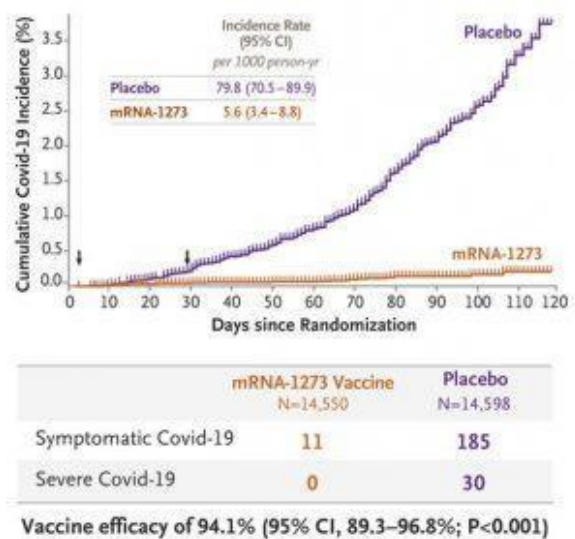
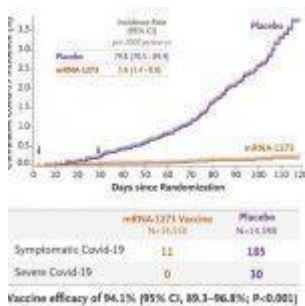


# Efficacy and Safety of the mRNA-1273 SARS-CoV-2 Vaccine



Source: Baden et al, 2020.  
Efficacy and Safety of the  
mRNA-1273 SARS-CoV-2  
Vaccine. NEJM.

The mRNA-1273 vaccine is a novel lipid nanoparticle (LNP)-encapsulated mRNA-based vaccine that encodes for a full-length, prefusion stabilized full-length spike (S) protein of SARS-CoV-2 the virus that causes COVID-19. The vaccine mRNA-1273 candidate is co-developed by Moderna and Vaccine Research Centre based at the US-National Institutes of Health.

The Coronavirus Efficacy (COVE) phase 3 trial was launched in late July 2020 to assess the safety and efficacy of the mRNA-1273 vaccine in preventing SARS-CoV-2 infection. The

trial was conducted at 99 centres in the United States. It was randomized, observer-blinded and placebo-controlled.

30,420 volunteers over 18 years old, were randomly assigned to receive either the vaccine or placebo in two intramuscular injections 28 days apart. The volunteers were followed for 2 months after the second dose to check for safety and laboratory-confirmed symptomatic COVID-19.

*Efficacy was similar across key secondary analyses, including assessment 14 days after the first dose, analyses that included participants who had evidence of SARS-CoV-2 infection at baseline, and analyses in participants 65 years of age or older. Severe Covid-19 occurred in 30 participants, with one fatality; all 30 were in the placebo group. Moderate, transient reactogenicity after vaccination occurred more frequently in the mRNA-1273 group. Serious adverse events were rare, and the incidence was similar in the two groups.*

The two doses of mRNA-1273 vaccine showed 94.1% efficacy at preventing COVID-19 illness including severe disease in persons 18 or older. *Aside from transient local and systemic reactions, no safety concerns were identified.*

The authors stated that there are still questions remaining and more research will be needed to understand the following:

- *Safety and efficacy over a longer period of time, in a larger population, and in pregnant women and children*
- *Whether the vaccine protects against asymptomatic infection and transmission to unvaccinated persons*
- *How to care for those who miss the second vaccine dose*

**Journal Article: Baden et al, 2020. [Efficacy and Safety of the mRNA-1273 SARS-CoV-2 Vaccine](#). NEJM.**

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- [SARS-CoV-2 mRNA-1273 vaccine shows signs of potential](#)

efficacy

- Safety and immunogenicity of the SARS-CoV-2 mRNA-1273 vaccine candidate in older age
- NIH COVID-19 lecture on SARS-CoV-2 mRNA vaccine
- mRNA Vaccine against SARS-CoV-2 induces robust Ab responses
- Potential SARS-CoV-2 & COVID-19 Vaccines

*Summary by Bon Holtak*