

## Vaccines from BioNTech/Pfizer and Moderna can be combined

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More people in Norway are being offered a vaccine from the drug manufacturer Moderna for their second dose, even though they received a vaccine from BioNTech / Pfizer for their first dose.

Combining vaccines provides similar protection and carries no greater risk of serious side effects than having both vaccines from the same manufacturer.

"We know that both mRNA vaccines are effective, also against the Delta variant, and that the <u>vaccine</u> from Moderna seems to have at least as good a vaccine effect as the BioNTech / Pfizer vaccine. Vaccination is the most important tool we have to combat this pandemic, and the NIPH recommends that everyone says yes when they are offered the vaccine, regardless of which mRNA vaccine they are offered," says Geir Bukholm, Director of the Division of Infection Control and Assistant Director-General at the NIPH.

## mRNA vaccines based on same technology

The vaccines from Moderna and BioNTech / Pfizer are based on the same technology and protect against the same part of the coronavirus called the

spike protein. After the first dose of an mRNA vaccine, the body has learnt to recognize this protein. When the second dose of mRNA vaccine is given, the protection given by the first dose is enhanced. This happens regardless of which of the two mRNA vaccines is given and which was given first.

"The same thing happens when you have had a coronavirus infection and only need one vaccine dose, since the immune system also recognizes the spike protein. This indicates that the <a href="mailto:immune">immune</a> <a href="mailto:system">system</a> is reacting well, even if it is stimulated in two different ways," Bukholm explains.

## Good experience from other countries

The European Centre for Disease Prevention and Control (ECDC) recommends combining different coronavirus vaccines when the same type of vaccine is not available. Countries such as Canada and the United Kingdom, like Norway, also combine different coronavirus vaccines.

"Combining two different vaccines has been shown to have no other types of side effects than those seen when using two doses of the same vaccine. Our recommendation for everyone to accept the vaccine they are offered is based on several types of assessments, as well as experiences from the countries in which this is practiced," says Bukholm.

There are no results yet from studies testing the combination of the mRNA vaccines, but studies of the combination of viral vector vaccines (such as the AstraZeneca vaccine) with the mRNA vaccine have yielded good results.

"It is highly likely that the same will apply to the combination of the mRNA vaccines, and we have no knowledge to indicate any problems with such a combination," he explains.

## Say "yes" to the vaccine offered



Norway is now receiving more vaccine doses from Moderna and fewer from BioNTech / Pfizer than expected, so some people may receive their second dose from Moderna if this is the vaccine available at the time of vaccination.

"The pandemic is not over, and our main goal is to help protect the population against a severe disease course and death from COVID-19, as well as to reduce transmission. Vaccination is very important in this fight. The population should say yes to being vaccinated with the vaccine that is offered," concludes Geir Bukholm.

Provided by Norwegian Institute of Public Health

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