



Frequently Asked Questions about COVID-19 vaccines for people affected by cancer

Updated 8 July 2021

People affected by cancer have many questions about the COVID-19 vaccines, including questions about:

- Vaccines in general, as well as the COVID-19 vaccines in particular
- When and where people affected by cancer can receive the COVID-19 vaccines
- Whether the COVID-19 vaccines are safe and whether they work for people affected by cancer (safety and effectiveness)
- Risks and side effects of the COVID-19 vaccines for people affected by cancer
- Whether a person's cancer care or other health care (such as flu vaccination) will be affected by the COVID-19 vaccine
- How we will collect information about the use of the COVID-19 vaccines in people with cancer.

Cancer Australia has compiled these Frequently Asked Questions (FAQs) based on input from cancer clinicians and people affected by cancer, including via a roundtable meeting of key cancer control stakeholders, consultation with consumer representatives and organisations, and queries and concerns raised in social media. The answers to these FAQs are based on information and evidence currently available in Australia and internationally. This webpage will be updated as new information emerges.

This information is intended to supplement the broader information provided by the Australian Government for clinicians and the Australian community about COVID-19 vaccines in Australia, available at www.health.gov.au/COVID19-vaccines.

With the assistance of Aboriginal and Torres Strait Islander people and health experts, Cancer Australia has also developed dedicated [FAQs about the COVID-19 vaccines for Aboriginal and Torres Strait Islander people with cancer and complementary FAQs for their healthcare team](#).

General information about the COVID-19 vaccines	
FAQ	Answer
What is a vaccine? How does it work?	Vaccines are a way of producing an immune response in the body without causing illness. Vaccines strengthen a person's immune system by training it to recognise and fight against specific infections. Vaccines use weakened (or inactivated) viruses or parts of the virus (such as a protein) to make our bodies think we have already had a particular disease. When a person is vaccinated against a disease, their immune system can quickly recognise



	<p>and clear out bacteria and viruses that can cause serious illnesses from that disease.</p>
<p>What is a COVID-19 vaccine? How does it work?</p>	<p>The COVID-19 vaccines strengthen a person's immune system by training it to recognise and fight something that is specific to COVID-19. For most of the COVID-19 vaccines, this specific thing is the coronavirus 'spike' protein.</p> <p>The spike protein is not the virus itself – it is the 'pointy' bit of the coronavirus cell which helps the virus enter people's bodies. The COVID-19 vaccines that are available in Australia train our immune system to recognise this spike protein as foreign and produce long-lasting immune cells and antibodies to fight it.</p> <p>None of the COVID-19 vaccines approved for use in Australia use the live or whole virus that causes COVID-19.¹ The COVID-19 vaccines cannot give you COVID-19.</p>
<p>How are the COVID-19 vaccines tested for safety before they are approved for use in Australia?</p>	<p>Australia has strict requirements for the testing and approval of vaccines. Before a COVID-19 vaccine is approved for use in Australia, it must:</p> <ul style="list-style-type: none">• pass several different phases of clinical trials to prove the vaccine is safe and effective; and• pass the Therapeutic Goods Administration's (TGA) rigorous assessment and approval processes. This includes assessment of the vaccine's safety, quality and effectiveness. <p>For more information, visit How COVID-19 vaccines are tested and approved on the Australian Government Department of Health website.</p>
<p>Which COVID-19 vaccines are available in Australia?</p>	<p>Australia has entered into four separate agreements for the supply of COVID-19 vaccines, if they are proved to be safe and effective.²</p> <ol style="list-style-type: none">1. Pfizer/BioNTech (also known as Comirnaty). This vaccine has been provisionally approved by the Therapeutic Goods Administration (TGA) for people 16 years and older.³2. University of Oxford/AstraZeneca. This vaccine has been provisionally approved by the TGA for people 18 years and older.⁴ In line with Australian Technical Advisory Group on Immunisation (ATAGI) advice, the AstraZeneca vaccine is being prioritised for people aged 60 years and older due to a potentially increased risk of a rare but serious side effect involving thrombosis (clotting) with thrombocytopenia (low blood platelet



	<p>count) following the AstraZeneca vaccine in those aged under 60.⁵</p> <ol style="list-style-type: none">3. Novavax. This vaccine is currently in large-scale phase 3 clinical trials.4. COVAX Facility. This is an agreement which includes multiple other vaccine candidates which are in various clinical trial stages.
<p>What is the difference between the COVID-19 vaccines available in Australia? How does each vaccine work?</p>	<p>Two different COVID-19 vaccines have been approved for use in Australia, but many other vaccines are still being tested in clinical trials.</p> <p>There are several different types of COVID-19 vaccines. All COVID-19 vaccines aim to cause an immune response specific to the COVID-19 coronavirus without causing illness. Most of the vaccines use the coronavirus 'spike' protein to cause an immune response.</p> <p>You might hear some of the scientific terms for the different types of vaccines, including "mRNA vaccines", "viral vector vaccines", and "protein-based vaccines".</p> <ul style="list-style-type: none">• Messenger RNA vaccines (or mRNA vaccines) use a genetic code called ribonucleic acid (RNA) to spark the production of the coronavirus' specific spike protein. The Pfizer vaccine is an mRNA vaccine. The vaccine cannot change your DNA or genes.• Viral vector vaccines use a safe, weakened animal virus which contains the genetic code for a protein unique to the coronavirus, usually the spike protein, to prompt an immune response. The AstraZeneca vaccine is a viral vector vaccine.• Protein-based vaccines use a non-infectious component of the coronavirus, usually the spike protein (manufactured in a laboratory), to prompt an immune response. The Novavax vaccine is a protein-based vaccine.¹
<p>Which COVID-19 vaccine is suitable for which age group?</p>	<p>For adults aged under 60 years, the Australian Technical Advisory Group on Immunisation (ATAGI) recommends that the Pfizer COVID-19 vaccine is preferred over the AstraZeneca vaccine.^{5, 6} The Pfizer vaccine will be prioritised for people under 60 years of age across all phases of the vaccine roll-out.⁷ However, people aged between 18-59 years can choose to receive the AstraZeneca vaccine following an appropriate</p>



