

Unit 3: Protect Yourself and Others

Prevention

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OSHA Disclaimer

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Learning Objectives

Upon completion of this unit, you will improve your understanding of:

- How our immune systems protect us from infection
- How vaccines train our immune systems to protect us
- Vaccines, including their safety
- Masks and how they protect us from infection

Learning Objectives (continued)

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Vaccination



Let's talk about your experiences with vaccines



- Have you ever gotten a vaccine?
- If so, what were you vaccinated against?
- What happened when you got vaccinated?
- How old were you?

Let's talk about your experiences with vaccines (continued)



- Has anyone in your family been vaccinated?
- Do you know what he or she was vaccinated against?

How does our immune system defend us?



- Germs are everywhere.
- Our body has a defense system.
- The immune system defends our body against pathogens.

Image Source: <https://www.everydayhealth.com/news/10-amazing-facts-about-your-immune-system/>

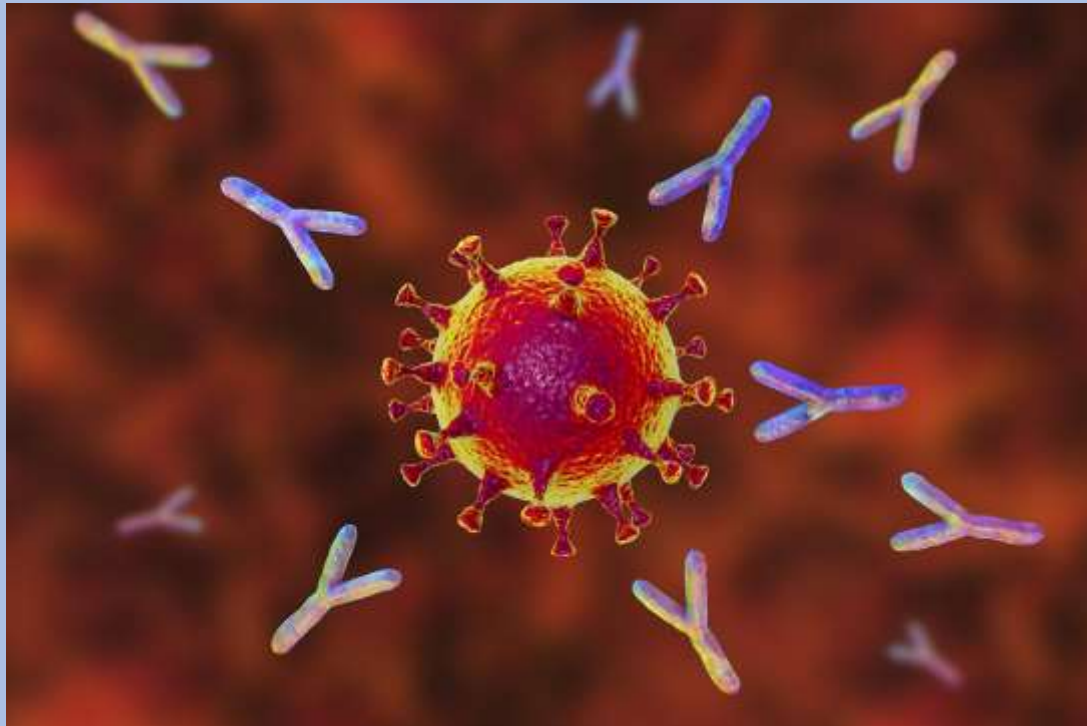
How does our immune system defend us? (Continued)



- When a pathogen infects our bodies, the immune system attacks the pathogen.
- It takes time for the immune system to destroy pathogens.

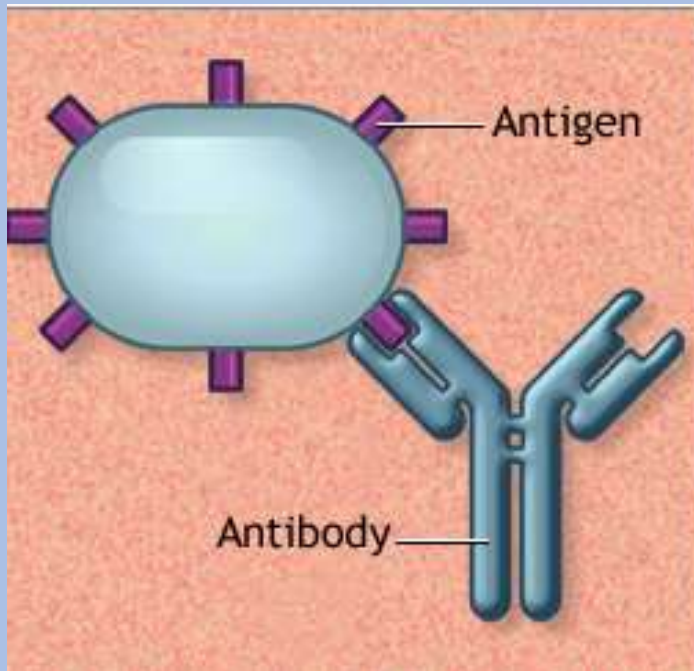
Image Source: <https://www.everydayhealth.com/news/10-amazing-facts-about-your-immune-system/>

Immune system (our built-in soldiers)



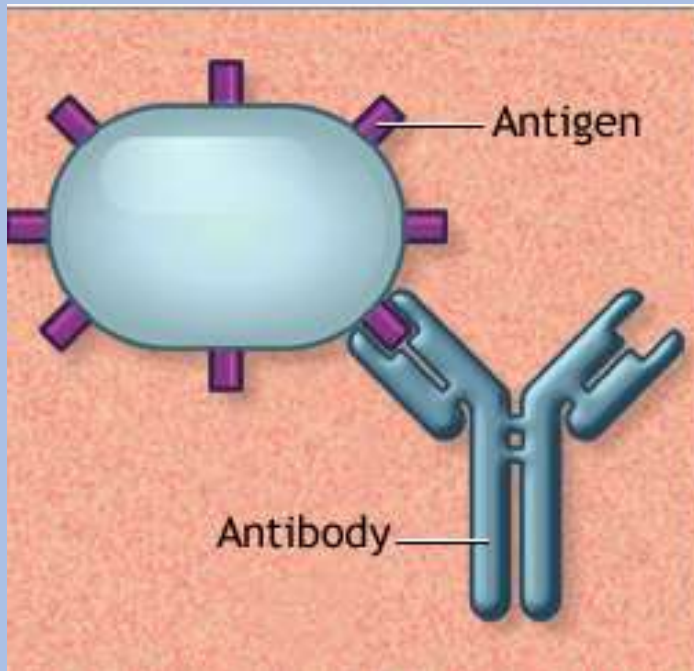
- Our immune system has soldiers.
- These “soldiers” are called antibodies.
- We have thousands of different antibodies in our bodies.
- The antibodies defend us by fighting against infection.

