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Questions relating to the Quantitative Antibody test for SARS-CoV2 infection

The current test being used is the Roche Elecsys Anti SARS-CoV2 S, which detects antibodies to the Receptor Binding Domain (RBD) of the Spike Antigen of the SARS-CoV2 virus.

This is a quantitative test, which gives a range of antibodies detected when positive from 0.8 to >2500.

This test has been used in the research setting to understand post-vaccine antibody responses and has only been released for non-research use in early 2021.

Recent studies (NEJM Polack 2020 & Walsh NEJM 2020) show that the antibodies to the Spike antigen correlate well with functional virus neutralisation, ie correlate with immunity to the SARS-CoV2 infection.

Latest studies (26th Feb 2021, Boyton R 2021) show that after the first Pfizer vaccine the level of immunity achieved is similar to that after natural infection (range 10- 10,000 with average 100 iu/ml).

In those with previous SARS-CoV2 infection (asymptomatic or severe), after the first Pfizer vaccination the dose of antibodies produced is more than 140 times that of those without previous infection.

Although much of the information regarding the exact level of protection of the level of antibodies is still ongoing, we can safely say:

- A negative result means that you have not produced any antibodies to the vaccine and therefore you have NO immunity to the SARS-COV2 virus. Contact your GP with this result and request an earlier date for your second vaccination.
- Antibody levels < 100 iu /ml, show a poor level of protection – levels should be repeated in 2 weeks and boosters (vaccination) advised with repeat levels 4 weeks post booster. Take results to GP and request an earlier 2nd Vaccination.
- Antibody levels 100-500m show a good level of protection – levels should be repeated in 3 months and if less than 100 iu/ml, as above.
- Antibody levels >500 iu/ml show a very high level of protection, repeat levels in 3 and 6 months to check for antibody waning.