



## Statement on Immunizations in the Kidney Community

### General Practice

The American Society of Nephrology (ASN) encourages all health professionals who interact with kidney patients to follow immunization recommendations from the Centers for Disease Control and Prevention (CDC) in order to reduce the risks from vaccine-preventable illness in people with kidney diseases.

ASN supports the use of the “Standards for Adult Immunization Practice” (SAIP) as guidance for promoting immunization practices:<sup>1</sup>

1. ASSESS<sup>4</sup> a patient’s immunization status at serial clinical encounters on an ongoing basis. Stay informed of the latest CDC recommendations as well as implement protocols and policies to support routine review of the individual patient’s eligibility for vaccines and distribute reminder communications to the patient for needed vaccines.
2. RECOMMEND<sup>5</sup> vaccines to all eligible patients with messaging tailored to the individual patient, meeting language needs and addressing questions posed by the patient.
3. ADMINISTER<sup>6</sup> vaccines on site or REFER<sup>6</sup> to a provider who can immunize.
4. DOCUMENT<sup>7</sup> vaccines received by your patients through follow-up communication and participation in your state’s immunization registry.

ASN also recommends that health professionals and the public remain up to date with CDC vaccine recommendations<sup>8</sup>, which prevent or mitigate the risks from the illnesses listed in Table 1.

### Champion vaccinations for people with kidney diseases

ASN recommends that kidney health professionals be proactive in promoting the importance and receipt of vaccinations for all people with kidney diseases.

### Prioritize vaccinations for people with kidney diseases not on kidney replacement therapy

ASN recommends that patients with kidney diseases receive all recommended vaccinations prior to initiating dialysis or receiving a transplant. These vaccines should remain up to date thereafter. This approach offers optimal efficacy and protection against preventable illness.

### Establish an immunization plan for people with kidney diseases on dialysis or living with a kidney transplant

ASN recommends that dialysis-dependent patients and those living with a kidney transplant receive all CDC recommended vaccinations. The provision of vaccinations that provide protection to people with kidney diseases, who are dialysis-dependent or living with a kidney transplant, commands special attention and an awareness of CDC vaccination guidance for immunocompromised conditions.<sup>9</sup>

Table 1: Illnesses with a CDC Vaccine Recommendation for Adults <sup>2</sup>
COVID-19 <sup>3</sup>
<i>Haemophilus influenzae</i> type b
Hepatitis A
Hepatitis B
Herpes Zoster (Shingles)
Influenza
Measles, mumps, rubella
Meningococcal A, C, W, Y
Meningococcal B
Pneumococcal
Tetanus, diphtheria, pertussis
Varicella (Chickenpox)



## **Children**

ASN recommends that children with kidney diseases receive all vaccines for which they are eligible to protect themselves from serious illness. ASN suggests that interested kidney health professionals reference the immunization schedules for children and adolescents available from CDC.<sup>10</sup>

## **Vigilance**

New vaccines are assessed by a long-standing, rigorous, and transparent process administered by the US Food and Drug Administration (FDA) and CDC, where clinical trial data is reviewed and evaluated before authorization. FDA monitors vaccines closely for adverse events that were not previously reported in clinical trials. ASN recommends that kidney health professionals be familiar with CDC's Vaccine Adverse Event Reporting System (VAERS) and participate in this reporting as appropriate.<sup>11</sup>

Before FDA approves or provides emergency use authorization (EUA), a vaccine must go through phases of clinical trials to ensure its safety and efficacy. Clinical trial study populations, however, may not include people living with kidney diseases, people who are dialysis-dependent, or people who have a kidney transplant. Studies that include these populations may occur after recommendations made for patients without kidney diseases are issued.

CDC immunization guidance is reviewed and updated annually by the Advisory Committee on Immunization Practices (ACIP)<sup>12</sup> to account for the emergence of new information. ASN urges kidney health professionals to be aware of vaccine recommendations and best practice guidance from ACIP.

## **Summary**

ASN recommends that kidney health professionals stay current with immunization practice guidelines and be cognizant of the unique needs of patients across the spectrum of kidney diseases who are at increased risk of infection from vaccine-preventable illnesses and the severe complications that may result.

