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Fellowship at National Jewish Hospital

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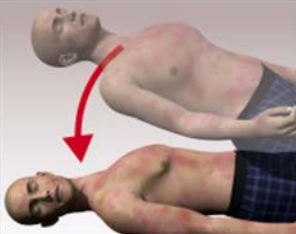
A health worker in Fairbanks developed tongue swelling, hoarseness, and difficulty in breathing within 10 minutes after getting Pfizer COVID-19 vaccine. He was successfully treated.

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Anaphylaxis is highly likely when any one of the following three criteria is fulfilled

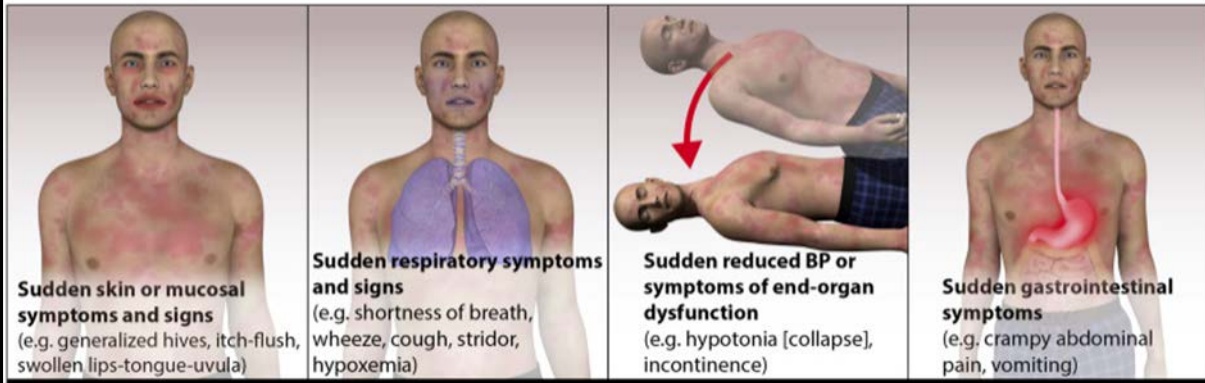
1 Sudden onset of an illness (minutes to several hours), with involvement of the skin, mucosal tissue, or both (e.g. generalized hives, itching or flushing, swollen lips-tongue-uvula)

AND AT LEAST ONE OF THE FOLLOWING:

	 <p>Sudden respiratory symptoms and signs (e.g. shortness of breath, wheeze, cough, stridor, hypoxemia)</p>	 <p>Sudden reduced BP or symptoms of end-organ dysfunction (e.g. hypotonia [collapse], incontinence)</p>
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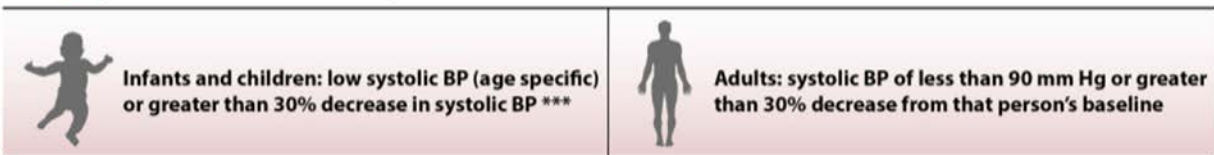
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OR 2 Two or more of the following that occur suddenly after exposure to a *likely allergen or other trigger** for that patient (minutes to several hours)



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OR 3 Reduced blood pressure (BP) after exposure to a *known allergen*** for that patient (minutes to several hours)



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- Itchy palms and soles leading to generalized itching.
- Generalized hives.
- Variable symptoms.

