

Researchers at the University of Amsterdam used CRISPR gene-editing technology to eliminate HIV from infected cells in a lab setting.

This is an early step and not a cure yet, but it shows promise for the future of HIV treatment, according to a report by BBC News.

CRISPR works like molecular scissors, cutting specific sections of DNA. In this case, scientists used it to target and remove HIV's genetic material from infected cells.

"The researchers presented their findings as a summary at a medical conference, highlighting the need for further investigation," BBC News reported. "This is not a cure readily available to patients."

Several hurdles must be overcome before this can become a real-world treatment. First, success in the lab doesn't guarantee success in the human body. More research is needed to see if CRISPR can achieve the same results in patients.

"Much more work will be needed to demonstrate results in these cell assays can happen in an entire body for future therapy," said Dr. James Dixon, a stem-cell and gene-therapy expert at the University of Nottingham. "There will be much more development needed before this could have an impact on those with HIV."

Second, HIV can hide in reservoirs within the body, making it difficult to eliminate entirely.

"It is 'extremely challenging' to remove HIV from all the cells which might be harbouring the virus in the body," said Dr. Jonathan Stoye, a virus expert at the Francis Crick Institute, in London.

Finally, there are safety concerns about CRISPR editing unintended DNA sections, which could lead to side effects.

Despite these challenges, researchers are optimistic that CRISPR could revolutionize HIV treatment. However, several years of dedicated research and testing are likely required before a safe and effective CRISPR-based therapy becomes a routine option.

This research adds to other ongoing efforts using CRISPR against HIV.

Excision BioTherapeutics has reported no serious side effects in volunteers after 48

weeks of treatment with their approach.