COVID-19 Vaccines
Myths of the Vaccine

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Disclaimers

- No conflicts of interests
- Information is current as of January 29, 2021
- Information and Data

Objectives

-Describe appropriate responses to myths of the vaccine.

- Identify effective ways to address vaccine hesitancy of staff.

- Explain successful methods to motivate staff to vaccinate.

Brief Overview

- Vaccine Information
- Comparison of Pfizer-BioNTech and Moderna Vaccines
- Vaccination Side Effects
- Clinical Considerations
- Vaccine Safety Monitoring
- Occupational Health Planning
- Vaccine Communication
- Vaccine Phase Allocation
- Discussion About Common Myths

Vaccine Information

- Three types of COVID-19 vaccines in clinical trials
  - mRNA (Pfizer/BioNTech and Moderna)
  - Protein subunit (Sanofi/GSK and Novavax)
  - Viral vector(AstraZeneca, Janssen, and Merck)
- DNA and RNA are molecular and composed of nucleic acids
  - DNA stores our genetic code
  - Messenger RNA translates DNA information and codes for proteins
  - Some viruses carry their genetic information in RNA, not DNA
  - RNA cannot change DNA
- mRNA vaccines
  - Contain the nucleoside-modified mRNA encoding the viral spike glycoprotein, 4 lipid nanoparticles, and salts, sugars, and buffers
  - Are absorbed into the cytoplasm of the cell
  - Do not enter the nucleus of the cell

Pfizer-BioNTech vs Moderna Vaccines

Pfizer-BioNTech

- Age **16** and older
- 95.0% efficacy, measured starting from **7** days after second dose
- Appears to be equally protective across age groups, and racial and ethnic groups
- Reduces the risk of severe COVID-19 disease
- Unknown if vaccinated persons can transmit the virus
- Intramuscular two doses, **21** days apart
- Dose contains **30** mcg of vaccine
- Side effects more common after second dose
- Safety not tested in pregnant of lactating women
- Ship at **-94F** (ultra-cold freezer)
- Use within **5 days of thawing**

Moderna

- Age **18** and older (currently testing in 12-17yrs)
- 94.1% efficacy, measured starting **14** days after second dose
- Appears to have slightly lower efficacy in those 65 and older (but too few cases in this age group to determine), and equally effective across racial and ethnic groups
- Reduces the risk of severe COVID-19 disease
- Unknown if vaccinated persons can transmit the virus
- Intramuscular two doses, **28** days apart
- Dose contains **100** mcg of vaccine
- Side effects more common after second dose
- Safety not tested in pregnant or lactating women
- Ship at **-4F** (regular refrigerator freezer)
- Stable at **freezer** temperature for **30 days** and at **room** temperature for **12 hours**

Vaccination Side Effects

- Reactogenicity usually occurs within a few days (3-7 days) of vaccination
  - Immunological responses due to cytokines
  - Demonstrates that the vaccine is working
  - Excessive reaction (e.g., anaphylaxis) has occurred in a handful of individuals
- Potential cause of the reaction could be one of the lipid nanoparticles
  - NIH has launched a study to determine the ingredient
  - Possibly polyethylene glycol (PEG), which is used in other vaccines
- Symptoms should resolve within 1-2 days
- Symptoms to watch for, especially after second dose
  - NORMAL: fever, fatigue, headache, chills, muscle aches, joint pain
  - **NOT CAUSED BY VACCINE: cough, shortness of breath, rhinorrhea, sore throat, loss of taste and/or smell**
    - Assess staff, patient, or resident for another cause such as COVID-19 or influenza or...
- Positive PCR and/or antigen diagnostic test is **NOT** caused by the vaccine

Clinical Considerations for Vaccination

No trial data yet

- Persons with known SARS-CoV-2 exposure: recommend
- Persons who previously received passive antibody therapy (BAM) for COVID-19: can defer for up to 90 days to avoid interference with vaccine-induced immune response
- Pregnant or lactating women: unlikely to pose a risk, recommend in US by ACOG
- Immunocompromised persons: no contraindications, recommend but counsel about effectiveness and potential for reduced immune response
- Persons with autoimmune conditions: no imbalances in occurrence of symptoms noted, recommend
- Persons with a history of Guillain-Barre syndrome: no cases reported, no contraindications, recommend
- New genomic strain of an emergent lineage (B.1.1.7) with 3 mutations in the spike protein that have potential biological effect: recommend-others??

Vaccine Safety Monitoring

- Safety process for the clinical trials (phase I, II, and III) was the same as for other vaccines
- Shortened timeline due to not waiting to determine
  - Prevention of infection vs. disease as outcome
  - Length of protective immunity
- Pfizer/BioNTech and Moderna trials and the other vaccine trials will continue
- Post EUA safety monitoring includes
  - V-Safe – new, active surveillance, smartphone-based texting for survey completion
  - VAERS – passive surveillance, rapidly detects potential safety problems and rare events
  - VSD – vaccine safety datalink, 9 integrated healthcare organizations, 12 million people
  - CISA – individual case consults, 7 medical research centers
- V-Safe includes
  - Daily text for 1 week, weekly for 6 weeks thereafter, then at 3, 6, and 12 months post vaccination; timeline is reset at the 2nd vaccine dose
  - Week 1 for reactogenicity, then health impact determining if unable to do normal activities, missed work, or sought medical care
- Reporting side effects doesn't violate HIPAA compliance

