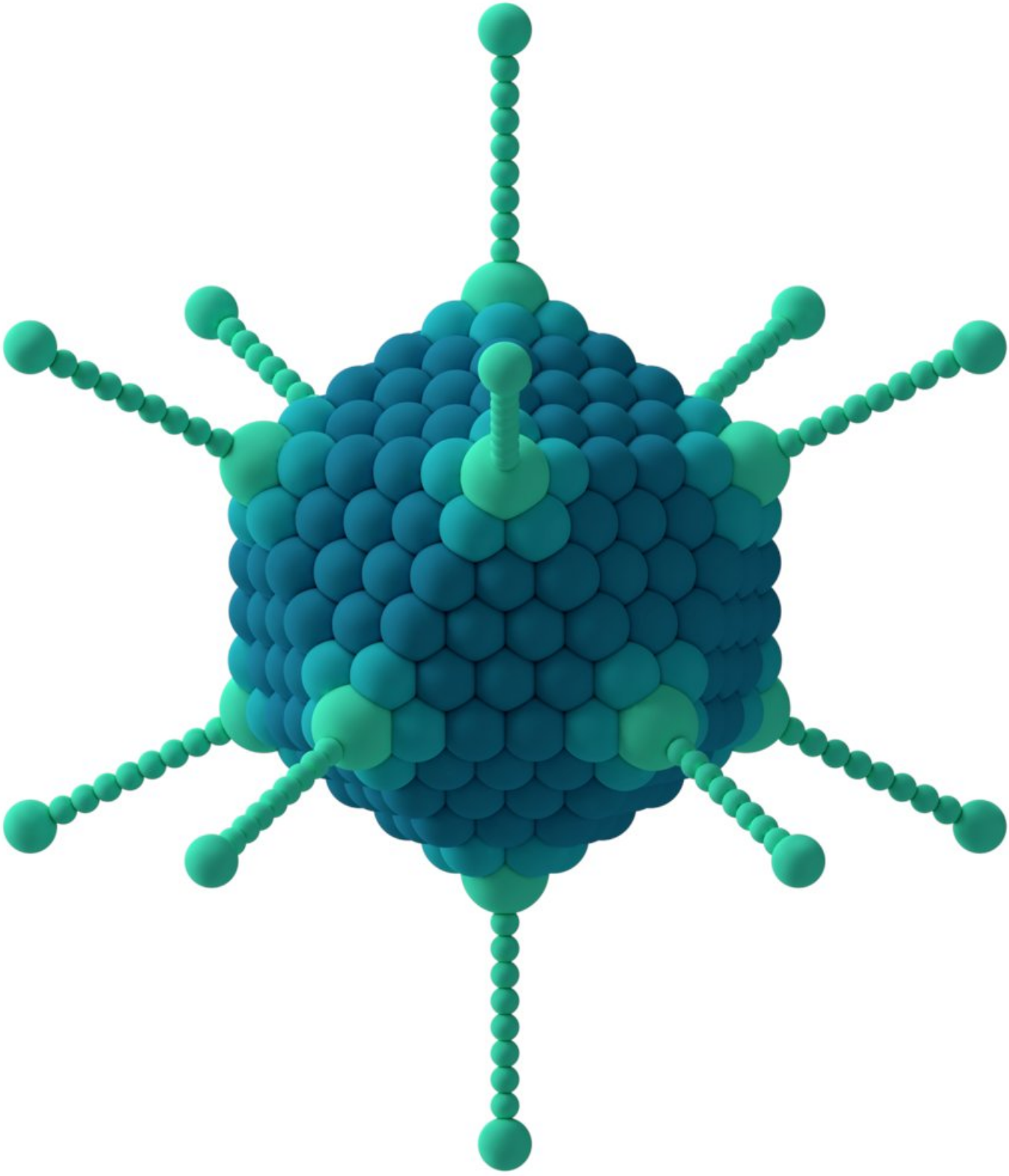
Twitter Thread by Ryan McNamara ■



Ryan McNamara ■
@Ryan_Mac_Phd

The J&J vaccine reportedly confers 85% protection after 1 month. Some suggest this could be improved with a booster. About that...

J&J vaccine uses a replication-incompetent adenovirus (Ad26) to deliver the SARS-2 Spike protein. Here's what a typical adenovirus looks like: (1/5)



This particular adenovirus, Ad26, was likely chosen as antibody prevalence against it is very low in humans. This allows for the presentation of the SARS-2 Spike protein without the neutralization of the vehicle (Ad26). (2/5) https://t.co/4VnZ5jIkfI

Adeno-based vaccines are not new. They can elicit great antibody responses against a custom antigen, like SARS-2 Spike. But they also can elicit an antibody response against the adenovirus itself (esp. true for previous HIV vaccine candidates). (3/5)
https://t.co/iGhIwo5dU6

So a booster of an Adeno-based vaccine might actually be partially neutralized by antibodies made against the original adenovirus. This makes the boosters tricky for them.
Thankfully, the Ad26.SARS.2 from J&J is very good using 1 dose! (4/5)

* Moderna/Pfizer vaccines use inert lipid nanoparticles to deliver mRNA encoding for SARS-2 Spike. Since antibodies are not produced against the lipid nanoparticles, a booster works really well! The same can be true for component and live-attenuated vaccines. (5/5)