Immune system -remembering how to defeat the enemy



- It takes time to train the antibodies (soldiers) to attack a specific part of the pathogen.
- Doctors call this small part “the antigen.”
- During this time, the person is susceptible to becoming ill.

Immune system - remembering how to defeat the enemy (continued)



- is susceptible to becoming ill.
- Our “soldier” antibodies have a memory.
- After our “soldier” antibodies fight an “enemy” pathogen, they remember how to defeat it.

Immune system - destroying the same enemy



- Our antibodies learn how to defend against the same pathogen.
- The antibodies can respond quickly against the same pathogen.

Image Source: <https://www.cnn.com/2020/03/16/first-human-trial-for-coronavirus-vaccine-begins-monday-in-the-us.html>

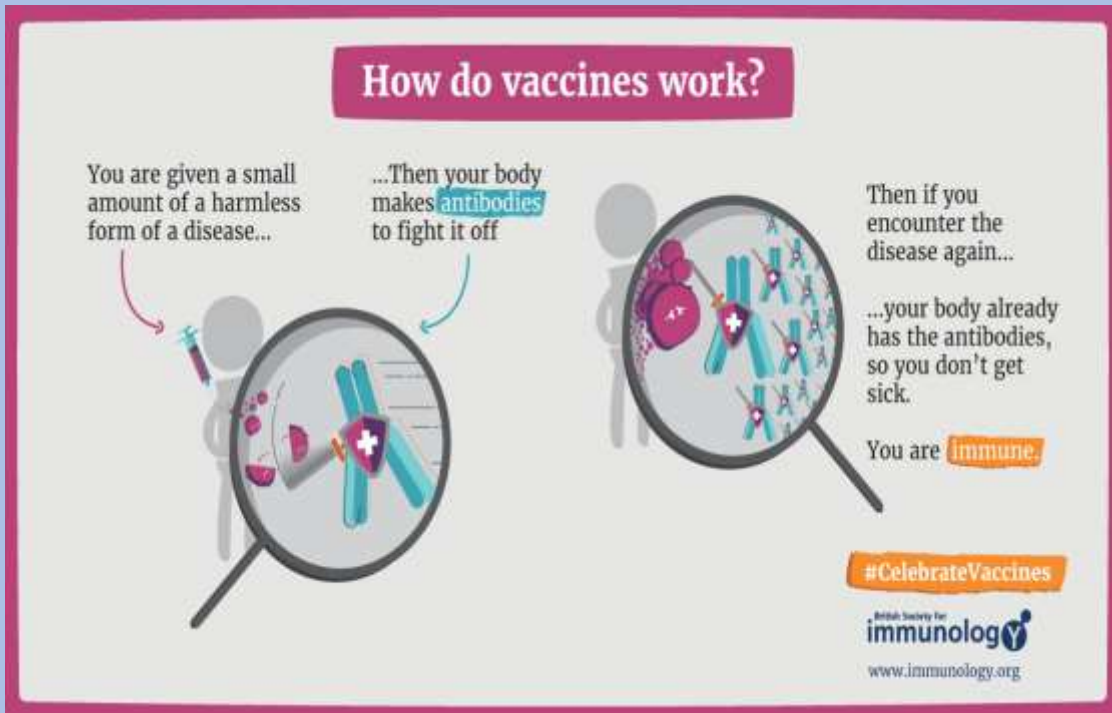
Immune system - destroying the same enemy (continued)



- However, antibodies that are trained against one pathogen cannot protect us against a different pathogen.
- A new pathogen can be very dangerous because our antibodies do not know how to properly fight it.

Image Source: <https://www.cnn.com/2020/03/16/first-human-trial-for-coronavirus-vaccine-begins-monday-in-the-us.html>

How do vaccines help our bodies?

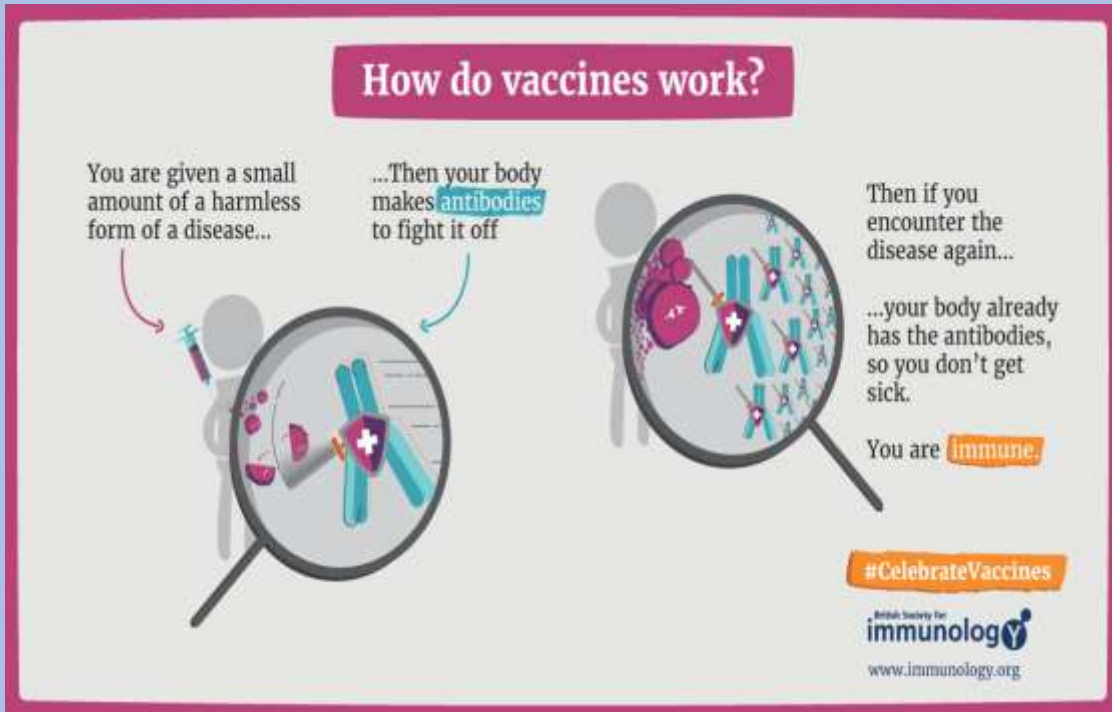


- Vaccines teach our bodies how to defend themselves.
- Vaccines teach our bodies to build the soldier antibodies that can defend against a specific pathogen.
- Through the vaccine, the antibodies develop a memory of the pathogen.