Given the frequency of clinical encounters, kidney health professionals are uniquely poised to optimize vaccine administration and reduce infection risk by:

- Facilitating the tracking and documentation of every patient's vaccine status.
- Assessing a patient's vaccination status at least annually based on recommended immunization schedules and CDC guidance.
- Offering vaccination-related information championed through the voice of the interdisciplinary team.
- Administering vaccines during a clinical encounter or referring to a vaccine provider, if vaccine/vaccines cannot be administered at the nephrology office, dialysis facility, or transplant center.
- Maintaining effective immunization data tracking systems and follow-up communications with the individual patient.

## **About the American Society of Nephrology**

Established in 1966, the American Society of Nephrology's (ASN) mission is to create a world without kidney diseases. ASN elevates care by educating and informing, driving breakthroughs and innovation, and advocating for policies that create transformative change in kidney medicine. Under the guidance of the Excellence in Patient Care Advisory Committee, ASN performs quality improvement initiatives and activities, which produce virtual learning modules, webinars, podcasts, and materials for dialysis facility staff and kidney patients. Learn more about the ASN by visiting <http://www.asn-online.org>. This document was created by ASN's Adult Immunization Project Task Force under the direction of Rebecca Schmidt, DO, FASN—Chair of the ASN Adult Immunization Project Task Force.

## References

- [1] CDC Standards for Adult Immunization Practice (SAIP)  
<https://www.cdc.gov/vaccines/hcp/adults/for-practice/standards/index.html>
- [2] CDC Adult Immunization Schedule  
<https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html>
- [3] CDC Stay Up to Date with Your Vaccines  
<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html>
- [4] Standards: Vaccine Assessment  
<https://www.cdc.gov/vaccines/hcp/adults/for-practice/standards/assessment.html>
- [5] Standards: Vaccine Recommendation  
<https://www.cdc.gov/vaccines/hcp/adults/for-practice/standards/recommend.html>
- [6] Standards: Vaccine Administration and Referral  
<https://www.cdc.gov/vaccines/hcp/adults/for-practice/standards/referral.html>
- [7] Standards: Documentation  
<https://www.cdc.gov/vaccines/hcp/adults/for-practice/standards/documentation.html>
- [8] CDC What Vaccines Are Recommend for You  
<https://www.cdc.gov/vaccines/adults/rec-vac/index.html>
- [9] CDC Extra Precautions – People with Medical Conditions  
<https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html#immunocompromised>
- [10] CDC Child and Adolescent Immunization Schedule  
<https://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf>
- [11] Vaccine Adverse Event Reporting System (VAERS)  
<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/vaers.html>
- [12] Vaccine Recommendations and Guidance of the ACIP  
[https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/general-recs-errata.html?ACSTrackingID=USCDC\\_11\\_7-DM81312](https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/general-recs-errata.html?ACSTrackingID=USCDC_11_7-DM81312)

**General Recommendations of Routine Immunizations for Kidney Patients**

Adapted from the CDC Adult Immunization Schedule by Medical Condition (<https://www.cdc.gov/vaccines/schedules/hcp/imz/adult-conditions.html>), from the CDC Recommended Child and Adolescent Immunization Schedule (<https://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf>), and from the CDC Stay Up to Date with Your COVID-19 Vaccines (<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html>).  
(The decision for which vaccine is appropriate for your situation should be made in consultation with your healthcare provider/care team)

Disease	Vaccine	Adult Kidney Patients Prior to Initiating Renal Replacement Therapy <<or>> Adult Kidney Patients who are Dialysis Dependent			Adult Patients who are moderately / severely immunocompromised or are thriving with a Kidney Transplant	Child and Adolescent (birth to 18 years of age) Kidney Patients				
		Age Group: 18 years and older	Primary series	Primary series		Updated (bivalent) Booster*	Age Group: 6 months to 4 years	Primary series	Primary series	Primary series
Coronavirus Disease 2019 (COVID-19)	Pfizer-BioNTech	Up to date: immediately after receiving the most recent booster as recommended	1st dose	2nd dose (3-8 weeks after 1st dose)	3rd dose (at least 2 months after primary series or last booster)  <b>*Updated booster can be Pfizer-BioNTech or Moderna</b>	<b>Age Group: 18 years and older</b>  <b>Up to date:</b> immediately after receiving the most recent booster as recommended  <ul style="list-style-type: none"> <li>1st dose – primary series</li> <li>2nd dose – primary series (3 weeks after 1st dose)</li> <li>3rd dose – primary series (at least 4 weeks after 2nd dose)</li> <li>4th dose – updated booster* (at least 2 months after 3rd dose or last booster)</li> </ul>	<b>Age Group: 6 months to 4 years</b>  <b>Up to date:</b> 2 weeks after 3rd dose  (booster not recommended)	Primary series 1st dose	Primary series 2nd dose (3-8 weeks after 1st dose)	Primary series 3rd dose (at least 8 weeks after 2nd dose)
							<b>Age Group: 5 to 11 years</b>  <b>Up to date</b> immediately after 3rd dose	Primary series 1st dose	Primary series 2nd dose (3-8 weeks after 1st dose)	Updated Booster 3rd dose (at least 2 months after 2nd dose or last booster, children aged 5 years can only get Pfizer-BioNTech booster, children aged 6-11 years can get a Pfizer-BioNTech or Moderna booster.)