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Treatment of anaphylaxis (1)

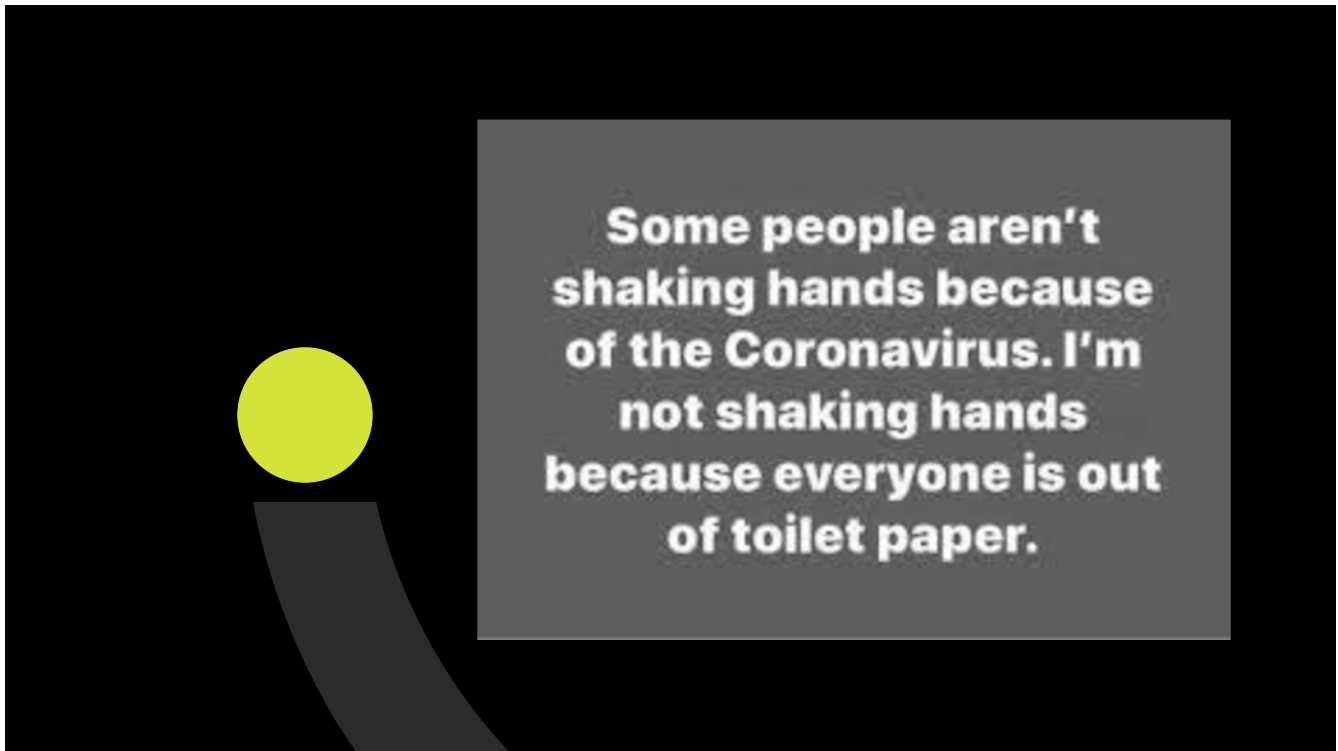
- Rapidly assess airway, breathing, circulation, and mental activity.
- Call for emergency medical services.
- Put the smartphone on a speaker.
- Place the patient in a supine position face up with feet elevated unless upper airway obstruction is present or the patient is vomiting.

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Treatment of anaphylaxis (2)

- Epinephrine
 - 1 mg/ml aqueous solution 1:1000
 - In adults, 0.3 mg intramuscularly in mid outer thigh.
 - Maximum adult dose, 0.5 mg per dose.
- Repeat epinephrine every 5 to 15 minutes as needed.
- If in doubt whether the patient suffers from anaphylaxis or not, I recommend to inject epinephrine as you can give epinephrine to almost anybody without thinking of contraindication.

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Possible causes

- Polyethylene glycol (PEG)
- Nanoparticles
- Not known for sure, under active research

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Cofactors for anaphylaxis in other situations.