Image Source:

<https://www.immunology.org/celebrate-vaccines/public-engagement/guide-childhood-vaccinations/how-vaccines-work>

How do vaccines help our bodies? (Continued)

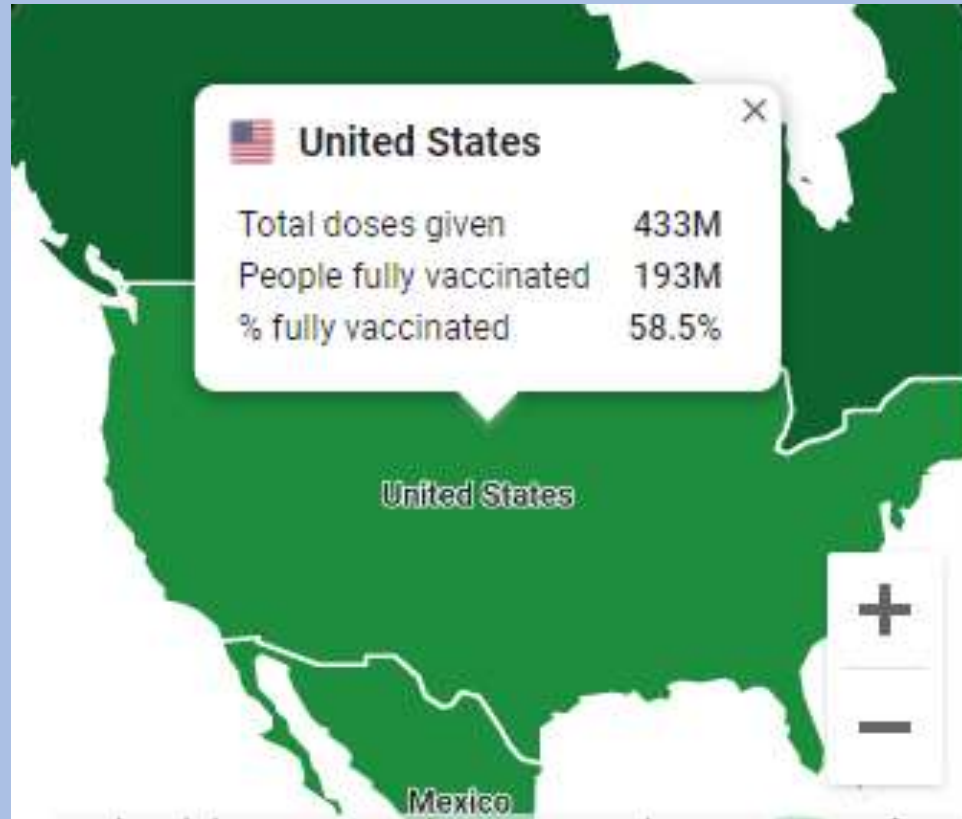


- Our new antibodies know how to rapidly fight a specific pathogen.
- Our immune system is now ready to defend us against a specific disease.

Image Source:

<https://www.immunology.org/celebrate-vaccines/public-engagement/guide-childhood-vaccinations/how-vaccines-work>

How many people have been fully vaccinated against COVID-19 in the United States and in our area?



- As of November 2021, **193 million people** have been fully vaccinated in the United States.
- In Pennsylvania, almost **8 million people** are fully vaccinated.
- In Lancaster County, **277,479 people** are fully vaccinated.

Image Source:

<https://www.google.com/search?client=opera&q=how+many+people+have+been+vaccinated+against+COVID+in+the+US&sourceid=opera&ie=UTF-8&oe=UTF-8>

What is the best way to protect yourself from COVID-19?



Image Source: <https://ireallylikefood.com/garlic-and-vitamin-c/>

Image Source:
<https://www.netdoctor.co.uk/medicines/a5573/antibiotics/>

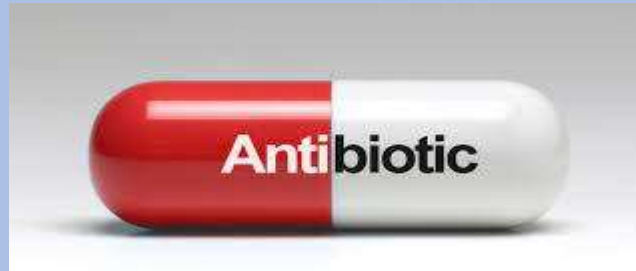


Image Source:
<https://www.phhealthcare.org/about/covid-19-vaccines-at-penn-highlands>

What do you think?

1. Eat garlic and take vitamin C.

True

False

2. Take antibiotics at the first sign of symptoms.

True

False

3. Get vaccinated.

True

False



How many vaccines are approved in the United States against COVID-19 disease?



There are currently three approved vaccines in the U.S.:

- Pfizer-BioNTech COVID-19 Vaccine
- Moderna
- Johnson & Johnson's Janssen COVID-19 Vaccine

Are COVID vaccines safe?

What do you think?

Yes

No



Image Source:

<https://economictimes.indiatimes.com/>

- There is no live virus in the vaccines.
- None of the vaccines contain eggs, peanuts, gelatin, latex, or preservatives.
- All COVID-19 vaccines are free from metals.

Are COVID vaccines safe? (Continued)

What do you think?

