The background features a large, stylized graphic composed of several overlapping, semi-transparent rings. The rings are primarily light blue and light green, with some darker shades of blue and green interspersed, creating a sense of depth and movement. The rings are arranged in a circular pattern, with some overlapping others, and they appear to be part of a larger, continuous design.

Adult Pneumococcal Vaccine Review and Resources

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Disclosures

- Neither speaker has any relevant financial relationships with any commercial interests to disclose

Pneumococcal Vaccines in the Setting of COVID-19

“...Preventing respiratory illness and hospitalization from pneumococcus, influenza, and pertussis through vaccination will allow respiratory medical equipment, medications, and health care workers to be more available to support patients with COVID-19. While there is currently limited information on whether COVID-19 is associated with an increased risk of pneumococcal infection, pneumococcal vaccination can prevent both primary and secondary bacterial infections and the unnecessary use of antibacterial medications.”

-World Health Organization (WHO)

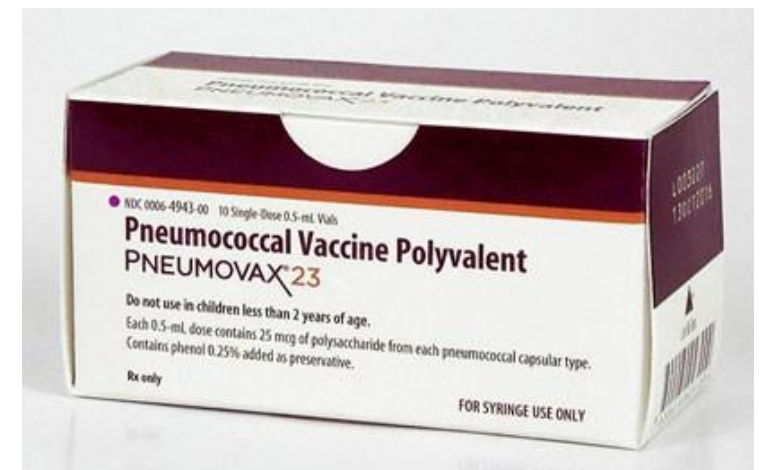
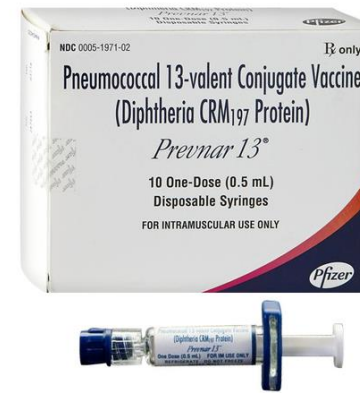
Pneumococcal Vaccination Rates

