COVID-19, also called coronavirus, is making people sick around the world. In addition to wearing masks, keeping 6 feet apart and washing our hands, vaccines are important tools to help slow the spread of COVID-19. Vaccines help your body fight off the virus and keep you from getting sick. The more people who get vaccinated, the faster we can end the COVID-19 pandemic. Here are some frequently asked questions about COVID-19 vaccines:

Which vaccines are currently approved?
There are currently three COVID-19 vaccines that have been approved by the Food & Drug Administration (FDA):

- **Pfizer**’s vaccine was approved for emergency use by the FDA on Friday, December 11, 2020. Over 43,000 participants took part in their trial, which showed it is 95% effective in preventing the virus and serious illness. There were no serious illnesses or deaths in trial participants who received the vaccine.

- **Moderna**’s vaccine was approved for emergency use by the FDA on December 18, 2020. Over 30,000 participants took part in their vaccine trial, which shows the vaccine is 94.5% effective in preventing the virus or serious illness. There were no serious illnesses or deaths in trial participants who received the vaccine.

- **Johnson & Johnson**’s vaccine was approved for emergency use by the FDA on February 27, 2021. 40,000 participants took part in their vaccine trial, which shows the vaccine is 85% effective against serious illness or death.

How do the vaccines work?
COVID-19 vaccines will not give you the disease. Vaccines make your body think you have the disease without actually getting it. The immune system, the part of your body that fights sickness, responds to the vaccine by creating antibodies. Antibodies are disease-specific proteins that fight off the virus when they see it. The vaccines currently available use mRNA technology, which does not affect or interact with a person’s DNA.

Both the Pfizer and Moderna vaccines use messenger RNA (mRNA), **These vaccines do not use the live virus that causes COVID-19.** This newer technology has been around for about 20 years and is easier to make than traditional vaccines, but has not been used in widespread human vaccines before now.

The Johnson & Johnson vaccine does not use mRNA. Rather, it uses what's known as an adenovirus vector vaccine. It uses the more established approach of employing a harmless cold virus to deliver a gene that carries the blueprint for the spike protein found on the surface of the coronavirus. For a short video on how the Johnson & Johnson vaccine works, click [here](#).
The mRNA vaccines were developed so quickly, how do I know it is safe?
Actually the science of this virus has been around for years. The mRNA vaccine approach was invented in the 1990’s. One distinct advantage of the mRNA vaccine approach is that it allows for speed of design and production. The COVID-19 vaccine was also “fast tracked” in that it has been able to jump ahead of other medications waiting line for approval. The urgency of making this vaccine has also meant that there have been investments made that have allowed processes that usually happen in sequence, to happen simultaneously. And finally, the fact that COVID is so widespread has meant that many more people have been able to be involved in the trials in a short time. As many as 43,548 people were in the trial for the Pfizer vaccine alone. This has enabled us to see very quickly if the vaccine works.

What should I expect the vaccination process to be like?
We understand that many people are afraid of needles – we don't much like them either. Fortunately, the diameter of the COVID vaccine needle is smaller than what you would normally see from a flu vaccination, so initial reports are that it may be less painful.

In order to ensure that people getting vaccinated do not have an adverse reaction, you will need to remain at the vaccination site for 15 or 30 minutes after you've received each dose.

Lastly, you should receive documentation of the vaccination. You'll need to have the documentation from the first shot with you when you get the second shot.

Great news! The Johnson & Johnson vaccine only requires one dose. But don't forget to get documentation from your single shot. You may need it in the future to demonstrate that you've been vaccinated.

Can I still transmit the virus to others once I get the vaccine?
This is unknown at this time, which is why you'll still need to follow all protocols after getting the vaccine.

Where are the vaccines made?
The Pfizer vaccine is being manufactured in Missouri, Michigan, and Massachusetts. For more details on their manufacturing, click [here].

The Moderna vaccine is being manufactured in Massachusetts.