- Alcohol
- Hormonal changes.
- Concomitant medications such as NSAID group of medications.

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Three scenarios

- CONTRAINDICATIONS
- PRECAUTIONS
- CONTINGENT SCENARIO

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CONTRAINDICATIONS

- History of severe allergic reaction (e.g., anaphylaxis) to any component of an mRNA COVID-19 vaccine

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Pfizer-BioNTech COVID-19 vaccine

- Nucleoside-modified mRNA encoding the viral spike (S) glycoprotein of SARS-CoV-2
- Lipids
 - 2[(polyethyleneglycol)-2000]-N,N-ditetradecylacetamide 1,2-distearoyl-sn-glycero-3-phosphocholine
 - Cholesterol
 - (4-hydroxybutyl)azanediylbis(hexane-6,1-diyl)bis(2-hexyldecanoate)
- Salts, sugars, buffers
 - Potassium chloride
 - Monobasic potassium phosphate
 - Sodium chloride
 - Dibasic sodium phosphate dihydrate
 - Sucrose

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Moderna COVID-19 vaccine

- Nucleoside-modified mRNA encoding the viral spike (S) glycoprotein of SARS-CoV-2
- Lipids
 - Polyethylene glycol (PEG) 2000 dimyristoyl glycerol (DMG)
 - 1,2-distearoyl-sn-glycero-3-phosphocholine
 - Cholesterol
 - SM-102 (Proprietary to Moderna)
- Salts, sugars, buffers
 - Tromethamine
 - Tromethamine hydrochloride
 - Acetic acid
 - Sodium acetate
 - Sucrose

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Polyethylene glycol

- Osmotic laxatives and oral bowel preparations for colonoscopy procedures
- An inactive ingredient or excipient in additional medications (including some injectable contraceptives and steroids)
- Used in a process called pegylation to improve the therapeutic activity of some medications (including certain chemotherapeutics)

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No preservatives

- Neither of the Pfizer-BioNTech or Moderna COVID-19 vaccines contains preservatives

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PRECAUTIONS: MODERATE/SEVERE ACUTE ILLNESS

- Risk assessment
- Potential deferral of vaccination
- 15 minute observation period if vaccinated

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PRECAUTIONS: ALLERGIES TO VACCINES OR INJECTABLES

ALLERGIES:

- History of severe allergic reaction (e.g., anaphylaxis) to another vaccine (not including mRNA COVID-19 vaccines)
- History of severe allergic reaction (e.g., anaphylaxis) to an injectable therapy

ACTIONS:

- Risk assessment
- Potential deferral of vaccination
- 30 minute observation period if vaccinated

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Three scenarios

- CONTRAINDICATIONS
- PRECAUTIONS
- CONTINGENT SCENARIO

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CONTINGENT: CONDITIONS AND ACTIONS

CONDITIONS:

- Immunocompromising conditions
- Pregnancy
- Lactation

ACTIONS

- Additional information provided*
- 15 minute observation period

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CONTINGENT: ALLERGIES

ALLERGIES

- History of food, pet, insect, venom, environmental, latex, or other allergies not related to vaccines or injectable therapies
- History of allergy to oral medications (including the oral equivalent of an injectable medication)
- Non-serious allergy to vaccines or other injectables (e.g., no anaphylaxis)
- Family history of anaphylaxis
- Any other history of anaphylaxis that is not related to a vaccine or injectable therapy

