



Nasal Covid Vaccine

Nasal vaccines: A silver bullet for Covid-19?

The first of nasal vaccines targeting the Sars-CoV-2 were approved this week. A look at how they may be a game-changer

THE CANDIDATES

According to the World Health Organization data, there are eight intranasal vaccines under development. Two of these now have received some form of approval

Convidecia Air

PRODUCER: CANSINO BIOLOGICS

Platform: Ad5 adenovirus based inhaled vaccine

In July, Chinese scientists published a pre-print study that one booster dose of the inhaled vaccine led to more antibodies than a conventional booster shot. Four weeks after the dose of the inhaled vaccine, 92.5% of people had antibodies for Omicron, while those who got three doses of the intramuscular jab did not have any.

Incovacc

PRODUCER: BHARAT BIOTECH

Platform: Ad35 adenovirus based intranasal vaccine

Developed in partnership with Precision Virologics and Washington University School of Medicine, this dose has in animal trials been shown to confer superior protection than conventional doses, elicited antibodies in the mucous membranes and epithelial cells in the lungs that the intramuscular jabs would not be able to. Clinical trial data has not been released yet. The vaccine received official approval for emergency use on Tuesday.

THE ADVANTAGES

Scientists have described protection from nasal vaccines as akin to "putting guards outside a home, instead of having them inside".



BETTER LUNG PROTECTION:

While a study that showed this involved a different vaccine, scientists at Yale found that the nasal vaccine they tested also lead to IgA antibody secretions in the lung, protecting it better.



MAKES VIRAL ENTRY DIFFICULT:

These vaccines elicit what are known as IgA antibodies, which coat the mucous lining. This is crucial because the coronavirus first infects the mucous membrane in the nose and throat from where it spreads further. In other words, these are likely to prevent infection in the first place.



POSSIBLE DROP IN INFECTIVITY:

Shots delivered to the muscle only marginally limit a vaccinated person's tendency to spread the virus, though they are significantly protected from disease. Nasal vaccines will cut this infectivity drastically, which could blunt new waves.



AND ANY CHALLENGES?

While these vaccines are largely safe, they are tough to get right. Efficacy depends entirely on the bioengineering and platform involved and current candidates employ a wide variety of approaches.

India's vaccination: In numbers

2.14 billion

Total shots administered

1.03 billion

People jabbed till date

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