

COVID-19 vaccines for people with cancer

Information for health care professionals

Information provided as at 24th January 2022 from Statewide Cancer Clinical Network. Please refer to SA Health directions and ATAGI guidelines for future updates.

The Australian Technical Advisory Group on Immunisation (ATAGI) regularly provide updates and new recommendations based on the changes in the COVID-19 pandemic and new emerging evidence. ATAGI recommendations are regularly updated, depending on the rapidly changing nature of the pandemic, please refer to the ATAGI guidelines [Clinical guidance for COVID-19](#)

People with cancer are high risk for severe Covid-19 infection

Available evidence indicates that people with active cancer who developed Covid-19 infection have a high fatality rate from increased risks of developing severe infection. Those people with active haematological malignancies are at the highest risk as they have a limited immune response to control an infection as well as people with lung cancer (1) and other solid organ cancers. Similarly, there is emerging evidence that those on certain types of cancer treatment may have an increased risk for fatal outcomes from COVID-19 infection (1). Therapies including chemotherapy, radiotherapy, blood/marrow stem cell transplant, immune suppressing medications and CAR-T cell therapy can compromise immune functioning leading to a higher risk of severe illness & complications. These data indicate that all people with a current cancer diagnosis, those who are on active treatment cancer, and those who are recovering from recent cancer treatment are strongly encouraged to have COVID-19 vaccination. Moreover, some people who do not mount a strong immune response against COVID-19 are likely to shed the virus for a longer time and be a source of continued unintended exposure infecting other persons.

Approved Covid-19 vaccines in Australia

Currently four vaccines are approved in Australia – Pfizer/BioNTech SARS-Cov-2 vaccine (COMIRNATY™ COVID-19 VACCINE), Astra Zeneca ChAdox1 nCoV-19 vaccine (Vaxzevria), and Spikevax (Moderna) vaccine. The fourth COVID-19 vaccine Janssen is soon to be available.

The Pfizer, Astra Zeneca and Moderna vaccines need at least two doses to be most effective, may be up to three doses in immunocompromised people.

COVID-19 vaccines do not provide immediate protection, and none are 100% effective. Therefore, precautions are still needed after vaccination. It is important to follow the instructions of your health care team.

Only a small number of people with cancer took part of the clinical trials that tested these vaccines. It is therefore important to remember there is limited information on the safety and effectiveness of the vaccines in people with cancer or on active cancer treatment. However, it is still important for cancer patients to be vaccinated where possible. If you have any concerns, please speak to your health professional.

Booster or third primary Covid-19 vaccine dose

Booster dose is an additional dose of vaccine after the completion of the primary course of the vaccine (<https://www.health.gov.au/resources/publications/atagi-recommendations-on-the-use-of-a-booster-dose-of-covid-19-vaccine>). The primary course of vaccination for all the TGA approved COVID-19 vaccines except the COVID-19 Vaccine Janssen consists of two doses. Comirnaty (tozinameran) – Pfizer Australia and Moderna vaccines are currently approved as booster dose in Australia. Anyone 18 years and older of age and had the second dose of the primary course more than three months ago is eligible for a booster dose.

However, those with severe immunocompromised state, the primary course is defined as three doses of a COVID-19 vaccine. They are eligible to receive the third dose between two and six months after the second dose. The third primary dose can either be Vaxzevria, or Comirnaty or Spikevax (Moderna). The Comirnaty or Spikevax vaccines are preferred over the Vaxzevria; however, Vaxzevria can also be used for those who received this vaccine for the first two doses.

Those eligible for a third dose are people with active cancers, organ transplant recipients, recent stem cell transplant recipients, people on immunosuppressive medications or taking high dose steroids, those born with immunodeficiencies and people on long-term dialysis.

Those receiving the third primary dose may be required to have a booster dose.

Clinical practice guidance for COVID-19 vaccination

The following recommendations are general guide to health care professionals based on information gleaned from the limited evidence in the literature, national and international guidelines and expert opinion (4).

What is the most appropriate timing of vaccine administration in relation to cancer therapy?

Patients currently receiving chemotherapy, immunotherapy, CAR-T-cell therapies, hormonal therapies or stem cell transplants can still receive the vaccine. As a general principle, it is recommended that the vaccines should be administered around the period when the patient is least likely to be neutropenic or lymphocytopenic (5-7).