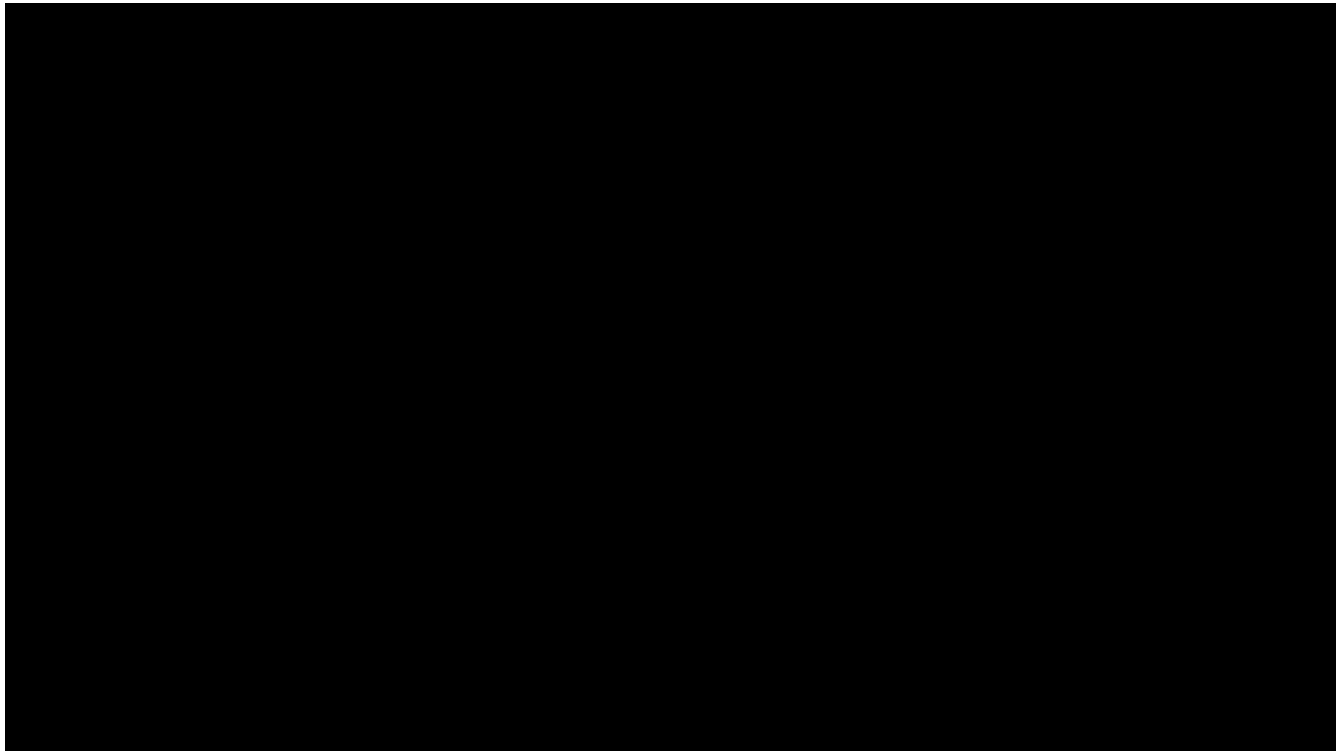
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CONTINGENT: ACTIONS

