

# COVID-19 Vaccines and Cancer: What You Need to Know

## For people with cancer and their families

Read this brochure to learn about:

- how COVID-19 vaccines work
- vaccine safety for people with cancer
- possible side effects from the vaccine
- common questions about the COVID-19 vaccine

People with cancer may have a higher risk of getting COVID-19. If a person with cancer gets COVID-19 there is a higher chance that they will get very sick. People with cancer also have a higher risk of death from COVID-19. For these reasons, people with cancer should get the COVID-19 vaccine to protect themselves.

Health Canada has recently approved 2 COVID-19 vaccines from the drug companies Pfizer and Moderna. You may have a lot of questions about the vaccines, whether they are safe for you and when you can get the vaccine.

This brochure is meant to give you general information about what is known about the vaccines now.

## **Should I get the COVID-19 vaccine?**

All people with cancer at Princess Margaret should get the COVID-19 vaccine when it is available. If there are not enough vaccines, people at very high risk for serious health problems from the virus may get the vaccine first.

## **What groups of people with cancer are most at risk?**

While any person with cancer may be at risk of getting very sick if they get COVID-19, we know the following groups of people with cancer have a higher risk:

- those who have lung cancer or cancers of the blood like leukemia, lymphoma and multiple myeloma
- those who were diagnosed with cancer in the last year
- those who are 65 years or older
- those who had a stem cell transplant in the last 6 months
- those who are getting treatments that weaken the immune system, such as chemotherapy and targeted therapies

At this time we do not know details about how and when people with cancer will get the vaccine.

Each person's cancer and cancer treatment is different. Talk to your cancer care team about the COVID-19 vaccine and whether it is right for you.

## **How does the COVID-19 vaccine work?**

The 2 COVID-19 vaccines available right now are called messenger RNA (mRNA) vaccines.

The cells in our bodies make mRNA all the time. The cells use mRNA to make the many proteins our bodies need to function.

COVID-19 mRNA vaccines teach our cells how to make a protein when the immune system detects the COVID-19 virus. The protein gets the immune system to start making antibodies (cells that fight infection). These antibodies protect us from the COVID-19 virus if it enters our body in the future.

## **How did scientists develop the vaccine so quickly?**

An mRNA vaccine is not a new type of vaccine. Scientists have been doing research and developing mRNA vaccines for about 10 years.

Some of the reasons scientists were able to develop the COVID-19 vaccines so quickly were:

- The COVID-19 virus is similar to other viruses. Research teams already had a lot of knowledge about these types of viruses.
- Scientists around the world started to work on the vaccine right away when the COVID-19 virus was first found.
- Scientists all over the world shared information with each other.

- Research teams were able to sign up a large number of people in clinical trials (a research study that involves humans) very quickly to test the vaccines. For example, over 200,000 people in Britain took part in clinical trials for vaccines in development.

## How do I know these vaccines are safe?

Health Canada ensures that the vaccine meets very strict safety and efficacy (how well something works) standards before it is approved for use. The COVID-19 vaccine went through the same amount of safety checks as any other vaccine or medicine.

Testing of the 2 approved vaccines involved more than 35,000 people. These people got the vaccine in many clinical trials. None of these clinical trials found any major safety concerns. On review of all the study data, Health Canada found no major safety concerns with the vaccines and approved them for use.

Read more about how the vaccines were approved for use:

- Ministry of Health's [COVID-19 Vaccine Approval Process and Safety](http://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_vaccine_approval_process_safety.pdf) ([http://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19\\_vaccine\\_approval\\_process\\_safety.pdf](http://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_vaccine_approval_process_safety.pdf))
- Public Health Ontario's [Vaccine Regulatory Process in Canada](https://www.publichealthontario.ca/-/media/documents/ncov/vaccines/2020/12/at-a-glance-vaccine-regulatory-approval-process.pdf?la=en) (<https://www.publichealthontario.ca/-/media/documents/ncov/vaccines/2020/12/at-a-glance-vaccine-regulatory-approval-process.pdf?la=en>)

## Can I get COVID-19 from the vaccine?

No, it is not possible to get COVID-19 from the vaccines. The Pfizer and Moderna vaccines do not contain the live virus that causes COVID-19.

Vaccines for COVID-19 use a part of the virus (the spike protein) or a gene from the virus. None of these can cause COVID-19.

## **Can I still spread the virus to other people even after I get the vaccine?**

The COVID-19 vaccine will protect you from getting sick from the virus. But the vaccine may not protect you from getting infected with the COVID-19 virus. This means there is still a chance you could get COVID-19 but have no symptoms of the disease.

If you get COVID-19 you could spread the virus to other people without knowing it. At this time, people who had the vaccine need to continue wearing masks and practicing physical distancing.

## **Vaccine safety for people with cancer**

### **Is the vaccine safe for people getting cancer treatment?**

Yes, the vaccine is safe for most people with cancer.

Talk to your cancer care team before getting the vaccine if you have:

- been diagnosed recently
- are getting treatment now
- have had recent treatment

Depending on your cancer treatment, some people may not get as much protection from the vaccine as other people. But any amount of protection will keep you safer than none.