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(The decision for which vaccine is appropriate for your situation should be made in consultation with your healthcare provider/care team)

Disease	Vaccine	Adult Kidney Patients Prior to Initiating Renal Replacement Therapy <<or>> Adult Kidney Patients who are Dialysis Dependent				Adult Patients who are moderately / severely immunocompromised or are thriving with a Kidney Transplant	Child and Adolescent (birth to 18 years of age) Kidney Patients			
							<b>Age Group:</b> 12 to 17 years  <b>Up to date:</b> immediately after receiving the most recent booster as recommended	Primary series  1st dose	Primary series  2nd dose (3-8 weeks after 1st dose)	Updated Booster*  3rd dose (at least 2 months after 2nd dose or last booster)
	Moderna  <b>Age Group:</b> 18 years and older  <b>Up to date:</b> immediately after receiving the most recent booster as recommended	<b>Age Group:</b> 18 years and older  <b>Up to date:</b> immediately after receiving the most recent booster as recommended	Primary series  1st dose	Primary series  2nd dose (4-8 weeks after 1st dose)	Updated (bivalent) Booster*  3rd dose (at least 2 months after primary series or last booster)  <b>*Updated booster can be</b>	<b>Age Group:</b> 18 years and older  <b>Up to date:</b> immediately after receiving the most recent booster as recommended  <ul style="list-style-type: none"> <li>1st dose – primary series</li> <li>2nd dose – primary series (4 weeks after 1st dose)</li> <li>3rd dose – primary series (at least 4 weeks after 2nd dose)</li> <li>4th dose – updated booster* (at least 2</li> </ul>	<b>Age Group:</b> 6 months to 4 years  <b>Up to date:</b> two weeks after 2nd dose  (booster not recommended)	Primary series  1st dose	Primary series  2nd dose (4-8 weeks after 1st dose)	
							<b>Age Group:</b> 5 years  <b>Up to date:</b> immediately after receiving the most recent booster as recommended	Primary series  1st dose	Primary series  2nd dose (4-8 weeks after 1st dose)	Updated Booster  3rd dose (at least 2 months after 2nd, can only get Pfizer-BioNTech booster)

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Disease	Vaccine	Adult Kidney Patients Prior to Initiating Renal Replacement Therapy <<or>> Adult Kidney Patients who are Dialysis Dependent			Adult Patients who are moderately / severely immunocompromised or are thriving with a Kidney Transplant	Child and Adolescent (birth to 18 years of age) Kidney Patients				
					Pfizer-BioNTech or Moderna	months after 3rd dose or last booster)	<b>Age Group: 6 to 17 years</b>  <b>Up to date:</b> immediately after receiving the most recent booster as recommended	Primary series  1st dose	Primary series  2nd dose (4-8 weeks after 1st dose)	Updated Booster*  3rd dose (at least 2 months after 2nd dose or last booster)
	Novavax	<b>Age Group: 18 years and older</b>  <b>Up to date:</b> immediately after receiving the most recent booster as recommended	Primary series  1st dose	Primary series  2nd dose (3-8 weeks after 1st dose)	Updated (bivalent) Booster*  3rd dose (at least 2 months after primary series or last booster)  <b>*Updated booster can be Pfizer-BioNTech</b>	<b>Age Group: 12 years and older</b>  <b>Up to date:</b> immediately after receiving the most recent booster as recommended  <ul style="list-style-type: none"> <li>1st dose – primary series</li> <li>2nd dose – primary series (3 weeks after 1st dose)</li> <li>3rd dose – updated booster* (at least 2 months after 2nd dose)</li> </ul>	Not recommended for children for children under 12 years of age.			
							<b>Age Group: 12 to 17 years</b>  <b>Up to date:</b> immediately after receiving the most recent booster as recommended	Primary series  1st dose	Primary series  2nd dose (3-8 weeks after 1st dose)	Updated Booster*  3rd dose (at least 2 months after 2nd dose)
							Novavax is not authorized as a booster dose at this time.			