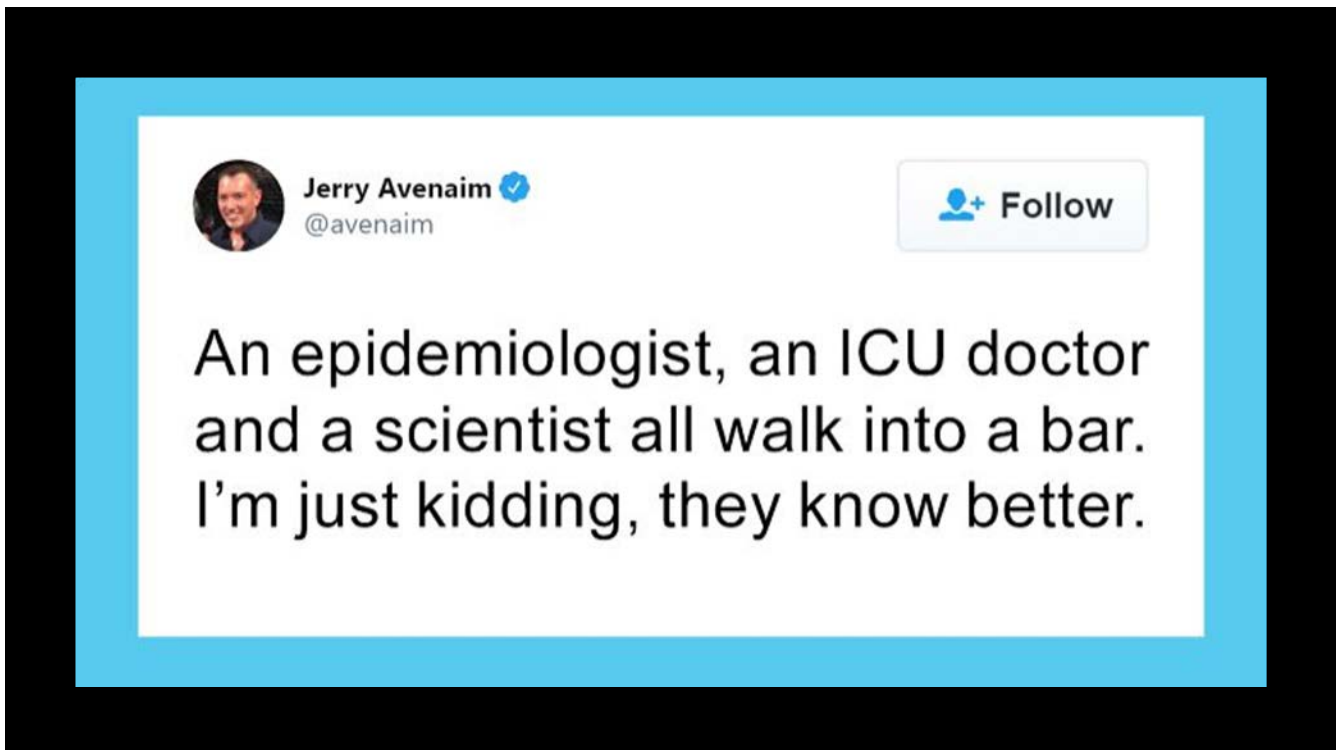
ACTIONS

- 30 minute observation period: Persons with a history of severe allergic reaction (e.g., anaphylaxis) due to any cause
- 15 minute observation period: Persons with allergic reaction, but not anaphylaxis

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1200 STUDIES

To Vaccinate
or
Not to Vaccinate?