Yes

No

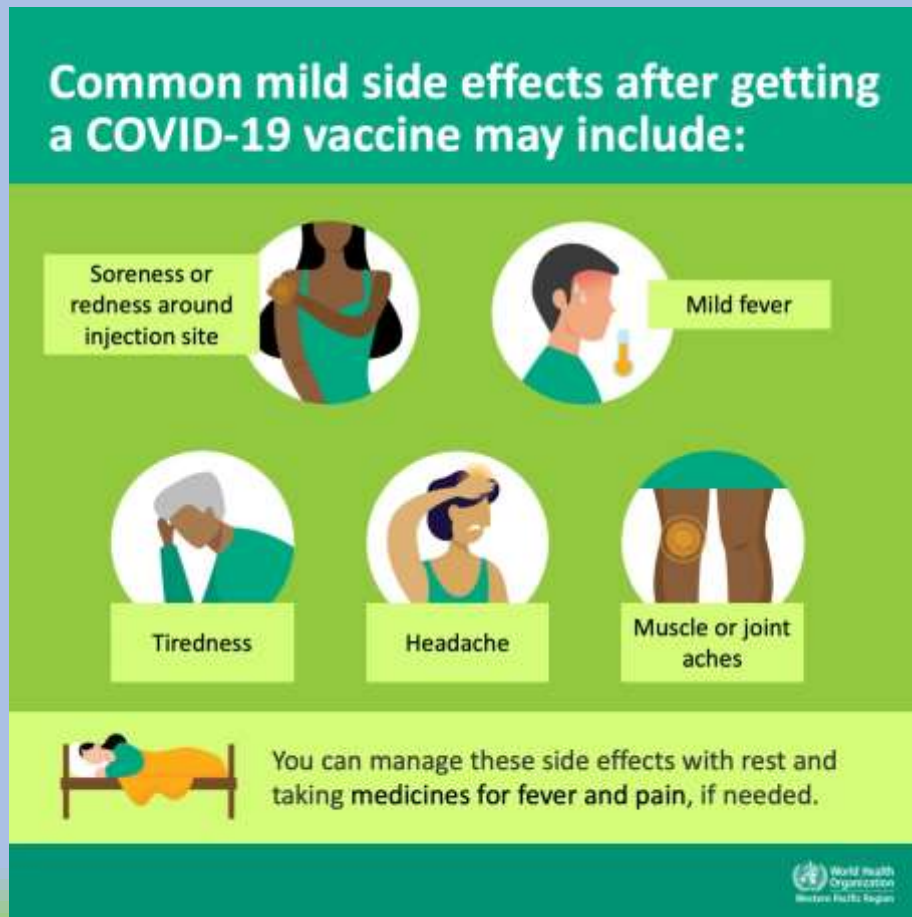


Image Source:

<https://economictimes.indiatimes.com/>

- Serious long-term side effects are unlikely.
- Serious safety problems are rare.
- There are no microchips in the vaccines.

What are common side effects of the COVID vaccination?



Some people report temporary -

- Discomfort or pain at the injection site
- Headache
- Fever
- Chills
- Fatigue
- Muscle or joint pain

Image Source: <https://www.who.int/westernpacific/emergencies/covid-19/information-vaccines/covid-19-vaccine-side-effects-aefis-and-safety>

How long do side effects from the vaccine last?



Image Source: <https://www.exploreky.gov/coronavirus-blog/how-long-covid19-vaccine-side-effects-take>

What do you think?

1. Side effects often last for several months.

True

False

2. Side effects usually start within a day or two of getting the vaccine. They usually go away in a few days.

True

False

3. Side effects can last a lifetime.

True

False

Do some people have allergic reactions?



- Severe allergic reactions after vaccination are rare.
- People who had an allergic reaction to any vaccine should inform the vaccine provider.
- People who had a previous allergic reaction to polysorbates should not get a vaccine.

Image Source: <https://acaai.org/news/acaai-updates-to-guidance-on-risk-of-allergic-reactions-to-covid-19-vaccines/>

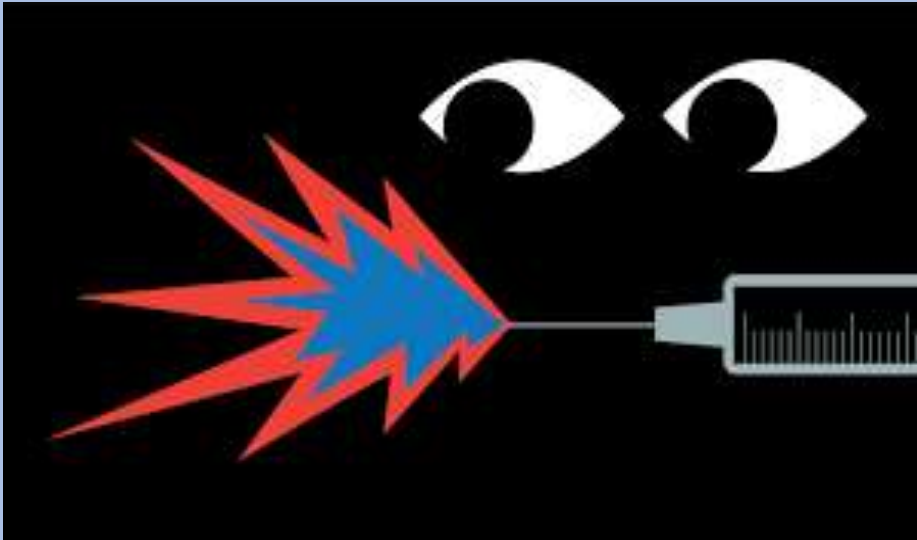
Do some people have allergic reactions? (Continued)



- Polysorbates are found in food and cosmetics.
- Polysorbates are often included in ice cream.

Image Source: <https://acaai.org/news/acaai-updates-to-guidance-on-risk-of-allergic-reactions-to-covid-19-vaccines/>

What if someone is afraid of an allergic reaction?



- Vaccination locations should have qualified and trained healthcare personnel on site.
- The personnel are trained to recognize an allergic reaction.

Image Source: <https://www.theatlantic.com/health/archive/2020/12/coronavirus-vaccine-allergic-reaction/617482/>

What if someone is afraid of an allergic reaction? (Continued)

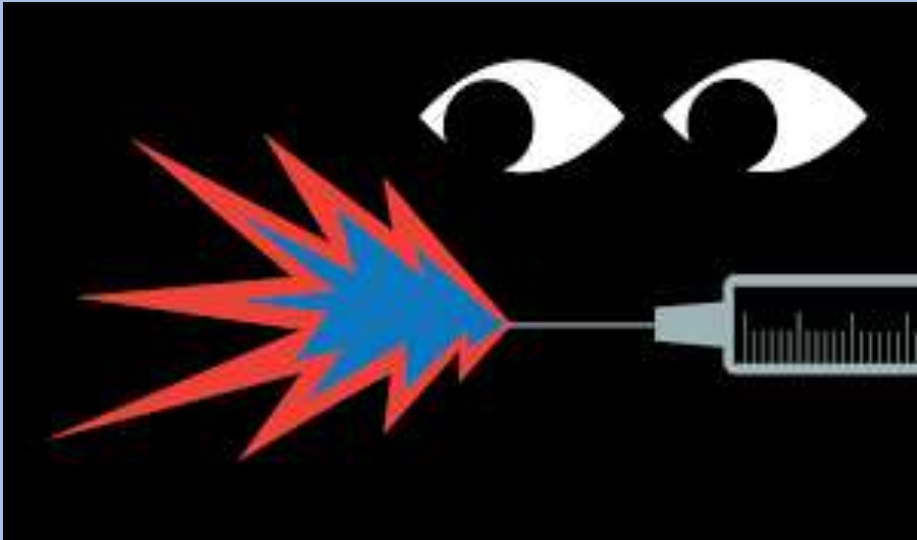


Image Source: <https://www.theatlantic.com/health/archive/2020/12/coronavirus-vaccine-allergic-reaction/617482/>

- The personnel are qualified to provide medical assistance to someone with an allergic reaction.
- All people are observed for at least 15 minutes.
- Anyone who had a previous reaction to any vaccine will be observed for 30 minutes.

