COVID-19 Vaccines in People with Cancer

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The COVID-19 pandemic\(^1\), caused by the SARS-CoV-2 virus, continues to have a serious impact on many people, including cancer patients, their families, and caregivers. (To learn more about COVID-19 and how it might affect cancer patients and caregivers, see Common Questions About the COVID-19 Outbreak\(^2\).)

Vaccines (also called immunizations or vaccinations) are used to help a person’s immune system recognize and protect the body against certain infections. Vaccines are now becoming available to help protect against COVID-19. Here we'll discuss some of the questions people with cancer (or with a history of cancer) might have about the COVID-19 vaccines.

Many expert medical groups are recommending that most patients with cancer or
a history of cancer should get a COVID-19 vaccine. Since the situation for every person is different, it is best to discuss the risks and benefits of getting the COVID-19 vaccine with your cancer doctor, who can advise you.

Is it safe for cancer patients to get any type of vaccine?

People with cancer (or with a history of cancer) can get some vaccines, but this depends on many factors, such as the type of vaccine, the type of cancer a person has (had), if they are still being treated for cancer, and if their immune system is working properly. Because of this, it’s best to talk with your doctor before getting any type of vaccine. To learn more, see Vaccinations and Flu Shots for People with Cancer.³

Which COVID-19 vaccines are available?

Currently, 2 COVID-19 vaccines have received emergency use authorization (EUA) from the US Food and Drug Administration (FDA):

- The Pfizer-BioNTech vaccine is authorized for people 16 years of age or older. It is given in 2 doses, 3 weeks apart.
- The Moderna vaccine is authorized for people 18 years of age or older. It is given in 2 doses, 4 weeks apart.

Both vaccines have been found to be more than 90% effective at preventing COVID-19 infection in people who receive both doses, although they might not be as effective after only one dose.

These vaccines contain messenger RNA (mRNA), which is genetic material. After a person receives the vaccine, the mRNA tells the cells in the body to make copies of the virus’s “spike” protein (the protein that normally helps the virus infect human cells). This doesn’t cause disease, but it does trigger the immune system to learn to act against the virus if the body is exposed to it in the future.

What is an emergency use authorization (EUA)?

In an EUA, the FDA allows the use of a vaccine or drug during a time of emergency, such as the current COVID-19 pandemic, when the available evidence shows the potential benefits outweigh the potential risks. An EUA is not the same as a full FDA approval, which requires a more thorough review of safety and effectiveness.
Drugs and vaccines that have been given an EUA continue to be studied in clinical trials. For example, it is not yet clear if someone who gets one of the vaccines can still spread the virus to others. This is still being studied, as are any possible long-term effects of the vaccines. Researchers are also still trying to determine how long the vaccines will provide protection against the virus. In the meantime, health experts recommend that those who get the vaccine still wear a mask, continue to practice social distancing and good hand hygiene, and avoid crowds and places with poor air circulation.

What are the side effects of the vaccines?

Common side effects that have been reported after getting the vaccines include:

- Pain or swelling at the injection site
- Feeling tired
- Headache
- Fever
- Chills
- Muscle and joint pain

These side effects typically go away within a few days.

**Swollen/tender lymph nodes**

Some people have swelling or tenderness of the lymph nodes under the arm in which they got the injection. This is often a normal response by the body’s immune system, which is getting ready to fight a future COVID-19 infection.

A swollen lymph node under the arm might cause concern, since this can also be a sign of breast cancer (as well as some other cancers). The time it takes for the lymph nodes to shrink back down after the vaccine may be a few days to a few weeks, although this is still being studied. If you notice swollen or tender lymph nodes that do not go away after a few weeks (or if they continue to get bigger), contact your doctor to discuss the next steps.

**Screening mammograms:** See “Could the vaccine cause issues if I’m getting a mammogram?” for more information about COVID-19 vaccines and mammograms.

**For those who have breast cancer or a history of breast cancer:** See “What if I have breast cancer or a history of breast cancer?” for more information about which arm
to consider getting the injection in.

Serious and long-term side effects of COVID-19 vaccines

Very few serious safety concerns have been reported for either vaccine so far. In very rare cases, people have had serious allergic reactions after getting one of the vaccines. This seems to be more likely in people who have had serious allergic reactions before.

These vaccines are still fairly new, so possible long-term side effects are still being studied.

Are the COVID-19 vaccines available for people with cancer?

The supply of vaccines in the United States is likely to be limited for some time. It might also vary in different parts of the country based on the distribution of the vaccine, the priorities for vaccination in different areas, and the number of people who want to get the vaccine.

The US Centers for Disease Control and Prevention (CDC) has made recommendations as to which groups of people should get the vaccines first. States and other authorities are using these recommendations to guide their distribution of the vaccine, although they do not have to follow them exactly. (In fact, some states have chosen to use slightly different priorities when deciding which groups should be offered the vaccines first.)

The groups recommended to get the vaccines first have included people at higher risk (such as front-line health care workers, first responders, and residents of nursing homes). Next are groups of people at slightly lower risk (such as people of a certain age, people with certain health conditions, and people who work in other essential professions), and so on.

