COVID19 AND ENDOMETRIOSIS

25 January 2022

COVID-19 and the vaccination is impacting the lives of everyone in New Zealand and globally. Insight Endometriosis believes in evidence-based information that empowers people to make decisions for themselves regarding their health and endometriosis journey. We have compiled the information below regarding COVID-19, the Pfizer and AstraZeneca vaccination to empower your decision making.

These uncertain times can affect your mental wellbeing. It's important to remember that if you aren't feeling good, there are many different types of help available. We have a range of information and tools on our website that may be helpful not only during these uncertain times due to COVID-19 but ongoing during your endometriosis journey.

COVID-19 AND VACCINATION INFORMATION

GENERAL COVID-19 INFORMATION

Accurate and up-to-date information about COIVD-19 is available on the Ministry of Health website.

COVID-19 is caused by a coronavirus named SARS-CoV-2 that can affect your lungs, airways and other organs.

Coronaviruses are a large and diverse family of viruses which cause illnesses such as the common cold. Other recent diseases caused by coronaviruses and thought to be transmitted from animals include severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS).

The SARS-CoV-2 virus that causes COVID-19 has undergone genetic mutations over time as it adapts to humans. Some of these mutations, such as the Delta variant, can spread more easily than the original virus, may cause more severe disease, and may evade vaccine-derived immunity.

COVID-19 is more likely to cause severe illness in those with underlying medical conditions, especially if these conditions are not well controlled, such as:

- chronic lung disease such as cystic fibrosis, bronchiectasis, chronic obstructive respiratory disease and emphysema, severe asthma that needs multiple medications and medical care
- serious heart conditions such as congestive heart failure
- hypertension that isn't well controlled
- diabetes that isn't well controlled
- chronic kidney disease
- liver disease.

Conditions and treatments that weaken the immune system include:

- having chemotherapy or radiotherapy
- bone marrow or organ transplantation
- some blood cancers
- immune deficiencies including HIV infection
- immunity weakening medications such as high-dose corticosteroids and disease-modifying anti-rheumatic drugs that treat inflammatory forms of arthritis.

Other factors contributing to risk include:

Age

In general, the risk of severe illness form COVID-19 increases with age – particularly over the age of 70. While Māori and Pacific populations are likely to experience age-related risks earlier partly because chronic health conditions are also often experienced at an earlier age in these communities.

Ethnicity

Overseas experience has shown a disproportionate impact from COVID-19 on ethnic minorities. Māori, Pacific and some other ethnic minorities in New Zealand are at risk of adverse outcomes from COVID-19, particularly where there exists:

- a higher rate of chronic health conditions
- crowded housing
- difficulty accessing health care (e.g. due to distance from care, difficulties with transport or childcare, or lack of suitable services).

Smoking

People with a history of smoking are more likely to have severe symptoms of COVID-19 and be admitted to ICU.

Obesity

There is some indication those with a body mass index (BMI) of 40 or higher are more t risk of severe illness from COVID-19, as well as other conditions such as diabetes.

Pregnancy

New evidence shows that pregnant women and new born babies may be at greater risk of poor outcomes if infected with COVID-19. Pregnant and recently pregnant women (defined as within 6 weeks of birth, miscarriage, or termination) may consider taking extra precautions in the home and work environments if there is an increased risk of community transmission in your area.

You may wish to talk to your midwife, GP or nurse practitioner around your risk of getting COVID-19, and how best to mitigate the risk.

