

Report calls for improved oversight on chimeric human-animal research

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A new report on the ethics of crossing species boundaries by inserting human cells into nonhuman animals—research surrounded by debate—makes recommendations clarifying the ethical issues and calling

for improved oversight of this work.

The report was developed by an interdisciplinary team. Principal investigators are Josephine Johnston and Karen Maschke, research scholars at The Hastings Center, and Insoo Hyun, director of the Center for Life Sciences and Public Learning at the Museum of Life Sciences in Boston, formerly of Case Western Reserve University.

Advances in human stem cell science and gene editing enable scientists to insert [human cells](#) more extensively and precisely into [nonhuman animals](#), creating "chimeric" animals, embryos, and other organisms that contain a mix of human and nonhuman cells.

Many people hope that this research will yield enormous benefits, including better models of human disease, inexpensive sources of human eggs and embryos for research, and sources of tissues and organs suitable for transplantation into humans.

But there are [ethical concerns](#) about this type of research, which raise questions such as whether the moral status of nonhuman animals is altered by the insertion of human stem cells, whether these studies should be subject to additional prohibitions or oversight, and whether this kind of research should be done at all.

The report found that:

- Animal welfare is a primary ethical issue and should be a focus of ethical and policy analysis as well as the governance and oversight of chimeric research.
- Chimeric studies raise the possibility of unique or novel harms resulting from the insertion and development of human stem cells in nonhuman animals, particularly when those cells develop in the brain or central nervous system.

- Oversight and governance of chimeric research are siloed, and [public communication](#) is minimal. Public communication should be improved, communication between the different committees involved in oversight at each institution should be enhanced, and a national mechanism created for those involved in oversight of these studies.
- Scientists, journalists, bioethicists, and others writing about chimeric research should use precise and accessible language that clarifies rather than obscures the [ethical issues](#) at stake. The terms "chimera," which in Greek mythology refers to a fire-breathing monster, and "humanization" are examples of ethically laden, or overly broad language to be avoided.

The research is published in the journal *Hastings Center Report*.

More information: Josephine Johnston et al, Clarifying the Ethics and Oversight of Chimeric Research, *Hastings Center Report* (2022). [DOI: 10.1002/hast.1427](#)

Provided by The Hastings Center

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