TE AHO O TE KAHU CANCER CONTROL AGENCY

COVID-19 vaccination and cancer patients

Information for clinicians: last updated 11 March 2021

Context

- This guidance provides information about the use of the COVID-19 vaccines for clinicians involved with the care of cancer patients.
- People with cancer are at increased risk of contracting COVID-19, at greater risk of serious infection and at increased risk of death than the general population [1-8]. The risk of infection and poor outcomes is particularly high for people with haematological malignancies and lung cancer [6 9-11].
- There is currently limited evidence on the use of COVID-19 vaccines in people with cancer. This guidance uses the best available evidence currently available, extrapolation from other vaccinations and expert consensus, and will be updated as new information and data become available.
- This guidance should be used alongside the Ministry of Health general COVID-19 vaccine information and COVID-19 vaccine updates for the health sector.

1. When will people with cancer be able to receive the vaccine?

The vaccine roll-out includes four groups:

- Group 1: Border and managed isolation and quarantine (MIQ) workers and the people they live with
- Group 2: Frontline workers and people living in high-risk settings (including those living in Counties Manukau DHB who are ≥ 65 years or have an underlying health condition)
- Group 3: People at high risk of serious outcomes or illness
- Group 4: General population

Updates on the vaccine roll-out plan and timing can be found here.

The following people are considered at highest risk and should be prioritised to receive the vaccine as part of Group 3:

- people with cancer who are undergoing active chemotherapy
- people with cancer who are undergoing radiation therapy with curative intent and have a total radiation dose and field size that could affect the immune system
- people with cancers of the blood or bone marrow such as leukaemia, lymphoma or myeloma who are at any stage of treatment
- people having immunotherapy or other continuing antibody treatments for cancer
- people having other targeted cancer treatments that can affect the immune system, such as protein kinase inhibitors or PARP inhibitors

- people who have had bone marrow or stem cell transplants in the last 6 months or who are still taking immunosuppression drugs
- people with incurable cancer with a palliative focus to their care, where vaccination is clinically appropriate.

Te Aho o Te Kahu recognises the importance of Treaty of Waitangi responsibilities and equity in the COVID-19 response. Within the above high-risk group, Te Aho o Te Kahu supports the prioritisation of Māori and Pacific peoples with cancer.

2. What vaccine is being rolled out?

The primary vaccine provider is now Pfizer/BioNTech, which is an mRNA-based vaccine and has been approved for use in New Zealand.

The Government has Advance Purchase Agreements in place for three other types of vaccines:

1. Oxford/ AstroZeneca (vector vaccine, adenovirus)
2. Novavax (Protein sub-unit vaccine)
3. Janssen Pharmaceutica (vector vaccine, adenovirus)

All agreements are subject to the vaccines successfully completing clinical trials and being approved by Medsafe.

None of the vaccines are live virus vaccines. More information on the types of vaccines is available here.

3. Should people with cancer receive the COVID-19 vaccine?

Yes. There is currently a lack of data on vaccine immunogenicity and efficacy data specifically in the cancer population. However, given the high risk of severe infection from COVID-19 for people with cancer, the benefits of vaccination are believed to outweigh any uncertainty around vaccine efficacy. The vaccine is currently being rolled out rapidly internationally, including to people with cancer and there have been no reported safety concerns.

International consensus is that people with cancer should be prioritised for COVID-19 vaccination:

- **European Society of Medical Oncology (ESMO)** https://www.esmo.org/covid-19-and-cancer/covid-19-vaccination
- **National Comprehensive Cancer Network (NCCN)** https://www.nccn.org/covid-19/pdf/COVID-19_Vaccination_Guidance_V1.0.pdf
- **UK Chemotherapy Board** https://b-s-h.org.uk/media/19241/clinician-faqs-and-guidance-on-covid19-vaccine-for-patients-receiving-sa_.pdf

- **American Society of Clinical Oncology (ASCO)** https://www.asco.org/asco-coronavirus-resources/covid-19-patient-care-information/covid-19-vaccine-patients-cancer

In line with other vaccinations, it is possible that people who are immunocompromised may not mount as robust an immune response as others. For this reason, consideration should be given to the timing of vaccination in relation to therapy in order to maximise response (as outlined below).

