# Unexpected hive reactions found in mRNA HIV vaccine trial participants



A recent clinical trial of experimental mRNA-based HIV vaccines has revealed an unexpected side effect among participants, prompting calls for further investigation by experts. The trial, involving 108 HIV-negative volunteers, was conducted using three different vaccine formulations developed by Moderna, utilising the same mRNA technology employed in Covid-19 vaccines.

According to researchers from the University of Pittsburgh, approximately 7 per cent of the participants developed an itchy, bumpy skin rash known as hives following vaccination. While the rash resolved in some individuals, more than half of those affected continued to experience recurring outbreaks up to a year after receiving the injections. Remarkably, some participants reported episodes of hives nearly three years post-vaccination.

The study divided the volunteers into groups receiving either a high or low dose of one of the three vaccine candidates, administering booster doses at 12 and 24 weeks after the initial shot. Throughout the trial, the vaccines were generally found to be safe and tolerable; however, the persistent hive reactions across all three formulations were unforeseen.

In a report published in the Annals of Internal Medicine, the research team noted that the cause of the hives remains unclear. They hypothesised that the reaction may stem from a combination of factors, including vaccine components, dosage levels, and unidentified environmental influences. The analysis also highlighted that participants who had previously received the Moderna Covid-19 vaccine were more likely to develop the hive rash, though this correlation does not establish a causal link.

Independent experts, writing in an accompanying editorial, acknowledged that while hives are typically a minor condition, such adverse effects could contribute to vaccine hesitancy and impede widespread vaccine adoption. They emphasised the necessity for further studies to elucidate the mechanism behind this reaction, aiming to enhance the safety profile of mRNA vaccines and support their broader acceptance.

HIV remains a global health challenge, affecting approximately 100,000 people in the UK and 1.2 million in the United States. Despite available antiretroviral therapies that allow many to live long and healthy lives, an effective vaccine offering lifelong protection has yet to be developed. More than 40 million lives have been lost to the virus since its emergence over four decades ago.

In the UK, new HIV diagnoses had been declining for years but saw a significant increase in 2023, with over 6,400 cases reported—a 46 per cent rise from the previous year. Health officials suggest this surge may reflect ongoing transmission within the population or increased diagnoses linked to migration.

While prevention strategies focus on safe sex practices and daily prophylactic medication, the search for a safe, effective vaccine continues to be a critical priority in the global effort to control HIV. The recent findings regarding the unexpected skin reactions in the mRNA vaccine trial underscore the ongoing challenges faced by scientists in this endeavour.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://investors.modernatx.com/news/news-details/2022/IAVI-and-Moderna-Launch-Trial-of-HIV-Vaccine-Antigens-Delivered-Through-mRNA-Technology/default.aspx> - This URL supports the claim that Moderna and IAVI are working together on HIV vaccine trials using mRNA technology. It highlights their collaborative efforts in developing a vaccine.
2. <https://www.hiv.gov/blog/encouraging-first-in-human-results-for-a-promising-hiv-vaccine> - This link mentions the ongoing efforts to develop an HIV vaccine, including collaboration with Moderna on mRNA-based vaccines. It discusses the promising results and challenges in vaccine development.
3. <https://www.science.org/content/article/puzzling-skin-side-effects-stymie-advance-promising-hiv-vaccine> - This article corroborates the issue of skin side effects in HIV vaccine trials, particularly those involving mRNA technology, which is a significant challenge for further trials.
4. <https://www.iavi.org/features/iavi-statement-on-mrna-hiv-vaccine-candidate-trials/> - This link provides information on IAVI's involvement in mRNA HIV vaccine trials and their efforts to address challenges like skin side effects.
5. <https://investors.modernatx.com/news/news-details/2022/Moderna-Announces-First-Participant-Dosed-in-Phase-1-Study-of-its-HIV-Trimer-mRNA-Vaccine/default.aspx> - This URL details Moderna's Phase 1 study of an mRNA-based HIV trimer vaccine, highlighting their commitment to developing an effective HIV vaccine using mRNA technology.
6. <https://www.noahwire.com> - This link does not provide new information on HIV vaccine trials but is the source of the initial news article.
7. <https://www.dailymail.co.uk/health/article-14656287/unexpected-effect-new-mRNA-jab-HIV.html?ns_mchannel=rss&ns_campaign=1490&ito=1490> - Please view link - unable to able to access data