

Ascension Via Christi Family Medicine Residency Program

Immunization Guideline Update: 2024

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Learning Objectives

1. Apply CDC guidelines for **new** immunizations for adults and children.

RSV

1. Review other ACIP vaccine recommendations from 2023-2024:

Polio

Mpox

Tick Borne Encephalitis

Pneumococcus

COVID



Disclaimers

Use **brand/manufacturers** names for vaccines

Links vs References



ACIP: Advisory Committee on Immunization Practices

Jamie Loehr MD FAAFP, Owner-Cayuga FM clinic, Ithaca
NY

CDC: Centers for Disease Control and Prevention

RSV: Respiratory Syncytial Virus

Polio

Adults $\geq$ 18 yrs **unvaccinated:**

IPV 3 inj series

Adults $\geq$ 18 yrs **vaccinated** but **AT RISK:**

IPV 1X Booster

At Risk: Travel to Afghanistan, Pakistan, Egypt, Madagascar, Algeria, Nigeria, DR Congo, Côte d'Ivoire and **ROCKLAND COUNTY, NY!**



<https://www.cdc.gov/mmwr/volumes/72/wr/mm7249a3.htm>

https://www.google.com/search?sca_esv=32ce626ede8b9655&rlz=1C1GCEB_enUS894US894&q=elvis+with+polio+boy&tbm=isch&source=lnms&sa=X&ved=2ahUKEwiP-Nvj7uEAXUDmWoFHcbpBhgQ0pQJegQlChAB&biw=1280&bih=559&dpr=1.5&safe=active&ssui=on#imgsrc=mFs7oemi1GOfoM&imgdii=3gLqQbnKR0vLuM

https://www.google.com/search?sca_esv=32ce626ede8b9655&rlz=1C1GCEB_enUS894US894&q=elvis+with+polio+boy&tbm=isch&source=lnms&sa=X&ved=2ahUKEwiP-Nvj7uEAXUDmWoFHcbpBhgQ0pQJegQlChAB&biw=1280&bih=559&dpr=1.5&safe=active&ssui=on#imgsrc=mFs7oemi1GOfoM&imgdii=3gLqQbnKR0vLuM

Mpox Vaccine

"At risk for Mpox"

≥18 yrs

2 doses: 1 mo apart

JYNNEOS: a replication-deficient live vaccine

29 US cases during week of Feb 10, 2024

56 deaths since outbreak



CDC: At risk for Mpox

- **Exposure to someone with mpox-within 2 weeks**
- **Gay/Bisexual/MSM/Transgender/Nonbinary/Gender-diverse, who in the last 6 mos:**

STI

1+ New sex partner

- **Past 6 months or anticipating:**

Sex at a commercial sex venue

Sex related to a large commercial event

Sex in a geographic area of Mpox

Sex trade

- **Sex partner at risk**
- **HIV/Immune suppression: At risk for Mpox exposure**



Tick-Borne Encephalitis

TBE vaccine is recommended: Endemic

Western and Northern **Europe** and **Asia**

Exposure to **ticks**

Inactivated TBE vaccine: **Ticovac**

≥1+ yrs: 3 inj series

Complete series: **1 week** before potential exposure to TBE virus.

Booster dose: **3** years after completion of the primary series



Pneumococcal Vaccinations

PPSV 23:

Polysaccharides alone

23 serotypes - 1980's

90% serotypes -> 40%

Waning immunity

<15% at 5 yrs in
elderly



PCV 13/15/20:

PS + protein=conjugate

Current serotypes

Mucosal Immunity

Herd Immunity

Replacement Strains

Waning immunity?

Pneumococcal: Peds

Healthy Child: Primary Series:

