

Questions for Steve Pascolo

1. Could you please comment on the demonstrated duration of protection of the different vaccine options?

⇒ **Answer from Steve Pascolo:** *As far as I know, the different vaccine platforms (Protein, recombinant adeno, mRNA, inactivated virus) gave a limited duration of protection with neutralizing antibodies against SARS-CoV-2 decaying from 3 months post injection. Keeping high protection requires repeated injections. One could expect that in the future for the now immune population, one boost just before winter would be sufficient to provide protection.*

2. Do you have plans to compare different application times for non-inferiority? I believe that 5 minutes application will be seen as a disadvantage for campaign use but it should be fairly straightforward to compare 1, 2, 3, 4 and 5 min application with the same patches you used for the Phase I/II trial.

⇒ **Answer from Steve Pascolo:** *I never used patches. I do not know what would be the optimal application time for this delivery method.*

3. What is the possibility of up-scaling for the mRNA cancer vaccines tailored to individual patients? How do you envisage the integration of these into prevention programmes?

⇒ **Answer from Steve Pascolo:** *Companies are upscaling their capacities to design and produce individualized (customized mRNA made for a single cancer patient) mRNA vaccines against cancer. It is still a work intensive process but automation of each step as well as technical innovations in the design of mRNA will help to reduce more and more time and costs (and requested personal). With those advances, one could assume that when individualized mRNA vaccines against cancer will be approved (it will still require few years, Moderna just starts a phase III), infrastructures requested to offer this treatment to a large number of patients will be available.*

4. Can mRNA Vaccine have rapid waning immunity ?

⇒ **Answer from Steve Pascolo:** *So far the two approved vaccines (being non replicating linear mRNA) give immunity that indeed decays within months post injection. I believe that other forms of mRNA vaccines (for example replicating) could eventually give more persisting immunity. That needs to be evaluated (follow the vaccine against SARS-CoV-2 made by Arcturus for example)*

5. Is there any theoretical basis or hypothesised mechanism that may explain the association of mRNA vaccines with myocarditis please? (or is this association likely to be only specific to SARS-CoV-2/COVID19 vaccines?) Thanks.

⇒ **Answer from Steve Pascolo:** *As far as I know, the mechanisms underlying the rare myocarditis cases associated to the mRNA vaccines are still not clear. I cannot give further input here.*