How much does it cost to get a COVID-19 vaccine?



Image Source: <https://www.health.gov.au/resources/publications/covid-19-vaccine-social-media-image-vaccines-free>

What do you think?

- The vaccine costs \$50 per shot.

True

False

- You need insurance to get a vaccine.

True

False

- The vaccine is free.

True

False

Do I need a social security number to get a COVID-19 vaccine?



Image Source: <https://hbr.org/2018/01/the-art-of-strategy-is-about-knowing-when-to-say-no>

What do you think?

“You need a social security number to get a COVID vaccine?”

- True
- False

Can someone without a residency permit still get a vaccine?

What do you think?

Yes

No



Image Source: <https://www.vaccines.gov/>

- The Centers for Disease Control and Prevention has stated that the vaccination against COVID-19 disease is available for everyone.
- Undocumented immigrants may receive a vaccination.

Will my personal information be shared with law enforcement or Immigration services?

What do you think?

Yes

No



- Information about vaccine recipients may not be given to immigration enforcement.

Image Source: Image Source:

<https://hbr.org/2018/01/the-art-of-strategy-is-about-knowing-when-to-say-no>

How should I prepare for the vaccination?



Image Source:

<https://www.mclaren.org/main/news/preparing-for-your-covid19-shot-3265>

- Take your usual medications and eat your usual diet on the day you receive the vaccine.
- Wear clothes that will give the nurse easy access to your upper arm.
- Wear a face mask that covers your mouth and nose.

Where will I get the jab?



Upper arm.

Image Source: <https://minnesota.cbslocal.com/2021/10/05/why-are-vaccines-injected-into-our-arms/>

What should someone do if they are afraid of needles?



- Look away.
- Breathe deep.
- Imagine yourself at your favorite location.
- Schedule your vaccination with a trusted friend who is not afraid of needles.

Image Source: <https://www.tampabay.com/news/health/2021/03/27/were-getting-a-shot-of-optimism-along-with-the-covid-19-vaccine/>

Silvia's problem

Silvia complains that she always feels like fainting when she gets an injection.

Silvia says, "I'm afraid I might faint."

What do you think Silvia should do?

Silvia's problem (continued)

If you faint around needles, your blood pressure and heart rate may rise.

- Then your blood pressure may fall suddenly when you see the syringe.

This can cause a feeling of lightheadedness.

To prevent this:

- Tense your abdominal and leg muscles.
- This can raise your blood pressure.
- It may prevent the feeling of wanting to faint.

Have you ever heard any misinformation about COVID vaccines?



Common hoaxes include:

- Vaccines contain magnetic chips.
- Vaccines will make you magnetic.
- Vaccines will cause sterility.
- The vaccine will kill people in 10 to 15 years.

Image Source: <https://www.paho.org/en/documents/covid-19-vaccine-misinformation-social-media-collection>

Have you ever heard any misinformation about COVID vaccines? (Continued)



Common hoaxes include:

- Vaccines will harm nursing babies.
- Vaccines will turn people into zombies.
- Vaccines will change people's sexual orientation.

Image Source: <https://www.paho.org/en/documents/covid-19-vaccine-misinformation-social-media-collection>

Where does much of the misinformation come from?



Image Source: <https://www.scientificamerican.com/article/covid-misinformation-is-killing-people1/>

Research shows that 12 people produce most of the online anti-vaccination misinformation and hoaxes.

- They are well organized.
- They use social media.

Where does much of the misinformation come from? (Continued)



- They often run multimillion dollar corporations.
- They make millions of dollars promoting misinformation.
- They often sell supplements and books.

Image Source: <https://www.scientificamerican.com/article/covid-misinformation-is-killing-people1/>

What core misinformation does the anti-vaxx industry promote?

What do you think?

1. COVID-19 is not dangerous.

True

False

Why?

2. Vaccines are dangerous.

True

False

Why?

3. You cannot trust doctors or scientists.

True

False

Why?