HOW WERE THE VACCINES CREATED SO QUICKLY? [i]

There are many reasons COVID-19 vaccines were able to be made quickly

- Scientists had a head start because a large body of research had already carried out on related viruses such as SARS (severe acute respiratory syndrome) and MERS (Middle East respiratory syndrome)
- Governments, private companies and funding agencies from around the world invested a lot of money building on earlier research to produce vaccines. Researchers and governments from different countries also shared information and worked together. This meant more was done in a short space of time
- More people than usual volunteered for clinical trials. Clinical trials into various aspects of the vaccine were done at the same time, instead of one after another, which generated more data more quickly
- Large manufacturing plants were built so more vaccines could be made faster than was possible before
- Researchers could show the vaccine worked sooner than usual because there are so many cases of COVID-19

WHAT WAS THE PROCESS FOR APPROVING THE VACCINE?[ii]

Clinical trials have to be undertaken where any treatment is test for safety and effectiveness. In a clinical trial these tests are divided into three phases, each taking longer and involving more people than the one before. Phase 1 establishes whether the vaccine or treatment is safe to test. Phases 2 and 3 then test how effective the vaccine is, what the side effects are, and overall safety; in hundreds and then thousands of patients.

With COVID-19 clinical trials for vaccines, including the Pfizer vaccine were able to recruit large numbers of volunteers faster than usual because of the worldwide interest and concern about COVID-19. Some clinical trials were done at the same time instead of one after the other, this meant researchers were able to quickly determine whether the vaccine was effective in a short amount of time and under normal circumstances this could take many months or even years.

The Pfizer vaccine has been assessed in global studies across three phases on about 43,998 trial participants and the AstraZeneca vaccines has been assessed in global studies across three phases on 32,459 trial participants. For both vaccine clinical trials, half of the participants received the vaccine and half received a saline placebo. Participants had a range of different ethnicities, ages, sexes and underlying health conditions.

- Phase one and two assessed the safety and immunogenicity (the immune response after each dose) of different dose levels of the vaccine in a small population.
- Phases two and three assessed the safety and efficacy of the vaccine against symptomatic COVID-19 after two doses of the chosen level, given 21 days apart, in a larger population.

Clinical trials of the Pfizer and AstraZeneca vaccine are ongoing globally with trail participants being tracked for at least two years from the second dose and will be having their health monitored and attend regular follow-up visits.

CAN COVID-19 AFFECT MALE FERTILITY?

mRNA vaccines will not affect male fertility. However, there is some evidence of male infertility and sexual dysfunction in males that have contracted COVID-19[iii]

CAN I STILL GET COVID-19 IF I HAVE THE VACCINE?

Getting two doses of the Pfizer vaccine gives you higher protection against the Delta variant, and an even higher degree of protection against severe illness, hospitalisation and death.

Evidence currently shows the effectiveness of 2 doses of the Pfizer vaccine against illness due to Delta variant infection is about 88%, and the protection against hospitalisation due to Delta variant infection about 96%.

Data is emerging that a booster dose of the Pfizer vaccine provides better protection than a 2-dose course against the Omicron variant.

While 2 doses provide some degree of protection against severe disease from Omicron, a booster is likely to offer greater protection against transmitting COVID-19 to others and reduce the chance of more serious infections.

As with any vaccine though, the Pfizer vaccine may not fully protect everyone who gets it. However, if you do catch COVID-19 the vaccine will give you a high degree of protection from serious illness. This means you could have no COVID-19 symptoms, or will have much fewer, milder symptoms and recover faster.

CAN I PASS COVID-19 ONTO OTHER PEOPLE IF I AM VACCINATED?

It is a lot harder for the virus to spread between people who are vaccinated. However, to be safe, assume that there is still a risk of transmission and passing COVID-19 onto others. This is why it is important to continue taking extra safety measures, such as wearing a mask, social distancing, and washing hands regularly.

PFIZER VACCINATION INFORMATION

HOW DOES THE PFIZER VACCINE WORK?[iv]

The Pfzier vaccine is an mRNA vaccine and these vaccines do not contain any live virus. They use a chemical messenger to help teach our immune system to recognise and attack the COVID-19 virus. mRNA vaccines are not a form of gene therapy and they do not alter our DNA.

