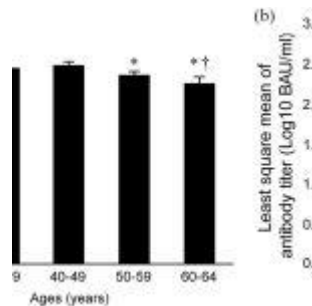


Time of day for COVID-19 vaccination does not matter



In a new study, researchers have found that immunisation with the Moderna COVID-19 mRNA vaccine at different times of the day has no effect on the efficacy of the vaccine (Figure 1).

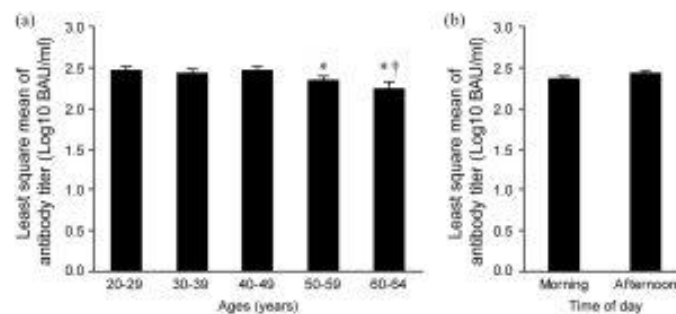


Figure 1: Associations between the least square means of SARS-CoV-2 antibody titers, participant's ages, and time of day of vaccination. Association between the least square means of log10 transformed SARS-CoV-2 antibody titers between the participant's ages (a). * $p < 0.05$ vs. 20 to 29 years. † $p < 0.05$ vs. 40 to 49 years. Student's t-test. Association between the least square means of antibody titers and time of day of vaccination in the morning and afternoon (b).

The immune system like many other physiological systems exhibit circadian rhythms. In the present study, the researchers wanted to see if there was an association between the time of day a vaccine is administered and the effect on immunisation. The specific vaccine of interest was done on Hokkaido University employees and students who received their first dose of the mRNA-1273 (Moderna) vaccine. They had a total of 332 enrolments and measured the antibody titers in these individuals. In the end, they did not discover a connection between the time of day when the vaccine was administered and the level of SARS-CoV-2 antibodies, but we did discover that participants aged 50 to 64 had lower antibody titers.

Interestingly, it is important to study the relationship between immunisation and other factors such as *differences in sex, age, physical activity, and natural immune system, the type of vaccine received, number of days after vaccination, and differences in vaccine dose.*

The researchers stated that the study was small, and a bigger longitudinal study would be needed to validate and further investigate the research questions of the study.

Journal article: Yujiro Yamanaka, Isao Yokota, Atsushi Yasumoto, Eriko Morishita, Hisanori Horiuchi. [Time of Day of Vaccination Does Not Associate With SARS-CoV-2 Antibody Titer Following First Dose of mRNA COVID-19 Vaccine](#). *Journal of Biological Rhythms*.

Summary by Stefan Botha