	<p>assessment of suitability by a qualified health professional, and after providing verbal or written consent.⁶</p> <p>For adults aged 60 years and over, ATAGI continues to advise that the benefit of vaccination with the AstraZeneca vaccine outweighs the risks associated with vaccination.^{5, 6} The AstraZeneca vaccine will be prioritised for people aged 60 years and over.⁷</p> <p>The prioritisation of the Pfizer vaccine for adults aged under 60 years is based on a potentially increased risk of a rare but serious side effect involving thrombosis with thrombocytopenia following the AstraZeneca vaccine in those under 60 years.</p> <p>People who have had the first dose of the AstraZeneca vaccine without any serious adverse effects can be given the second dose, including adults under 60 years.⁶</p> <p>The Australian Government Department of Health has developed a guide about the risks and benefits of the AstraZeneca vaccine showing the potential benefits and harms associated with the use of the AstraZeneca vaccine by age group.</p> <p>For more information, visit the following information on the Australian Government Department of Health website:</p> <ul style="list-style-type: none">• How will I get my COVID-19 vaccine?• About the AstraZeneca COVID-19 vaccine• COVID-19 vaccination – AstraZeneca vaccine – Risk-benefit of vaccination scenarios in an Australian context
<p>When can people in Australia get the COVID-19 vaccines?</p>	<p>The Australian Government's COVID-19 vaccine national roll-out strategy commenced in February 2021.</p> <p>Currently, all people aged 40 years or older, and all Aboriginal and Torres Strait Islander people aged 16 and older, are eligible for COVID-19 vaccination.</p> <p>Additionally, the following people aged 16 to 39 years old are currently eligible for COVID-19 vaccination:</p> <ul style="list-style-type: none">• people aged 16 or over with cancer or another specified underlying medical condition, or are a carer of an adult or child with cancer or another specified underlying medical condition.• quarantine or border workers• disability or aged care workers



	<ul style="list-style-type: none"> • disability care residents • frontline healthcare workers or other healthcare workers • household contacts of quarantine or border workers • critical or high risk workers • travellers with a travel exemption. <p>The Pfizer vaccine is preferred for those aged under 60 years, and the AstraZeneca vaccine is preferred for those aged 60 years and over.⁷</p> <p>People aged 18 to 59 years can choose to receive the AstraZeneca vaccine following an appropriate assessment of suitability by a qualified health professional, and after providing verbal or written consent.⁶</p> <p>For more information, visit the following information on the Australian Government Department of Health website:</p> <ul style="list-style-type: none"> • COVID-19 vaccine eligibility checker • When will I get a COVID-19 vaccine?
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Getting the COVID-19 vaccines – for people with cancer	
FAQ	Answer
When will adults affected by cancer be eligible to receive a COVID-19 vaccine?	<p>Most adults affected by cancer are now eligible to receive a COVID-19 vaccine as part of the Australian Government's COVID-19 vaccine national roll-out strategy.^{8, 9}</p> <p>People affected by cancer fit into the priority group "People with an underlying medical condition". This includes those who*:</p> <ul style="list-style-type: none"> • have blood (haematological) cancers, including leukaemia, lymphoma or myeloma resulting in immunocompromise** • have other (non-haematological) cancers <ul style="list-style-type: none"> ○ diagnosed within the last 5 years; or ○ on chemotherapy, radiotherapy, immunotherapy or targeted anti-cancer therapy (active treatment or recently completed)**; or ○ who have advanced disease (regardless of treatment)



	<ul style="list-style-type: none">• are adult survivors of childhood cancers• have had a bone marrow transplant or have received CAR-T therapy**.^{8,9} <p>For people affected by cancer who fit into the priority group “People with an underlying medical condition”, the Pfizer vaccine is preferred for those aged under 60 years, and the AstraZeneca vaccine is preferred for those aged 60 years and over.⁷ However, people aged between 18-59 years can choose to receive the AstraZeneca vaccine following an appropriate assessment of suitability by a qualified health professional, and after providing verbal or written consent.⁶</p> <p>Speak to your healthcare professional if you are unsure which roll-out group you fit into.</p> <p><i>* This is the current list provided by the Australian Health Protection Principal Committee (AHPPC).</i></p> <p><i>** Discuss with your specialist regarding the optimal timing of vaccination.</i></p> <p>For more information, visit the following information on the Australian Government Department of Health website:</p> <ul style="list-style-type: none">• COVID-19 vaccine eligibility checker• Priority groups for COVID-19 Vaccination Program: Phase 1b• COVID-19 vaccination – Eligibility declaration form• ATAGI clinical guidance on COVID-19 Vaccine in Australia in 2021
<p>When will children and young adults affected by cancer be eligible to receive a COVID-19 vaccine?</p>	<p>16- and 17-year-olds affected by cancer will be able to access the Pfizer vaccine in line with eligibility for the priority group “People with an underlying medical condition”.^{7,9}</p> <p>Australia’s COVID-19 vaccine national roll-out strategy does not have a dedicated category for children and young adults under the age of 16 who are affected by cancer. In the future, those under the age of 16 may be eligible for a COVID-19 vaccine in the final phase of the vaccine roll-out, if recommended by Australian medical experts.</p> <p>Currently, the COVID-19 vaccines available in Australia are not approved for use in people aged under 16. The Pfizer vaccine is approved for people aged 16 and older, and the AstraZeneca vaccine is approved for people aged 18 and older.⁸</p>