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(The decision for which vaccine is appropriate for your situation should be made in consultation with your healthcare provider/care team)

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				or Moderna		
	Johnson & Johnson's Janssen	<b>Age Group: 18 years and older</b>  <b>Up to date:</b> immediately after receiving the most recent booster as recommended	Primary series  1st dose	Updated (bivalent) Booster*  2nd dose (at least 2 months after 1st dose or last booster)  <b>*Updated booster can be Pfizer-BioNTech or Moderna</b>	<b>Age Group: 18 years and older</b>  <b>Up to date:</b> immediately after receiving the most recent booster as recommended  <ul style="list-style-type: none"> <li>1st dose – primary series</li> <li>2nd dose – additional (4 weeks after 1st dose, and should be Pfizer-BioNTech or Moderna)</li> <li>3rd dose – updated booster* (at least 2 months after 2nd dose or last booster)</li> </ul>	(not approved for children at this time)
On May 5, 2022, the FDA limited the authorized use of the Johnson & Johnson's Janssen COVID-19 Vaccine to individuals 18 years of age and older for whom other authorized or approved COVID-19 vaccines are not accessible or clinically appropriate, and to individuals 18 years of age and older who elect to receive the Janssen COVID-19 Vaccine because they would otherwise not receive a COVID-19 vaccine.						

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Dengue	Dengvaxia	(not applicable)		Age 9-16 years living in dengue endemic areas AND have laboratory confirmation of previous dengue infection
<i>Haemophilus influenzae</i> type b	Hib	Recommended for adults with additional risk factor or another indication		3- or 4-dose series depending on vaccine (at age 2m, 4m, 6m, 12-15 months)
Hepatitis A	HepA	Recommended for adults with additional risk factor or another indication		2-dose series at age 12-13 months, minimum interval 6 months
Hepatitis B	HepB	2, 3, or 4 doses depending on vaccine or condition		3-dose series at age 0, 1-2, 6-18 months
Human papillomavirus	HPV	2 or 3 doses through age 26 depending on age at initial vaccination or condition	3 doses through age 26	2- or 3-dose series depending on age at initial vaccination
Influenza	IIV4 or RIV4	One dose annually		Annually, 1 to 2 doses for ages 6 months through 8 years Annually, one dose for all persons aged 9 or older
	LAIV4	(precaution)	(contraindicated)	(precaution)
Measles, mumps, and rubella	MMR	1 or 2 doses depending on indication	(contraindicated)	2-dose series at age 12-15 months, age 4-6 years
Meningococcal	MenACWY	Dosing and boosters depending on risk factor or another indication		2-dose series at age 11-12 years, 16 years
	MenB			Recommended for persons with an additional risk factor
Pneumococcal	PCV15	1 dose PCV15 followed by PPSV23 after minimum of 8 weeks OR 1 dose PCV20 OR PPSV23 followed by either a PCV15 or PCV20 (after 1 year)		PCV13 = 4-dose series at age 2, 4, 6, 12-15 months
	PCV20			



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	PPSV23 (PCV13 historic)	OR PCV13 before age 65 followed by 2 doses of PPSV23 before age 65 and 1 dose of PPSV23 at age 65 or older – with least 5 years between doses of PPSV23 Visit CDC’s Pneumococcal vaccine timing page at <a href="https://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf">https://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf</a>		PPSV may be followed after 8 weeks of the PCV13 and provided at five year intervals
PolioVirus	IPV	(not applicable)		4-dose series at ages 2m,4m, 6-18 months, 4-6 years
Rotavirus	Rotarix	(not applicable)		2-dose series at age 2 and 4 months
	RotaTeq			3 dose series at age 2, 4 and 6 months
Shingles	RZV	2 doses at age ≥ 50	2 doses by age ≥ 19	(not applicable)
Tetanus, diphtheria, and pertussis	Tdap or Dp	1 dose Tdap, then Td; or Tdap booster every 10 years		5-dose series at age 2m, 4m, 6m, 15-18 months, 4-6 years
Varicella	VAR	2 doses	(contraindicated)	2-dose series at age 12-15 months, age 4-6 years

**Document Control**

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