Occupational Health Planning

- Occupational health considerations
  - Vaccinate preceding 1-2 days off
  - Stagger vaccination by single department, service, or unit
  - Plan for timely assessment of symptoms and options for diagnostic testing
  - Non-punitive sick leave
  - No data on pregnant or lactating women – case by case discussion (e.g., personal risk, family considerations, community transmission)
- Approaches to evaluation if staff exhibits symptoms
  - Received vaccination in prior 3 days?
  - Any known exposures?
  - Symptoms not typical of the vaccination?
- Exclude from work if have a fever, symptoms persist more than 2 days
- Can vaccinate if previously had confirmed COVID-19 and/or had monoclonal antibody therapy, but could defer for up to 90 days

Discussion About Common Myths

1. My family could get COVID-19 after I get vaccinated
2. The vaccination will make me sick with COVID-19
3. I already had COVID-19 and recovered so I don't need the vaccine
4. I won't need to wear a mask after I'm vaccinated
5. The vaccine is not safe because it was rapidly developed and tested
6. The vaccine will permanently change my DNA
7. The vaccine is used to microchip people
8. The vaccine will cause sterility

My family could get covid-19 after I get vaccinated

T or F

My family could get covid-19 after I get vaccinated

False

The vaccine does not give you covid-19 that you then spread to your family.

True

You could later catch Covd-19 and be an asymptomatic carrier. That is why you must continue good IC measures. This is part of ongoing research.

The vaccination will make me sick with COVID-19

T or F

The vaccination will make me sick with COVID-19

False

The vaccine won’t make you sick with Covid-19.

True

You may have an immune response that causes you to feel ill.

I already had COVID-19 and recovered so I don't need the vaccine

T or F

I already had COVID-19 and recovered so I don't need the vaccine

False

It is recommended that you get vaccinated even if you had infection.

True

If you had recent infection you could defer for up to 90 days if you wish. If Monoclonal Antibodies were used you should defer for at least 90 days.

I won't need to wear a mask after I'm vaccinated

T or F

I won't need to wear a mask after I'm vaccinated

False

We are still learning if you can be an asymptomatic carrier post vaccination. Determinations on this will be made as we learn more.

True

The vaccine is protecting you from the virus (+/- 95%). As always we are wearing masks to protect others.

The vaccine is not safe because it was rapidly developed and tested

T or F

The vaccine is not safe because it was rapidly developed and tested

False

The vaccine safety measures were followed- there was ongoing simultaneous data review and the disease prevention portion is ongoing.

True

“Operation Warp Speed” causes some pause, but the FDA has given the research and development of these drugs special consideration to speed up the process.

The vaccine will permanently change my DNA

T or F

The vaccine will permanently change my DNA

False

mRNA lacks the ability to change DNA

True

This technology used with stem cell lines but has been approved by religious authorities.

The vaccine is used to microchip people

T or F

The vaccine is used to microchip people

False

-Size of particle

-random draw from vial

The vaccine will cause sterility

T or F

The vaccine will cause sterility

False

The vaccine has not been shown to change fertility in males or females.

Since the introduction of the vaccine, it has been endorsed by ACOG for lactating and pregnant women as well.

Staff Vaccine Hesitancy

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What is Hesitancy?

- Hesitancy – indecision or disinclination, reluctance

- Hesitant – undecided, doubtful, disinclined; lacking readiness of speech – Slow to act or speak especially because you are nervous or unsure about what to do: feeling or showing hesitation

- Disinclined –not wanting to do something, lacking desire or willingness; unwilling; reluctant; averse

Vaccine Communication

- It is normal to be skeptical and have hesitancy
- How to affect behavior
    - What people think or feel – little impact
    - Social processes – promising and builds on a person's network contagion
    - Direct behavior change – most impact
        - Presumptive healthcare provider recommendations
        - Onsite vaccination
        - Default appointment
        - Incentives
        - Vaccine requirements (cannot mandate while under EUA)
- Build on favorable intentions and reduce barriers (e.g., non-punitive sick leave)
- Ask what is your main concern, listen actively, and repeat back
- Show leadership, be visible, and be transparent about what is known and not known
- Be comfortable, and have your own concerns and questions addressed
- Vaccination has not been shown to increase risky behavior, and this vaccine is very effective
- Continue to wear masks, social distance, and perform hand hygiene

Principles for building trust

-World Views
-Timing
-Messengers
-Narratives
-Relationships
-Social Norms
-Emotions
-Motivations

Hesitancy Causes

- The Myths
-Lack of control or unpredictability
- FEAR
- Unfamiliar or Unnatural
- Lack of TRUST
- Misinformation

Battling Hesitancy

-Adequate counseling

-Transparency

-Education

(Covid AE v. Flu AE)

-Benefits

-Lead by Example

What Not to Say

- The say nothing at all approach

  – You do not say it best when you say nothing at all.
  – You have the knowledge.
  – You have the resources.
  – You are the advocate.
  – You need to say something.

Transparency

-Public access to trial data

-Public Education

Meaning of safety and immune reaction v. adverse reaction and the rates (11/million v 1/million flu)
How vaccines work

-Heard Immunity

Measles; 95% R0 12-18
Mumps; 90% R0 4-7
Covid; ~80% R0 2-3

-Honest discussion of rates of AE

Tips for Communicating Effectively

- Ask questions
  - Assess what the patient already knows
  - Assess what the patient wants to know
- Listen
  - Paraphrase what you heard
  - Don’t interrupt
- Be empathetic
  - Respect and address concerns • Slow down

Tips for Communicating Effectively

- Keep it simple
  - Don’t assume they want to know everything
- Tell the truth
  - No vaccine is 100% effective
  - Educate about responsibilities
- Be hopeful
  - Explore acceptable options
- Watch the patient’s body and face

Message Source

- Patients trust YOU! – HCP recommendation is the number one reported factor in influencing vaccination decisions

- Patients are coming to you – 74% of adults reported visiting a primary care provider at least once in the past 12 months

- One of the main reasons why patients report they aren't getting vaccinated…. – Their HCP did not recommend it

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