Cancer patients and people with a history of cancer were not included in the first group of people the CDC recommended to get the vaccines. But people with cancer are included in one of the next priority groups, which includes people with certain high-risk medical conditions7.

Again, states and other authorities are using the CDC guidelines to decide their own priorities for vaccine distribution, but they do not have to follow them. To learn more about the priorities for vaccination in your area, contact your state or local health department.
Other COVID-19 vaccines are likely to become available in the coming months as well, which should help with the supply of vaccines. However, it will probably still be some time before the vaccines become widely available for anyone who wants them.

**Should cancer patients and survivors get the vaccine?**

Many expert medical groups are now recommending that most people with cancer or a history of cancer get the COVID-19 vaccine once it’s available to them. The main concern about getting the vaccine is not whether it’s safe for people with cancer, but about how effective it will be, especially in people with weakened immune systems. Some treatments like chemotherapy (chemo), radiation, stem cell or bone marrow transplant, or immunotherapy can affect the immune system, which might make the vaccine less effective.

The initial studies testing the COVID-19 vaccines did not include people getting treatment with drugs that suppress the immune system, like chemo, or people who have weakened immune systems for other reasons. This is because the studies needed to see first if the vaccines work in people with healthy immune systems. Because of this, it’s not yet clear how effective the vaccines might be in these groups of people.

Some vaccines for other diseases contain live viruses, which typically are not recommended for cancer patients. However, the COVID-19 vaccines available in the US do not contain live viruses.

Since the situation for every person is different, it is best to discuss the risks and benefits of getting the COVID-19 vaccine with your cancer doctor. They can advise you and tell you when you should receive it.

**What if I have breast cancer or a history of breast cancer?**

Since the COVID-19 vaccine can cause swollen lymph nodes under the arm in which the injection was given (see “What are the side effects of the vaccines?” above), most doctors recommend that people with breast cancer or a history of breast cancer get the injection in the arm on the opposite side of your breast cancer. For example, if your breast cancer/breast surgery was in the left breast, it is probably best to get the injection in the right arm.

Swollen lymph nodes after a vaccine injection might also have an effect on your mammogram results. (See next question.)
Could the vaccine cause issues if I’m getting a mammogram?

The COVID-19 vaccine can cause swollen lymph nodes under the arm in which the injection was given. (See “What are the side effects of the vaccines?” above.)

Swollen lymph nodes under the arm might show up on a mammogram done to screen for breast cancer, which might cause concern and could lead to the need for further tests.

If you’re scheduled for a mammogram soon after you get a COVID-19 vaccine, it’s important to tell your doctor when and in which arm you received the injection. Depending on this information, they will discuss if you should change your mammogram appointment. **Do not delay your mammogram without speaking to your doctor first.**

Is it OK for cancer caregivers to get the vaccine?

Some vaccines for other diseases contain live viruses, which typically are not recommended for cancer caregivers because they might have unwanted effects on cancer patients. However, the COVID-19 vaccines available so far do not contain live viruses, so getting one of these vaccines does not put you at risk for passing COVID-19 on to the person you’re caring for.

It’s important to know that if you do get a COVID-19 vaccine and are later exposed to the virus, it’s not yet clear if the vaccine will prevent you from infecting someone else (even if you don’t get sick). Because of this, **health experts recommend that those who get the vaccine still wear a mask, continue to practice social distancing and good hand hygiene, and avoid crowds and places with poor air circulation.**

People getting the vaccine might not feel well for a few days after each shot, so it might make sense to have someone else available to help with caregiving during this time.

Will the flu vaccine protect against COVID-19?

Even though the influenza (flu) vaccine will NOT protect you against COVID-19, it is very important that cancer patients talk to their doctor about the benefits and risks of getting the flu shot\(^\text{12}\).

The flu and COVID-19 are both caused by viruses that can spread easily and can cause serious illness in older people, those with weakened immune systems, and others with certain medical conditions. These infections share many of the same symptoms, so it
can be hard to tell which one you might have without having specific tests.

People who live with or care for someone at high risk of getting the flu should also get the flu vaccine.

The overlap of this year’s flu season on top of the COVID-19 pandemic could cause a significant burden on healthcare systems, so getting the flu vaccine could help lessen this.

The CDC has more information on the differences between COVID-19 and the flu\(^\text{13}\), as well as the best time to get the flu vaccine\(^\text{14}\).

**Where can I get more information about COVID-19 vaccines?**

The CDC\(^\text{15}\) and FDA\(^\text{16}\) have more information about COVID-19 vaccines, including the approval process, safety, the different types of vaccines, and the known possible risks and benefits of each one.

For more information about COVID-19 vaccine availability in your area, contact your state or local health department. (The CDC has links to state health departments [here]\(^\text{17}\).)

**Hyperlinks**

4. [www.fda.gov/media/144414/download](http://www.fda.gov/media/144414/download)

Last Revised: February 19, 2021

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