The Johnson & Johnson vaccine is being manufactured at their Dutch plant, however, they are also in the process of bringing a new manufacturing plant online in Baltimore.
How is the COVID-19 vaccination given?
COVID-19 mRNA vaccines (such as the Pfizer and Moderna vaccines) are given in two doses, injected into the muscles of the upper arm, similar to a flu shot.

The Johnson & Johnson vaccine is given in just one dose that is also injected into the muscles of the upper arm, similar to a flu shot (intramuscularly).

How many shots will I need?
For both the Pfizer and Moderna vaccines, two shots are required.

- The Pfizer vaccine requires two shots, 21 days apart.
- The Moderna vaccine requires two shots, 28 days apart.

The first shot starts to build immunity, but it is not enough for protection. The second shot is needed to receive the most protection from the vaccine.

It is not known at this time whether a booster shot will be required at some point in the future (similar to some other vaccines). The flu vaccine is an annual shot due to the many different strains of that virus.

The Johnson & Johnson vaccine only requires 1 dose.

Does the second dose have to be the same vaccine as the first dose?
Yes, the COVID-19 vaccines are not interchangeable. The second dose must be from the same manufacturer as the first dose. The second dose may not be from Johnson & Johnson.

I understand the Pfizer vaccine is super frozen. Won’t that hurt my arm when I am vaccinated?
Yes, the Pfizer vaccine is super frozen (-70°C), but it is thawed to room temperature before you receive the vaccination.

Will either vaccine cause symptoms?
Some participants in clinical trials for both mRNA vaccines showed a strong immune response leading to side effects. For both mRNA vaccines, the second dose may cause a stronger immune response than the first dose, which can mean more side effects. This is normal and is how your body learns to fight COVID-19. The four most common side effects were pain at the injection site, fatigue, headache, and muscle pain. They should go away in a few days. A few people have had an allergic reaction to the vaccine, but this is very rare.

Common symptoms from the Johnson & Johnson vaccine include pain at the injection site, headache,
fatigue, muscle aches, nausea, and fever.

What if I have an adverse event?
If you believe you are having a serious reaction, you should immediately contact your health care provider and seek medical attention. Adverse events following vaccination should be reported through the Vaccine Adverse Event Reporting System (VAERS) (1-800-822-7967) or through their website: https://vaers.hhs.gov.

The CDC is implementing a new smartphone-based tool called v-safe to check-in with people about side effects after they receive a COVID-19 vaccine. When you receive your vaccine, you should also receive a v-safe information sheet telling you how to enroll in v-safe. If you enroll, you will receive regular text messages directing you to surveys where you can report any problems or adverse reactions you have after receiving the vaccine.

What is V-Safe?
V-safe is a new CDC smart-phone based monitoring program for COVID-19 vaccine safety. Everyone who receives the COVID-19 vaccine will be encouraged to enroll in this online program. The system conducts daily health checks after vaccination for the first week, and then weekly for 6 weeks, followed by quarterly check-ins. The system collects data on side effects as well as any major health impacts. If you don’t have a smartphone, it’s ok not to enroll in this program.

How will the vaccines be distributed?
- Once a vaccine is approved for emergency use, the FDA will provide an authorization letter and fact sheet to the State. The fact sheets for all 3 vaccines are provided below.
- Vermont expects to receive a weekly shipment of its allocation (based on population) of any approved vaccines.
- Vermonters who are eligible can click on the following website link to sign up for a vaccine appointment: https://www.healthvermont.gov/covid-19/vaccine/getting-covid-19-vaccine. If you don’t have access to a computer, you can contact their call center at 855-722-7878 to sign up. The call center will be open during the week from 8:15 am - 5:30 pm and from 10:00 am - 3:00 pm on weekends. Vermonters are asked to register online whenever possible as high call volumes are expected. Here’s some helpful tips:
  - Those registering for a vaccination should sign up for a vaccination location near where they live since doses are being distributed to vaccination sites based on the number of individuals over 75 in each area.
  - If you want to register a spouse or other close loved one, you can add them as dependents.
  - If no appointment times appear for the date range and site you selected, try choosing a later date range.
  - Once registered, people should make sure to go to their appointment and arrive on time so vaccine doses don’t go to waste.
  - EMS and home health agencies are vaccinating individuals who are home-bound. If you are unable to get to a vaccination site, you can contact 2-1-1 for more info.
• If you have previously tested positive for COVID-19 or have had a presumed COVID-19 illness, you will need to wait 90 days before getting the vaccine, since you will have antibodies that will help protect you from the virus for at least that long.