In addition, it is recommended that:

- patients are encouraged to continue good infection prevention and control measures even after receiving the vaccine, including good hand hygiene and staying away from others who are unwell.
- household and family members should be vaccinated when the vaccine is made available to them to reduce the risk of infection.

4. Is there an optimal time to administer the vaccine relative to cancer treatment?

Assuming there is no community transmission the patient's ability to mount an immune response should be considered regarding timing of vaccination.

Cancer treatment should not be held or paused for vaccinations.

Considerations for those on cytotoxic chemotherapy for solid tumours

There is limited data on the optimal timing of vaccination in relation to chemotherapy [12-14]. If there is the option of choosing the timing of the vaccination, it is recommended to deliver the vaccine at the furthest point from the immunosuppressing effect of cytotoxic treatment during a given cycle.

- If feasible, for patients planned for but not yet on immunosuppressive cancer therapy, time first dose of vaccine to be at least 2 weeks prior to initiation of therapy, if that does not delay commencing therapy, to maximise time for seroconversion.
- If feasible, for patients already on cytotoxic chemotherapy, time first dose of vaccine in between chemotherapy cycles, away from nadir.
- If feasible, for patients completing cytotoxic therapy, time first dose of vaccine to be given after therapy complete and nadir resolved [12].

If the above is not feasible then the recommendation is to avoid giving the COVID-19 vaccine on the same day as chemotherapy, noting that this is based on extrapolated information (from influenza vaccine) on efficacy of the vaccine rather than safety [15].

Considerations for those on immune checkpoint inhibitors

There are no published data on the immunogenicity of mRNA vaccines in patients with cancer on immune checkpoint inhibitors. There is a theoretical risk of exacerbated immune-related adverse events in patients receiving immune checkpoint inhibitors; however, subsequent studies of the influenza vaccine have not reproduced the adverse events initially raised [16-18].

The only currently listed contraindication to administering the Pfizer vaccine is hypersensitivity to the active substance or to any of the excipients listed on the Medsafe datasheet https://www.medsafe.govt.nz/profs/Datasheet/c/comirnatyinj.pdf

It is recommended that patients on immune checkpoint inhibitors receive the COVID-19 vaccine.

Considerations for cancer-related surgery

There are no specific timing recommendations for vaccine efficacy for people undergoing cancer surgery.

However, given that potential side-effects of the vaccine may be difficult to distinguish from potential post-operative complication symptoms (eg fever), it is recommended that major surgery should occur separately to vaccine administration, by a few days to a week.

Considerations for those with haematological malignancy

The Haematology Society of Australia and New Zealand have released a consensus position statement regarding COVID-19 vaccination in haematology patients.

Given the high mortality associated with COVID-19 infection patients with haematological malignancies, the benefits of vaccination outweigh possible unknown factors in these patients.

- If feasible, patients requiring treatment for a haematological malignancy should be vaccinated at least two weeks before immunosuppressive treatments, **but this should not delay urgent treatment**.
- Vaccination should be delayed for at least three months after B cell depleting therapy or stem cell transplantation.

Lymphoma, Chronic Lymphocytic Leukaemia and Multiple Myeloma

Some patients with lymphoma, CLL or multiple myeloma may not require immediate treatment. Significant delay to starting treatment - in an attempt to increase potential immune response to the vaccine – is not recommended. Decisions around vaccine and treatment timing should be based on clinical judgement and discussion of risk and benefits with the patient [19].

Acute Leukaemias, Myelodysplastic Syndrome and Myeloproliferative disorders

Vaccination should not delay definitive therapy for acute and urgent conditions. For patients in remission, vaccination should occur as soon as possible, whilst considering thrombocytopenia and the associated risk of bleeding [19].

Further specific examples relating to haematological malignancies are available in the Haematology Society of Australia and New Zealand guidance [19].

Considerations for people who have recently undergone stem cell transplant

Australia and New Zealand Transplant and Cellular Therapies (ANZTCT) have produced COVID-19 vaccine information that can be found here.

4. Should patients be re-vaccinated if the vaccine was given during a period of immunosuppression?

Re-vaccination is not currently recommended.

5. Should I test antibody levels to see if my patient has responded to vaccination?

The routine testing for antibodies is not currently recommended.