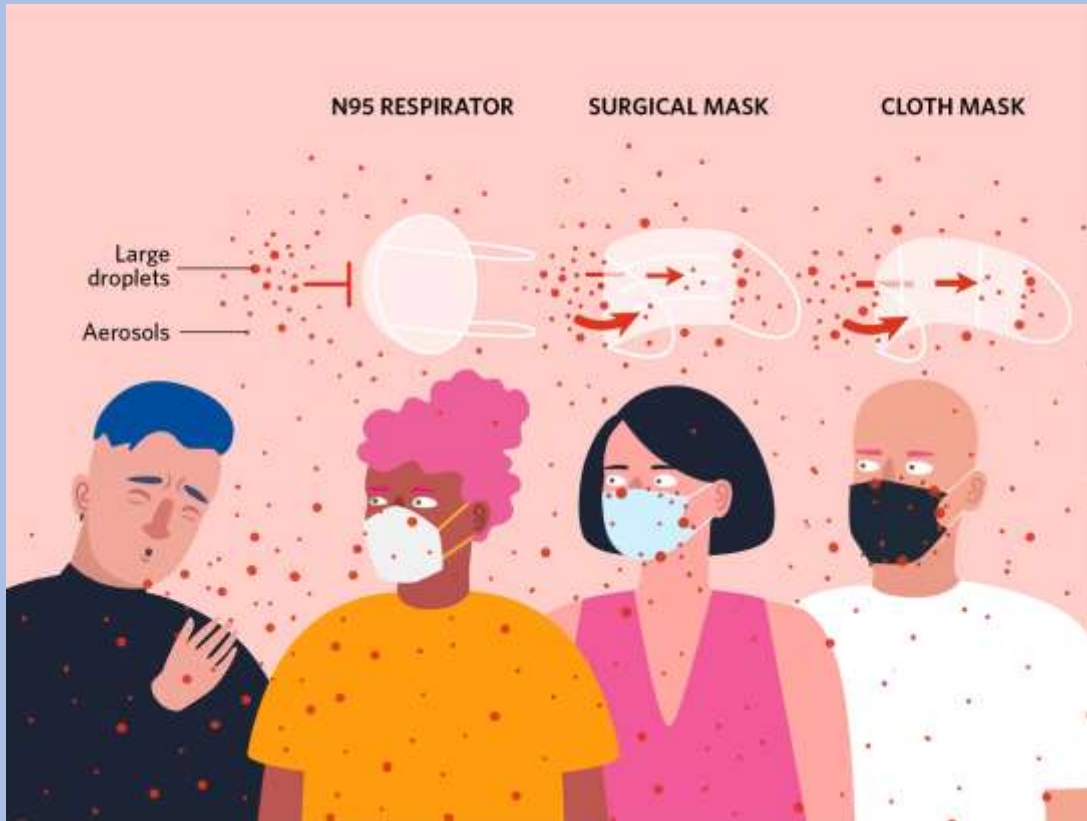
Slow the Spread

Masks



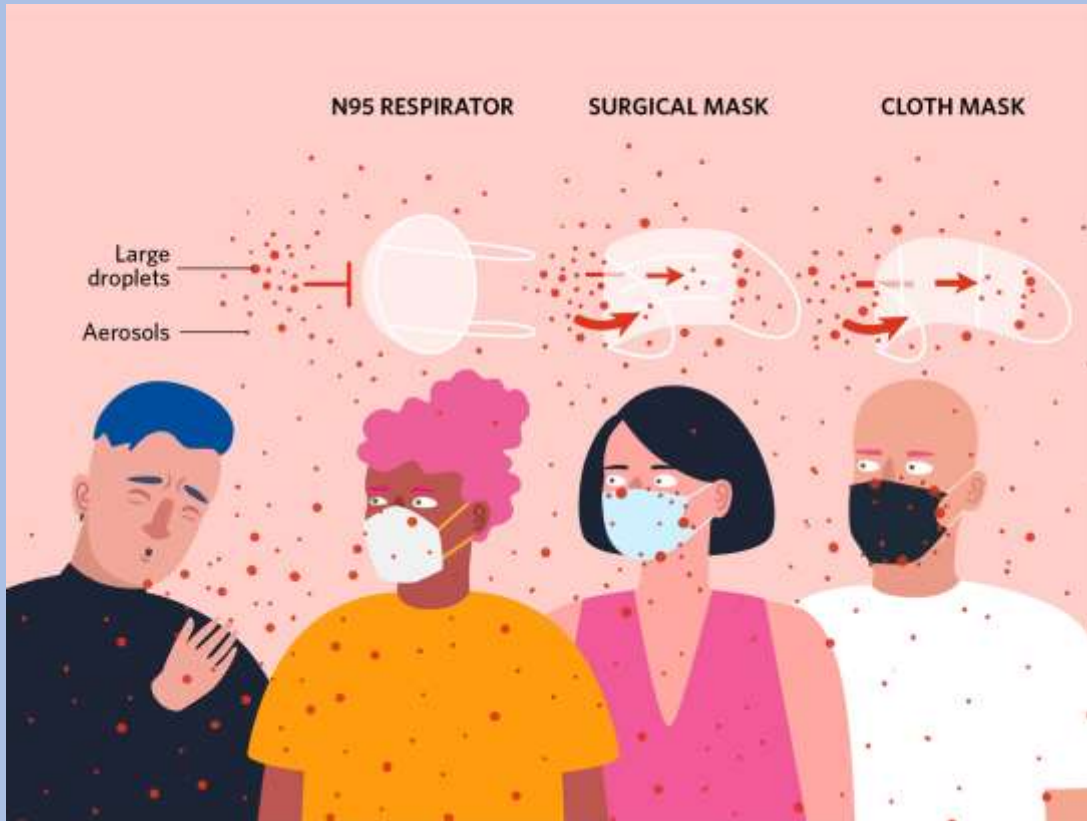
Image Source: <https://news.llu.edu/health-wellness/which-type-of-face-mask-most-effective-against-covid-19>

Why should we wear face masks?



- When you wear a mask, you protect others.
- Multi-layer cloth face coverings help prevent people who have COVID-19 from spreading the virus to others.

Why should we wear face masks? (Continued)



- If you are not fully vaccinated, wear a mask in indoor public places.
- Wear a mask if you have a health condition or are taking medications that weaken your immune system.
 - You may not be fully protected even if you are fully vaccinated.

Does a mask **completely** protect me and others from COVID-19?

What do you think?

Yes

No

Why?

No.

- A mask offers an added layer of protection for yourself and others.
- A mask captures some of the droplets when someone speaks, coughs or sneezes.
- A cloth mask can filter out some of the particles and droplets.
- A mask can slow down the droplets from escaping.

When should I wear a mask?



- Wear a mask when you are in indoors public settings.
- Wear a mask if you have close contact with individuals who are not vaccinated.
- Wear a mask in areas with high numbers of COVID-19 cases.

Image Source: <https://medlineplus.gov/ency/imagepages/19946.htm>

Should I wear a mask in Lancaster County?

What do you think?

Yes

No

Why?



As of Feb 24, 2022:

- Lancaster County currently has low numbers of COVID-19 cases.
- CDC recommends that you “wear a mask based on your personal preference, informed by your personal level of risk.”

Image Source: <https://lancasteronline.com/>

What type of mask should I wear?



- Masks should fit snugly against sides of your face.
- Masks should have a nose wire to prevent leaking out of the top.

What type of mask should I wear? (Continued)



- Choose a mask that is made with at least two layers of fabric.
- You can also make your own mask.
- Masks can be made out of cotton or linen fabric.

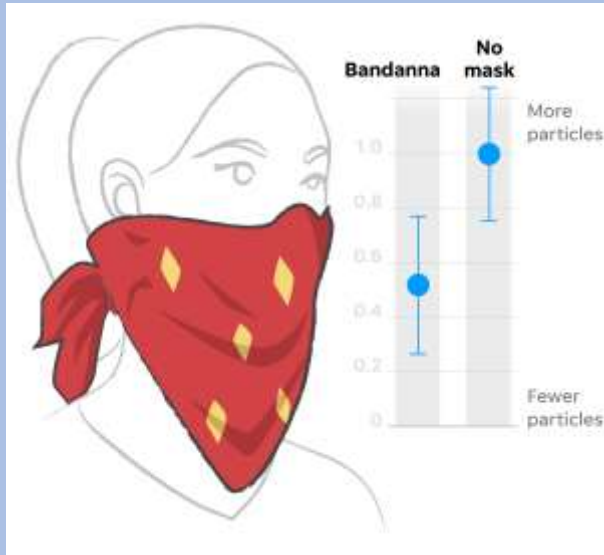
Can I wear a bandana to protect myself and others from COVID-19?

What do you think?

Yes

No

Why?



Bandanas and scarves are not recommended.

A bandana is open at the bottom.

This allows unfiltered air to escape and enter.

Image Source: <https://www.usatoday.com/in-depth/news/2020/08/16/face-masks-what-makes-some-better-than-others-against-covid-19/5535737002/>

Do I need to wear a mask outside?

What do you think?

Yes

No

Why?

- Outdoor activities are safer than indoor activities.
- You usually do not need to wear a mask outdoors.
- You should wear a mask in crowded outdoor settings.

