

In Vitro Derived Human Gametes as a Reproductive Technology: Scientific, Ethical, and Regulatory Implications

Committee

Eli Y. Adashi

Chair

Eli Adashi, MD is Professor of Medical Science at Brown University. He previously served as the 5th Dean of Medicine and Biological Sciences at Brown University, the John A. Dixon Endowed Presidential Professor & Chair in the Department of Obstetrics & Gynecology at the University of Utah Health Sciences Center and Director of the Division of Reproductive Endocrinology at the University of Maryland. Dr. Adashi, an academic physician-executive, is a graduate of the Tel Aviv University School of Medicine and the Harvard T.H. Chan School of Public Health program in Health Care Management. He did his residency in Obstetrics and Gynecology at Tufts and Fellowship and Postdoctoral Training in Reproductive Endocrinology at Johns Hopkins and UCSD. Dr. Adashi received continuous NIH funding (1985 to 2005) in the general area of reproduction and is a practicing Clinical Reproductive Endocrinologist. He is a member or fellow of the National Academy of Medicine (NAM), the Association of American Physicians (AAP), American Association for the Advancement of Science (AAAS), and the Hastings Ethics Center. His honors include Doctor Honoris Causa: Poznan University of Medical Sciences and University of Ottawa and Distinguished Medical Alumnus, Johns Hopkins University School of Medicine. He is President of the Societies of Reproductive Investigation and Reproductive Endocrinology and an Examiner and Director of the Division of Reproductive Endocrinology of the American Board of Obstetrics and Gynecology. Elected to the NAM in 1999, Dr. Adashi has served on multiple consensus committees, as review coordinator for 25 NAM reports, and as chair of the Maternal & Child Health and Human Development interest group.

Amander Clark

Member

Amander Clark, PhD is Professor of Molecular Cell and Developmental Biology and Director of the Center of Reproductive Science, Health and Education at the University of California Los Angeles. Dr. Clark is a stem cell scientist, geneticist and developmental biologist who is internationally recognized for her work on the germline and in vitro gametogenesis. Professor Clark has authored over one hundred research articles, and is regularly invited to speak on the use of stem cells to understand fertility and infertility. Professor Clark's research is supported by grants from the National Institute of Health, the Bill and Melinda Gates Foundation, the California Institute of Regenerative Medicine, the Templeton Foundation and the LucaBella Foundation. Professor Clark's work has been recognized by Awards from the International Society for Stem Cell Research, STOP Cancer, the Lance Armstrong Foundation, and the Concern Foundation as well as lectureships from national and international scientific and medical societies. Professor Clark is currently the inaugural Director of the UCLA Center for Reproductive Science, Health and Education, and President-Elect of the International Society for Stem Cell Research, a global non-profit that promotes excellence in stem cell science and applications to human health.

I. Glenn Cohen

Member

I. Glenn Cohen, JD is Deputy Dean and James A. Attwood and Leslie Williams Professor of Law, Harvard Law School and Faculty Director of the Petrie-Flom Center for Health Law Policy, Biotechnology & Bioethics. Prof. Cohen is an internationally recognized expert on the intersection of bioethics (sometimes also called "medical ethics") and the law, as well as health law. His current projects relate to big data, health information technologies, mobile health, reproduction/reproductive technology, research ethics, organ transplantation, rationing in law and medicine, health policy, FDA law, translational medicine, and medical tourism. He is the author of more than 200 articles and chapters and the author, co-author, editor, or co-editor of more than 18 books. His work has appeared in or been covered in venues such as PBS, NPR, ABC, CNN, MSNBC, Mother Jones, the New York Times, and the New Republic. Prior to becoming a professor he served as a law clerk to Judge Michael Boudin of the U.S. Court of Appeals for the First Circuit and as a lawyer for U.S. Department of Justice, Civil Division, Appellate Staff, where he handled litigation in the Courts of Appeals and (in conjunction with the Solicitor General's Office) in the U.S. Supreme Court. Prof. Cohen was selected as a Radcliffe Institute Fellow for the 2012-2013 year and by the Greenwall Foundation to receive a Faculty Scholar Award in Bioethics

Susan Crockin

Member

Susan Crockin, JD is head the Crockin Law & Policy Group, one of the first firms in the US devoted exclusively to the intertwined legal aspects of assisted reproductive technologies and adoption. She is also a faculty affiliate and O'Neill Institute Legal Scholar at the Georgetown University Law Center and an adjunct professor at Eastern Virginia Medical School. Ms. Crockin has devoted her legal career to the emerging issues surrounding the assisted reproductive technologies, particularly the impact of scientific and medical advances on existing tenets of family, health, and reproductive law. Her current work focuses on the legal implications of cryopreservation and disposition of patient and donor gametes and embryos; reproductive genetics; egg and sperm banking; equitable utilization and third-party coverage of fertility and reproductive genetic treatments for those whose family-building ability is dependent on them; inter-professional efforts to reduce health care costs related to fertility treatments through single embryo transfer, insurance, and other methods; and cross-border reproductive care, including international surrogacy. In addition to being a frequent speaker on ART Law related topics, Ms. Crockin has published three books, numerous chapters and peer-reviewed articles, and, since 1990, a nationally published legal column she created entitled, "Legally Speaking®". She helped draft the Massachusetts infertility mandate, the ABA's initial Model ART Act, and continues to draft and revise model IVF consent forms for the Society of Assisted Reproductive Technology (SART). She is a founding member of the American Academy of Reproductive Technology Attorneys, where she chaired its Ethics Code committee, to update that organization's Code of Ethics, and is working on efforts to develop a national donor gamete registry affiliated with SART. Ms. Crockin received her J.D. from Northeastern University School of Law and her B.A. from Tufts University, summa cum laude.