6. What about patients with bleeding disorders or on anticoagulation?

The Haematology Society of Australia and New Zealand have released guidance on vaccine administration in patients with bleeding risk. Key considerations include:

- patients on standard anticoagulation with warfarin can receive intra-muscular injections if the most recent INR is ≤3.0
- patients with thrombocytopenia may bleed or bruise at the site of the injection site. To reduce this risk, it is recommended that the platelet count is kept ≥30x109 /L and that prolonged pressure at the injection site is applied for five minutes.

The Immunisation Handbook also has general guidance on vaccine administration for patients with thrombocytopenia, bleeding disorders or who are on anticoagulant therapy.

7. Can people on clinical trials receive the vaccine?

There are no general limitations on COVID-19 vaccination for patients enrolled in clinical trials. If a limitation is specifically stated in the study protocol inclusion/exclusion criteria this should be discussed with the study Primary Investigator and the patient [20].

8. Should children with cancer receive the COVID-19 vaccine?

The current Pfizer/BioNTech vaccine is only approved for those aged 16 years and over. Advice will continue to be updated as data become available.

It is recommended that household contacts and caregivers of children with cancer receive the vaccine when available.

9. Are there any considerations for people with a history of cancer?

People who have been discharged from oncology and haematology services can receive the vaccine when offered.

10. FAQs for people with cancer

Public facing information will be published here.

This will include the following FAQs, along with links to the general Ministry of Health page.

Frequently Asked Questions (FAQs)

People with cancer and the COVID-19 vaccines

Are people with cancer more vulnerable to COVID-19 than the general population?

People with cancer are at an increased risk of getting COVID-19 and have a greater risk of serious infection if they do get COVID-19.

When will people with cancer be able to receive a COVID-19 vaccine?

This is being worked through currently. Many people with cancer will be included in those who are at high risk, so will be prioritised to receive the vaccine.

Information on the timing of the roll out is on the Ministry of Health website. This will be updated as more information becomes available.

What are the side effects of the vaccine for people with cancer?

The general information on side-effects from the COVID-19 vaccine can be found here.

There is currently no evidence that people with cancer experience different or worse side effects than the general population.

Should I get the COVID-19 vaccine if I am currently receiving cancer treatment?

Yes.

Talk to your cancer doctor, as depending on what treatment you are on, they may want to time the vaccine to be delivered at a certain point in your treatment cycle.

Will the COVID-19 vaccine affect or interact with cancer treatments?

There is no evidence currently to suggest that the COVID-19 vaccine interacts with cancer treatments.

Decisions around timing of the vaccine are about making sure the vaccine is as effective as possible, rather than concerns around how it will interact with cancer treatments.

I had cancer 5 years ago, is it OK for me to get the vaccine?

If you have finished your cancer treatment and have been discharged from your hospital specialist, you should get the vaccine when it is offered to you.

If you have any concerns you can discuss these with your GP.

Who should people with cancer talk to about receiving the COVID-19 vaccine?

We recommend that you talk to your cancer doctor if you have questions or concerns.

If you have been discharged from hospital services, we recommend you talk to your GP if you have questions or concerns.

Authors and reviewers

The advice was drafted by Te Aho o Te Kahu, the Cancer Control Agency and has been reviewed and endorsed by Cancer Agency COVID Agile Response Team (CACART) and the Ministry of Health.

Members of CACART:

- Diana Sarfati – National Director of Cancer and Chief Executive of Te Aho o Te Kahu
- Christopher Jackson – Medical Oncologist
- Claire Hardie – Chair of the National Radiation Oncology Working Group
- Elinor Millar – Public Health Physician, Te Aho o Te Kahu
- Mary-Ann Hamilton – Clinical Nurse Specialist
- Michelle Mako – Equity Director, Te Aho o Te Kahu
- Mark Winstanley – Paediatric Oncologist
- Myra Ruka – Haematologist
- Nisha Nair – Public Health Physician, Te Aho o Te Kahu
- Richard North – Chair of the National Medical Oncology Working Group
- Robert Weinkove – Haematologist
- Tom Middlemiss – Palliative Care Physician

Additional advice and review from:

- Humphrey Pullon – Haematologist
- Simon Pointer – National Pharmacist, Te Aho o Te Kahu

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