COVID-19 Vaccine: The key to ending the pandemic

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Massachusetts General Hospital
February 2, 2021
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 1</td>
<td>First COVID-19 illness documented, China</td>
</tr>
<tr>
<td>January 10</td>
<td>SARS-CoV-2 sequence released</td>
</tr>
<tr>
<td>March 16</td>
<td>Moderna phase 1|2 clinical trial begins</td>
</tr>
<tr>
<td>May 2</td>
<td>Pfizer-BioNTech phase 1|2 clinical trial begins</td>
</tr>
<tr>
<td>November 9, 16</td>
<td>Pfizer-BioNTech and Moderna announce ~95% efficacy</td>
</tr>
<tr>
<td>October 22, 27</td>
<td>Completion of Pfizer-BioNTech and Moderna phase 3 trials</td>
</tr>
</tbody>
</table>

2020
mRNA-based COVID-19 Vaccine
## COVID-19 Vaccine

<table>
<thead>
<tr>
<th></th>
<th>Pfizer-BioNTech</th>
<th>Moderna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micrograms of mRNA</td>
<td>30 micrograms</td>
<td>100 micrograms</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>95%</td>
<td>94.1%</td>
</tr>
<tr>
<td>Inactive ingredients</td>
<td>PEG-2000</td>
<td>PEG-2000</td>
</tr>
<tr>
<td>Dosing Schedule</td>
<td>2 doses – 21 days apart</td>
<td>2 doses – 28 days apart</td>
</tr>
<tr>
<td>Storage</td>
<td>-70°C</td>
<td>-20°C</td>
</tr>
<tr>
<td>Side effects</td>
<td>Fatigue, fever</td>
<td>Fatigue, headache, muscle pain</td>
</tr>
</tbody>
</table>
# COVID-19 Post-Vaccine Symptoms

## What to Expect and When to Call

<table>
<thead>
<tr>
<th>Reaction</th>
<th>Is this normal? What should I do?</th>
<th>When should I worry?</th>
<th>Can I get my second dose?</th>
</tr>
</thead>
</table>
| Fever, chills, muscle aches, fatigue, headache | Normal  
Can start within 24 hours and last for 2-3 days | May need COVID testing if high fever, symptoms last longer than 1-2 days, or symptoms that could be from COVID-19 (like a new sore throat, cough, nasal congestion, runny nose, loss of smell or taste, or shortness of breath) | YES |
## COVID-19 Post-Vaccine Symptoms

### What to Expect and When to Call

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<td>Redness, swelling, and/or itching where you got the vaccine</td>
<td>Normal Can take Antihistamines, Acetaminophen or Ibuprofen, Ice</td>
<td>If other allergy symptoms please call</td>
<td>Yes</td>
</tr>
</tbody>
</table>
COVID-19 Post-Vaccine Symptoms

- Swelling
- Itching
- Redness
- Pain

NO increased risk of anaphylaxis
You CAN receive your second dose
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<td>Mild allergic symptoms: Hives, itching, rash (except at vaccine site)</td>
<td>If no other symptoms, take an antihistamine (diphenhydramine, cetirizine)</td>
<td>If this occurs <strong>within 4 hours</strong> of your vaccination OR if there are other allergic symptoms, please call</td>
<td>If not within 4 hours of vaccination and no other symptoms, YES</td>
</tr>
</tbody>
</table>
COVID-19 Vaccine Reactions

What to Expect and When to Call
What is a severe allergic reaction?

Occurs within 4 hours and causes symptoms like hives, swelling, or trouble breathing and requires treatment with epinephrine or in acute care facility.
Severe Allergic Reactions to Vaccines are Rare

Risk of anaphylaxis after all vaccines is approximately 1 case per million vaccine doses.
Severe Allergic Reactions to COVID Vaccines are Rare

Risk of anaphylaxis:
Pfizer Vaccine – 5-10 cases per 1 million doses
Moderna Vaccine - 2.5 cases per 1 million doses
What is in a vaccine?

Vaccine = antigen + additional components (excipients)
What is Polyethylene Glycol (PEG)?

Common, water-soluble ingredient in many products
- Laxative (Miralax, Golytely)
- Excipient
- Fused to protein medication to slow clearance
Anaphylaxis to PEG is Rare
Precautions for COVID-19 Vaccine

Recommendations:

- **History of severe allergic reaction to the COVID-19 vaccine or ingredients in vaccine is a contraindication**
- All patients should be monitored for 15 minutes
- Higher risk patients (history of anaphylaxis) monitored for 30 minutes
- All facilities should be equipped to treat anaphylaxis
Severe allergic reaction: Occurred within 4 hours and caused symptoms like hives, swelling, or trouble breathing and required treatment with epinephrine or in acute care facility.
When can I get a COVID-19 vaccine in MA?

**PHASE ONE**
In order of priority

- Clinical and non-clinical healthcare workers doing direct and COVID-facing care
- Long term care facilities, rest homes and assisted living facilities
- First responders (EMS, Fire, Police)
- Congregate care settings (including corrections and shelters)
- Home-based healthcare workers
- Healthcare workers doing non-COVID-facing care

**December - February**
Estimated timeframes

**PHASE TWO**
In order of priority

- Individuals 75+
- Individuals 65+, Individuals with 2+ comorbidities (those that are at increased risk for severe illness)
- Early education and K-12 workers, transit, grocery, utility, food and agriculture, sanitation, public works and public health workers
- Individuals with one comorbidity

**February - April**

**PHASE THREE**
Vaccine available to general public

**April - June**
Updated 1/25/2021
I received my first dose, now what?

✓ Get your second dose

95% efficacy with 2 doses

✓ Continue to wear a mask, wash your hands and social distance