COVID-19 Vaccines

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Two Vaccines Currently Available

- mRNA vaccines
  - Pfizer
  - Moderna

  - Both use the same tiny portion of viral material that helps cells produce the spike protein on the outside of the COVID-19 virus
  - They use slightly different lipid (fatty) materials to suspend the viral RNA in

How do the Pfizer and Moderna Vaccines Work?

- They both contain the same material from the COVID-19 virus that gives our cells instructions for how to make a harmless protein that is unique to the virus. After our cells make copies of the protein, they destroy the genetic material from the vaccine.
- Our bodies identify this material as foreign and produce memory cells and killer cells that destroy it.
- If we are exposed to live COVID virus later, our bodies' memory cells are primed to make lots of other cells to destroy these invaders
- It is not a live virus. You are not at any risk of getting COVID from the vaccine or transmitting the virus to others around you

How are the 2 vaccines similar?

- Both highly effective at preventing COVID-19
  - 94-95% starting 2 weeks after the second shot

How are the 2 vaccines similar?

- 2 shot vaccination schedule
  - Pfizer: 2 shots, 21 days apart (19-23 days after the first shot)
  - Moderna: 2 shots, 28 days apart (24 – 32 days after the first shot)
- Vaccine contents
  - No eggs, latex, preservatives
- Tested in large populations that are similar in composition to US adults
  - Latino: 20 -25%
  - African-American: 10%
  - White: 80%
  - Male/Female: 50%/50%
  - Age over 65: 20-25%
  - People with common medical conditions (COPD, diabetes, heart disease, immunosuppressive drugs, etc) were included

How are the 2 vaccines similar?

- Common Side Effects are about the same
  - Local reactions at injection site: Fairly common
    - pain, swelling, redness, swelling or tenderness in the armpit
    - More severe reactions that required use of over the counter pain meds or prevented continuation of usual daily activities
      - 4% after 1st shot, 7.4 after the second shot. Slightly less in people >= 65 yrs
  - Body Reactions: About 50% of vaccine recipients
    - Fever, chills, fatigue, muscle and joint aches, nausea/vomiting
    - More severe reactions that require use of medication or prevented continuation of usual daily activities
      - 3% after 1st shot, 17% after the second shot. Slightly less in people >= 65 yrs

How are the 2 vaccines similar?

- Serious Adverse Effects
  - No overall difference between the active vaccine group and in placebo group
    - 1% in each group
    - heart attack, gallstones, kidney stones were very rare but slightly more common in vaccine group (approximately 1 per 5000 vaccine recipients)
    - Deaths were rare and equal in vaccine and placebo groups

Allergies and Anaphylaxis

- Proceed with vaccination without restrictions if you have:
  - Food, pet, insect/beesting, latex, environmental (pollen, dust, etc) allergies
  - Oral medication allergies
  - Nonserious allergies to vaccines or other injectables (rash, etc)
  - Family history anaphylaxis
- Vaccinate with caution (wait 30 minutes on site after getting the vaccine) if you have:
  - Personal history of anaphylactic reaction
  - Severe allergy to another vaccine
- Don't vaccinate if you have
  - Severe allergy or anaphylaxis to one of the components of the COVID vaccine

Special Population Considerations

- If you have had known COVID infection
  - Wait 90 days after onset of symptoms before starting the vaccination
- Teenagers:
  - Pfizer is approved for age 16 and up
  - Moderna is approved for age 18 and up
- Pregnancy or planning pregnancy
  - Not studied yet but about a dozen clinical trial patients became pregnant after getting the vaccine and no abnormalities were found
  - Talk with your OB/GYN
- Lactation
  - Not studied yet but the Pfizer and Moderna vaccines are a type that is not felt pose a risk for breast feeding infants

So which vaccine should I get?

- They are almost indistinguishable in effectiveness and side effects
  - Unless you have a known severe reaction to one of the vaccine components
- Get whichever vaccine you are offered!
- The 2nd shot in the series must be the same manufacturer as the first one you receive in the series

When Should You Get the COVID Vaccine?

- As soon as you are eligible based on your age, occupation, health conditions!!!

After You Get the Vaccine …

- Do I still have to wear a mask, wash my hands and practice social distancing?

YES!!!

- Remember that these 2 vaccines are 95% effective, so you still have a 5% chance of being NOT immune even though you got the 2 vaccine shots

Common Worries

- Do I need to worry about vaccine safety since it looks like things were rushed in the development of the COVID vaccines?
  - NO. The vaccines were able to be developed quickly because they were produced based on research and development that has been going on for 20 years. This technology has been ready long before COVID appeared and has enabled more rapid vaccine clinical trials testing and production than other more traditional methods of vaccine manufacturing.
- How will we know if there are rare but serious side effects that did not show up in the testing phase but now are occurring as more doses are given throughout the country?
  - There are vigorous monitoring systems in place to track vaccine recipients and look for these events. Nothing has turned up so far.

Common Worries

- I am African American, and I am concerned that there were not enough people who are like me in the vaccine trials.
  - In the past, vaccine and other medication trials were not specifically designed to assure that the people in them had enough participants of various racial and age groups so that the conclusions of the studies could be applied to everyone in the United States.
  - There is a long and well documented history of African Americans and other people being used in unethical ways as subjects in drug trials or being excluded altogether. These trials were deliberately designed to include a wide variety of people. And subgroup analysis by race, gender and age have shown that the positive results hold true for all groups.

What Phase of the Vaccine Distribution Priority Am I In?

	Prevention of Mortality and Morbidity	Preservation of Societal Function
Phase 1a	Residents of Long Term Care Facilities	Health care personnel
Phase 1b	Persons 75 and older	Frontline essential workers
Phase 1c	Persons 65 – 74 Persons 16 - 64 with specified high risk medical conditions	Other essential workers

Occupations in Phase 1b

- Frontline essential workers
  - Police and Firefighters
  - Education: teachers, day care centers
  - Food and agriculture
  - Manufacturing
  - Corrections
  - Postal service
  - Transit
  - Grocery stores

Medical Conditions in Phase 1c

- Obesity
- Diabetes
- COPD and other severe lung disease
- Heart disease
- Chronic Kidney Disease

- Thank You!