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A good antibody response from the vaccine is important for protection against future COVID-19 infection and goes hand in hand with another type of immune response we get from T-cells. These two different parts of our immune system work together to protect us from infection and also control infection. Whilst the SCOV (Covid Antibody test) is an extremely valuable and necessary test I am pleased to be able to offer my patients and their wider community the T-Spot serology test developed by Oxford Immunotech and used by Public Health England.

We know that T-cells detect viruses within cells and that the role of T-cells in the immune response broadens immunity to disease from COVID-19. For some patients who have had a sub-optimal or negative antibody response to the vaccine I would advise you to have the T-Spot test which will detect your T-cell response. We know that individuals who do not produce antibodies after a natural infection (seronegative), develop a PROTECTIVE T Cell mediated response and this will be the same after vaccination. It is likely therefore that the T Cell responses may be more sensitive indicators of SARS-CoV2 exposure / vaccination than antibodies alone.

In addition although we know antibodies will begin to decrease/ disappear after 4-6 months, a large proportion of individuals have detectable circulating SARS-CoV2 memory CD8 cells. We therefore predict that ***post-vaccination*** your protective antibodies may decrease by 4-6 months after vaccination but you will have protective immunity if you have memory CD8 SARS-CoV2 specific T cells.

Why the T-Spot test is important:

T cell response may play a role in protecting individuals against infection/ re-infection with the SARS-COV-2 virus (COVID-19) even in patients with a negligible or undetectable antibody response post vaccination.

T cell responses can be detected in patients who had positive PCR tests for COVID-19 but a negative antibody test.

This test is CE marked and has already been approved by Public Health England for wider use after initial use in research settings by the UK Vaccines Task Force.

<u>I Recommend using this test if:</u>

1. **After first vaccine – antibodies are negative/ very low (<20 IU/ml)**
2. **After second vaccine – antibodies are negative / low (<100 IU/ml)**
3. **At 6 months after second vaccination in everyone.**