How should I properly wear a mask?



- Make sure the mask covers your nose, mouth and chin.
- Make sure you can breathe and talk comfortably through the mask.

Image Source: <https://medlineplus.gov/ency/imagepages/19946.htm>

How should I handle my mask?

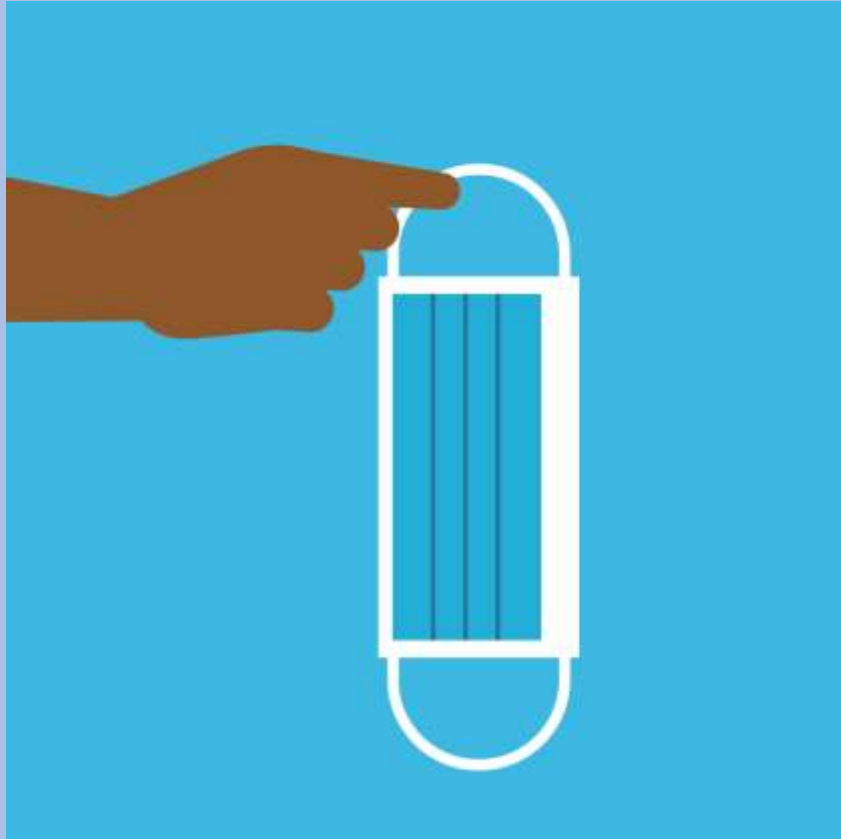


Image Source:

<https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/proper-mask-wearing-coronavirus-prevention-infographic>

- Touch only the bands or ties when putting on and taking off your mask.
- Wash your hands before and after you adjust the mask.



How can I improve my mask for extra protection?



- Wear one disposable mask underneath a cloth mask.
- Make sure that your cloth mask is made of multiple layers of fabric.
- Make sure you can breathe well through it.

Image Source:

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-covering>

Physical Distancing

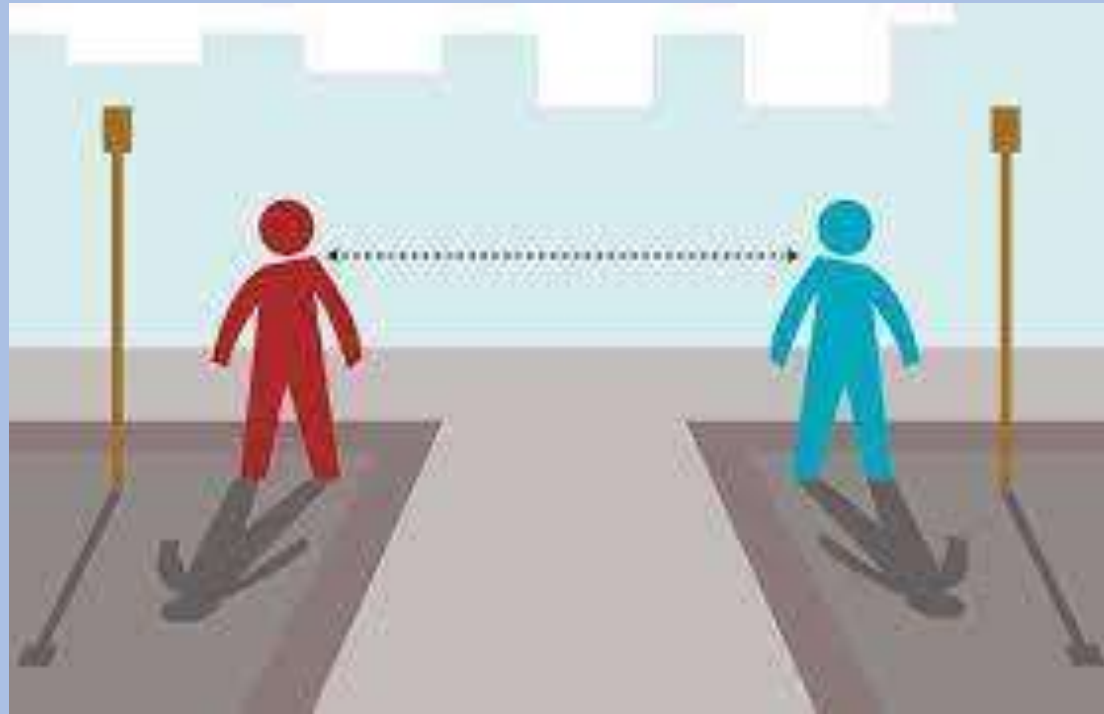
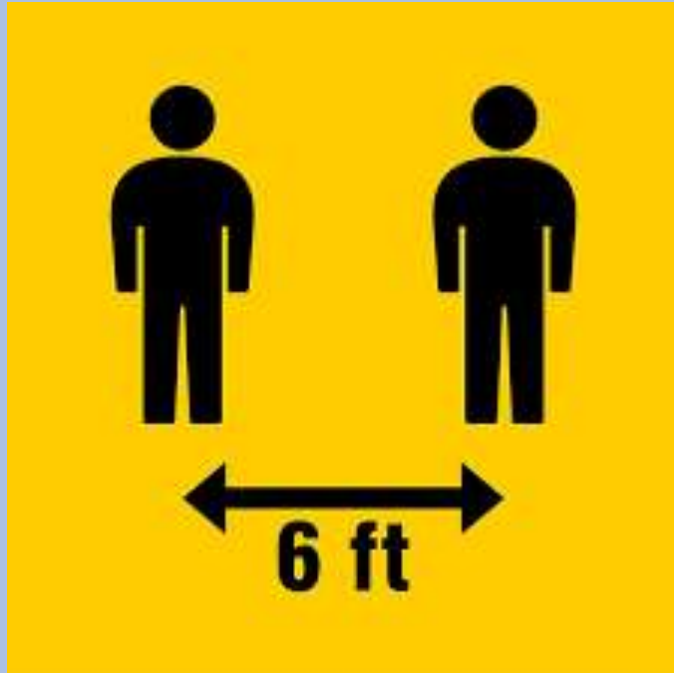


