

# COVID-19 Vaccines: Journal of Pulmonary & Respiratory Medicine

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## Editorial

Pneumonia, lymphopenia, exhausted lymphocytes, and a cytokine storm are all symptoms of severe coronavirus disease 2019 (COVID-19). Significant antibody development is observed; however, it is unclear if this is protective or pathogenic. Defining the immunopathological changes in COVID-19 patients offers new drug targets and is critical for clinical management.

Infection with SARS-CoV-2 can activate both innate and adaptive immune responses. Uncontrolled inflammatory innate responses and damaged adaptive immune responses, on the other hand, can cause local and systemic tissue damage. Lymphopenia is a typical characteristic of extreme COVID-19, but not of moderate disease, with significantly reduced numbers of CD4+ T cells, CD8+ T cells, B cells, and natural killer (NK) cells, as well as a lower percentage of monocytes, eosinophils, and basophils.

Most of the people in the world considering the COVID 19 vaccine is unsafe because of the development process is quick, misbeliefs of several side effects, infertility in women, and other myths making people discomfort in vaccinating with COVID 19 vaccines. But there are no such proofs for myths stated above, we do believe some side effects like body pains and mild fever. Vaccines though developed quickly had undergone several clinical and pre-clinical evaluations before approval and starting vaccinations. COVID-19 vaccine prevents you from becoming sick with COVID-19 by training the immune system how to identify and battle the virus that causes COVID-19. Below are the few COVID 19 vaccines developed by global pharma companies which are approved.

- Covaxin is an inactivated vaccine, meaning it is made up of coronaviruses that have been destroyed, making it safe to inject into the body. Bharat Biotech used a coronavirus

sample isolated by the National Institute of Virology in India.

- The Serum Institute of India, the world's largest vaccine producer, is producing the Oxford-AstraZeneca vaccine locally.
- The Gamaleya Research Institute of Epidemiology and Microbiology developed Sputnik V, a COVID-19 vaccine.
- Pfizer and BioNTech collaborated to create the Pfizer-BioNTech vaccine, which is approved for people aged 16 and up.
- The Moderna COVID19 vaccine, also known as mRNA-1273, is a COVID19 vaccine developed by the National Institute of Allergy and Infectious Diseases (NIAID), the Biomedical Advanced Research and Development Authority (BARDA), and Moderna for people aged 18 and up.
- The Johnson & Johnson COVID-19 vaccine is a human adenovirus viral vector vaccine developed by Janssen Vaccines in Leiden, the Netherlands, and its Belgian parent company Janssen Pharmaceuticals, a subsidiary of Johnson & Johnson. It is recommended for people aged 18 and up.

Moderna and Pfizer BioNTech are considered as 95% effective, Sputnik V is considered as 92% effective and Oxford Uni-AstraZeneca is considered as 60-90% effective. Every year, vaccines save millions of lives. Vaccines work by teaching and preparing the body's natural defences, the immune system, to identify and combat the viruses and bacteria they are designed to combat. If the body is later exposed to such disease-causing germs after vaccination, the body is able to kill them right away, avoiding illness. To prevent COVID-19 disease every individual should get vaccinated at their turn and avoid spreading of coronavirus disease.

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