



# Vaccine Information Sheet

24/11/20 - what we currently know about the Covid-19 vaccines

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## How do vaccines work?

To understand how vaccines against viruses work, it helps to understand how infection causes disease. When a virus enters the body, it attacks your cells and multiplies. Your natural immune system is activated. There are 3 main types of immune system cells in your blood- macrophages, B lymphocytes and T lymphocytes and between them these cells kill the virus. It can take several days for the system to start to destroy the virus. **Once you've had an infection the immune system remembers the germ so if you are infected again the response is usually quicker.** You will have developed antibodies and T cell lymphocytes specific to the virus.

Vaccines help develop immunity by imitating an infection. This 'imitation infection' can cause minor symptoms, such as fever, headache. Such minor symptoms are normal and should be expected as the body builds immunity. **The way the vaccine works is that after the 'imitation infection', the body remembers the germ so if you are exposed to the real germ, the immune system is ready immediately to fight it before it causes symptoms.**

There are various ways of making vaccines which range from using live but weakened versions of actual vaccines (similar to the chicken-pox vaccine), using inactivated viruses (such as polio), using harmless proteins taken from actual viruses (such as the hepatitis B vaccine) or synthetic vaccines which are made chemically without using actual virus particles such as the ebola vaccine.

## What is the Oxford/Astra Zeneca vaccine and how does it work?

The Oxford vaccine is a genetically modified common cold virus that used to infect chimpanzees. It has been developed in the UK.

It has been altered to stop it causing an infection in people and to carry the blueprints for part of the Covid-19 virus, known as the spike protein.

Once these blueprints are inside the body they start producing the coronavirus' spike protein which is not harmful unless attached to the virus itself, but which the immune system recognizes as a threat and tries to squash it.

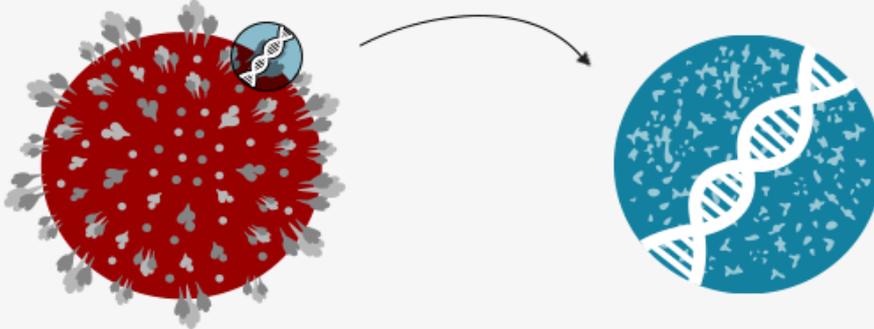
The UK have pre-ordered 100 million doses of this vaccine, and some could be available before the end of 2020.

It is a 2 dose schedule 3-4 weeks apart.

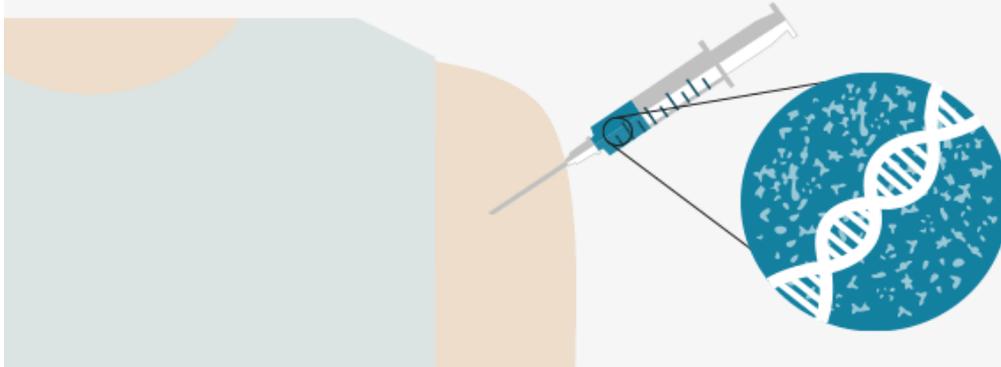
**UPDATE 2/2/21- This is now given 12 weeks apart.**