The coronavirus SARS-CoV-2 which causes COVID-19 is studded with proteins that make it look like a spiky ball – which is where the 'corona' term comes from. These proteins help the virus enter human cells. The Pfizer vaccine signals the virus's genetic instructions for building these spike proteins to molecules in the cells.

Our immune system produces immune cells and antibodies in response, and build recognition of the virus, so if we come into contact with the virus at a later date, our immune system will be able to recognise it and attack it.

The Pfizer vaccine requires two shots at least three weeks apart for maximum protection against Covid. For some immune compromised, a third dose has been recommended.

Booster shots are recommended to protect against severe illness from the Omicorn variant and is likely to offer greater protection by reducing the change of more serious infection and the risk of transmitting it to others.

At this stage, there is no data available on how long a booster dosage will protect against infection and disease and this is a focus of ongoing research worldwide.

IS THE PFZIER VACCINE SAFE IF YOU HAVE A HEALTH CONDITION?[v]

The Pfzier vaccine has been thoroughly assessed for safety for people with underlying health conditions.

Because the Pfzier vaccine is not a live vaccine - this means it does not contain any of the virus – it is safe for almost everyone, and it is impossible to catch COVID-19 from it.

Those with conditions such as cancer, diabetes, kidney disease or heart disease have been strongly encouraged to be immunised. This is because if you catch COVID-19, you are more likely to get seriously ill and end up in hospital.

WHO CANNOT GET THE PFIZER VACCINE?[vi]

There are very few people – perhaps just 100 or so in New Zealand – who will be unable to take the Pfizer vaccine. Some will already be aware of issues from previous vaccinations, while others will find problems after the first dose:

- Rarely there are cases of severe allergic reaction (anaphylaxis) to a stabilising ingredient called polyethylene glycol (PEG) in some vaccines. Cases like this require expert assessment by an immunology specialist.

- Anaphylaxis typically occurs within 15 minutes and is the main reason for waiting after vaccination.
- Even when suspected anaphylaxis has occurred after the first dose, increasing experience has shown that many people can be revaccinated safely in a specialist immunology clinic setting.
- Rarely, there have been cases of myocarditis (inflammation of the heart muscle) or pericarditis (inflammation of the lining around the heart) after the first dose of this vaccine. Diagnosis requires special tests and often assessment by a heart specialist.
- Very occasionally, some people have strong reactions after their first dose that are more severe and/or last for longer than anticipated. It is important that these adverse reactions are reported to CARM so that Medsafe can continue to monitor vaccine safety. In these cases, a postponement of the second dose or a longer spacing between doses may be advised.

Another type of vaccine may be recommended for those few people who experience problems, or how have previously experienced problems with other vaccines.

What about those with other allergies?

- Some people develop delayed allergic type symptoms, such as hives and other skin rashes. These people can be revaccinated.
- People with a history of allergy to foods and venom can be vaccinated.
- People with a history of severe immediate allergic response (anaphylaxis) to another vaccine or multiple drugs can receive this vaccine but are asked to wait to be observed for a little longer after vaccination.

CAN THE VACCINE AFFECT FERTILITY OR MY MENSTRUAL CYCLE?[vii]

The Pfizer vaccine will not affect your genes or fertility.

The mRNA from the vaccine does not enter the nucleus of any cells, where our genetic material is kept, and our cells destroy the mRNA soon after it has given the instructions required for our immune system to produce immune cells and antibodies.

The reproductive organs in females and males are designed to be protected from infection and damage, by special cells (such as Sertoli cells in males and columnar epithelial cells in females) which prevent cells of the immune system or antigens (such as parts of any vaccine) from entering the ovaries or testes.

There have been early reports of early or heavy menstrual periods following the vaccination, possibly due to the connection between the immune system and menstrual cycles - but such changes can also occur coincidentally or due to anxiety experienced by some when being vaccinated. Any potential effect is likely to be brief – only during the cycle in which the vaccine was given – and not affect long term fertility. A long list of triggers which can cause changes to menstrual cycles is well-known including stress, nutrition, illnesses and inflammation.

