

ARMING YOURSELF AGAINST COLD, FLU, AND RSV

BRANT WARD, MD, PHD

Medical Director Of Immunology

Division Of Allergy And Immunology

Jeffrey Modell Research And Diagnostic Center For Primary
Immunodeficiency

Children's National Hospital, Washington, DC



Children's National®



DISCLOSURES

- AstraZeneca – Clinical trial support (Site PI)
- Blueprint Medicines – Clinical trial support (Site PI)
- Swedish Orphan Biovitrum – Clinical research support (Site PI)
- NO conflicts related to COVID, influenza, or RSV prevention or treatment

AGENDA



- **Step 1 – Vaccinations**
- **Step 2 – Avoiding Exposure**
- **Step 3 – Passive Immunity**
- **Step 4 – Post-Exposure Prophylaxis**
- **Step 5 – Treating Infection**

AVOIDING EXPOSURE

Hygiene

- Practice good handwashing
- Clean commonly used surfaces

Air Quality

- Open doors and windows
- Set HVAC fan to “On”
- Use personal HEPA filters
- Move parties outdoors

Masks

- Choose the best type available
- Learn proper technique
- Check for air gaps

Physical Distancing

- Avoid people with active symptoms
- Avoid large crowds
- No single ‘safe’ distance

Testing

- Have test kits available in advance
- Screen before gatherings

HANDWASHING

- **WET** your hands and apply soap
- **LATHER** your hands
- **SCRUB** your hands for 20 seconds
- **RINSE** under clean, running water
- **DRY** your hands
- **Hand sanitizer**
 - At least 60% alcohol, wet entire hands
 - **Not as effective as handwashing**