National Health Interview Survey of 2017

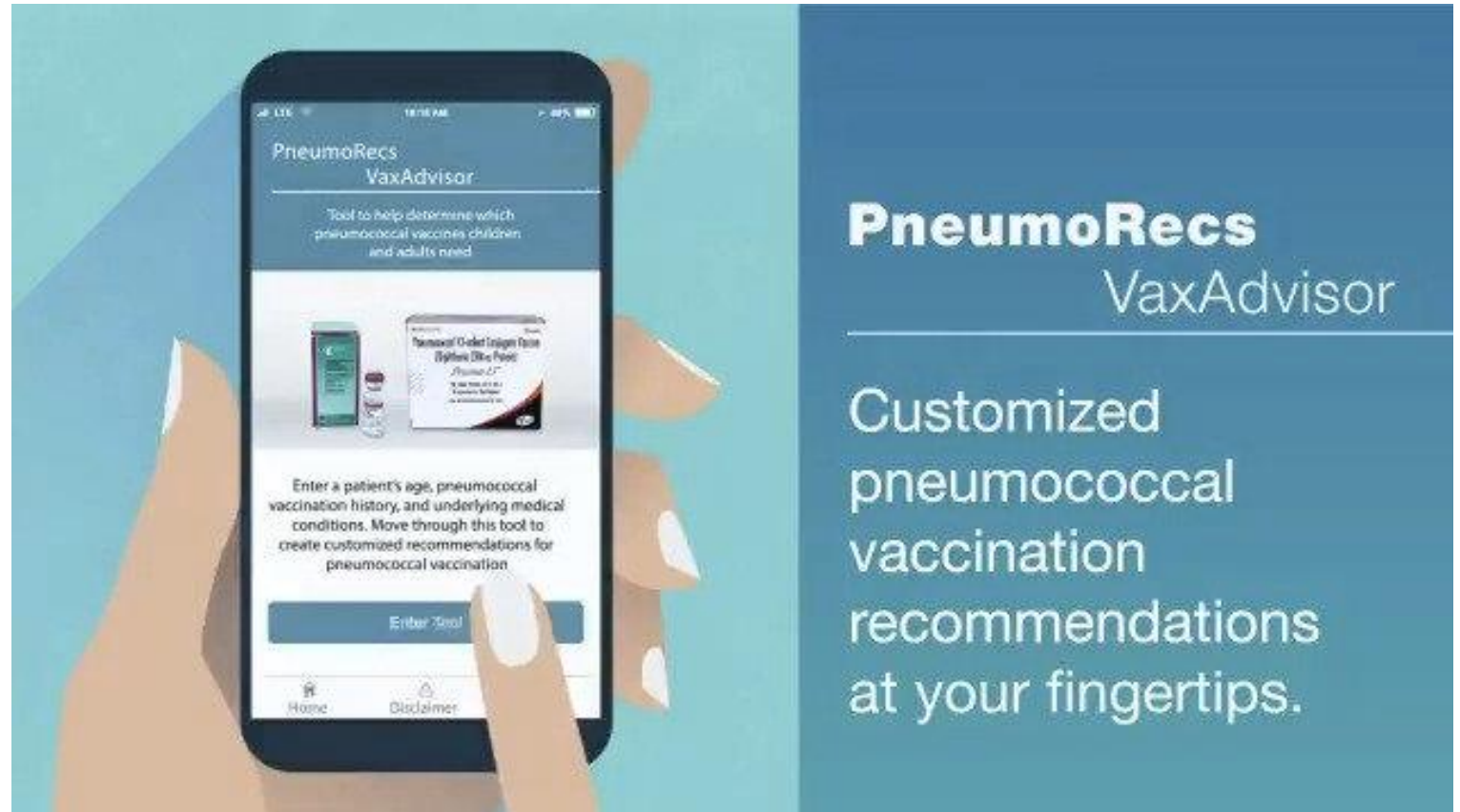
- Only 24.5% of adults aged 19-64 who were at increased risk for pneumococcal disease had received pneumococcal vaccinations
- Among adults aged ≥ 65 years, 69% had received pneumococcal vaccinations
- Black, Asian, Hispanic and other non-White adults aged ≥ 65 had lower pneumococcal vaccination rates than White adults aged ≥ 65

Overview of Pneumococcal Vaccines

- PCV13 = Prevnar 13
 - Conjugate vaccine
 - Up to **1** dose can be given as an adult (age ≥ 19)
- PPSV23 = Pneumovax 23
 - Polysaccharide vaccine
 - Up to **3** doses can be given as an adult (age ≥ 19)



Time to Use CDC's PneumoRecs VaxAdvisor



Download here to follow along with cases: <http://cdc.gov/vaccines/pneumoapp>

Or use the desktop version: <https://www2a.cdc.gov/vaccines/m/pneumo/pneumo.html>

PCV13 and PPSV23 are **NOT** recommended for patients without specified risk factors and qualifying conditions

Patients with specified risk factors and qualifying conditions are recommended to receive either 1 dose of PPSV23 only or 1 dose of PCV13 and 1 or 2 doses of PPSV23