	<p>The Pfizer vaccine is prioritised for people under 60 years of age across all phases of the roll-out.^{5,6}</p>
<p>When will carers of people affected by cancer receive the COVID-19 vaccine?</p>	<p>Carers (paid and unpaid) of people affected by cancer who are eligible to receive the COVID-19 vaccine, can now also receive the vaccine.</p> <p>Additionally, carers of a child with cancer or another specified underlying medical condition are eligible to receive the vaccine.</p> <p>For more information, visit the following information on the Australian Government Department of Health website:</p> <ul style="list-style-type: none">• COVID-19 vaccination program – eligibility for vaccination• COVID-19 vaccine eligibility checker• COVID-19 vaccination – Eligibility declaration form
<p>Where can people affected by cancer receive their COVID-19 vaccine?</p>	<p>For people affected by cancer, decisions about where to receive the COVID-19 vaccine may be made on an individual basis by the person affected by cancer, in consultation with their healthcare team.</p> <p>The Pfizer vaccine is provided through state and territory-operated Pfizer clinics, select Commonwealth Vaccine Clinics offering Pfizer, Aboriginal Community Controlled Health Services offering Pfizer, and participating general practices. In addition, the Royal Flying Doctor Service is providing vaccinations in some remote communities. The Pfizer vaccine is preferred for people aged under 60 years.</p> <p>The AstraZeneca vaccine is provided at Commonwealth Vaccine Clinics, state and territory vaccination clinics, Aboriginal Controlled Community Health Services, and participating general practices. The AstraZeneca vaccine is preferred for people aged 60 years and over. However, adults aged 18-59 can choose to receive the AstraZeneca vaccine following an appropriate assessment of suitability by a qualified health professional, and after providing verbal or written consent.⁶</p> <p>For more information about where the COVID-19 vaccines will be available, visit:</p> <ul style="list-style-type: none">• The Australian Government's COVID-19 vaccine eligibility checker



	<ul style="list-style-type: none">• How will I get my COVID-19 vaccine? on the Australian Government Department of Health website• State and Territory Health Department websites.
Who will give (administer) the COVID-19 vaccines to people with cancer?	<p>The decision about who will give people with cancer their COVID-19 vaccine may be made on an individual basis, together with their healthcare team.</p> <p>Only qualified healthcare professionals can administer the COVID-19 vaccines. Additionally, every healthcare professional who administers the COVID-19 vaccines must complete compulsory COVID-19 vaccination training which covers the handling and administration of COVID-19 vaccines.¹⁰</p> <p>For more information about the training required in order to administer the COVID-19 vaccines, visit COVID-19 vaccination training program on the Australian Government Department of Health website.</p>
Will people with cancer receive a different COVID-19 vaccine or a different dosage than other people receiving the vaccines?	<p>People with cancer are likely to be offered the same COVID-19 vaccines as the rest of the Australian population.</p> <p>Based on early clinical trial results, it is likely that all people in Australia (including people affected by cancer) will require 2 doses of the COVID-19 vaccines.²</p> <ul style="list-style-type: none">• The 2 doses of the Pfizer vaccine should be given 3 weeks apart. It is particularly important for people with cancer to get the second dose of the vaccine as close to 3 weeks after the first dose as possible to ensure they are adequately protected from COVID-19.^{11,12}• The 2 doses of the AstraZeneca vaccine can be safely administered between 4-12 weeks apart, however, the Australian Technical Advisory Group on Immunisation (ATAGI) recommend 12 weeks between the first and the second dose for maximal vaccine efficacy. <p>Whether people will need additional 'booster' doses, such as an annual booster, for COVID-19 vaccines is not yet known. This is still being determined by ongoing clinical trials.</p>
Why is it important for people with cancer to receive two doses of the vaccine?	<p>It is important for all people to get the recommended dosage of the COVID-19 vaccine they are offered. However, this may be particularly important for people with cancer.</p> <p>Results from studies using the Pfizer vaccine found that cancer patients had lower levels of protection from the SARS-CoV-2 virus (the virus that causes COVID-19) following the first dose of the vaccine, compared to people without cancer. However, when cancer patients received their second dose 3 weeks after</p>