Avoid unnecessary delays with vaccination or cancer treatment.

Vaccination is recommended at least 2-4 weeks prior to the planned immunosuppressive therapy, transplantation or splenectomy.

Preferable to start the first dose 2 weeks prior to the first dose of cytotoxic chemotherapy. Immunomodulators (IMiDs) or cdk4/6 inhibitors.

For those already on treatment with chemotherapy when used alone or in combination with other agents such as immunotherapy, avoid administration of the vaccination on the same day of treatment; preferably, administer the vaccination towards the end of the cycle when the blood counts have recovered.

For those on IMiDs or CDK4/6 inhibitors – administer vaccines when the blood counts have maximally recovered.

For monotherapy with either immunotherapy, kinase inhibitors, monoclonal antibodies, or hormonal therapy – no specific timing issues are required.

Patients for whom stem cell transplants or CAR-T-cell therapies (TCT) are planned, vaccination should be administered as soon as feasible prior to TCT and without deferral of TCT. Clinicians should consider recommending vaccination 3-6 months post TCT in patients aged older than 16 years who have no known contraindications to the vaccines.

Patients undergoing cancer surgery, it is recommended to wait for at least 10-14 days after the surgery to receive the first dose of vaccine.

Patients undergoing radiotherapy, there is no specific recommendation. If significant immunosuppression is expected from radiotherapy, consider administering vaccination 2-4 weeks prior to the start of radiotherapy. Pfizer/BioNTech SARS-CoV-2 vaccine is a two-dose course with the second dose given 3-12 weeks after the first dose. AstraZeneca ChAdox1 nCoV-19 vaccine is also a two-dose course with the second dose given 4-12 weeks after the first dose. The second dose can be timed according to the above recommendations.

Any precautions for the site of vaccination?

COVID-19 vaccines are generally administered intramuscularly in the deltoid region.

For people with breast cancer – consider administering the vaccine in the opposite arm to the primary site where nodal clearance was performed.

For people undergoing radiotherapy – consider avoiding the vaccine administration to the arm that directly drains through the nodes in the radiation field or previously irradiated.

Considerations for imaging?

Enlarged lymphadenopathy can be seen post vaccination. Diagnostic imaging post vaccination – consider delaying imaging for 6-10 weeks to avoid reactive lymph node enlargement from the vaccine being confused with cancer growth.

Clinical trial participation?

Those participating in clinical trials (8) – check the treatment protocol for trial specific guidance regarding the timing of vaccination. In general, avoid the investigational product for at least 2-4 weeks after vaccination if it has any potential to cause cytokine storm.

If the trial involves proven anticancer drugs with known benefits, this delay might be challenging for patients with progressing advanced cancers, and the risks and benefits of the delay must be carefully considered with the patient.

It is recommended that patients avoid receiving their vaccine on days of parenteral dosing of the investigational product (and receive it at a time as distanced as possible from investigational product dosing) and the dose-limiting toxicity period if administration of the SARS-CoV-2 vaccine is mandated while the patient is still participating in an early phase trial.

Do health care workers and caregivers require vaccination?

Healthcare workers caring for people with cancer should be prioritised in receiving vaccination to minimise nosocomial transmission. Healthcare workers will fall under the category of phase 1a or 1b under the national roll-out plan. It is recommended all health care providers be vaccinated unless contraindicated due to allergic/anaphylactic reactions.

It is recommended that caregivers and household/close contacts be vaccinated when possible. However, the caregivers and household contacts may fall under any of the priority groups in the national roll-out plan; hence they should be vaccinated when they are eligible.

Monitoring and research?

Close surveillance and monitoring of patients with cancer is required after COVID-19 vaccination to assess potential adverse events and measure clinical outcomes as limited data exists in this population. Measuring immune response with antibodies will not be routinely performed.

What about children with cancer?

Based on the current data, both vaccines were given to people aged 16 years or more. Hence, the vaccines are limited only to people older than 16 years of age.

What about COVID-19 and other vaccines?

The safety of multiple vaccines administered simultaneously has not been established. Consider giving other vaccines (e.g. influenza) at least 2 weeks before or after the COVID-19 vaccines.

References

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Additional resources

- <https://www.health.gov.au/initiatives-and-programs/COVID-19-vaccines>
- <https://www.canceraustralia.gov.au/COVID-19-vaccine-and-cancer>

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