Ubaka Ogbogu

Member

Ubaka Ogbogu, LL.M., S.J.D. is a Professor and Associate Dean (Research) in the Faculty of Law at the University of Alberta. He is also the Chair of the University of Alberta Research Ethics Board 2 and the Katz Research Fellow in Health Law and Science Policy. Prof. Ogbogu is a recipient of the Confederation of Alberta Faculty Associations Distinguished Academic Early Career Award. He holds a doctorate in law from the University of Toronto, a Master of Laws degree from the University of Alberta and undergraduate degrees in law from the University of Benin, Nigeria and the Nigerian Law School. Prof. Ogbogu's scholarly work is focused broadly on the ethical, legal and societal implications of novel and emerging biotechnologies and associated research. His publications have explored a diverse range of issues in this field, including the ethical and legal issues associated with stem cell research, gene and engineered cell therapies, biobanks, germline gene editing and assisted reproductive technologies. As a multidisciplinary scholar, his teaching and research activities explore and cut across various fields, including health law, bioethics, science policy, science and technology studies, public health, legal history and legal philosophy. He has led or been involved in many prominent national and international biotechnology policymaking activities, and writes and comments frequently in the popular press on matters relating to the impacts of biotechnology and science on society. Prof. Ogbogu has served as a member of numerous boards and councils, including the Health Quality Council of Alberta, Council of Canadian Academies Expert Panel on Somatic Gene and Engineered Cell Therapies, the Council of Canadian Academies Expert Panel on Medical Assistance in Dying, the Canadian Institutes of Health Research (CIHR) Stem Cell Oversight Committee, the Canadian Institutes of Health Research Governing Council's Standing Committee on Ethics, and the International Society for Stem Cell Research Task Force on Guidelines for Stem Cell Research and Clinical Translation.

Kotaro Sasaki

Member

Kotaro Sasaki, MD, PhD is an Assistant Professor at the University of Pennsylvania School of Veterinary Medicine. His major research interest involves understanding the molecular mechanisms of human germ cell and gonadal development using single cell genomics and their in vitro reconstitution using pluripotent stem cells. He is a board certified anatomic pathologist, completed anatomic pathology residency at the University of Pittsburgh in 2011 and renal pathology fellowship at the University of Washington in 2012. Prior to joining the University of Pennsylvania, he completed a postdoc training at Mitinori Saitou Lab at Kyoto University, Japan.

Melissa A. Simon

Member

Melissa Simon, MD, MPH is George H. Gardner, MD, Professor of Clinical Gynecology and Professor of Obstetrics and Gynecology, Preventive Medicine, and Medical Social Sciences in the Northwestern University Feinberg School of Medicine. She serves as Vice Chair of Research in the Department of Obstetrics and Gynecology and is Director of the Institute for Public Health and Medicine (IPHAM) in the Center for Health Equity Transformation. Dr. Simon's primary research interests are aimed at promoting health equity and eliminating health disparities among low income, medically underserved women across the lifespan. Integrating health services research with social epidemiologic models, Dr. Simon's research focuses on interventions that aim to reduce and eliminate such disparities. Within this context, Dr. Simon prefers to leverage culture and community to achieve these goals and thereby integrates a community based participatory research framework into her work. She also has a strong portfolio of workforce development programs including the world's first healthcare pipeline development free massive open online course, "Career 911: Your Future Job in Medicine and Healthcare" on the Coursera platform. She is the founding director of the Center for Health Equity Transformation and the Chicago Cancer Health Equity Collaborative and is a former member of the US Preventive Services Task Force. Dr. Simon is a member of the National Academy of Medicine (NAM) and the Association of American Physicians (AAP). She currently is a member of the NAM Board on Population Health and Public Health Practice and the Roundtable for the Promotion of Health Equity. She also serves as an Advisory Committee member to the NIH Office of Research on Women's Health.

Hugh S. Taylor

Member

Hugh S. Taylor, MD, is the Anita O'Keeffe Young Professor of Women's Health and chair of the Department of Obstetrics, Gynecology and Reproductive Science at the Yale School of Medicine in New Haven, Connecticut. He is also Professor of Molecular, Cellular and Developmental Biology at Yale University. He is a board-certified specialist in Obstetrics/Gynecology and in Reproductive Endocrinology. Dr. Taylor received his undergraduate training at Yale University and received his medical degree from the University of Connecticut School of Medicine. He completed his residency in Obstetrics and Gynecology at Yale. His postdoctoral training included a fellowship in Reproductive Endocrinology and Infertility as well as a fellowship in Molecular Biology, both at Yale. Dr. Taylor has been Principal Investigator on 15 National Institutes of Health grants and site PI or Co-Investigator on numerous additional NIH funded projects. His clinical research centers on implantation, endometriosis, and menopause. His basic science research focuses on uterine development, the regulation of developmental gene expression by sex steroids, endocrine disruption, and stem cells. Dr. Taylor has published more than 400 articles in leading medical journals and is an author of Speroff's Clinical Gynecologic Endocrinology and Infertility. He serves on several editorial boards and as a reviewer for numerous scientific journals, and is frequently invited as a speaker at national and international medical meetings. Dr. Taylor has received awards including the IVI Foundation International Award for the Best Research in Reproductive Medicine and the Society for Gynecologic Investigation Distinguished Scientist Award. Dr. Taylor is past president of the Society for Reproductive Investigation and immediate past president of the American Society for Reproductive Medicine. He was elected to the National Academy of Medicine in 2016.

Katherine Bowman

Staff Officer