	<p>the first dose, protection against the SARS-CoV-2 virus improved significantly.^{11, 12, 13}</p> <p>When people who have lower COVID-19 protection come into contact with the virus, they are more vulnerable to COVID-19 and also risk spreading the virus to their close contacts, such as family and carers.</p> <p>Currently in Australia, there is low community spread of COVID-19 compared to other parts of the world, including where the above studies were conducted. However, even after receiving the vaccine, it is still important for people affected by cancer in Australia, and their close contacts, to continue taking other protective measures against COVID-19, including practising good hygiene and maintaining physical distancing.</p>
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Safety and effectiveness	
FAQ	Answer
Were people with cancer included in clinical trials for the COVID-19 vaccines?	People with cancer were not included in the initial clinical trials for the COVID-19 vaccines. This is because clinical trials typically need to see whether the vaccines will work in people with healthy immune systems. ¹⁴
Is it safe for people with cancer or people who have a weaker immune system (are immunocompromised) to get the COVID-19 vaccines?	<p>Many cancer organisations internationally currently recommend COVID-19 vaccination for people with cancer and those with a weaker immune system (this is also known as being immunocompromised).^{15, 16} This is because:</p> <ul style="list-style-type: none"> People with cancer are more vulnerable to contracting COVID-19 and are at an increased risk of more severe infection.^{15, 17-25} Similar evidence from use of other vaccines suggests that COVID-19 vaccines may be safe and effective for people with cancer.^{15, 26-28} <p>Because people with cancer were not included in clinical trials, there is limited evidence about whether the COVID-19 vaccines are safe for people with cancer, or people who are immunocompromised because of cancer or cancer treatments. However, in principle there are no theoretical additional safety concerns for either the Pfizer COVID-19 vaccine (a non-live vaccine) or the AstraZeneca COVID-19 vaccine* (a non-replicating viral vector vaccine) in people who are immunocompromised, on the basis of a general understanding of the vaccines.⁸ Information is being collected from COVID-19 vaccination programs internationally, and so far, there have</p>



	<p>been no reports of any significant safety issues specific to people with cancer receiving the COVID-19 vaccines in other countries. This will continue to be monitored.</p> <p>The Australian Technical Advisory Group on Immunisation (ATAGI) recommend people who are immunocompromised should be among the priority groups to receive the COVID-19 vaccines because of their increased risk of severe illness with COVID-19.⁸</p> <p>The decision about whether to receive a COVID-19 vaccine should be made on an individual basis by the person affected by cancer, in consultation with their healthcare team.</p> <p>For more information, visit the following information on the Australian Government Department of Health website:</p> <ul style="list-style-type: none">• COVID-19 vaccination – AstraZeneca vaccine – Risk-benefit of vaccination scenarios in an Australian context• The Australian Technical Advisory Group on Immunisation's (ATAGI) COVID-19 vaccination decision guide for people with immunocompromise <p><i>* With regard to safety concerns about the AstraZeneca vaccine: So far, no specific biological risk factors or pre-existing medical conditions have been found to increase or decrease the risk of thrombosis (clotting) with thrombocytopenia (low blood platelet count) occurring after the AstraZeneca vaccine.⁵</i></p>
<p>Do the COVID-19 vaccines work for people affected by cancer (are they effective)?</p>	<p>Although there is currently limited evidence about whether the COVID-19 vaccines work for people affected by cancer, we do have a lot of <i>similar</i> evidence from use of other vaccines that suggests the COVID-19 vaccines may be effective for people affected by cancer:</p> <ul style="list-style-type: none">• Evidence from flu vaccinations suggests that people affected by cancer can mount a protective immune response from COVID-19 vaccines (that is, whether their immune system becomes trained to recognise and fight against specific germs). However, the level of immunity may be affected by a range of factors (such as cancer type, therapies, and immune function).¹⁵• There is evidence from other vaccinations used to prevent infection to support their use for people affected by cancer, even in those undergoing immunosuppressive therapy.^{15, 26-28} <p>However, the immune response to vaccination may be reduced in people who are immunocompromised, which may result in</p>



	<p>lower vaccine effectiveness and protection compared to people who are not immunocompromised.⁸</p> <p>Even after receiving the vaccine, it is important for people affected by cancer (especially those who are immunocompromised) and any close contacts, to continue taking other protective measures against COVID-19, including practising good hygiene and maintaining physical distancing.</p>
<p>What factors should a person affected by cancer consider when deciding about when to get the COVID-19 vaccine?</p>	<p>For people with cancer, the decision about when to receive a COVID-19 vaccine should be made on an individual basis by the person affected by cancer in consultation with their healthcare team. Factors to consider include:</p> <ul style="list-style-type: none"> • The type of cancer the person has/had • The type of treatment they are receiving/received • The timing of their treatment • The type(s) of vaccine(s) available • How their immune system is working.¹⁴ <p>For example, some cancer treatments (like chemotherapy, radiation therapy, or immunotherapy) can affect the immune system, which might make the vaccine less effective in some people.¹⁴</p> <p>For more information, visit the Australian Technical Advisory Group on Immunisation's (ATAGI) COVID-19 vaccination decision guide for people with immunocompromise.</p>

Risks and side effects	
FAQ	Answer
<p>If I have allergies, should I avoid any of the COVID-19 vaccines?</p>	<p>People who have had an allergic reaction or a severe allergic reaction (anaphylaxis) to any ingredients contained in the COVID-19 vaccines should avoid the specific COVID-19 vaccine(s) that contain those ingredients. Talk to your healthcare team if you have had an allergic reaction or anaphylaxis to any medication (including chemotherapy) in the past.</p> <p>The ingredients for each of the COVID-19 vaccines can be found in the 'Product details' section of their 'Consumer Medicines Information' leaflet, available on the TGA website:</p>