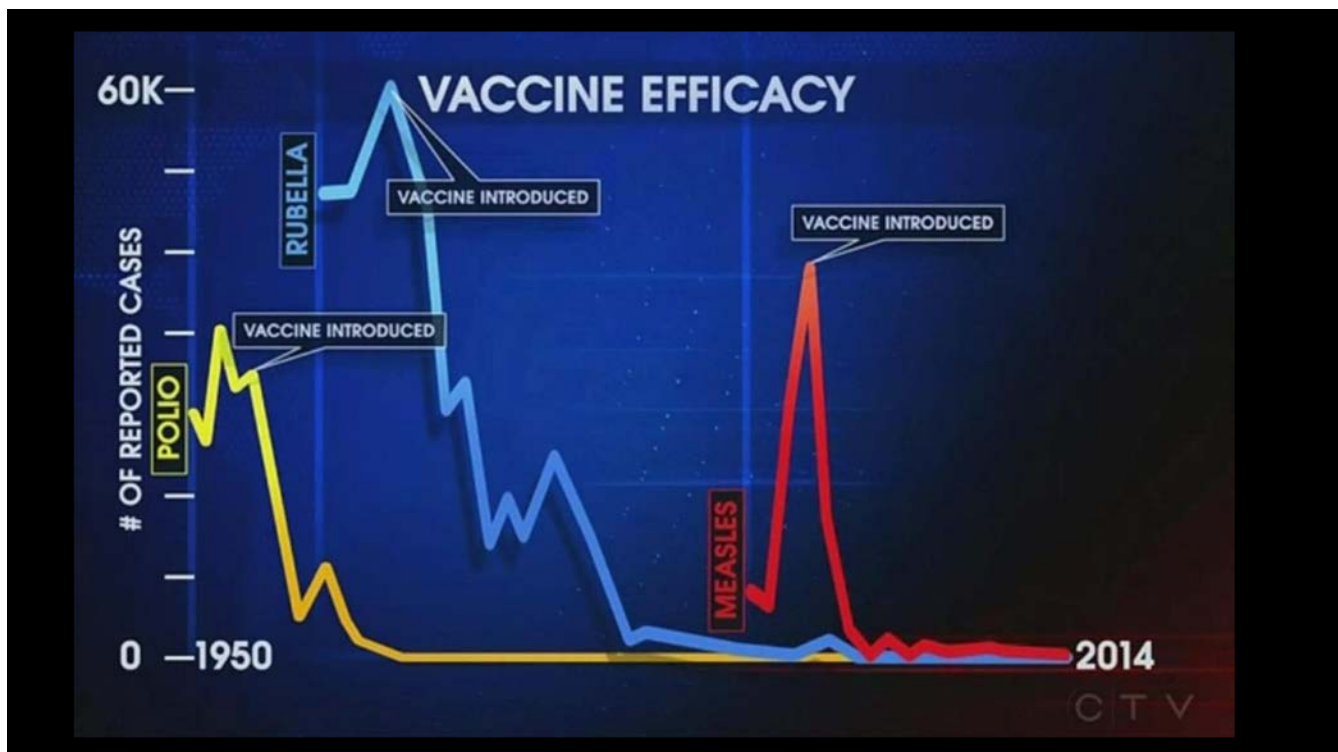


That is **THE** Question...

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George Washington

- But lesser known is George Washington's bold decision to vaccinate the entire Continental Army against smallpox. It was the first mass inoculation in military history, and was vital to ensuring an American victory in the War of Independence.
- Edward Jenner didn't even develop his revolutionary cowpox-based vaccine for smallpox until 1796.

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George Washington, February 5, 1777, a letter to John Hancock, president of the Second Continental Congress

“The smallpox has made such Head in every Quarter that I find it impossible to keep it from spreading through the whole Army in the natural way.

I have therefore determined, not only to inoculate all the Troops now here, that have not had it, but shall order Doctr. Shippen to inoculate the Recruits as fast as they come in to Philadelphia.”

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“Variolation”

“An inoculation doctor would cut an incision in the flesh of the person being inoculated and implant a thread laced with live pustular matter into the wound,” explains Fenn. “The hope and intent was for the person to come down with smallpox. When smallpox was conveyed in that fashion, it was usually a milder case than it was when it was contracted in the natural way.”

Variolization still had a case fatality rate of 5 to 10 percent. And even if all went well, inoculated patients still needed a month to recover. The procedure was not only risky for the individual patient, but for the surrounding population. An inoculee with a mild case might feel well enough to walk around town, infecting countless others with potentially more serious infections.

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Benjamin Franklin in his autobiography

"In 1736 I lost one of my sons, a fine boy of four years old, by the smallpox taken in the common way.

I long regretted bitterly and still regret that I had not given it to him by inoculation.

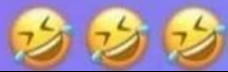
This I mention for the sake of the parents who omit that operation, on the supposition that they should never forgive themselves if a child died under it; my example showing that the regret may be the same either way, and that, therefore, the safer should be chosen."

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**I miss the days when you
sneezed and people
would say a polite "Bless
you", now they say "Get
the [REDACTED] away from me!"**



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Public awareness

- City, County employees
- Teachers
- General public

I can help the Health Department to take the show on the road,
Not really, no road show. Just video presentation.

I will prepare slides for layman, about 20 to 30 minutes.