PCV 20 or 15: **Interchangeable**

PCV 13: only if it's all you've got

Catch up dosing: **PCV 20 or 15**

Indications for risk-based recommendations were **expanded:**

Chronic **Kidney** disease

Chronic **Liver** disease

Moderate persistent or severe persistent **Asthma**



Pneumococcal: Peds: Risk Conditions

Immunocompromising Conditions: Hemodialysis/Nephrotic Syndrome

Chronic Organ failure: Liver, Cardiac, Renal

Moderate persistent or severe persistent asthma

Cochlear implant

CSF leak

Asplenia/Splenic Dysfx

Immunosuppressive Treatments

Diabetes Mellitus

HIV

Sickle Cell Disease/Hemoglobinopathies



<https://stacks.cdc.gov/view/cdc/133252>

[https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.newmedimmediatecare.com%2Fblog%2Fcan-asthma-be-life-threatening&psig=AOvVaw3LHR26d7J-](https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.newmedimmediatecare.com%2Fblog%2Fcan-asthma-be-life-threatening&psig=AOvVaw3LHR26d7J-2c3jDqWT7b1O&ust=1710023587670000&source=images&cd=vfe&opi=89978449&ved=0CBEQjRqFwoTCOim_Mjc5YQDFQAAAAAdAAAAAB)

[2c3jDqWT7b1O&ust=1710023587670000&source=images&cd=vfe&opi=89978449&ved=0CBEQjRqFwoTCOim_Mjc5YQDFQAAAAAdAAAAAB](https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.newmedimmediatecare.com%2Fblog%2Fcan-asthma-be-life-threatening&psig=AOvVaw3LHR26d7J-2c3jDqWT7b1O&ust=1710023587670000&source=images&cd=vfe&opi=89978449&ved=0CBEQjRqFwoTCOim_Mjc5YQDFQAAAAAdAAAAAB)

AW

Pneumococcal: Peds

Children with any Risk Condition:

Age and Group	≥1 PCV 20	Additional Doses Needed	Vaccine Type
Completed PCV series <6 yrs	Yes	No	
Completed PCV series <6 yrs	No	Yes	PCV 20 or PPSV 23*
6–18yrs with any risk and no PCV13/15/20	No	Yes	PCV 20 or 15 +PPSV 23

Pneumococcal: Adults

≥65 yrs:

"Option A: PCV 20 available"

PCV 20: **DONE!**

PPSV 23*: PCV 20 -> 1 yr later

PCV 13*: PCV 20 -> 1 yr later

PCV 13*+ PPSV 23 <65 yrs: PCV 20 -> 5 yrs later

PCV 13**+ PPSV 23* ≥65 yrs: PCV 20 -> 5yrs-

*at any age **any age/or older ≥65

<https://www.cdc.gov/mmwr/volumes/72/rr/rr7203a1.htm>



SDM

Pneumococcal: Adults

19 - 64 yrs:

Immunocompromised*/HIV/CSF Leak/Cochlear Implant/Chronic Renal Failure/SSD/Asplenia

"Option A: PCV 20 Available"

PCV 20: **DONE!**

PPSV 23: PCV 20 -> 1 yr later

PCV 13: PCV 20 -> 1 yr later

PCV 13 + 1 or 2 doses*of PPSV 23: PCV 20 -> 5 yrs later

Pneumococcal: Adults

19 - 64 yrs: "With a Chronic Medical Condition"

Lung/Liver/Heart Disease/Smoking/Alcoholism/DM

"Option A"

PCV 20: **DONE!**

PPSV 23: PCV 20 -> 1 yr later

PCV 13*: PCV 20 -> 1 yr later

PCV 13* + PPSV 23: None

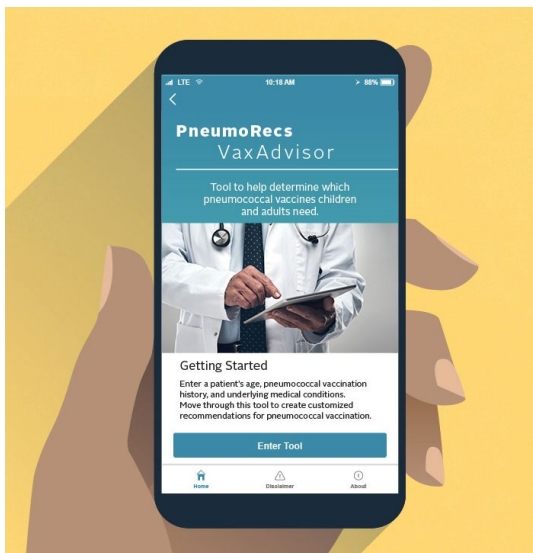
*PCV 13 not recommended previously in this group

Pneumococcal Vaccination Resources

PneumoRecs VaxAdvisor

Web based version: [PneumoRecs VaxAdvisor](#)

APP:



PneumoRecs VaxAdvisor

Tool to help determine which
pneumococcal vaccines children
and adults need.

