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First Australian COVID-19 DNA vaccine trial starts

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Partnership to test SARS-CoV2 DNA vaccine in healthy Australians



Australian researchers are commencing the first Phase 1 human trial of a COVID-19 gene-based DNA vaccine, delivered via a needle-free system.

Led by the University of Sydney, Scientia Clinical Research (Sydney), Telethon Kids Institute (Perth) and the Women's and Children's Hospital (Adelaide), the COVALIA trial uses a gene-based vaccine with DNA sequences from the SARS-CoV2 virus.

The researchers have partnered with Australian biotech company Technovalia and its international vaccine partner BioNet who developed the DNA vaccine. It uses similar technology to other genetic vaccines, like mRNA, in use in Australia and internationally.

This potential next-generation vaccine has no additives or preservatives. It will be given using a needle-free device that penetrates the skin with a jet spray and is designed to make sure the vaccine gets inside the cells to encourage good uptake by the immune system.

While not approved outside research studies in Australia, this needle-free device is already being used to give influenza vaccines in the United States.

The Phase 1 trial will recruit 150 participants with screening and enrolments of participants now open.

The key goal is to examine the safety of two doses of the vaccine given one month apart. If the trial is successful, then a larger phase 2 trial will be undertaken.

The trial will also look at whether a lower vaccine dose may work better following vaccination into the skin rather than muscle, which is important as it could enable more people to be vaccinated with the available vaccine supply.