	<ul style="list-style-type: none">• Click here for the Pfizer Consumer Medicines Information leaflet• Click here for the AstraZeneca Consumer Medicines Information leaflet. <p>Allergies that may be particularly relevant to people affected by cancer include allergies to polysorbate 80, which is one of the ingredients in the AstraZeneca vaccine, and polyethylene glycol (PEG) which is one of the ingredients in the Pfizer vaccine. These ingredients are also used in cancer treatments, such as chemotherapy medications, docetaxel and paclitaxel. If you have had an allergic reaction or anaphylaxis in response to polysorbate 80 or PEG, speak to your health professional or seek expert advice on COVID-19 vaccination before being vaccinated.²⁹⁻³¹</p>
<p>What are the side effects of the COVID-19 vaccines for people affected by cancer?</p>	<p>Currently, there is no evidence to suggest that people affected by cancer will experience different or worse side effects to the COVID-19 vaccines.</p> <p>In general, common side effects from the COVID-19 vaccines are similar to those of other vaccines, including:</p> <ul style="list-style-type: none">• Pain, redness and/or swelling where you received the needle• Muscle pain/aches• Mild fever• Headache• Tiredness.³² <p>These side effects are usually mild and usually go away within one or two days.</p> <p>Thrombosis (clotting) and the AstraZeneca vaccine</p> <p>On 8 April 2021, the Australian Technical Advisory Group on Immunisation (ATAGI) issued a statement on the AstraZeneca vaccine in response to new vaccine safety concerns.⁵</p> <p>ATAGI noted further evidence of a rare but serious side effect involving thrombosis (clotting) with thrombocytopenia (low blood platelet count) after receiving the AstraZeneca vaccine.</p> <p>ATAGI recommends that the Pfizer vaccine is preferred over AstraZeneca vaccine in adults aged under 60 years. This recommendation is based on the increasing risk of severe outcomes from COVID-19 in older adults (and hence a higher benefit from vaccination) and a potentially increased risk of</p>



	<p>thrombosis with thrombocytopenia following the AstraZeneca vaccine in those under 60 years. However, people aged between 18-59 years can choose to receive the AstraZeneca vaccine following an appropriate assessment of suitability by a qualified health professional, and after providing verbal or written consent.⁶</p> <p>People who have had the first dose of the AstraZeneca vaccine without any serious adverse effects can be given the second dose, including adults under 60 years.</p> <p>For more information, visit the following information on the Australian Government Department of Health website:</p> <ul style="list-style-type: none">• ATAGI statement on revised recommendations on the use of COVID-19 Vaccine AstraZeneca, 17 June 2021• COVID-19 vaccination – AstraZeneca vaccine – Risk-benefit of vaccination scenarios in an Australian context• What happens after I am vaccinated for COVID-19?• COVID-19 Vaccine Side Effect Checker <p>The Therapeutic Goods Administration (TGA) is monitoring the ongoing safety of the COVID-19 vaccines, and this webpage will be updated as new information emerges.</p>
<p>What do I do if I have a side effect (adverse event) after receiving the COVID-19 vaccine?</p>	<p>Serious reactions to the COVID-19 vaccines are extremely rare.</p> <p>All people who receive the COVID-19 vaccine should wait at least 15 minutes before leaving the vaccination clinic in case a serious reaction occurs. If you have a history of anaphylaxis (a severe allergic reaction) to anything, you should wait at least 30 minutes before leaving.</p> <p>If you experience a side effect (adverse event) after receiving the vaccine, you should contact a member of your treating healthcare team, or call the National Coronavirus Helpline on 1800 020 080, available 24 hours a day.</p> <p>Adverse events should be reported to the Therapeutic Goods Administration (TGA). This helps the TGA monitor the ongoing safety of the vaccine, and if any safety risks become evident, the TGA can inform the community and health providers as soon as possible. Adverse events can be reported to the TGA by you or a health professional, and can be done via an online form, by email, or by phone.</p> <p>For more information, visit Report a problem or side effect on the TGA website.</p>



<p>Are there any potential risks for people who have, or are at risk of, lymphoedema (swelling)?</p>	<p>Lymphoedema is swelling of a part of the body and can be a side effect of cancer treatment. Within the areas of the body affected by lymphoedema, the immune cells which fight infection may not work as well. Vaccination into these areas may therefore result in a weaker immune response and less protection from COVID-19. Damage to the skin within an area of lymphoedema can also act as an entry site for infection, so careful skin care and protection is advisable for areas of swelling. As a precaution the COVID-19 vaccine should be given in the untreated limb if possible.^{33, 34}</p>
<p>Are there any potential risks relating to people with bleeding disorders and people who are taking blood thinners?</p>	<p>People with bleeding disorders, those receiving antiplatelet or anticoagulant therapy (blood thinners) and those with low platelet counts may have an increased risk of bleeding or significant bruising at the site where the COVID-19 vaccine was given,³⁵ which can be painful for the person. Talk to your health professional if you are concerned about any medication you are taking, before being vaccinated.</p>

Impacts and interactions	
FAQ	Answer
<p>Will the COVID-19 vaccines affect or interact with my cancer treatment(s)?</p>	<p>Currently, there is limited information available from COVID-19 vaccines clinical trials about whether the COVID-19 vaccines will affect or interact with cancer treatments. This is because the initial clinical trials for the COVID-19 vaccines did not include people with cancer.</p> <p>Recommendations vary and there are a number of factors to consider for every individual, including:</p> <ul style="list-style-type: none"> • The type of cancer you have/had • The type of treatment you are receiving/received • The timing of the treatment you are receiving/received • The type(s) of vaccine(s) available • How your immune system is working. <p>There are some theoretical risks of immune-related side effects for COVID-19 vaccination for people receiving immunotherapy, including checkpoint inhibitors such as pembrolizumab, nivolumab and ipilimumab. However, international cancer organisations and Australian experts recommend vaccination after weighing the benefit of vaccination against risk.^{16, 36}</p>