COVID Vaccine Update

~~Monovalent mRNA Vaccines~~

~~Wuhan-hu-1~~

COVID Vaccine Update

~~Bivalent mRNA Vaccines~~

~~Wuhan-hu-1 + Omicron variant BA.4/BA.5~~

COVID Vaccine Update: "2023-2024 Formula"

Monovalent mRNA Vaccines

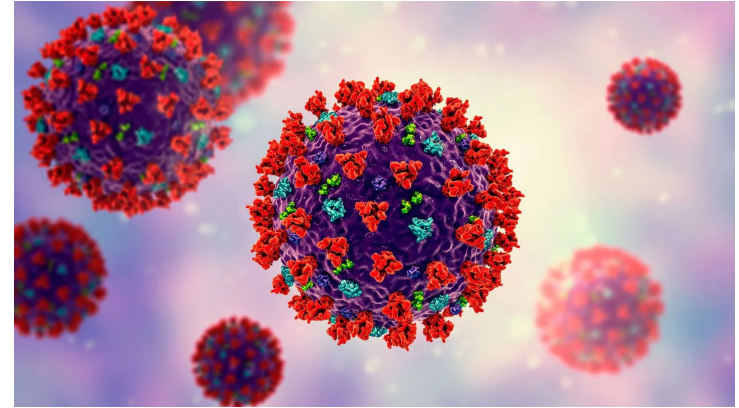
Omicron variant XBB.1.5

"2023-2024 Formula" COVID Vaccines

≥6mos: mRNA

Pfizer-BioNTech: Comirnaty

Moderna: Spikevax



≥12yrs: Protein subunit

Novavax: Novavax COVID-19 Vaccine, Adjuvanted

<https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html>

<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.sciencenews.org%2Farticle%2Fhealth-risks-persist-2-years-covid-19&psig=AOvVaw2oIgDNvkeyrdL4ESs03mEL&ust=1710025268011000&source=images&cd=vfe&opi=89978449&ved=0CBEQjRxqFwoTCKjpxOTi5YQDFQAAAAAdAAAAABAD>

COVID Vaccines: 6 mos – 4 yrs*

No COVID Vaccines:

Moderna: **2 UPDATED** mRNA vaccine doses

Pfizer: **3 UPDATED** mRNA vaccine doses

COVID Vaccinated:

Moderna: ANY 1 Moderna + 1 **UPDATED** = Min **2** total (1 UPDATED)

Pfizer: Any 1-2 Pfizer + 1-2 **UPDATED** = Min **3** total (1 UPDATED)

*Stay with the same company

6 mos – 4 yrs

Stay with the same company

Moderna

Pfizer

2

3

(at least 1 UPDATED)

(at least 1 UPDATED)

No Vaccines

Not Immunocompromised

≥5 years

or

≥12

years



1 UPDATED mRNA
Vaccine



2 UPDATED
Novavax Vaccines

≥1 Any Moderna/Pfizer/Novavax/J&J Vaccine

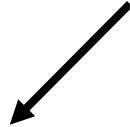
Not Immunocompromised

≥5 years

or

≥12

years



1 UPDATED mRNA
Vaccine



1 UPDATED
Novavax Vaccine

No Vaccines

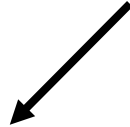
Immunocompromised

≥6+ mos

or

≥12

years



3 UPDATED mRNA
Vaccines-same co.



2 UPDATED
Novavax Vaccines

≥1 Any Moderna/Pfizer/Novavax/J&J Vaccine

Immunocompromised

<https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#immunocompromised>

ACIP Meeting: February 28-29, 2024



ACIP: ≥ 65 yrs: **booster dose COVID 19 2023–2024** Formula

Pfizer-BioNTech

Moderna

Novavax

Past 4yrs: **Winter** and **Summer** wave of Covid, with cases peaking in **January** and **August**

ACIP: COVID **strategy different from the flu**-> Winter.