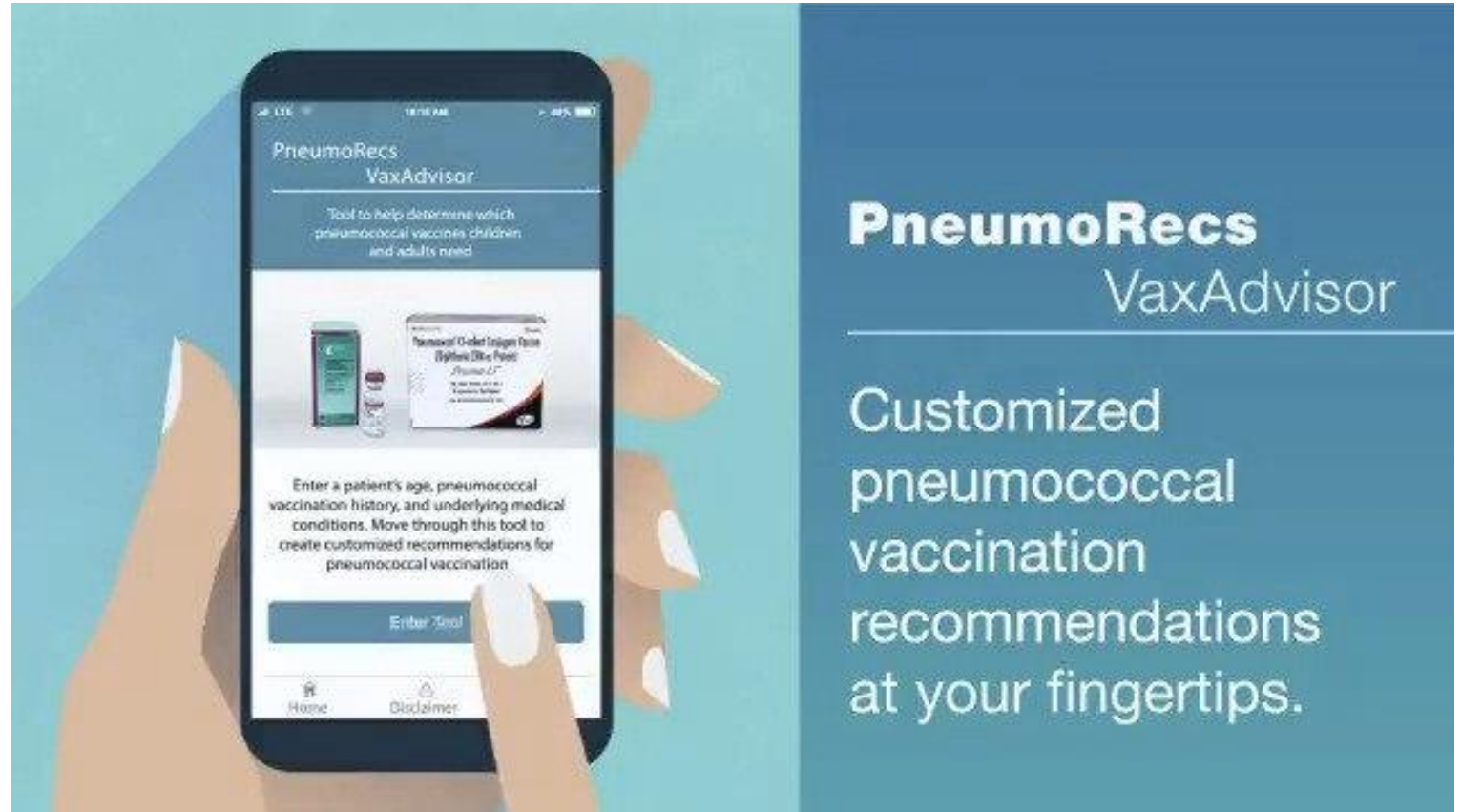
Pneumococcal
Vaccine
Recommendations
for Patients 19-64

Patients with
the Following
Conditions are
Indicated to
Receive
PPSV23 Only
Before Age 65

Chronic conditions

- Chronic heart disease (ex. Heart failure)
- Chronic lung disease (ex. COPD, asthma)
- Chronic liver disease (ex. Cirrhosis)
- Diabetes mellitus
- Alcoholism
- Smokers

Time to Use CDC's PneumoRecs VaxAdvisor



PneumoRecs
VaxAdvisor

Customized
pneumococcal
vaccination
recommendations
at your fingertips.