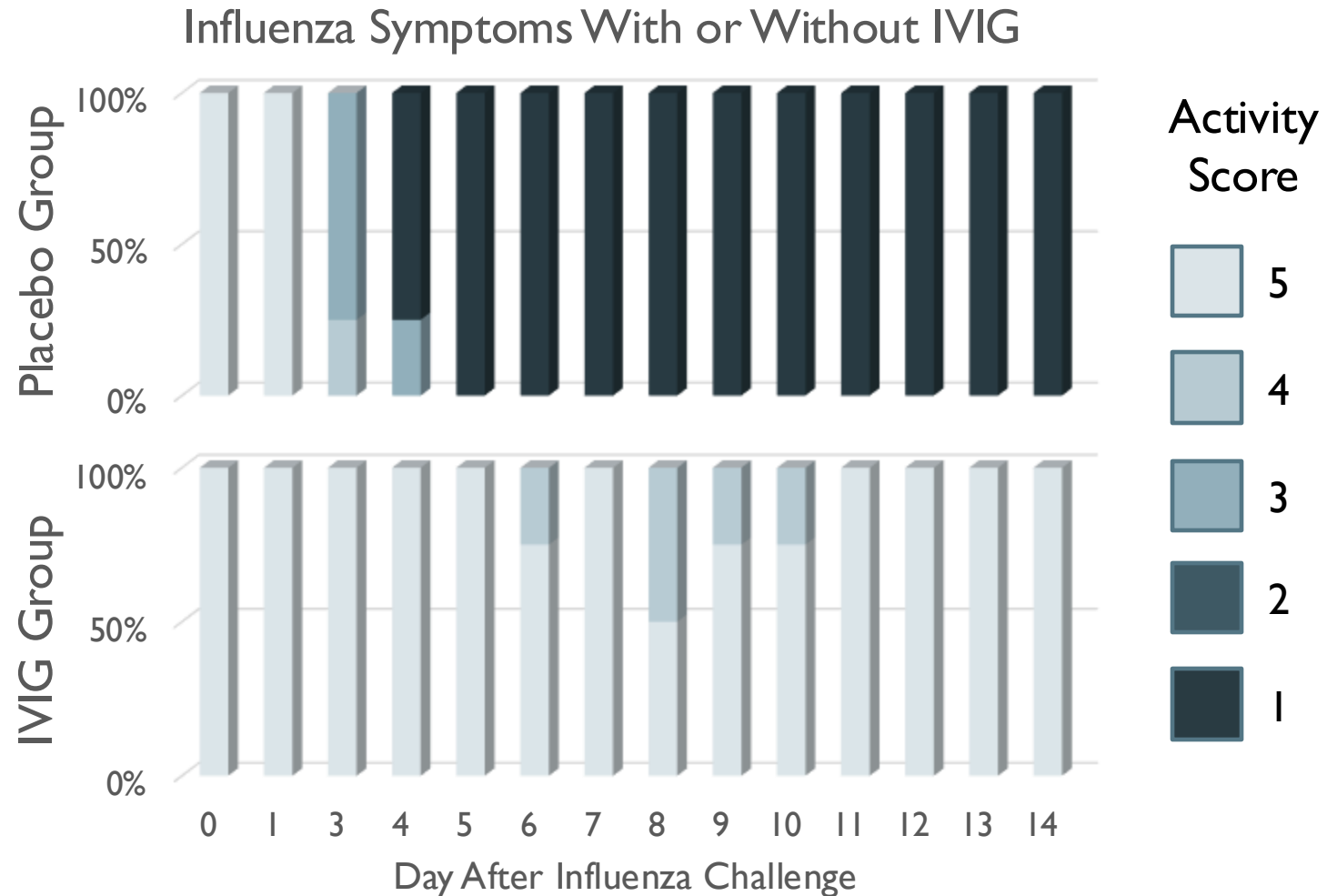


PASSIVE IMMUNITY

(Relying on Immunity From Others)

IMMUNOGLOBULIN (SC or IV)

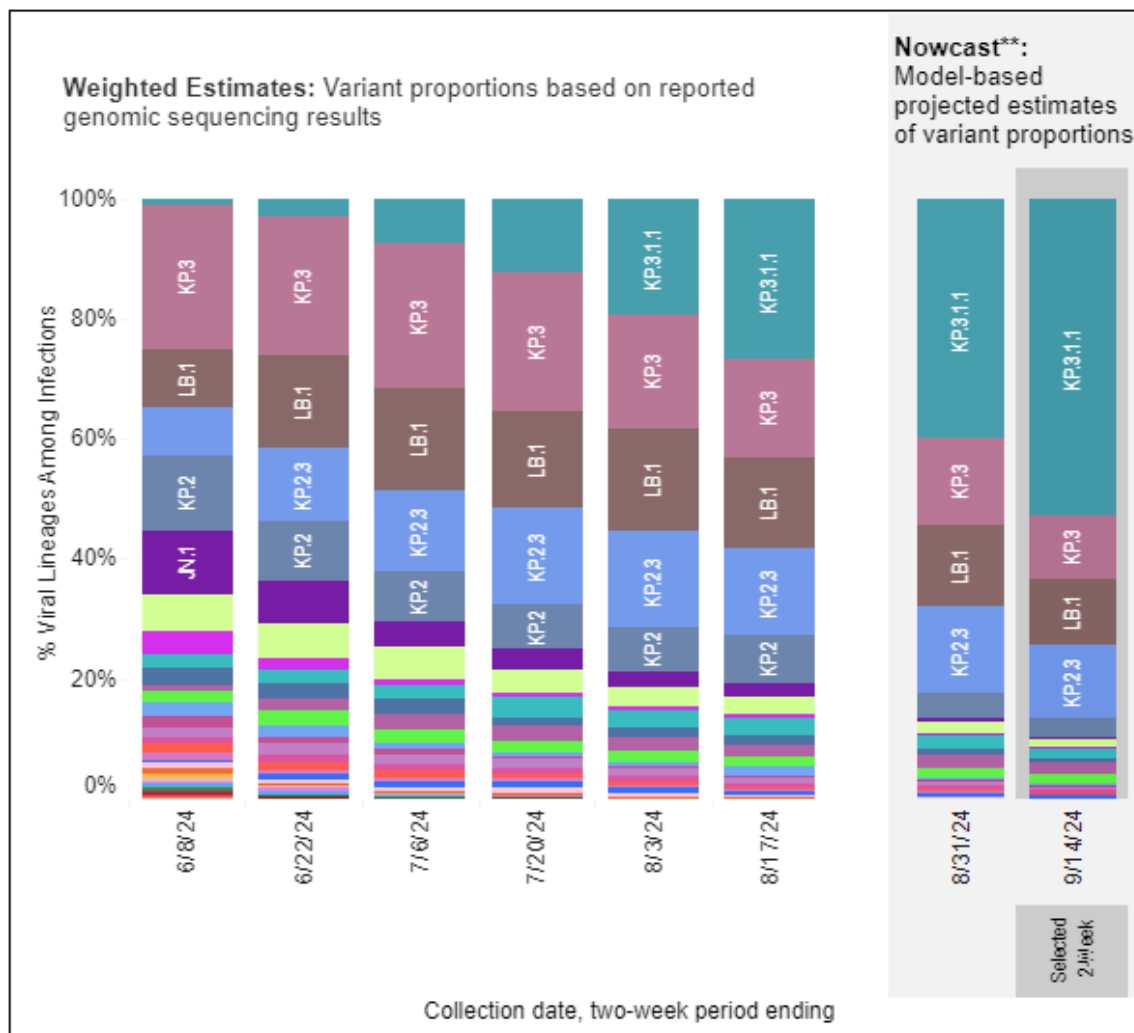
- Ig products contain **broadly-neutralizing** antibodies to viruses
 - May confer some protection against new strains
- Levels of broadly-neutralizing antibodies are generally low
 - **Ig replacement is NOT a substitute for vaccination!**