Image Source: <https://www.safetyandhealthmagazine.com/articles/19578-covid-19-pandemic-tips-to-remain-sane-and-safe-during-social-distancing>

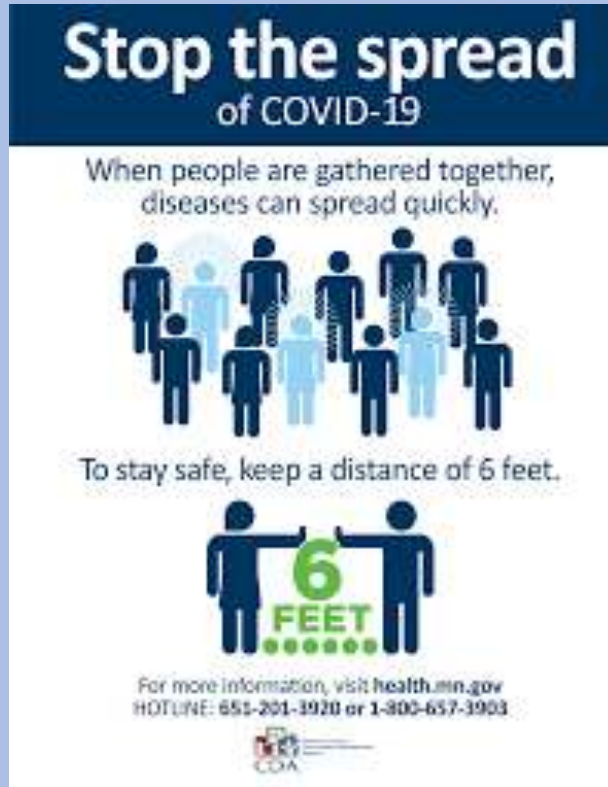
When should I keep physical distance to someone?



- Always keep 6 feet of distance between yourself and people who don't live in your house.

Source Image: <https://www.gachd.org/new-data-supports-social-distancing-now-more-than-ever/social-distancing-6-feet-featured-image/>

Why should we keep 6 feet of distance?



- When someone talks, coughs, or sneezes they emit droplets.
- The droplets may be infected.
- The larger and heavier droplets fall to the ground or other surfaces.
- Standing a minimum of 6 feet from an infected person reduces the risk of contact with an infected droplet.

Handwashing



Image Source: <https://www.healthline.com/health/7-steps-of-handwashing>

Why is it important to wash our hands?



- Germs can get onto your hands when you touch a surface.
- Germs can enter your body when you touch your eyes, nose, and mouth with unwashed hands.

Image Source: <https://www.businessinsider.com/coronavirus-photos-why-you-should-wash-hands-with-soap-water-2020-3>

Why is it important to wash our hands? (Continued)



- Germs can get onto your hands when you blow your nose, cough, or sneeze into your hands.
- Germs can get onto your hands when you shake hands with someone.

Image Source: <https://www.businessinsider.com/coronavirus-photos-why-you-should-wash-hands-with-soap-water-2020-3>

What is the best way to wash my hands?

What do you think? Please



- **Wet** your hands with clean, running water (warm or off the tap), and apply
- **Lather** your hands by rubbing them together
- – Lather the backs of your hands, between your fingers, and under your nails.

Image Source: <https://www.cdc.gov/handwashing/when-how-handwashing.html>

What is the best way to wash my hands? (Continued)

What do you think? Please



- **Scrub** your hands for at least 20 seconds.
- **Rinse** your hands well under clean, running
- **Dry** your hands using a clean towel or air dry them.

Image Source: <https://www.cdc.gov/handwashing/when-how-handwashing.html>

What if I don't have water and soap?

What do you think?



- Use a hand sanitizer.
- The hand sanitizer should contain at least 60% alcohol.

Image Source: <https://www.buzzfeednews.com/article/carolinekee/lets-settle-the-hand-sanitizer-versus-hand-washing-debate>

Travel



Image Source: <https://blogs.worldbank.org/transport/covid-19-could-help-latin-america-accelerate-toward-more-inclusive-transport>

What should we do when traveling in a van?

What do you think?



Image Source: <https://www.wbur.org/hereandnow/2020/07/28/road-trip-safety-coronavirus>

- Wear a mask. Politely ask others to wear a mask.
- Allow fresh air to enter the van.
- Avoid touching your mouth, eyes, or nose.

What should we do when traveling in a van? (Continued)

What do you think?



Image Source: <https://www.wbur.org/hereandnow/2020/07/28/road-trip-safety-coronavirus>

- If possible, politely encourage fellow passengers to avoid speaking.
- Wash your hands or use hand sanitizer after the trip.

Why should I avoid touching my eyes, nose or mouth with unwashed hands?

What do you think?



- Germs can be on your hands.
- Germs can enter your body through the eyes, nose, or mouth.

Respiratory Hygiene



What should we do if we must sneeze or cough while wearing a mask?

What do you think?



Image Source: <https://www.verywellhealth.com/allergy-symptoms-vs-covid-symptoms-5118462>

- Turn your head into your elbow.
- Do not remove your mask.
- Sneeze into your mask.
- Throw the mask into a trash can.
- Replace your mask with a fresh mask.
- Wash your hands.

What should we do if we must sneeze or cough without a mask on?



Image Source: <https://diamondcelebrities.org/2018/01/27/health-zone-cough-sneeze-in-your-elbow-not-handkerchief-to-stay-healthy>

- If possible, try to cough or sneeze outdoors.
- Turn your head away from other people.
- Cover your mouth or nose with a tissue when you cough or sneeze.
- Throw the used tissues in a trash can.
- Wash your hands.

What should you do if you don't have a tissue?

What do you think?



- If possible, try to cough or sneeze outdoors.
- Turn your head away from other people.
- Cough or sneeze into your elbow.
- Avoid hugging other people afterwards.
- Wash your hands or use hand sanitizer.

Question 1

Our body has a natural immune system that protects us from infection.

True

False

Question 2

Germs cannot enter your body when you touch your eyes, nose, or mouth.

True

False

Question 3

Never cover your mouth and nose when you sneeze or cough.

True

False