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Or use the desktop version: <https://www2a.cdc.gov/vaccines/m/pneumo/pneumo.html>



Case 1

BB is a 53 y/o female with diabetes and alcoholism. She has not received any pneumococcal vaccines since childhood. Which pneumococcal vaccine(s) is she recommended to receive before age 65?

- A. PCV13
- B. PPSV23
- C. Both



Case 1

BB is a 53 y/o female with diabetes and alcoholism. She has not received any pneumococcal vaccines since childhood. Which pneumococcal vaccine(s) is she recommended to receive before age 65?

- A. PCV13 – No, PCV13 is not recommended for patients under 65 with diabetes or alcoholism
- B. PPSV23 – Yes, as shown on slide 7, diabetes and alcoholism are conditions that qualify patients under 65 to receive PPSV23 only
- C. Both

PneumoRecs for Case 1

< PneumoRecs VaxAdvisor

Enter your patient's birth date.

(Choose year first)

July	29	1963
August	30	1964
September	31	1965
October	1	1966
November	2	1967
December	3	1968
January	4	1969

Continue

Home Disclaimer About



< PneumoRecs VaxAdvisor

Patient Characteristics

Does the patient have any of the following risk factors?

Chronic health conditions ✓

- Alcoholism
- Chronic heart¹, liver, or lung² disease
- Cigarette smoking
- Diabetes mellitus

Footnotes:
1. Including congestive heart failure and cardiomyopathies, excluding hypertension
2. Including chronic obstructive pulmonary disease, emphysema, and asthma

Cochlear implants and CSF leaks Select

- Cochlear implant
- Cerebrospinal fluid (CSF) leak

Immunocompromising conditions Select

- Sickle cell disease and other hemoglobinopathies

Continue

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< PneumoRecs VaxAdvisor

Patient Characteristics

Has the patient received PPSV23?

No

Yes

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PneumoRecs for Case 1

The screenshot shows a mobile application interface for 'PneumoRecs VaxAdvisor'. At the top is a teal header with a white back arrow and the text 'PneumoRecs VaxAdvisor'. Below the header is a section titled 'Patient Characteristics' with an upward-pointing chevron icon. This section contains three rows of information: 'Age' with the value '53 years', 'Risk Factors' with the value 'Chronic health conditions', and 'PPSV23' with the value 'No prior doses'. Below this section is a 'Recommendation' section with a bold heading and a paragraph of text.

PneumoRecs VaxAdvisor

Patient Characteristics ^

Age
Age: 53 years

Risk Factors
Chronic health conditions

PPSV23
No prior doses

Recommendation

Give 1 dose of PPSV23. A second and final dose of PPSV23 is not indicated until age 65 years and at least 5 years since the prior dose of PPSV23.

Patients with
the Following
Conditions are
Indicated to
Receive PCV13
& PPSV23
Before Age 65

Immunocompromising conditions

- Sickle cell disease or other hemoglobinopathies
- Congenital or acquired asplenia
- Congenital or acquired immunodeficiencies
- HIV infection
- Chronic renal failure
- Nephrotic syndrome
- Leukemia
- Lymphoma
- Multiple myeloma
- Hodgkin disease
- Generalized malignancy
- Iatrogenic immunosuppression
- Solid organ transplant

Others

- Cerebrospinal fluid (CSF) leaks*
- Cochlear implants*

Time to Use CDC's PneumoRecs VaxAdvisor



PneumoRecs
VaxAdvisor

Customized
pneumococcal
vaccination
recommendations
at your fingertips.

Download here to follow along with cases: <http://cdc.gov/vaccines/pneumoapp>

Or use the desktop version: <https://www2a.cdc.gov/vaccines/m/pneumo/pneumo.html>



Case 2a

EH is a 24 y/o female with a solid organ transplant. She has not received any other pneumococcal vaccines since her childhood doses. Which pneumococcal vaccine(s) is she recommended to receive before age 65?