ANTIBODIES FOR COVID

- Pemivibart (Pemgarda)
 - Emergency authorization for 12 years or older
 - Intravenous infusion every 3 months
 - Must have moderate to severe immunocompromise AND be unlikely to respond to COVID vaccination
 - NOT for treatment or post-exposure prophylaxis



PREVALENCE OF COVID STRAINS

- Pemivibart targets very conserved region of COVID spike protein
- Preliminary data shows decreased neutralization of strain KP3.1.1 (<https://doi.org/10.1101/2024.08.12.607496>)

Publicly available at: <https://covid.cdc.gov/covid-data-tracker/#variant-proportions>

ANTIBODIES FOR RSV

- Nirsevimab (Beyfortus)
 - FDA approved for babies <8 months whose mothers did not get RSV vaccine
 - ALSO for children 8-19 months with increased risk (e.g., those with IELs)
 - Single intramuscular injection given October – March
- Palivizumab (Synagis)
 - Recommended only if nirsevimab is not available
 - Intramuscular injection given monthly October – March



POST-EXPOSURE PROPHYLAXIS

(Extra Protection After
Being Exposed)

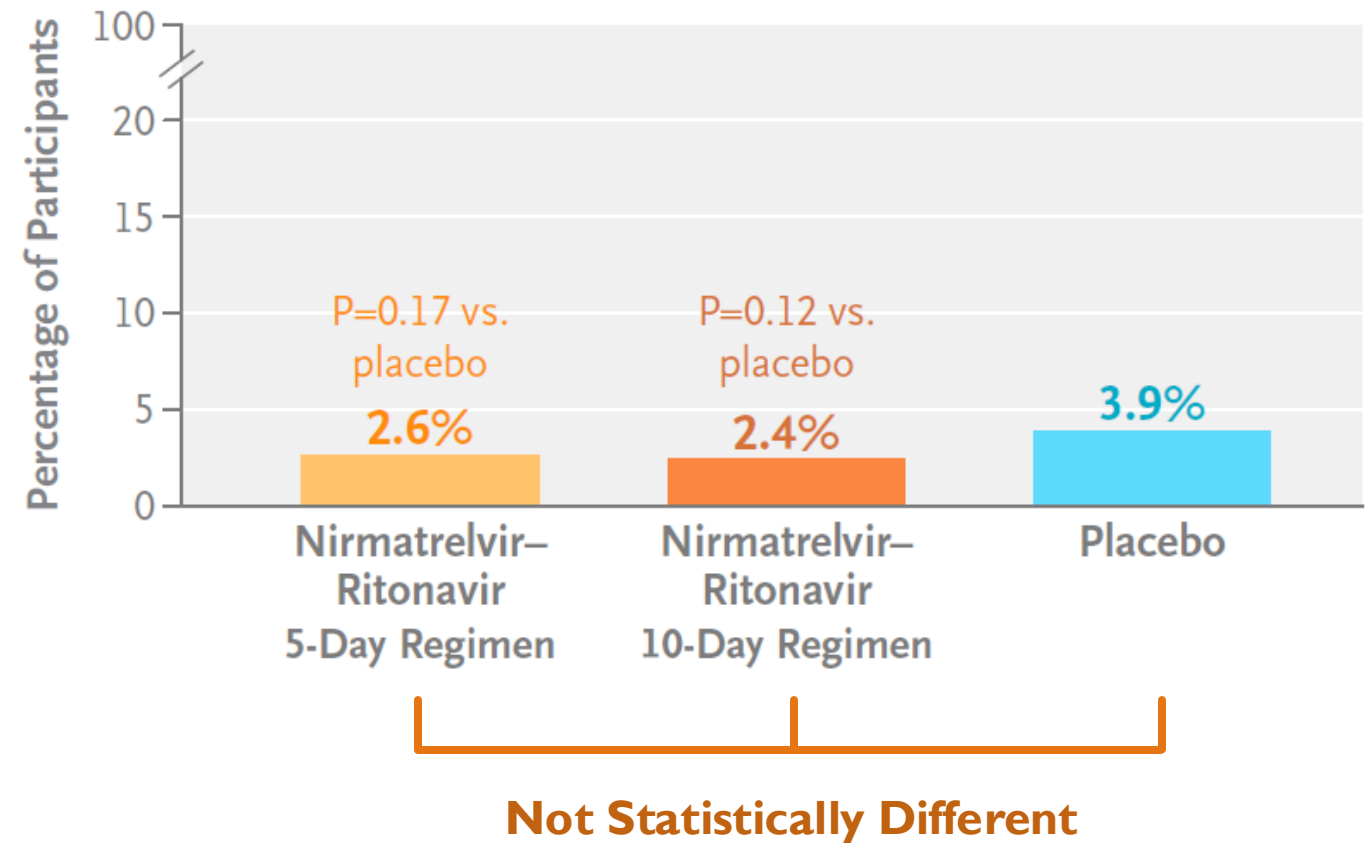
INFLUENZA POST-EXPOSURE

- Multiple options with good efficacy
- Start within 48 hours from exposure
- Continue for at least 14 days in institutional settings

	Oseltamivir	Zanamivir	Baloxavir Marboxil
Trade Name	Tamiflu	Relenza	Xofluza
Indicated Age	≥ 3 Months	≥ 5 Years	≥ 5 Years
Route	Oral	Inhaled	Oral
Duration	7 Days	7 Days	Single Dose
Notes		NOT indicated in asthma, COPD, or other respiratory disease	

NO GOOD
OPTIONS
FOR COVID

Symptomatic, Confirmed SARS-CoV-2 Infection



A photograph showing a person lying in a hospital bed, covered with a teal blanket. A caregiver's hands are visible, gently holding the patient's hands. The scene is set in a clinical environment with blue hospital linens.