It is unknown at this time if some people with cancer may need to get the vaccines again after they finish treatment. More studies are needed to know how well the vaccine works for people with cancer.

More information on the COVID-19 vaccine and different treatment types:

- **Chemotherapy**

People getting chemotherapy can get the COVID-19 vaccine. But because chemotherapy suppresses (stops or slows down) your immune response, it may reduce how well the vaccine works. Your oncologist (cancer doctor) may adjust your treatment to allow the vaccine to work better.

Talk to your oncologist about the vaccine and your treatment plan.

- **Radiation Therapy**

People getting radiation therapy can get the COVID-19 vaccine. Radiation therapy does not seem to affect how well the vaccine works.

People getting radiation therapy can get the vaccine at any time before or during treatment.

- **Immunotherapy**

People getting immunotherapy (for example, checkpoint inhibitors) may be able to get the COVID-19 vaccine. If you get the vaccine, your cancer care team will need to watch you closely for any vaccine side effects.

Talk to your oncologist about getting the vaccine.

- **Stem cell transplant or adoptive cell therapy**

People getting stem cell transplants or adoptive cell therapy may have a weakened immune system for a short amount of time. A weakened immune system may reduce how well the COVID-19 vaccine works.

You may have to wait until your immune system recovers after treatment before getting the vaccine. Some people may also need to get the vaccine again at a later date.

Talk to your oncologist about when you can expect to get the COVID-19 vaccine.

- **Immunosuppressive Therapy**

Whether people getting immunosuppressant therapy can get the COVID-19 vaccine depends on the type of therapy. If you are getting rituximab, it may reduce how well the vaccine works. Talk to your oncologist about when it is safe for you to get the COVID-19 vaccine.

Immunosuppressant therapy may reduce how well the vaccine works. If it is safe for you to get the vaccine, your health care team will try to give you the vaccine:

- before you start immunosuppressive therapy
- or
- during treatment when your immune system is not at its lowest level

Talk to your oncologist before getting **any** vaccine including the COVID-19 vaccine.

## **If the vaccine is safe for me, when will I get the vaccine?**

We do not know exactly when people with cancer will get the COVID-19 vaccine. We think many people with cancer will be included as a 'priority group' for the vaccine.

Priority groups are people who will get the vaccine before the general public. This is because some groups are at greater risk of getting very sick from the virus. People with cancer could be a priority group because of age or the risk of serious health problems from COVID-19.

## **How will I get the vaccine?**

COVID-19 mRNA vaccines are given in the upper arm muscle just like a flu shot.

## How many shots of the vaccine do I need?

Current mRNA vaccines require 2 doses.

- **For the Pfizer vaccine:** you get the second shot 21 days after the first shot.
- **For the Moderna vaccine:** you get the second shot 21 to 28 days after the first shot. The timing of when you get the second shot will depend on your cancer treatment plan.

**Important:** The 2 mRNA vaccines cannot be mixed. If your first shot is the Pfizer vaccine, your second shot needs to be Pfizer. The same applies with the Moderna vaccine.

These are the 2 vaccines that are currently approved by Health Canada. There may be other COVID-19 vaccines available in the future that only require 1 shot.

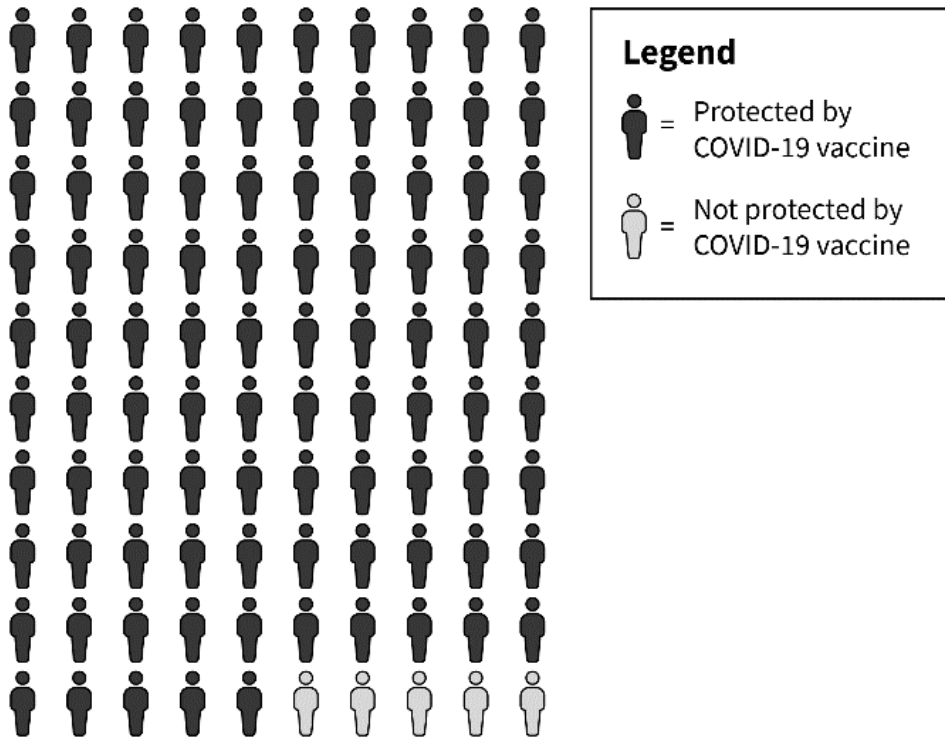
## How soon does the vaccine start to work?