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<https://www.bhaktibharat.com/en/aarti/sheetla-mata-ki-aarti>

<https://www.wordzz.com/shri-shitala-mata-ki-aarti/>



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Dr. Kizzmekia S. Corbett, a viral immunologist

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“Treatments can save lives. Vaccines can save populations. Both vaccines and treatments are needed.”

—Hanneke Schuitemaker, Ph.D.
Vice President, Head Viral Vaccine Discovery and Translational Medicine and Viral Vaccines Disease Area
Stronghold Leader, Janssen Vaccines & Prevention B.V.



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All-female team working to create a COVID-19 vaccine in Maryland



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All-female team working to create a COVID-19 vaccine

"I think in science, it's more common for women to be in the lab than the guys," said Nita Patel.

Patel is the director for vaccine development and antibody discovery at Novavax and leads the female team working to create a viable vaccine for COVID-19.

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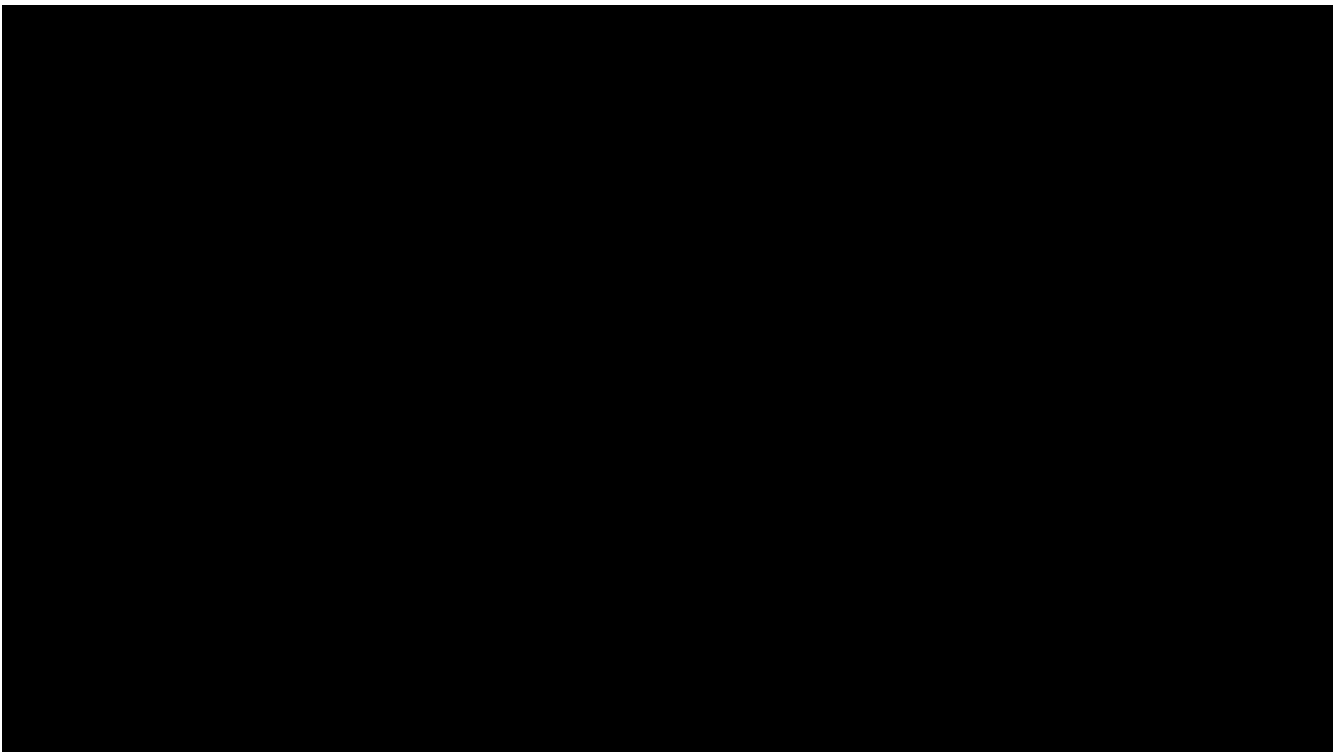
Thank you!

