

Scientists think public opinion important before human gene editing

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The public should be consulted before gene editing is used to treat human embryos, according to a survey of scientists published in the American Heart Association's journal *Circulation: Cardiovascular Genetics*.

"Early studies with [human embryos](#) have established the feasibility of human germline genome editing but raise complex social, ethical and legal questions," said Kiran Musunuru, M.D., Ph.D., MPH, lead survey author and an associate professor of cardiovascular medicine and genetics at the Perelman School of Medicine at the University of Pennsylvania in Philadelphia.

"The future is on us, whether we like it or not."

While new scientific advances have made [gene editing](#) easier and open possibilities for improved treatment and prevention of genetic diseases, the technology has risks, including the unintentional alteration of other [genes](#), and ethical concerns, such as the introduction of mutations that will impact all future progeny.

Musunuru and colleagues presented data on the state of gene editing at the American Heart Association's Arteriosclerosis, Thrombosis and Vascular Biology | Peripheral Vascular Disease Scientific Sessions in May 2017, then polled 300 attendees - cardiovascular researchers - to gauge their opinions on gene editing in humans.

They found:

- 80 percent of respondents supported gene editing in adults to prevent serious diseases but not for enhancements, such as improving athletic ability.
- 68 percent supported conducting research on [germline cells](#) (male sperm cells, female egg cells or embryos resulting from the joining of sperm and egg cells) if the experiments did not lead to pregnancy.
- 61 percent supported using gene editing of germline cells as an option for parents with no other means to have a healthy biological child.
- Opinions were split (45 percent in favor and 40 percent opposed) on parents using germline gene editing to reduce their child's risk of having a serious medical condition.

If gene editing for germline cells became a viable treatment, 68 percent of respondents supported government coverage of costs to ensure that the therapies were available to everyone. However, 72 percent of survey respondents opposed germline gene editing if the general public was not asked for their opinions about the technology first.

"This appears to reflect a general sentiment that the public should be consulted before any clinical application of [germline](#) gene editing proceeds," the survey authors wrote.

More information: *Circulation: Cardiovascular Genetics*, [DOI: 10.1161/CIRCGENETICS.117.001910](https://doi.org/10.1161/CIRCGENETICS.117.001910)

Provided by American Heart Association

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