It takes time for your body to build up an immune response to protect you. The mRNA vaccines require 2 doses. The vaccine may start working after the first dose but you will need the second dose for full protection. If you skip the second dose, you could still be at risk of getting sick from the COVID-19 virus.



## How well does the vaccine work?

In a large study where people got 2 doses of the vaccine, the vaccine worked well to prevent 95 percent (95 out of 100) people from getting sick from the virus.



Experts think that most people who get both doses of the vaccine will be well protected.

## How long will protection from the vaccine last?

At this time we do not know how long the vaccine will last. Since this is a new vaccine, it will need to be studied over time to see how well it works.

## **Possible side effects from the vaccine**

As with other vaccines, some people may develop mild side effects in the days after their shot. Most side effects will go away on their own.

The most common side effects from the mRNA vaccines are:

- fatigue (tiredness)
- headache
- muscle aches
- pain where you got the shot
- redness and swelling where you got the shot
- joint pain
- mild fever
- swollen glands (this happens less often)

## **When should I get medical help for side effects?**

Serious side effects from the vaccine are rare. If you develop any of these side effects within 3 days of getting the vaccine, get medical help right away. The side effects include:

- hives
- swelling of the face or mouth
- trouble breathing
- very pale colour in face or serious drowsiness (feeling very sleepy)
- fever over 40°C or 104°F
- convulsions (muscle movement you cannot control) or seizures
- other serious symptoms (for example, numbness)

## **Should I be concerned if I have severe allergies?**

If you have serious allergies or have had a serious allergic reaction to other vaccines, drugs or food, talk to your oncologist before you get the COVID-19 vaccine.

You should not get the vaccine if you have allergies to any of the ingredients in the Pfizer or Moderna COVID-19 vaccines:

- [ingredients in the Pfizer vaccine](https://www.canada.ca/en/health-canada/services/drugs-health-products/covid19-industry/drugs-vaccines-treatments/vaccines/pfizer-biontech.html) (https://www.canada.ca/en/health-canada/services/drugs-health-products/covid19-industry/drugs-vaccines-treatments/vaccines/pfizer-biontech.html)
- [ingredients in the Moderna vaccine](https://www.canada.ca/en/health-canada/services/drugs-health-products/covid19-industry/drugs-vaccines-treatments/vaccines/moderna.html) (https://www.canada.ca/en/health-canada/services/drugs-health-products/covid19-industry/drugs-vaccines-treatments/vaccines/moderna.html)

## **Do I still have to wear a mask and practice physical distancing after I get the vaccine?**

Yes. You still need to wear masks and practice physical distancing until a large amount of people get the vaccine. At first, we will not have enough vaccine for everyone. It is also unknown at this time whether the vaccine provides long-term protection from COVID-19.

## Common Questions

### **Should I still get the vaccine if I already had COVID-19?**

Yes. People who have COVID-19 should get the vaccine after they recover from the virus. The vaccine trials included people who were infected with COVID-19 and the vaccine was found to be safe.

Experts do not know how long antibodies last after someone has had COVID-19. The vaccine may help your body fight a future COVID-19 infection. Talk to your oncologist about when you should get the vaccine after you recover.

### **Should I get the vaccine if I have symptoms of COVID-19?**

If you have any symptoms of COVID-19, wait to get the vaccine. Talk to your cancer care team about your symptoms and getting a COVID-19 test. Your cancer care team will tell you when to get the vaccine.

### **Should I still get a flu shot if I have not had one yet?**

Yes. The flu and the COVID-19 virus are not the same thing. In people with cancer and those with weakened immune systems, the flu can be serious and sometimes life-threatening (cause death).

- People with cancer should get a flu shot that has an inactive (dead) flu virus. Most flu shots do not contain the live virus.
- Do not get the flu vaccine through the nose as nasal spray. These nasal sprays contain live flu virus. People with cancer and those who live with them should not get the nasal spray flu vaccine.

Your cancer care team will tell you when to get the flu shot depending on your cancer type and treatment.

## **Should I still get a flu shot if I have COVID-19?**

If you have COVID-19 or think you may have the virus, wait to get your flu shot. This keeps other people safe from being exposed to COVID-19.

## **Can I get other vaccines at the same time I get the COVID-19 vaccine?**

You should not get other vaccines at the same time you get the COVID-19 vaccine. Do not get other vaccines until at least 28 days after you get the second dose of the COVID-19 vaccine.

If you get a vaccine before the COVID-19 vaccine, wait 14 days before you get the COVID-19 vaccine.

## **For more information**

Talk to your cancer care team for more information about the COVID-19 vaccines.