I’ve already had COVID, should I still get the vaccine?
Those who have had the COVID-19 virus within the past 90 days will need to delay vaccination so others can get it - since those who have had the coronavirus are less likely to get it again for at least 90 days.

When will I be able to get the vaccine?
Vermont has utilized a phased approach to vaccinating residents, as follows:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Starting Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>12/15/20</td>
<td>Long term care residents and staff, health care workers, and first responders</td>
</tr>
<tr>
<td>2</td>
<td>1/25/21</td>
<td>75 years of age and older</td>
</tr>
<tr>
<td>3</td>
<td>2/23/21</td>
<td>70 years of age and older</td>
</tr>
<tr>
<td>4</td>
<td>3/1/21</td>
<td>65 years of age and older</td>
</tr>
<tr>
<td>5A</td>
<td>3/8/21</td>
<td>Those 55 years of age and older with high risk medical conditions</td>
</tr>
<tr>
<td>1B</td>
<td>3/8/21</td>
<td>K-12 teachers and onsite staff, child care, and expanded public safety providers</td>
</tr>
<tr>
<td>5B</td>
<td>3/15/21</td>
<td>Those 16 years of age and older with high risk medical conditions</td>
</tr>
<tr>
<td>6</td>
<td>Late March</td>
<td>60 years of age and older</td>
</tr>
</tbody>
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Should I call my doctor or the local hospital to get on a list for the vaccine?
No, there is no need to call your doctor, unless you have concerns due to a medical condition.

Can I choose which vaccine I receive?
No, you will not have an option.

Is the vaccine safe for anyone 16 years of age or older?
• If you are considering getting pregnant, already pregnant, or breastfeeding, you should talk to your OB/GYN to discuss your personal risk of getting the virus and whether or not you should receive the vaccine at this time.
• If you typically have a severe reaction to other vaccinations or IVs or have other health concerns, talk to your primary care provider.
• The Pfizer vaccine is approved for those 16 years of age or older.
• The Moderna and Johnson & Johnson vaccines are only approved for those 18 years of age or older.

If I have allergies, can I still get the vaccine?
There have been very few instances of people having a severe allergic reaction (those affected were fine after treatment). These are people who have had anaphylactic reactions to IV medications with these same ingredients in the past. Having a severe allergy to dust or dogs or certain foods is not a contraindication. If you carry an epi-pen because you get anaphylaxis from IV or IM medications, or have an allergy to any of the vaccine ingredients listed below, then you may want to discuss with your primary care provider the best strategy.

