

**Evaluation Essay: Evaluating the Ethical Implications of CRISPR Gene Editing
Technology**

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CRISPR gene editing technology has turned out to be one of the most radical scientific discoveries of the twenty-first century promising unprecedented control in manipulating DNA and the possibility of transforming medicine, farming and biotechnology. Its alluring acceleration of progress, however, is at any rate a subject of intricate moral doubt as to how far human beings will plunge in modifying the basic components of life. CRISPR at its most fundamental level allows researchers to delete, replace or correct faulty genes with great precision and relative cheapness compared to other approaches to editing genes (Javaid et al., 2022). This potential has massive therapeutic potential especially in the treatment of inherited genetic diseases like sickle cell anemia, cystic fibrosis and muscular dystrophy. Ethically, several researchers believe that the application of CRISPR in somatic (non-heritable) gene therapy is consistent with the legal traditions of beneficence and the elimination of human suffering in medical practice. In case technology is the only sure way of curing debilitating diseases, refusal of the same might be viewed as unethical in itself.

However, the ethical situation is much more debatable in case of germline editing, which is genetic manipulation of embryos, sperm or eggs that can be transferred to the next generations. Germ line intervention is an objection on this issue of consent since a person who is yet to be born cannot consent to genetic modifications which will forever change his or her life. Unintended consequences also exist although they are less likely to occur: mistake mutations or lasting consequences of healthcare which might neither be identified by the generations with the use of the drugs. According to critics, changing the human gene pool can require irreparable evils that cannot be controlled, overruling the precautionary principle that has been followed as a

directive in many biomedical ethics (Myrick, 2025). The persistence of germline edits is what makes CRISPR a therapeutic application turn it into a way of redefining human evolution.

The other critical moral problem is related to the possibility of designer babies. Although modern uses of this technology are on disease prevention, the same technology can theoretically be applied to choose or improve non-medical factors, like intelligence, physical attractiveness or athletic prowess. This provokes the concerns of social justice and equity. In case genetic enhancement is commercialized, then such access would be restricted to only the rich populations which can even increase the socioeconomic gaps that may already exist and generate other genetic types of stratification.

Ethical evaluation is made even more difficult by cultural and religious approaches. Most belief systems consider genetic inheritance as a component of natural or godly order hence introducing a deliberate change is an ethical issue. Those who are actively involved in therapeutic intervention also oppose enhancement, which makes a moral distinction between healing and playing God. Through these pluralistic perspectives, it is difficult to create universal regulatory approaches to a pluralistic world, that is one with varied moral traditions. The ethical governance must thus manage the issue of scientific freedom and cultural sensitivity and public accountability.

There exist biosecurity issues as well. CRISPR is riskier to abuse because of relative ease of access and low cost, as well as uncontrolled use or possible biological weaponization. Although the conduct of most studies is highly probed ethically, the risk of rogue uses is evident, which highlights the necessity of global regulation, openness, and controls (Hukic & Hukić, 2026). Scientific self-governance is not perhaps enough considering the international implication of genetic manipulation.

To summarize, the CRISPR gene editing technology is full of extraordinary potential and massive depth of ethical concern. Its curing capabilities are as much in accordance with the noble purpose set by medicine, but its capacity to change the heredity of human beings, promote inequality, and create irreplicable dangers requires careful supervision. The future course of CRISPR will be an issue of ethical stewardship, based on principles of safety, justice, consent, and global cooperation, which will dictate whether the CRISPR will be an instrument of shared human prosperity or a divide among humans.

References

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