ASTRAZENECA VACCINE INFORMATION

HOW DOES THE ASTRAZENECA VACCINE WORK?

The AstraZeneca vaccine is a viral vector vaccine – these vaccines do not contain any live virus but use a modified version of the virus to deliver instructions to our cells to make a protein. The modified version belongs to the adenovirus family, and uses a harmless, weakened animal virus.

The AstraZeneca virus is composed of two key elements:

1. A modified chimpanzee adenovirus viral vector, which can enter human cells but cannot replicate or cause illness
2. The code to make SARS-coV-2 spike protein

The coronavirus SARS-CoV-2 which causes COVID—19 is studded with proteins that make it look like a spiky ball – which is where the 'corona' term comes from. These proteins help the virus enter human cells.

After entering our cells, the modified adenovirus in the vaccine instructs our body how to produce copies of the COVID-19 virus spike proteins, which in turn activate the immune system against the COVID-19 virus.

The AstraZeneca vaccines requires two shots at least four weeks apart.

Booster shots are recommended to protect against severe illness from the Omicorn variant and is likely to offer greater protection by reducing the change of more serious infection and the risk of transmitting it to others.

At this stage, there is no data available on how long a booster dosage will protect against infection and disease and this is a focus of ongoing research worldwide.

WHO CANNOT GET THE ASTRAZENECA VACCINE?

You should not get the AstraZeneca vaccine is you:

- Have had a severe allergic reaction to this vaccine or its ingredients
- Have had a major blood clot at the same time as having low levels of platelets (thrombocytopenia) after receiving any COVID-19 vaccine
- Have had Capillary Leak Syndrome (CLS – a condition causing fluid leakage from small blood vessels).

There is no data currently available on the use of AstraZeneca vaccine in children and adolescents younger than 18 years of age.

There is also insufficient data on the use of AstraZeneca in pregnant and breastfeeding people.

The Pfizer vaccine remains the preferred choice of vaccine for 12-18 years olds and pregnant and breastfeeding people.

HOW IS THE ASTRAZENECA VACCINE APPROVED FOR USE IN NEW ZEALAND?

Medsafe is New Zealand's medicines safety authority. It evaluates applications for all new medicines, including vaccines, to make sure they meet international standards and local requirements. Medsafe will only recommend a medicine be approved for use in New Zealand if it meets these standards. If approval is granted, it will either be full approval under section 20 of the Medicines Act 1981, or provisional approval under section 23.

Provisional approval was included in the Medicines Act so people in New Zealand can get early access to medicines to meet an urgent clinical need. It allows a vaccine to be used with conditions in place. This restricts how these medicines are used by health professionals depending on the supporting data available at the time.

Provisional approval of the AstraZeneca vaccine

The AstraZeneca vaccine has been provisionally approved (with conditions) for use in New Zealand.

This means it's been formally approved after a thorough assessment, and AstraZeneca will provide Medsafe ongoing data and reporting to show that it meets international standards.

It is not unusual for medicines to have provisional approval before the end of clinical trials. A common example is anti-cancer medicines.

References:

[i] COVID-19 vaccination: Your questions answered | Unite against COVID-19 (covid19.govt.nz)
[ii] COVID-19: Vaccine clinical trials and testing | Ministry of Health NZ
[iii] https://wjmh.org/DOIx.php?id=10.5534/wjmh.200170
[iv] https://interactives.stuff.co.nz/2021/the-whole-truth-covid-19-vaccine/#/1200848978/how-does-an-mrna-vaccine-work
[v] https://covid.immune.org.nz/news-insights/who-cant-have-pfizerbiontech-covid-19-vaccine
[vi] https://covid.immune.org.nz/news-insights/who-cant-have-pfizerbiontech-covid-19-vaccine
[vii] https://covid.immune.org.nz/faq/can-mrna-covid-19-vaccine-affect-fertility-or-affect-future-babies