- A. PCV 13
- B. PPSV23
- C. Both

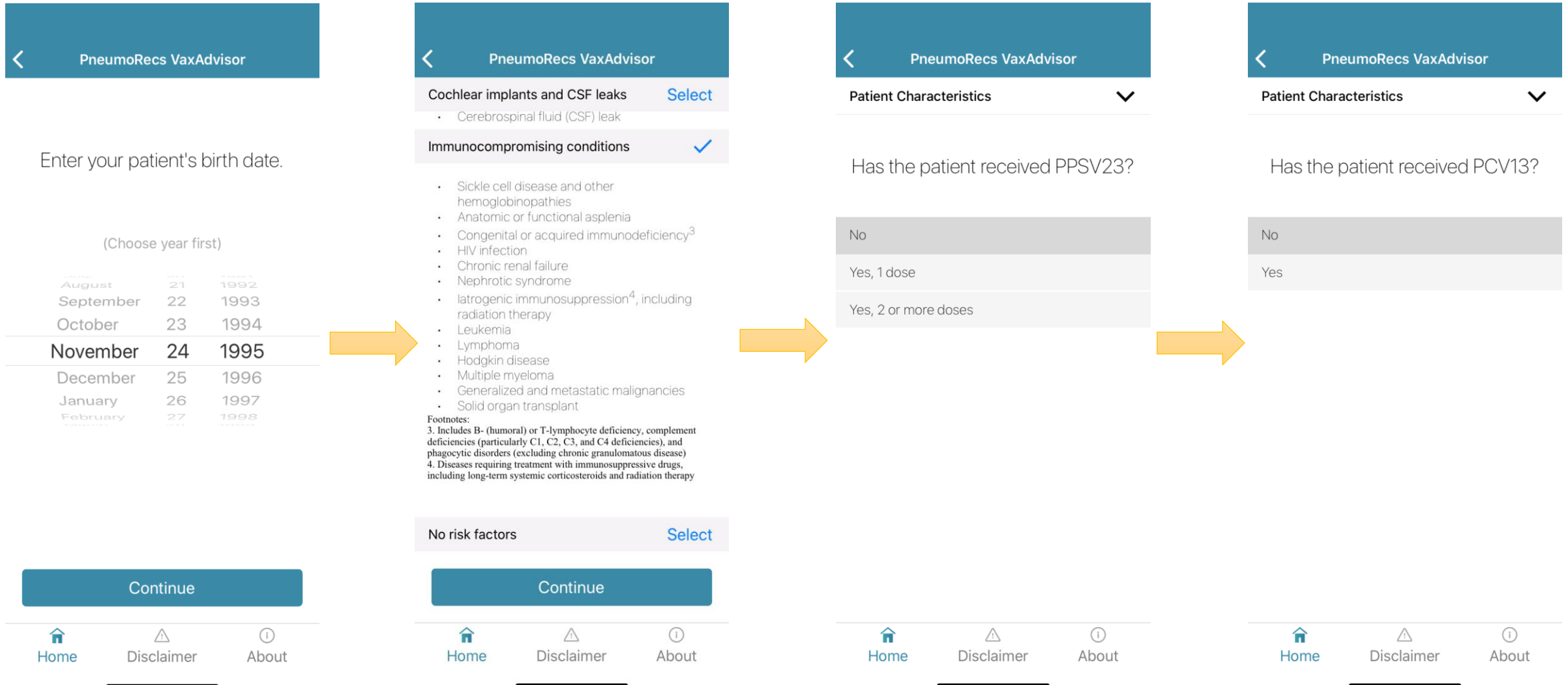


Case 2a

EH is a 24 y/o female with a solid organ transplant. She has not received any other pneumococcal vaccines since her childhood doses. Which pneumococcal vaccine(s) is she recommended to receive before age 65?