## 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

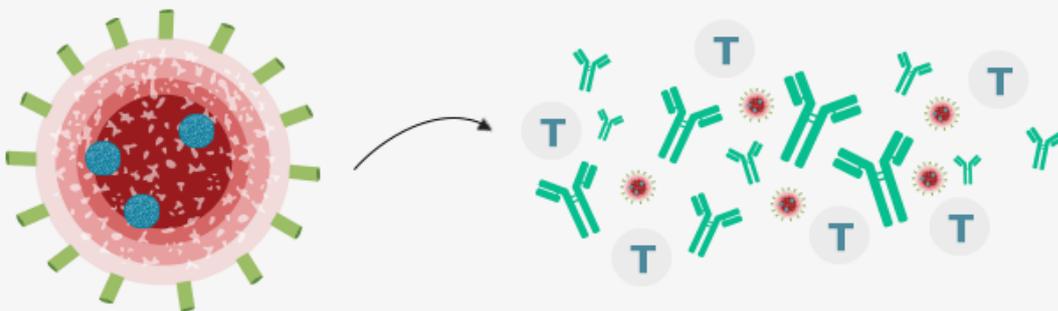


This is injected into the patient

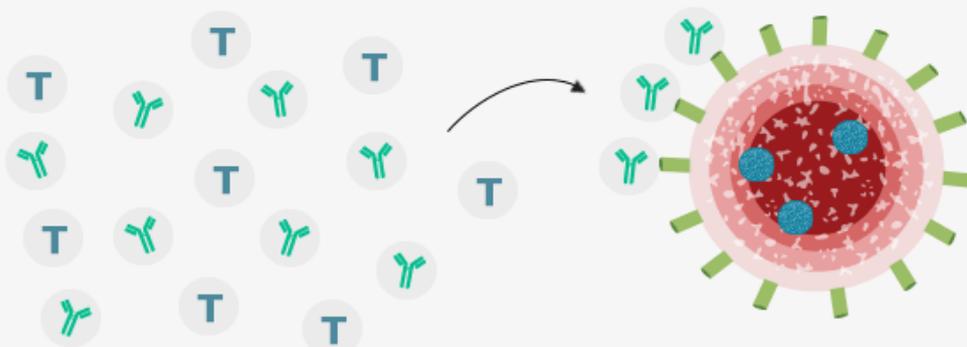


The vaccine enters cells, which then start to produce the coronavirus spike protein

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



## How good is the Oxford Vaccine?

- This vaccine has been tested on **24000 people** to date.
- **It was shown to be over 70% effective after 28 days BUT an interesting finding was that in a smaller group of 3000 people who were given a smaller first dose, it was over 90% effective.**
- There were 101 Covid-19 infections in the placebo (dummy injection) group
- There were 30 cases of Covid-19 infection in the vaccine group.
- **Nobody in the vaccine group developed severe Covid or needed hospital treatment.**
- **Side effects were reported to be rare and minor symptoms** such as arm ache/fever similar to other vaccines.

## What is the Pfizer/BioNTech vaccine and how does it work?

Pfizer's vaccine is a synthetic vaccine that uses messenger-RNA, or [mRNA](#), technology, which uses genetic material to cause the body to create a protein from the virus; the immune system then recognizes the virus and learns to attack. This is similar to the Ebola vaccine that was approved last year. It's been produced in Germany. The UK have pre-ordered 40 million doses of this vaccine.

## How good is the Pfizer/BioNTech vaccine?

- The Pfizer press release states that this virus was tested on **43000** people.
- **It was shown to be 95% effective after 28 days, it is a 2 dose schedule.**
- There were 162 Covid infections in the 'placebo' group
- There were 8 Covid infections in the vaccine group
- **No serious safety concerns were identified. There were low rates of minor side effects** common to many vaccines such as fatigue and headache.
- **This vaccine could be available in the UK before Christmas**

## What is the Moderna Vaccine and how does it work?

**Similar to the Pfizer vaccine, this is a synthetic vaccine and uses mRNA to stimulate the immune system.** This one has been produced in the USA and the UK government has pre-ordered 5 million doses which could be available in the UK in Spring 21.

## How good is the Moderna vaccine?

- This one was tested on **30000** people and was shown to be **95% effective**
- There were 90 Covid infections in the placebo group
- There were 5 Covid infections in the vaccine group, none of which were severe cases
- **No serious safety concerns were identified. Some minor symptoms** in line with side effects from other vaccines were identified.

### THE BOTTOM LINE

- **All 3 vaccines appear to be effective and safe from the data which has been released to date.**
- **All 3 vaccines have now been approved by the UK regulatory agency.**
- **All 3 vaccines have higher protection rates than other commonly used vaccines such as the flu vaccine**



## SOME QUESTIONS YOU MAY HAVE

### Why have care homes been prioritised for Covid-19 vaccination?

Frontline health and social care workers are at increased personal risk of exposure to infection with COVID-19 and of transmitting that infection to susceptible and vulnerable patients in health and social care settings. It is also recognised that vaccination of frontline health and social care workers will help to maintain resilience in the NHS and for health and social care providers.

### Is it risky that the vaccines have been produced so quickly?

Most vaccines take a decade to develop and produce. Like lots of things this year, the speed at which these vaccines have been developed is unprecedented. More money has been invested, allowing many more scientists than would usually work on vaccines to spend more time and resource working on development solely without continuing other projects at the same time. New technologies are being used for the first time, allowing things to happen more quickly. Hundreds of volunteers signed up for trials at an early stage so they were able to get going quickly.

Usually, trial results are awaited before vaccine manufacturing processes are set up, but in this case, manufacturing has commenced before the end of the trial in order to get vaccines out there as soon as they are deemed effective and safe.

In addition the Medicines and Healthcare products Regulatory Agency (MHRA) has sped up its process of authorising and granting vaccine licenses by reviewing trial results as they come in rather than waiting for all the results at the end of the trials. But importantly, no vaccine will be administered outside of a trial setting until the MRHA have approved it for use.