	<p>Optimal responses to the vaccine are more likely more than 3-6 months after stem cell transplant or CAR-T therapy.³⁷</p> <p>If you are having treatment for cancer, speak to your healthcare team about the best timing for you based on your own situation.</p> <p>Some organisations have provided recommendations for health professionals about the timing of the COVID-19 vaccines and cancer treatments. These are located at COVID-19 vaccines and cancer – health professional guidance on the Cancer Australia's website.</p>
<p>Does the COVID-19 vaccine impact screening and diagnostic mammograms?</p>	<p>There have been some reports internationally about people who have received a COVID-19 vaccine having lymph node swelling which is being mistaken for possible breast cancer. This swelling occurs in the lymph glands in the underarm area and is known as lymphadenopathy. Lymphadenopathy is an immune system response to an infection or a vaccine. However, as lymphadenopathy is also a symptom of breast cancer, this may lead to a false positive mammogram result; that is, that the mammogram may look abnormal even though there is no cancer actually present.</p> <p>The Royal Australian and New Zealand College of Radiologists (RANZCR) does not recommend delays to COVID-19 vaccination nor any breast imaging (screening mammogram or diagnostic imaging for breast cancer symptoms).³⁸ However, women having a mammogram should tell their healthcare professional if they have been recently vaccinated.</p> <p>For more information:</p> <ul style="list-style-type: none">• The Royal Australian and New Zealand College of Radiologists' Statement on Vaccine Induced Adenopathy
<p>Can people with cancer get the COVID-19 vaccine at the same time as the influenza (flu) vaccine?</p>	<p>No, it is generally recommended that people do not receive the COVID-19 vaccine at the same time as the flu vaccine (or any other vaccine).</p> <p>At least 7 days between the COVID-19 vaccine and the flu vaccine (or any other vaccine) is preferred.</p> <p>However, a shorter interval (including co-administration) is acceptable in some settings.^{8, 39}</p> <p>This advice is provided by the Australian Technical Advisory Group on Immunisation (ATAGI). The advice is based on a lack of evidence (not enough data) about how the COVID-19 vaccines and flu vaccines affect each other, or whether it is</p>



	<p>safe to give the two vaccines at the same time. This is precautionary advice, and may change as further information becomes available.</p> <p>For more information, visit:</p> <ul style="list-style-type: none">• COVID-19 vaccination – ATAGI clinical guidance COVID-19 vaccine in Australia in 2021• ATAGI advice on seasonal influenza vaccines in 2021
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Collecting information about the use of the COVID-19 vaccines in people affected by cancer

FAQ	Answer
<p>Is any data being collected about the COVID-19 vaccines for people affected by cancer?</p>	<p>Data about the use of the COVID-19 vaccines can help us better understand the safety and effectiveness of the COVID-19 vaccines for people affected by cancer.</p> <p>Cancer Australia has established an important clinical study, SerOzNET, to better understand the safety and efficacy of the COVID-19 vaccines in people with cancer, including in people with solid tumours and blood (haematological) malignancies.</p> <p>Rapid implementation of this study will allow timely information to be provided to the Australian cancer community about the safety and efficacy of the COVID-19 vaccines in people with cancer.</p> <p>For more information about the SerOzNET study, visit www.canceraustralia.gov.au/SerOzNET-Study.</p> <p>Cancer Australia is also monitoring data on the safety and effectiveness of the COVID-19 vaccines for people affected by cancer from international vaccination programs, and we will provide more information here as it becomes available.</p>