- A. PCV 13
- B. PPSV23
- C. **Both** – Yes, as shown on slide 12, solid organ transplant is a condition that qualifies patients under 65 to receive both PCV13 **AND** PPSV23

PneumoRecs for Case 2a



PneumoRecs for Case 2a

Age

Age: 24 years

Risk Factors

Immunocompromising conditions

PPSV23

No prior doses

PCV13

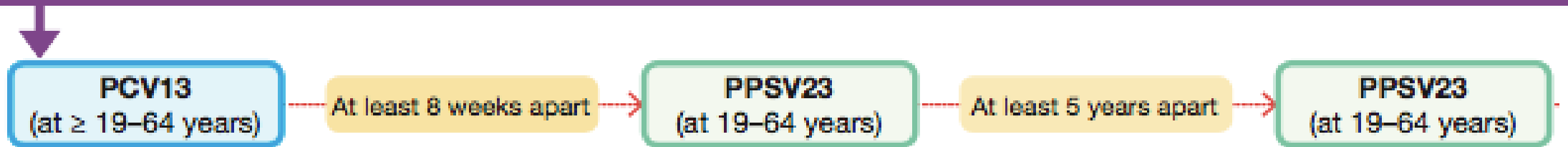
No prior doses

Recommendation

Give 1 dose of PCV13. Then give 1 dose of PPSV23 at least 8 weeks after the dose of PCV13. The patient will need a second dose of PPSV23 at least 5 years after the first dose of PPSV23 and a third and final dose of PPSV23 at age 65 years and at least 5 years since the prior dose of PPSV23.

Timeline for Case 2

Indicated to receive 1 dose of PCV13 at ≥ 19 years and 1 or 2 doses of PPSV23 at 19 through 64 years



Number of PPSV23 Doses Recommended Prior to Age 65	
1 dose	Cochlear implants or CSF leaks
2 doses	Immunocompromising conditions

Pneumococcal Vaccine Recommendations for Patients ≥ 65

PPSV23 (1 dose) is recommended for **all** patients

PCV13 (1 dose) is recommended for all patients with immunocompromising conditions*, cochlear implants or CSF leaks **unless** the patient previously received an adult (age ≥ 19) dose

For all other patients, PCV13 (1 dose) is recommended based on shared clinical decision-making between the patient and clinician

When both PCV13 and PPSV23 are indicated, the two should **not** be administered at the same time

When both PCV13 and PPSV23 are indicated, PCV13 should be given **before** PPSV23

Time to Use CDC's PneumoRecs VaxAdvisor



Download here to follow along with cases: <http://cdc.gov/vaccines/pneumoapp>

Or use the desktop version: <https://www2a.cdc.gov/vaccines/m/pneumo/pneumo.html>



Case 2b

EH is now 65 years old. She received PCV13 and 2 doses of PPSV23 before age 35. Which pneumococcal vaccine(s) is she recommended to receive now?

- A. PCV13
- B. PPSV23
- C. Both



Case 2b

EH is now 65 years old. She received PCV13 and 2 doses of PPSV23 before age 35. Which pneumococcal vaccine(s) is she recommended to receive now?

- A. PCV13 – No, she already received her 1 dose of PCV13 as an adult. Patients with immunocompromising conditions are recommended to receive PCV13 at age 65 and older only if they never received it before.
- B. PPSV23 – Yes, she is indicated for a 3rd and final PPSV23 dose at least 5 years after the 2nd dose. It has been 30 years since her 2nd dose, so she is in the clear!
- C. Both

Shared Clinical Decision- Making for PCV13 in Patients ≥ 65

Consider exposure risk

- Risk of exposure to PCV13 serotypes is low in **most** communities due to the effects of pediatric PCV13 vaccination
- Risk of exposure is **higher** for patients 65 and older who:
 - Live in a nursing home or other long term care facility
 - Live in or travel to settings with low pediatric PCV13 immunization rates or no pediatric PCV13 program

Consider individual risk

- Incidence of PCV13 disease is **higher** for patients 65 and older with:
 - Chronic heart disease
 - Chronic lung disease
 - Chronic liver disease
 - Diabetes mellitus
 - Alcoholism
 - Smokers

Time to Use CDC's PneumoRecs VaxAdvisor



Download here to follow along with cases: <http://cdc.gov/vaccines/pneumoapp>

Or use the desktop version: <https://www2a.cdc.gov/vaccines/m/pneumo/pneumo.html>



Case 3a

AL is a 68 y/o male who lives in a nursing home. He has not received any pneumococcal vaccines since childhood. Based on shared clinical decision-making, you and the patient decide PCV13 is appropriate. What pneumococcal vaccine(s) should he get first?