### Have the trial results been published?

Yes, and the MRHA has authorised all 3 vaccines for use. Further trials are on-going in these 3 vaccines and a multitude of new ones that are being developed. There are now trials being conducted in pregnant women as well.

### How will life change for our residents once they've been vaccinated?

Life will not change straightaway after vaccination. Staff and visitors will still be required to wear masks and social distancing will still apply. But we hope that these measures plus having had the vaccine will further protect our residents from COvid-19 and we will measure this by continuing with our monthly testing program. Over time, and once staff and visitors start to be vaccinated, and once we have more long term data on the effectiveness of the vaccine, we hope to be able to relax the Infection Control Policies.

### Do I need a vaccine if I've already had Covid-19 infection?

We do not know how long natural immunity to Covid-19 lasts following an infection. Early indications suggest it does not last very long. We await further official advice on whether people who have recovered from Covid-19 will be eligible for a vaccine but it is likely to be recommended for these people. Professor Robin Shattock, the head of mucosal infection and immunity at Imperial College London, told the Guardian newspaper: 'The level of immunity from natural infection is really variable, so some people get a very strong immune response, and some people get quite a weak immune response.' 'The vaccine would top up your immune response, and hopefully provide protection for longer.'

You need to wait 28 days following Covid-19 infection before having the vaccine.

## Is the vaccine safe for everyone?

All the vaccine trials have included a wide range of people including adults over 80 years with pre-existing illness, and individuals from a range of ethnic backgrounds including BAEM. While the initial results look promising, we await the full trial results to look for any trends in these subgroups.

## Does the vaccine reduce transmission of Covid as well as symptoms of illness?

Initial results look promising, but more data is needed to determine this.

## How long does immunity last following vaccination?

This is not yet known.

## Will I require more than 1 vaccine?

The initial vaccination will probably be 2 doses. We do not yet know how long immunity will last but it is likely that further vaccination will be required.

## Which vaccine will be used?

We do not have this information.

## Can I stop wearing a mask and social distancing following a vaccine?

Not in the short term. In time, mass vaccination will mean we can relax mask wearing and social distancing, this is the ultimate aim of the programme. But until a large proportion of the public have received the vaccine and we have more data about how effective and long lasting immunity is, we will still need to adhere with all the public health measures as they currently stand.

## What's the alternative to having a Covid vaccine?

Covid-19 is a new virus, therefore until the vast majority of the global population has been infected with it, herd immunity is not possible. Social distancing, hand hygiene and wearing appropriate PPE are our methods of preventing ourselves from being infected with the germ. Mass vaccination is one of the keys that may unlock the door to getting back to normal life eventually.

Without vaccination, individuals remain vulnerable to Covid-19 infection which causes mild or no symptoms in 80% of people, but in the remaining 20% can cause severe illness or death, or Long Covid symptoms which may occur for months after the original infection. Age, ethnicity and pre-existing health conditions are known to increase a person's risk from Covid 19 infection, but young, healthy individuals do still have a small chance of complicated disease.

## If I don't have the vaccine now will I still be allowed to have it later?

We do not yet know anything about the planned administration program for the vaccines, other than that care home residents and staff have been prioritised above everyone else, with all adults over 80 and all health and social care workers next in line. This is based on the assumption that the vaccine is proven to be safe and effective in older adults. If there are any doubts about this then the prioritisation list may change.

It is highly likely that anyone who declines the vaccine at this stage would be entitled to access it at a later stage although once more groups are eligible it may be harder to access due to supply/demand.

### What about pregnancy?

There are no known harms but the vaccine was not tested in pregnant women initially. For that reason, the Joint Committee on Vaccination and Immunisation have recommended that women who are currently pregnant do not have the vaccine UNLESS they work in health or social care or have underlying health conditions. Because the risk of Covid-19 in these 2 groups is greater than the perceived risk of vaccination. These groups of women are advised to speak to their GP or midwife to make an individual decision about whether to have the vaccine.

If you fall pregnant in between vaccine doses you are recommended to wait until after pregnancy to have the second dose.

You do not have to delay becoming pregnant after having the vaccine.

### Would you have the vaccine?

Absolutely 100%. And I would recommend all my friends and family to have it.

### Will B&M Care allow a choice?

Of course. We recommend everyone to have this vaccination when it is available as we believe it will protect you and your family, and the vulnerable residents in our care homes. But we will respect your right to choice and there will be no implications should you decline the vaccine. We just ask that you make a rational decision based on facts, not the 'fake facts' so widely available on social and other media.

## SOME MYTHS ABOUT THE VACCINES THAT HAVE BEEN CIRCULATING

1. The Pfizer and Moderna vaccines 'alter your DNA' – **FALSE**
2. 75% of people vaccinated in the trials had side effects – **FALSE**
3. The UK government are planning to roll out an untested vaccine – **FALSE**
4. Vaccination will be mandatory in the UK- **FALSE**
5. Vaccination affects future fertility - **FALSE**
6. Bill Gates owns all the vaccines and plans to use them to control the world - **FALSE**