

## A vaccine candidate for the coronavirus!

**The News:** Everybody is talking about a new coronavirus vaccine candidate that looks promising. What's this about?

Researchers at Oxford University say that they have a candidate for a novel coronavirus vaccine that looks promising! This was in development last year, for another coronavirus, and has been tested in humans. It was found to be safe, so they can go ahead directly into clinical trials in humans!

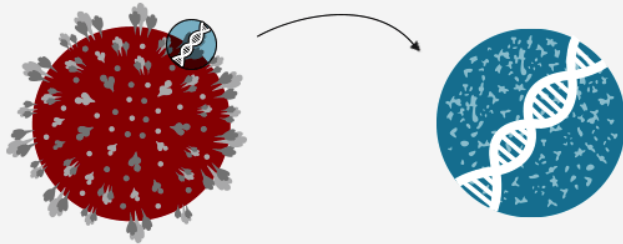
**Status:** The group has started clinical trials in humans now, and plans to test it in upto 5000 patients in areas that have a lot of people who have been diagnosed with the virus. If this works, it could be the first to the market as it does not have to do the studies to show that it is safe in humans - these have already been done.

**What does the Serum Institute in Pune have to do with this?** Well, the Serum Institute is one of the manufacturing partners for this vaccine.

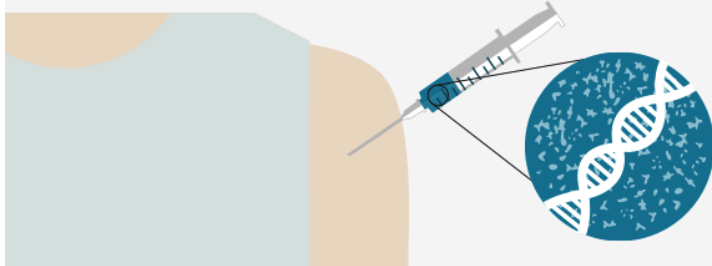


## How coronavirus vaccine will work

Scientists have taken genes for the spike protein on the surface of coronavirus, and put them into a harmless virus to make a vaccine

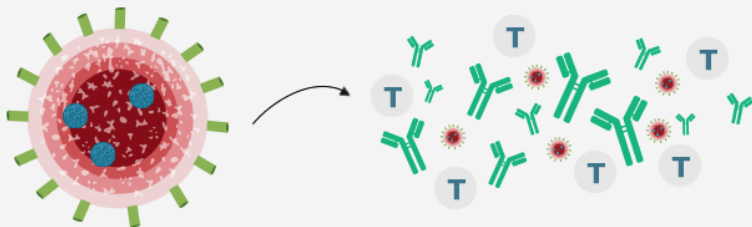


This is injected into the patient

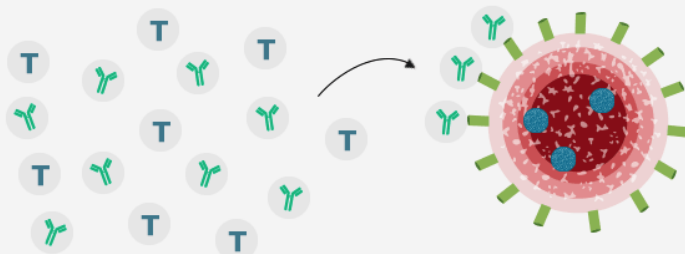


The vaccine enters cells, which then start to produce the coronavirus spike protein

This prompts the immune system to produce antibodies and activate killer T-cells to destroy infected cells



If the patient encounters coronavirus again, the antibodies and T cells are triggered to fight the virus



Credit: bbc.com

## Here are the important points:

1. This particular vaccine has been tested in humans before and they say that there were no safety issues.
2. An animal study in 6 rhesus monkeys showed that the monkeys who were inoculated with the vaccine and then 'challenged' or exposed to the coronavirus in quantities that had sickened this type of animal before, were fine, even 28 days later.
3. Therefore they are going ahead and recruiting patients - first healthcare workers and then later upto 5000 or 6000 patients - half will be given the vaccine candidate, half will be given placebo (a dummy injection). Then what? Then they will wait and see if any get sick with the coronavirus in their regular lives. If the trial arm has a lower rate of infection than the placebo arm, then it has worked.
4. What could the challenges with this be?
  1. Exposure to the virus! It depends on how exposed the people in the clinical trial will be to the coronavirus in the coming months. Only with enough numbers will they be able to tell if the vaccine works.
  2. How much the virus mutates.

So let's keep our fingers crossed that this works! And if not, then there are many other medicines and vaccines that are in various stages of discovery and testing. With the whole world working on this, we are sure to come up with some solutions!

---

Written by: Sunaina Murthy