

# COVID-19 Vaccine: 3rd Doses & Boosters

**Shireesha Dhanireddy, MD**  
**University of Washington**

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# Disclosures

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No conflicts of interest or relationships to disclose.

# Case

60 year old man with well controlled HIV and CD4 count 570 with underlying COPD presents for routine care and asks about getting a booster dose of vaccine today. He received 2 doses of Pfizer mRNA vaccine 3 weeks apart in April 2021

Would you offer him another dose of vaccine today?

1. Yes
2. No

# Additional vs. Booster

- **Additional dose** after an initial primary vaccine series: administration of an additional vaccine dose when the initial immune response following a primary vaccine series is likely to be insufficient
- **Booster dose:** a dose of vaccine administered when the initial sufficient immune response to a primary vaccine series is likely to have waned over time

# Additional Doses of Vaccine: Data to Support

- Study in solid organ transplant (SOT) patients



# Additional Doses: Who is Eligible

- Active treatment for solid tumor and hematologic malignancies
- Receipt of solid-organ transplant and taking immunosuppressive therapy
- Receipt of CAR-T-cell or hematopoietic stem cell transplant (within 2 years of transplantation or taking immunosuppression therapy)
- Moderate or severe primary immunodeficiency (e.g., DiGeorge, Wiskott-Aldrich syndromes)
- Advanced (*CD4 count* < 200) or untreated HIV infection
- Active treatment with high-dose corticosteroids (i.e.,  $\geq 20$ mg prednisone or equivalent per day), alkylating agents, antimetabolites, transplant-related immunosuppressive drugs, cancer chemotherapeutic agents classified as severely immunosuppressive, TNF blockers, and other biologic agents that are immunosuppressive or immunomodulatory

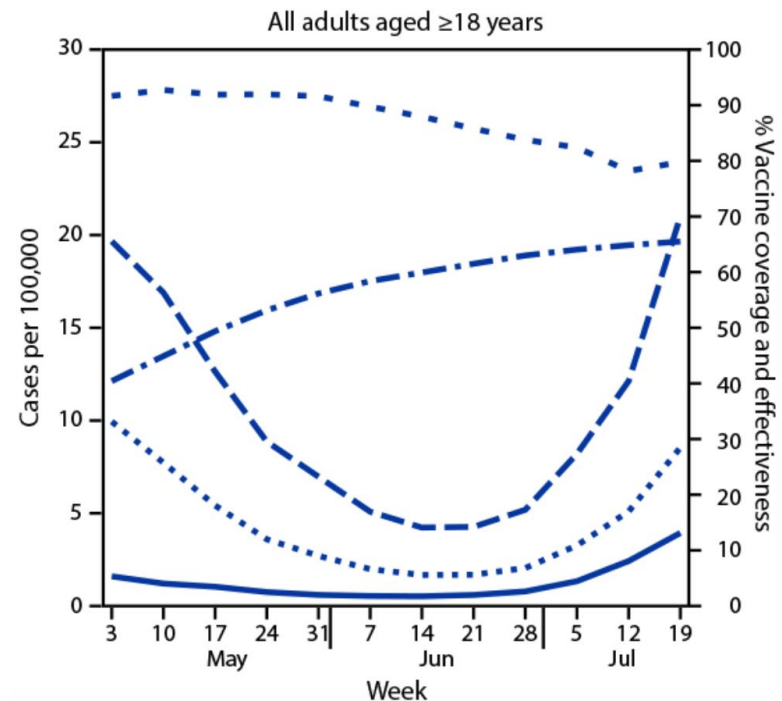
# Additional Doses: Recommendations

- Give additional dose at least 28 days after 2<sup>nd</sup> dose of mRNA vaccine
- 3<sup>rd</sup> dose should be the same vaccine type as received previously. If not available, okay to give either product
- Do not check antibody titers to assess response to determine eligibility for 3<sup>rd</sup> dose
- If possible, mRNA COVID-19 vaccine should be given at least 2 weeks prior to initiation of immunosuppression
- Continue to mask and practice physical distancing!

# Booster Doses: Rationale and Data to Support

- All current FDA EUA vaccines are safe and very effective against preventing hospitalizations and death
- New data from CDC yesterday:
  - Vaccine effectiveness declined in NY based on hospitalizations from May 3 to July 25, from 91.7% to 79.8%

- Cases per 100,000: fully vaccinated
- Cases per 100,000: unvaccinated
- Cases per 100,000: all persons
- Fully vaccinated coverage
- Estimated vaccine effectiveness





# Booster Doses: Rationale and Data to Support

## More data

- CDC MMWR 8.18.2021
  - Studies show mRNA efficacy in nursing home residents was 74.7% (March-May 2021)
  - Now declined to 53% (June-July 2021)

Vaccine type/Period <sup>†</sup>	Aggregate weekly count of residents	No. of cases	Vaccine effectiveness, % (95% CI)		p-value**
			Unadjusted <sup>§</sup>	Adjusted <sup>¶</sup>	
<b>Any mRNA vaccine</b>					
Period 1: pre-Delta	936,123	466	74.3 (69.5–78.4)	74.7 (70.0–78.8)	Ref
Period 2: intermediate	1,859,929	440	65.8 (58.5–71.9)	67.5 (60.1–73.5)	0.06
Period 3: Delta	5,011,746	2,999	52.8 (48.8–56.5)	53.1 (49.1–56.7)	<0.001

# Booster Doses: Recommendations

- No recommendations (yet)
- Will likely be issued 9.20.2021 after FDA and CDC meet again
- Likely will be 8 months after initial series

# What about J&J

- No recommendations for additional doses after receiving J&J
- CDC and FDA reviewing and will hopefully have recommendations soon
- Mix & Match studies ongoing

# Future Considerations

- Will we need ongoing boosters?

# Questions?

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