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COVID-19 Pfizer-BioNTech Vaccine Guidance

Get the Vaccine	Talk to Your Doctor First	Don't Get This Vaccine
<p>If you are age 16 or older, you can get the vaccine if you have:</p> <ul style="list-style-type: none"> • Other medical conditions • A compromised or suppressed immune system • Allergies to foods, pets, insects, venom, pollen, dust, latex, and oral medicines • Non-serious allergy to other vaccines or injectable medicines • A family history of anaphylaxis <p><i>Your doctor may need to give you more information about the vaccine depending on your condition.</i></p> <p><i>Your doctor will watch you for reactions for 15 minutes after the shot.</i></p>	<p>If you have a moderate or acute (short-term) illness, you may be able to receive the vaccine under doctor supervision. You may also want to wait until you feel better.</p> <p><i>Your doctor will watch you for reactions for 15 minutes after the shot.</i></p> <p>If you have a history of severe allergic reactions (anaphylaxis) to a vaccine or injectable medicine, talk with your doctor about the risks and benefits for your situation.</p> <p><i>If you go ahead with the vaccine, your doctor will watch you for reactions for at least 30 minutes after the shot.</i></p> <p>If you are currently ill with COVID-19, you'll need to finish your self-isolation before getting the vaccine.</p>	<p>You should not get the vaccine if you have had a severe allergic reaction to any of the ingredients in the Pfizer-BioNTech vaccine. (There are no food or latex ingredients in this vaccine.)</p> <p>You should not get a second dose if you have an allergic reaction to the first dose.</p> <p><i>If you cannot get this vaccine, there are other vaccines coming soon and one of those may be a better option for you.</i></p>

Source: CDC Advisory Committee on Immunization Practices, December 2020



aafa.org/blog



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	MAY PROCEED WITH VACCINATION	PRECAUTION TO VACCINATION	CONTRAINDICATION TO VACCINATION
CONDITIONS	CONDITIONS <ul style="list-style-type: none"> Immunocompromising conditions Pregnancy Lactation ACTIONS <ul style="list-style-type: none"> Additional information provided* 15 minute observation period 	CONDITIONS <ul style="list-style-type: none"> Moderate/severe acute illness ACTIONS <ul style="list-style-type: none"> Risk assessment Potential deferral of vaccination 15 minute observation period if vaccinated 	CONDITIONS <ul style="list-style-type: none"> None ACTIONS <ul style="list-style-type: none"> N/A
ALLERGIES	ALLERGIES <ul style="list-style-type: none"> History of food, pet, insect, venom, environmental, latex, or other allergies not related to vaccines or injectable therapies History of allergy to oral medications (including the oral equivalent of an injectable medication) Non-serious allergy to vaccines or other injectables (e.g., no anaphylaxis) Family history of anaphylaxis Any other history of anaphylaxis that is not related to a vaccine or injectable therapy ACTIONS <ul style="list-style-type: none"> 30 minute observation period: Persons with a history of severe allergic reaction (e.g., anaphylaxis) due to any cause 15 minute observation period: Persons with allergic reaction, but not anaphylaxis 	ALLERGIES <ul style="list-style-type: none"> History of severe allergic reaction (e.g., anaphylaxis) to another vaccine (not including Pfizer-BioNTech vaccine) History of severe allergic reaction (e.g., anaphylaxis) to an injectable therapy ACTIONS: <ul style="list-style-type: none"> Risk assessment Potential deferral of vaccination 30 minute observation period if vaccinated 	ALLERGIES <ul style="list-style-type: none"> History of severe allergic reaction (e.g., anaphylaxis) to any component of the Pfizer-BioNTech vaccine ACTIONS <ul style="list-style-type: none"> Do not vaccinate