand the ethical and policy debates on stem cells (adult and embryonic). This important and much-needed book is both a primer and a means by which to understand the implications of this research. Cohen starts by introducing the science of stem cell research, and the core ethical questions surrounding the embryo. She then expands the scope of the debate, looking at the moral questions that will crop up down the line, such as e.g. the use of therapeutic cloning to resistance to stem cells; the ethics of using animals to test stem cells; how to disentangle federal and state legal and regulatory policies in pursuit of a coherent national policy; and how to develop an ethics of stem cell research that will address and controversies that we cannot even foresee now. Her final chapter develops a concrete plan for an oversight system for this research. This is the first single-author book that addresses the many broad ethical and legal issues related to stem cell research of great interest to bioethicists, researchers, clinicians, philosophers, theologians, lawyers, policy makers, and general readers.

Recent scientific breakthroughs, celebrity patient advocates, and conflicting religious beliefs have come together to bring the state of stem cell researchâ€"specifically embryonic stem cell researchâ€"into the political crosshairs. President Bush's statement allows federal funding for embryonic stem cell research but only on a limited number of stem cell lines. Millions of Americans could be affected by the continuing political debate among policymakers and the public. Stem Cells and Regenerative Medicine provides a deeper exploration of the biological, ethical, and funding questions prompted by the therapeutic potential of undifferentiated human cells. In terms accessible to lay readers, the book summarizes what we know about embryonic stem cells and discusses how to go about the transition from mouse studies to research that has therapeutic implications for people. Perhaps most important, Stem Cells and the Future of Regenerative Medicine also provides an analysis of the ethical problems that arise from the use of embryonic stem cells. This timely book compares the impact of public and private research funding and discusses approaches to appropriate research oversight. Based on the insights of leading scientists and authorities, the book offers authoritative recommendations regarding the use of existing stem cell lines versus new lines in research, the important role of the federal government in this field of research, and other fundamental issues.

Today's scientists are showing us how stem cells create and repair the human body. Unlocking these secrets has become the new Holy Grail of biomedical research. But behind that search lies a sharp divide, one that has continued for years and of creating or repairing tissues lost to age, disease, and injury. Yet, because of this ability, stem cells also hold the potential to incite an international biological arms race. The Stem Cell Dilemma illuminates everything you need to know about stem cell research. In this new edition the authors have included up-to-date information on scientific advances with iPS cells, clinical trials that are currently underway, hESC policy that is in the U.S. courts, stem cells and biodefense, developments at the California Institute of Regenerative Medicine, and growing international competition, plus all the basics of what stem cells are and how they work.