COVID Testing and Vaccination

Coronavirus-19

- Covid-19 is the disease caused by a newly discovered coronavirus that was identified in December 2019.
- The most common symptoms are **fever, dry cough** and **lose of taste or smell**. Some people develop other symptoms but these are the most common ones.
- Among those who develop symptoms, most (about 80%) recover from the disease without needing hospital. About 15% become seriously ill and require oxygen and 5% become critically ill and need intensive care.
- COVID-19 virus spreads mainly through **droplets of saliva** or **discharge from the nose when an infected person coughs or sneezes**.
- The virus gets into our bodies through our eyes, mouth and nose, when these droplets land there or we touch something contaminated with the droplets and then touch our face.
- We prevent the spread of the virus by **washing hands** regularly, keeping **physical distancing** outside the house we live in of at least 2 metres, wearing a **mask or face covering** when inside, keeping rooms **well ventilated**, avoiding crowds and close contact, and coughing into a bent elbow or tissue

Free Testing for Covid

PCR Testing

- Nose & throat swab sent to lab for processing
- Detects very small fragments of the virus genetic code
- Very sensitive so detects very low levels of the virus and only detects Covid-19
- Takes hours and days for a result as complex lab based work
- Used mainly to test **people with symptoms** to check if they are caused by Covid-19
- Book a test through NHS website or by ringing 119 and twelve testing sites in Birmingham as well as postal kits

Lateral Flow Testing

- Nose & throat swab used with a testing kit on site
- Detects the virus proteins
- Needs a lot of virus present and only detects Covid-19
- Result within 30 minutes
- Most effective at identifying people who are infectious when there is lots of virus present so used to test **people who have no symptoms (asymptomatic)** and are mixing outside of the house they live in e.g people going to work.
- Booked appointments and walk-in centres across Birmingham, information on the Council website

Vaccines

- Our bodies have several different ways to prevent infection, our strongest defence is our skin and stomach, we have a general immune defence system and a specialist targeted learnt immune response to things that have attacked us before (antibodies).
- Vaccination was first recorded in China in 200BC but is often linked most strongly with Dr Edward Jenner Cowpox vaccination in 1796.
- Vaccines are medicines that teach our body to develop a targeted antibody response to a specific disease by exposing us to a bit of the organism that causes the disease without infecting us.
- Antibodies target specific bits of the organisms outer coat, often a bit called a protein spike.
- There are lots of different types of vaccine, some use a dead virus, some use a bit of the virus (e.g. protein) attached to another harmless virus, some use part of the virus on its own, and some use a bit of the virus genetic code to teach a few of cells to create a bit of the virus but not the whole virus.

Vaccine Development

Vaccines go through a globally standardised process to ensure safety and effectiveness. This involves tests in the lab as well as clinical trials in people to check that the vaccine is safe, effective and effective in different people.

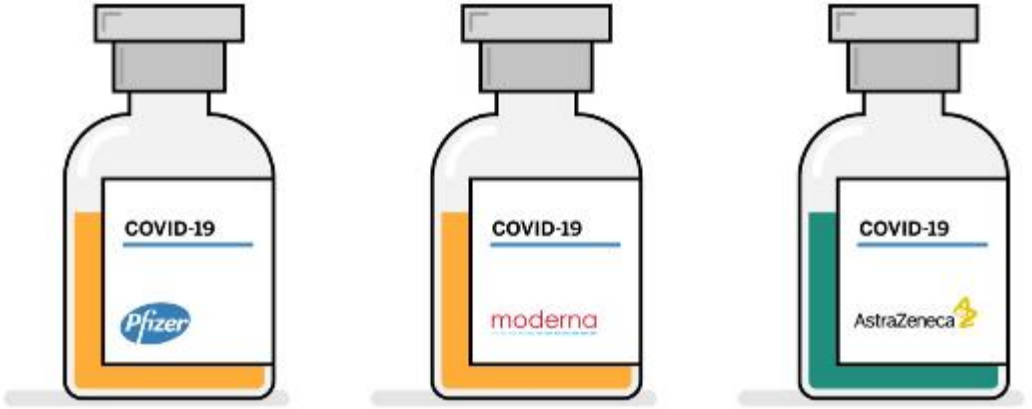
Normally this process takes over a year because at each stage the manufacturers have to get funding, recruit people for trials and go through approval committees.