<table>
<thead>
<tr>
<th>Pfizer Vaccine Ingredients</th>
<th>Moderna Vaccine Ingredients</th>
<th>Johnson &amp; Johnson Vaccine Ingredients</th>
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<tbody>
<tr>
<td>• Lipids:</td>
<td>• Lipids:</td>
<td>• Recombinant</td>
</tr>
<tr>
<td>o (4-hydroxybutyl)</td>
<td>o SM-102 (proprietary</td>
<td>• Replication-incompetent adenovirus</td>
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<tr>
<td>azanediyi) (hexane-6,1-diyl) bis (2-</td>
<td>to Moderna)</td>
<td>type 26 expressing the SARS-CoV-2</td>
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<tr>
<td>hexyldecanoate)</td>
<td>o Polyethylene glycol [PEG] 2000</td>
<td>spike protein</td>
</tr>
<tr>
<td>o [(polyethylene glycol)-</td>
<td>o 1,2-distearoyl-sn-</td>
<td>• Citric acid monohydrate</td>
</tr>
<tr>
<td>2000]-N,N-ditetradecylacetamide</td>
<td>glycero-3-phosphocholine</td>
<td>• Tromethamine</td>
</tr>
<tr>
<td>o 1,2-distearoyl-sn-</td>
<td>o Cholesterol</td>
<td>• Tromethamine hydrochloride</td>
</tr>
<tr>
<td>glycero-3-phosphocholine</td>
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<td>• Acetic acid</td>
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<td>o Cholesterol</td>
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<td>• Sodium acetate</td>
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<tr>
<td>• Potassium chloride</td>
<td></td>
<td>• Sucrose</td>
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<tr>
<td>• Monobasic potassium</td>
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<td>phosphate</td>
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<tr>
<td>• Sodium chloride</td>
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<td>• Dibasic sodium phosphate</td>
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<tr>
<td>dihydrate</td>
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<td></td>
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<tr>
<td>• Sucrose</td>
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Should I expect to miss some work due to symptoms after being vaccinated?
Systemic signs and symptoms following COVID-19 vaccination can include fever, fatigue, headache, chills, or muscle and joint pain. Most are mild to moderate in severity, occur within the first 3 days of vaccination, and resolve within 1-2 days after they occur.

Cough, shortness of breath, runny nose, sore throat, or loss of taste or smell are not consistent with
post-vaccination symptoms and may indicate a COVID-19 infection, which would have been received in some other manner than from the vaccine.

How much will the vaccine cost me?
The vaccines will be free, however, depending on where you receive the vaccine, there may be a small fee for giving it to you. Vaccine providers can get this fee reimbursed by the patient’s insurance company or, for uninsured patients, by the Health Resources and Services Administration’s Provider Relief Fund.

Should I have my children vaccinated?
The Pfizer vaccine is only approved for people 16 years of age and older. Further testing is needed to ensure the safety of use in children under 16.

The Moderna and Johnson & Johnson vaccines are only approved for people 18 years of age and older.

Do I need to continue wearing my mask and social distancing after I receive the vaccine?
Yes, while experts learn more about the protection that COVID-19 vaccines provide under real life conditions, it will be important to continue with PPE and distancing to help stop the pandemic. The COVID-19 vaccination together with all our health and safety protocols will offer the best protection from getting and/or spreading the coronavirus.

Once we show that we have finally stopped the spread of this disease, then we will be able to throw away our masks and hug our friends and family.

As of 2/23/21, Vermont loosened restrictions for those who are fully vaccinated, meaning it's been at least 2 weeks since they received their final dose of COVID-19 vaccine.

Those who are fully vaccinated no longer need to quarantine after travel or exposure and are now able to gather with one other household at one time, whether or not the members of the other household are vaccinated.

As I decide whether or not to get the vaccine, are there long-term effects of the COVID-19 virus that I should consider?
According to the CDC, in addition to potential severe symptoms from the virus, there are many possible long-term effects. These can include brain fog, depression, muscle aches, and a fever. Additional more serious long term complications can also arise including inflammation of the heart, lung or kidney issues, and memory or hair loss.
Symptoms arising from the virus are much worse than any potential symptoms from getting the vaccine. And, as we know, the virus can result in death.

Where can I learn more about the COVID vaccines?
For even more information about COVID-19 vaccines, visit:

- Vermont Department of Health website.
- FDA Advisory Committee Meeting Information: https://www.fda.gov/media/144245/download
- NEJM article on the Pfizer vaccine: Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine | NEJM
- https://www.cdc.gov/vaccines/covid-19/index.html
- Pfizer Vaccine Fact Sheet
- Moderna Vaccine Fact Sheet
- Johnson & Johnson Vaccine Fact Sheet