References

1. Australian Department of Health. How COVID-19 vaccines work [Internet]. Canberra, ACT: Australian Department of Health; 2021 [updated 2021 Jan 29; cited 2021 Feb 04]. Available from: <https://www.health.gov.au/initiatives-and-programs/covid-19-vaccines/about-covid-19-vaccines/how-covid-19-vaccines-work>.
2. Australian Department of Health. Australia's vaccine agreements [Internet]. Canberra, ACT: Australian Department of Health; 2021 [updated 2021 Feb 03; cited 2021 Feb 04]. Available from: <https://www.health.gov.au/node/18777/australias-vaccine-agreements>.
3. Therapeutic Goods Administration. TGA provisionally approves Pfizer COVID-19 vaccine Canberra, ACT: Therapeutic Goods Administration; 2021 Jan 25 [cited 2021 Feb 04]. Available from: <https://www.tga.gov.au/media-release/tga-provisionally-approves-pfizer-covid-19-vaccine>.
4. Therapeutic Goods Administration. COVID-19 Vaccine: AstraZeneca ChAdOx1-S Canberra, ACT; 2021 Feb 16 [cited 2021 Feb 17]. Available from: <https://www.tga.gov.au/covid-19-vaccine-astrazeneca-chadox1-s>.
5. Australian Department of Health. ATAGI statement on revised recommendations on the use of COVID-19 Vaccine AstraZeneca, 17 June 2021 Canberra, ACT: Australian Department of Health; 2021 Jun 17 [cited 2021 Jun 17]. Available from: <https://www.health.gov.au/news/atagi-statement-on-revised-recommendations-on-the-use-of-covid-19-vaccine-astrazeneca-17-june-2021>.
6. Australian Department of Health. About the AstraZeneca COVID-19 vaccine Canberra, ACT: Australian Department of Health; 2021 [updated 2021 May 06; cited 2021 May 06]. Available from: <https://www.health.gov.au/initiatives-and-programs/covid-19-vaccines/learn-about-covid-19-vaccines/about-the-astrazeneca-covid-19-vaccine>.
7. Australian Department of Health. COVID-19 vaccination program Phase 1b Canberra, ACT: Australian Department of Health; 2021 [updated 2021 May 05; cited 2021 May 06]. Available from: <https://www.health.gov.au/initiatives-and-programs/covid-19-vaccines/phase-1b>.
8. Australian Technical Advisory Group on Immunisation (ATAGI). COVID-19 vaccination – ATAGI clinical guidance on COVID-19 Vaccine in Australia in 2021 Canberra, ACT: ATAGI; 2021 [updated 2021 Jun 10; cited 2021 Jun 16]. Available from: <https://www.health.gov.au/resources/publications/covid-19-vaccination-atagi-clinical-guidance-on-covid-19-vaccine-in-australia-in-2021>.
9. Australian Department of Health. Priority groups for COVID-19 Vaccination Program: Phase 1b. Canberra, ACT: Australian Department of Health; 2021 [updated 2021 Mar 19; cited 2021 Mar 19]. Available from: <https://www.health.gov.au/resources/publications/priority-groups-for-covid-19-vaccination-program-phase-1b>.
10. Australian Department of Health. Mobilising Australia's COVID-19 vaccine workforce Canberra, ACT: Australian Department of Health; 2021 Jan 21 [cited 2021 Feb 04]. Available from: <https://www.health.gov.au/ministers/the-hon-greg-hunt-mp/media/mobilising-australias-covid-19-vaccine-workforce>.
11. Monin L, Laing AG, Muñoz-Ruiz M, McKenzie DR, del Molino del Barrio I, Alaguthurai T, et al. Safety and immunogenicity of one versus two doses of the COVID-19 vaccine BNT162b2 for patients with cancer: interim analysis of a prospective observational study. *Lancet Oncol*. 2021.
12. Palich R, Veyri M, Marot S, Vozy A, Gligorov J, Maingon P, et al. Weak immunogenicity after a single dose of SARS-CoV-2 mRNA vaccine in treated cancer patients. *Ann Oncol*. 2021:S0923-7534(21)01184-4.
13. Agha M, Blake M, Chilleo C, Wells A, Haidar G. Suboptimal response to COVID-19 mRNA vaccines in hematologic malignancies patients. *medRxiv*. 2021:2021.04.06.21254949.
14. American Cancer Society. COVID-19 Vaccines in People with Cancer: American Cancer Society; 2021 [updated 2021 Jan 29; cited 2021 Feb 04]. Available from:



- <https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/low-blood-counts/infections/covid-19-vaccines-in-people-with-cancer.html>.
15. European Society for Medical Oncology. COVID-19 vaccination in cancer patients: ESMO statements Lugano: European Society for Medical Oncology; 2020 [cited 2021 Feb 04]. Available from: <https://www.esmo.org/covid-19-and-cancer/covid-19-vaccination>.
 16. National Comprehensive Cancer Network. Preliminary Recommendations of the NCCN COVID-19 Vaccination Advisory Committee USA: National Comprehensive Cancer Network; 2021 Jan 22 [cited 2021 Mar 01]. Available from: https://www.nccn.org/covid-19/pdf/COVID-19_Vaccination_Guidance_V1.0.pdf.
 17. Liang W, Guan W, Chen R, Wang W, Li J, Xu K, et al. Cancer patients in SARS-CoV-2 infection: a nationwide analysis in China. *Lancet Oncol*. 2020;21(3):335-7.
 18. Yang F, Shi S, Zhu J, Shi J, Dai K, Chen X. Clinical characteristics and outcomes of cancer patients with COVID-19. *J Med Virol*. 2020;92(10):2067-73.
 19. Zhang L, Zhu F, Xie L, Wang C, Wang J, Chen R, et al. Clinical characteristics of COVID-19-infected cancer patients: a retrospective case study in three hospitals within Wuhan, China. *Ann Oncol*. 2020;31(7):894-901.
 20. Dai M, Liu D, Liu M, Zhou F, Li G, Chen Z, et al. Patients with Cancer Appear More Vulnerable to SARS-CoV-2: A Multicenter Study during the COVID-19 Outbreak. *Cancer Discov*. 2020;10(6):783-91.
 21. Lai AG, Pasea L, Banerjee A, Denaxas S, Katsoulis M, Chang WH, et al. Estimating excess mortality in people with cancer and multimorbidity in the COVID-19 emergency. *medRxiv*. 2020:2020.05.27.20083287.
 22. Moujaess E, Kourie HR, Ghosn M. Cancer patients and research during COVID-19 pandemic: A systematic review of current evidence. *Crit Rev Oncol Hematol*. 2020;150:102972-.
 23. Wang Q, Berger NA, Xu R. Analyses of Risk, Racial Disparity, and Outcomes Among US Patients With Cancer and COVID-19 Infection. *JAMA Oncol*. 2021;7(2):220-7.
 24. R uthrich MM, Giessen-Jung C, Borgmann S, Classen AY, Dolff S, Gr uner B, et al. COVID-19 in cancer patients: clinical characteristics and outcome-an analysis of the LEOSS registry. *Ann Hematol*. 2021;100(2):383-93.
 25. Venkatesulu BP, Chandrasekar VT, Girdhar P, Advani P, Sharma A, Elumalai T, et al. A systematic review and meta-analysis of cancer patients affected by a novel coronavirus. *medRxiv*. 2020:2020.05.27.20115303.
 26. Cordonnier C, Einarsdottir S, Cesaro S, Di Blasi R, Mikulska M, Rieger C, et al. Vaccination of haemopoietic stem cell transplant recipients: guidelines of the 2017 European Conference on Infections in Leukaemia (ECIL 7). *Lancet Infect Dis*. 2019;19(6):e200-e12.
 27. Mikulska M, Cesaro S, de Lavallade H, Di Blasi R, Einarsdottir S, Gallo G, et al. Vaccination of patients with haematological malignancies who did not have transplantations: guidelines from the 2017 European Conference on Infections in Leukaemia (ECIL 7). *Lancet Infect Dis*. 2019;19(6):e188-e99.
 28. Rieger CT, Liss B, Mellinghoff S, Buchheidt D, Cornely OA, Egerer G, et al. Anti-infective vaccination strategies in patients with hematologic malignancies or solid tumors-Guideline of the Infectious Diseases Working Party (AGIHO) of the German Society for Hematology and Medical Oncology (DGHO). *Ann Oncol*. 2018;29(6):1354-65.
 29. COVID-19 Vaccine AstraZeneca (ChAdOx1-S) solution for injection multidose vial Macquarie Park, NSW: AstraZeneca Pty Ltd; 2021 [cited 2021 Feb 23]. Available from: https://tga-search.clients.funnelback.com/s/search.html?collection=tga-artg&profile=record&meta_i=349072.
 30. Medical Oncology Group of Australia. COVID-19 vaccination in patients with solid tumours: Medical Oncology Group of Australia Position Statement: Medical Oncology Group of Australia; 2021 [updated 2021 Apr 26; cited 2021 May 06]. Available from: <https://www.moga.org.au/all-position-statements/covid-19-vaccination-in-patients-with-solid-tumours>.