For Covid-19 across the world there was agreement to fund this research, there was no shortage of volunteers for trials and the committees met when needed rather than making the researchers wait for the next meeting.

This meant the vaccines could be developed faster than normal, but every step was followed and throughout the process there has been independent monitoring of safety.

Covid-19 Vaccines

- The COVID-19 vaccine is given as an injection into your upper arm.
- It's given as **2 doses**. You will have the 2nd dose 3 to 12 weeks after having the 1st dose.
- The first dose significantly reduces the risk of dying or ending up in hospital if infected but it doesn't give strong protection from infection, this is why the second dose is needed.
- The Pfizer and Moderna vaccines are both over 90% effective after the 2nd dose and the AZ Oxford vaccine is over 80% effective after the second dose.
- The **effects of the vaccine take several weeks to kick in** so it is essential people maintain hands, face, space even after they have had both doses.
- The vaccine **does not contain any animal or foetal products**.



mRNA

These vaccines use a bit of the virus genetic code as a one time only instruction to our cells to create the virus protein spike. It is only the bit that has instructions for the protein spike, not the whole virus.

Viral vector

These vaccines use a harmless animal virus that can't reproduce to introduce the instructions to make just the spike protein into infected cells.

The body then reacts to the spike protein to make antibodies that recognise it and will defend against the Covid-19 virus that has this protein on its surface.

Side Effects & Contraindications

- Most side effects of the COVID-19 vaccine are mild and should not last longer than a week, they are similar to other vaccines and include:
  - a sore arm where the needle went in
  - feeling tired
  - a headache
  - feeling achy
  - feeling or being sick
- As with all medications, tell healthcare staff if you've ever had a serious allergic reaction (anaphylaxis) before you start any medicine or vaccination.
- Special arrangements may need to be arranged if you've ever had a serious allergic reaction to:
  - some medicines, household products or cosmetics (Pfizer vaccine)
  - a previous vaccine (All Covid vaccines)
  - a previous dose of the same COVID-19 vaccine
- If you are pregnant you should discuss with your midwife as although the evidence so far is that the vaccine is safe for pregnant women there is a need for more research.

Vaccination rollout

- The vaccination roll out is being led by NHS England through a matrix of vaccine mass vaccination sites, primary care vaccine hubs and housebound vaccine deployment.
- Vaccine is being deployed to vaccinate the 9 priority groups which have been identified by the Joint Committee for Vaccination and Immunisation (JCVI). These groups have been identified as the groups that are most likely to die or be hospitalised if they catch Covid.
- Once the 9 priority groups have received the two doses of vaccine then a second phase of vaccination will start and the decision on how this will be prioritised is still being agreed nationally.

To understand more about the priority groups and when you will be able to book your vaccine, please visit:

https://www.nhs.uk/conditions/coronavirus-covid-19/coronavirus-vaccination/coronavirus-vaccine/

Vaccines and new variants

- Viruses continually mutate and change and there have been hundreds of variants that have developed over the last year, most make little difference.
- Variants of concern are variations in the virus that are more infectious or more deadly or make the vaccine less effective, or a combination of these.
- Currently there are variants of concern in South Africa, UK, Brazil and Japan.
- When new variants appear there a research trials done to look at the impact on vaccine effectiveness.
- The research so far suggests the vaccines are effective against the UK variant. There has been one small trial of the South African variant which suggests that the AZ Oxford vaccine is still effective at reducing death and hospitalisation but it is not as effective at stopping infection completely.
- As we now have vaccines developed it is much faster to adapt them for new variants and this could be given as a booster injection if needed.
- It is important to take the vaccine available now to protect against the current dominant strains of the virus.

Further information

- https://www.birminghamandsolihullcovidvaccine.nhs.uk/
- https://www.nhs.uk/conditions/coronavirus-covid-19/coronavirus-vaccination/coronavirus-vaccine/

- Translated information on vaccines
- https://migrantinfohub.org.uk/covid-19-guidance/#vaccines
- https://www.birmingham.gov.uk/info/50247/national_guidance_during_covid-19/2065/coronavirus_covid-19_-_information_in_other_languages/6