- A. PCV13 and PPSV23 on the same day
- B. PCV13
- C. PPSV23



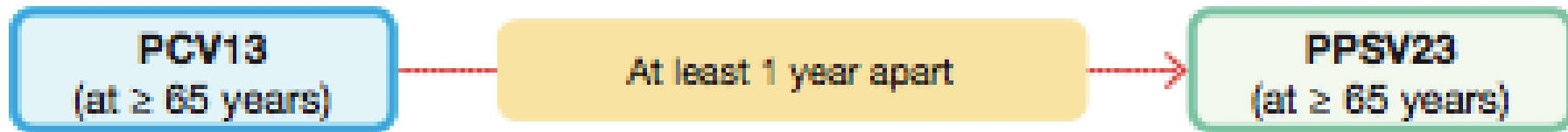
Case 3a

AL is a 68 y/o male who lives in a nursing home. He has not received any pneumococcal vaccines since childhood. Based on shared clinical decision-making, you and the patient decide PCV13 is appropriate. What pneumococcal vaccine(s) should he get first?

- A. PCV13 and PPSV23 on the same day
- B. **PCV13** – It is recommended that PCV13 be given before PPSV23 when possible.
- C. PPSV23

Timeline for Case 3a

If patient and provider decide PCV13 is to be given:



- Administer 1 dose of PCV13.
- Administer 1 dose of PPSV23 **at least 1 year** later.

PneumoRecs for Case 3a

Step 1: Birth Date Entry

PneumoRecs VaxAdvisor

Enter your patient's birth date.

(Choose year first)

December	12	1949
January	13	1950
February	14	1951
March	15	1952
April	16	1953
May	17	1954
June	18	1955

Continue

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Step 2: PPSV23 History

PneumoRecs VaxAdvisor

Patient Characteristics

Has the patient ever received PPSV23?

No

Yes

Continue

Home Disclaimer About

Step 3: PCV13 History

PneumoRecs VaxAdvisor

Patient Characteristics

Has the patient received PCV13 at any time in their life?

No

Yes

Continue

Home Disclaimer About

Step 4: Risk Factor Selection

PneumoRecs VaxAdvisor

Cochlear implants and CSF leaks [Select](#)

- Cerebrospinal fluid (CSF) leak

Immunocompromising conditions [Select](#)

- Sickle cell disease and other hemoglobinopathies
- Anatomic or functional asplenia
- Congenital or acquired immunodeficiency³
- HIV infection
- Chronic renal failure
- Nephrotic syndrome
- Iatrogenic immunosuppression⁴, including radiation therapy
- Leukemia
- Lymphoma
- Hodgkin disease
- Multiple myeloma
- Generalized and metastatic malignancies
- Solid organ transplant

Footnotes:
3. Includes B- (humoral) or T-lymphocyte deficiency, complement deficiencies (particularly C1, C2, C3, and C4 deficiencies), and phagocytic disorders (excluding chronic granulomatous disease)
4. Diseases requiring treatment with immunosuppressive drugs, including long-term systemic corticosteroids and radiation therapy

No risk factors ✓

Continue

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PneumoRecs for Case 3a



PneumoRecs VaxAdvisor

Patient Characteristics



68 years

PPSV23

No prior doses

PCV13

No prior doses

Risk Factors

No adult risk factors

Recommendation

Consider discussing PCV13 vaccination with your patient (it is recommended for this patient based on shared clinical decision-making). If you and your patient decide together that PCV13 is appropriate for them, then give 1 dose of PCV13 followed by 1 dose of PPSV23 at least 1 year later.