TREATING INFECTION

(IF YOU GET SICK)

COVID TREATMENTS

	Nirmatrelvir- Ritonavir	Remdesivir	Molnupiravir
Trade Name	Paxlovid	Veklury	Lagevrio
Indicated Age	≥ 12 Years	All	≥ 18 years
Time to Start	Within 5 Days	Within 7 Days	Within 5 Days
Route	Oral	Intravenous	Oral
Duration	5 Days	3 – 10+ Days	5 days
Notes	Multiple drug interactions	Inpatient or outpatient Dose & duration depends on severity	Use when nirmatrelvir-ritonavir not available or contraindicated

- Multiple agents to reduce symptoms and duration
- Rebound symptoms possible after course is finished
 - **NO** increased risk for severe COVID after completing treatment

INFLUENZA TREATMENTS

- Multiple agents with good efficacy
- Viral resistance remains low
- Amantadine and rimantadine should no longer be used
 - High resistance among influenza A

	Osetamivir	Zanamivir	Peramivir	Baloxavir Marboxil
Trade Name	Tamiflu	Relenza	Rapivab	Xofluza
Indicate Age	All	≥ 7 Years	≥ 6 Months	≥ 5 Years
Time to Start	Within 48 Hours	Within 48 Hours	Within 48 Hours	
Route	Oral	Inhaled	Intravenous	Oral
Duration	5 Days	5 Days	Single Dose	Single Dose
Notes		Do NOT use if preexisting respiratory disease		

RSV TREATMENTS (OFF LABEL)



Ribivirin

- Used in patients with severe immune deficiency and/or critical illness
- Significant toxicity limits wider use



Palivizumab

- Case reports of use in immune deficiency
- Controlled trial in general population showed no benefit*



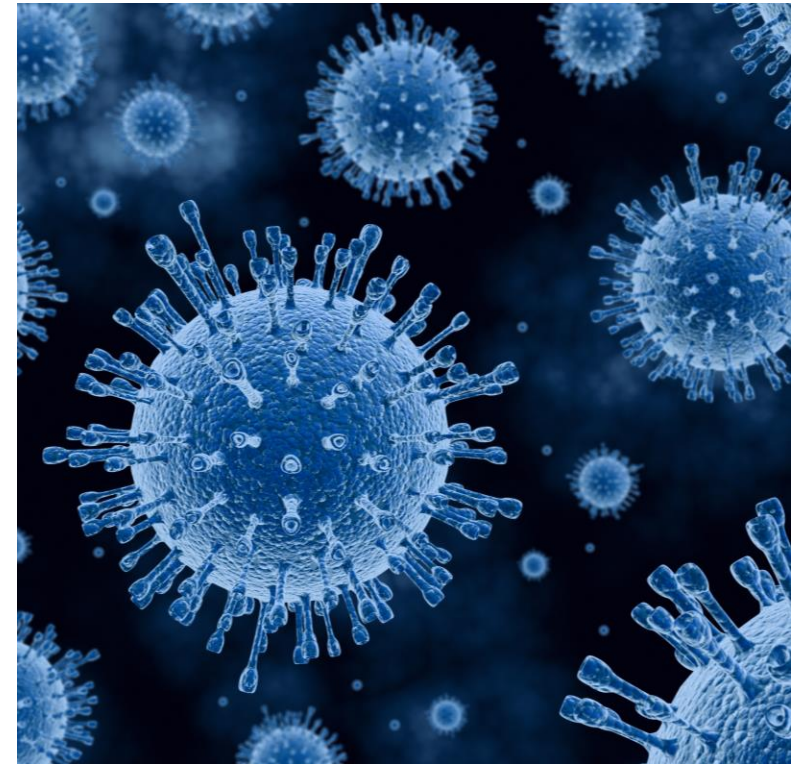
SUM-UP

- **Prevention is most important**
 - **Vaccination!**
 - Avoid exposure whenever possible
 - Pre-exposure prophylaxis when indicated
- Post-exposure treatments help prevent influenza
- Treatment can reduce severity of COVID and influenza (and RSV)

RESOURCES

- <https://www.cdc.gov/respiratory-viruses/prevention/>
- <https://www.cdc.gov/covid/>
- <https://www.cdc.gov/flu/>
- <https://www.cdc.gov/rsv/>

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THANK YOU!

