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## Gene manipulation for variola?

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An expert committee that advises the [World Health Organization](#) (WHO) has recommended that researchers in the United States and Russia be allowed for the first time to genetically engineer variola virus, the cause of [smallpox](#), in order to accelerate drug development.

At a meeting in Geneva last week, the Advisory Committee on Variola Virus Research voted to approve a proposal that a green fluorescence marker be inserted in the variola genome to help speed up and automate drug screening, said [Geoffrey Smith](#), from Imperial College London, who chaired the meeting. Neither Smith, nor the WHO, would say where the proposal originated.

"We recommended that the work... should be permitted - subject to a whole load of provisos and conditions," Smith told us. Use of the marker would accelerate screening by factors of 10 or 100, he said. It would also reduce the amount of time that lab workers would need to be in biosecurity level 4 labs handling live variola virus.

Smith said that smallpox drug development needs to be accelerated because of fear of bioterrorism. That view was echoed by a WHO spokesman, who added: "It's all been given new impetus over the last 3 to 4 years, since 9/11, and the deliberate use of anthrax in the US."

The spokesman emphasized that the advisory group's role is only to make recommendations to the World Health Assembly. In practice, he said, the proposal will first be seen by the WHO executive board and director general before it is considered by the World Health Assembly in May next year.

The committee's first proviso for its recommendation is that the research must only be done in the two laboratories currently handling live variola, at the Centers for Disease Control and Prevention in the United States and at Novosibirsk in Russia. The second is that the proposal must also be put to the relevant institutional and national safety committees and submitted to the scientific subcommittee of the Advisory Committee on Variola Virus Research.

According to WHO, the committee requested more detailed research proposals and a full safety assessment. There is some concern about the stability of the large virus and a small risk of increasing virulence.

But Smith told us: "There's no precedent for engineering variola virus, so we can't answer that with certainty. All one can do is to extrapolate from the expression of this type of protein in other orthopox viruses [such as vaccinia], and where that's been done the virus has remained stable and, importantly, the virulence of the viruses hasn't increased."

## References

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