If you and your patient decide together that PCV13 is not appropriate for them, give 1 dose of PPSV23 now.



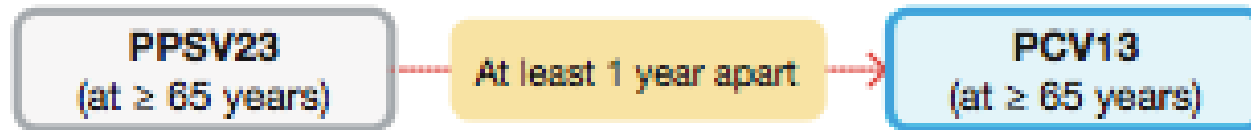
Case 3b

AL remembers he actually did receive a dose of PPSV23 last year at age 67, but he has never received PCV13. You both still believe PCV13 would be valuable based on shared decision-making. How soon can PCV13 be given to this patient?

Timeline for Case 3b

For those who have previously received 1 dose of PPSV23 at ≥ 65 years and no doses of PCV13

If patient and provider decide PCV13 is to be given:





- Administer 1 dose of PCV13 **at least 1 year** after the dose of PPSV23 for all adults, regardless of medical conditions.

PneumoRecs for Case 3b



PneumoRecs for Case 3b

 PneumoRecs VaxAdvisor

Patient Characteristics 

Age
68 years

PPSV23
Has received prior doses
Received after age 65

PCV13
No prior doses

Recommendation

Consider discussing PCV13 vaccination with your patient (it is recommended for this patient based on shared clinical decision-making). If you and your patient decide together that PCV13 is appropriate for them, then give 1 dose of PCV13 at least 1 year after previous PPSV23 dose.

If you and your patient decide together that PCV13 is not appropriate for them, then no action is needed. Schedule complete.

Summary

Medical indication	Underlying medical condition	PCV13 for ≥ 19 years	PPSV23* for 19 through 64 years		PCV13 at ≥ 65 years	PPSV23 at ≥ 65 years
		Recommended	Recommended	Revaccination	Recommended	Recommended
None	None of the below				Based on shared clinical decision-making	✓ If PCV13 has been given, then give PPSV23 ≥1 year after PCV13
Immunocompetent persons	Alcoholism				Based on shared clinical decision-making	✓ If PCV13 has been given, then give PPSV23 ≥1 year after PCV13 ≥ 5 years after any PPSV23 at < 65 years
	Chronic heart disease ¹					
	Chronic liver disease		✓			
	Chronic lung disease ⁵					
	Cigarette smoking					
	Diabetes mellitus					
Immunocompetent persons	Cochlear implants	✓	✓		✓ If no previous PCV13 vaccination	✓ ≥ 8 weeks after PCV13 ≥ 5 years after any PPSV23 at < 65 years
	CSF leaks		≥ 8 weeks after PCV13			
Persons with functional or anatomic asplenia	Congenital or acquired asplenia	✓	✓	✓	✓ If no previous PCV13 vaccination	✓ ≥ 8 weeks after PCV13 ≥ 5 years after any PPSV23 at < 65 years
	Sickle cell disease/other hemoglobinopathies		≥ 8 weeks after PCV13	≥ 5 years after first dose PPSV23		
Immunocompromised persons	Chronic renal failure	✓			✓ If no previous PCV13 vaccination	✓ ≥ 8 weeks after PCV13 ≥ 5 years after any PPSV23 at < 65 years
	Congenital or acquired immunodeficiencies ¹					
	Generalized malignancy					
	HIV infection					
	Hodgkin disease					
	Iatrogenic immunosuppression ²					
	Leukemia					
	Lymphoma					
	Multiple myeloma					
	Nephrotic syndrome					
	Solid organ transplant					

References

1. WHO. Immunization in the context of COVID-19 pandemic. Geneva: World Health Organisation; 2020.
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<https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/NHIS-2017.html>
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