31. Australasian Society of Clinical Immunology and Allergy (ASCIA). Allergy, Immunodeficiency, Autoimmunity and COVID-19 Vaccination Position Statement: ASCIA; 2021 Apr 14 [cited 2021 May 06]. Available from: <https://www.allergy.org.au/hp/papers/ascia-hp-position-statement-covid-19-vaccination>.
32. Australian Department of Health. What happens after I am vaccinated for COVID-19? Canberra, ACT: Australian Department of Health; 2021 [updated 2021 Feb 22; cited 2021 Feb 23]. Available from: <https://www.health.gov.au/initiatives-and-programs/covid-19-vaccines/getting-vaccinated-for-covid-19/what-happens-after-i-am-vaccinated-for-covid-19>.
33. British Lymphology Society and The Lymphoedema Support Network. Consensus document on COVID-19 vaccination for patients with lymphoedema: British Lymphology Society and The Lymphoedema Support Network; 2021 [cited 2021 Feb 24]. Available from: <https://www.thebls.com/documents-library/consensus-document-on-covid-19-vaccination-for-patients-with-lymphoedema>.
34. Cancer Australia. Lymphoedema - what you need to know. Surry Hills, NSW; 2012.
35. Haematology Society of Australia and New Zealand. COVID-19 Vaccination in Haematology Patients: An Australia and New Zealand Consensus Position Statement: Haematology Society of Australia and New Zealand; 2021 [cited 2021 Feb 24]. Available from: <https://www.hsanz.org.au/news/10054698>.
36. UK Chemotherapy Board. Clinician Frequently Asked Questions (FAQs) and guidance on COVID19 vaccine for patients receiving Systemic Anti-Cancer Therapy: UK Chemotherapy Board; 2020 [cited 2021 Mar 02]. Available from: https://4bd2316d-e45d-4e90-96b5-431f1c12dd3e.filesusr.com/ugd/638ee8_bc24796daf974cfa830a432248401191.pdf.
37. Australia and New Zealand Transplant and Cellular Therapies. COVID19 Vaccination Consensus Position Statement: Australia and New Zealand Transplant and Cellular Therapies; 2021 [updated 2021 Feb 02; cited 2021 Mar 08]. Available from: <https://anztct.org.au/wp-content/uploads/2021/02/FINAL-ANZTCT-COVID19-Vaccination-Position-Statement-Version2-2-Feb-2021.pdf>.
38. The Royal Australian and New Zealand College of Radiologists. The Royal Australian and New Zealand College of Radiologists' Statement on Vaccine Induced Adenopathy: The Royal Australian and New Zealand College of Radiologists; 2021 March [cited 2021 Jun 15]. Available from: <https://www.ranzcr.com/documents-download/professional-documents/position-papers/5272-position-statement-on-covid-vaccines-and-breast-screening>.
39. Australian Department of Health. ATAGI advice on seasonal influenza vaccines in 2021 Canberra, ACT: Australian Department of Health; 2021 [updated 2021 Jun 08; cited 2021 Jun 16]. Available from: <https://www.health.gov.au/resources/publications/atagi-advice-on-seasonal-influenza-vaccines-in-2021>.