<https://www.cdc.gov/media/releases/2024/s-0228-covid.html>

[https://www.freepik.com/free-vector/hand-drawn-spring-](https://www.freepik.com/free-vector/hand-drawn-spring-landscape_12382698.htm#query=spring%20cartoon&position=0&from_view=keyword&track=ais&uuid=929b67da-db05-4b96-87b6-24cac9ff49bf)

[landscape_12382698.htm#query=spring%20cartoon&position=0&from_view=keyword&track=ais&uuid=929b67da-db05-4b96-87b6-24cac9ff49bf](https://www.freepik.com/free-vector/hand-drawn-spring-landscape_12382698.htm#query=spring%20cartoon&position=0&from_view=keyword&track=ais&uuid=929b67da-db05-4b96-87b6-24cac9ff49bf)

RSV Vaccines: Older Adults

≥60 years: all

Shared clinical decision-making

1X dose: **Before** RSV season: Late Summer/early Fall

Mod-High efficacy: preventing symptomatic RSV-associated lower respiratory tract disease

Priority: High risk patients

Chronic illness

Frail Elder/Long term care residents

Co-administration with other vaccines: "Acceptable"



RSV Vaccine: Pregnancy

ABrysvo only

1x dose: Most of the US: **September-January**

32-36w6d gestation

Prevent RSV-associated lower respiratory tract infections in **infants <6 mos.**

Can be given with other vaccines: Tdap, Influenza, COVID



RSV Vaccines

AreXvy

GSK

≥60 yrs

Adjuvant

Monovalent

\$336/dose



ABrysvo

Pfizer

≥60 yrs

Pregnant: 32-36.6 WGA

Non-adjuvant

Bivalent

\$354/dose



RSV Protection: Healthy Newborn

Nirsevimab: Beyfortus: Long acting monoclonal antibody

1x IM: 50 mgs/dose <5 kgs, 100 mgs/dose ≥5 kgs

Prevent RSV-associated LRTI in infants

- All infants **BORN during their first RSV** season

NO Maternal RSV Vaccination

YES Maternal RSV Vaccination:

All infants born **<14 days** after maternal RSV vaccination

All infants born at **<34 WGA**

- All infants aged **<8 mos ENTERING their first RSV** season



RSV Protection: Nirsevimab: Beyfortus

- **8-19 mos**: 2x100 mgs IM inj/different sites: October-March

Vulnerable to severe RSV disease

Lung disease of prematurity w/in 6 mos

Severe immunocompromised

Cystic fibrosis with severe lung involvement or weight for length
<10th %ile

Vulnerable populations: American Indian, Alaska Native

AND

Entering **2nd RSV** season

- **Co-administration** with other vaccines **recommended** at any age

RSV Prevention Options: Pregnancy



Mother

Vaccine: **ABrysvo** \$354/dose

Advantages

- Protection immediately after birth
- Might be more resistant to RSV mutations

Disadvantages

- Protection reduced if fewer antibodies are produced or transferred to baby (Mother immunocompromised or infant born soon after vaccination)
- Potential increased risk for preterm birth and hypertensive disorders of pregnancy

Infant

Antibody: **Beyfortus** \$594/dose

Advantages

- Protection might wane more slowly than protection from the maternal RSV vaccine
- Assures direct receipt of antibodies rather than relying on transplacental transfer
- No risk for adverse pregnancy outcomes

Disadvantages

- Potentially limited availability during 2023–24 RSV season
- Requires infant injection



RSV Antibody CPT codes: Nirsevimab

96380: Administration + Counseling: \$22.27

96381: Administration only: \$19.32

Dx code **Z29.11:** “Encounter for prophylactic immunotherapy for respiratory syncytial virus (RSV)”

KAFP Immunization Provider Enhancement Program Grant

Mishayla Nichols
mnichols@kafponline.org
or 620-682-0019.



Immunization Provider Enhancement Program

Grant Benefits for Members

- Direct liaison for
 - Members interested in becoming **Vaccine for Children (VFC) providers**
 - VFC providers
- Direct contact with **KDHE WebIZ Tech Support**
- Provide **learning opportunities and trainings** for members
- Provide valuable resources for members to utilize in their practices
 - Immunization resource page on KAFP's website
 - Up to date information in bi-weekly newsletter
- Individualized education to family medicine practices
- Assist members with **quality improvement processes**



<https://beimmunekansas.org/tools-for-healthcare-professionals/>

Toolkit:

Downloadable and free to KAFP members:

Patient Education Handouts

Flyers/Posters

Videos: 30 sec

Media posts