

CATCH-UP VACCINATION

- Ensure persons 7–18 years without evidence of immunity (see *MMWR* 2007;56[No. RR-4], at www.cdc.gov/mmwr/pdf/rr/rr5604.pdf) have 2 doses of varicella vaccine:
Ages 7–12: routine interval 3 months (minimum interval: 4 weeks).
Ages 13 and older: minimum interval 4 weeks.

10 Hepatitis A (HepA) vaccine (minimum age: 12 months)

ROUTINE VACCINATION

- 2 doses, separated by 6–18 months, between the 1st and 2nd birthdays. (A series begun before the 2nd birthday should be completed even if the child turns 2 before the second dose is given.)

CATCH-UP VACCINATION

- Anyone age 2 years and older may receive HepA vaccine if desired. Minimum interval between doses is 6 months.

SPECIAL POPULATIONS

- Previously unvaccinated persons who should be vaccinated
- Persons traveling to or working in countries with high or intermediate endemicity
 - Men who have sex with men
 - Users of injection and non-injection drugs
 - Persons who work with hepatitis A virus in a research laboratory or with non-human primates
 - Persons with clotting-factor disorders
 - Persons with chronic liver disease
 - Persons who anticipate close, personal contact (e.g., household or regular babysitting) with an international adoptee during the first 60 days after arrival in the United States from a country with high or intermediate endemicity (administer the 1st dose as soon as the adoption is planned – ideally at least 2 weeks before the adoptee's arrival).

11 Serogroup A, C, W, Y meningococcal vaccines (minimum age: 2 months [Menveo], 9 months [Menactra])

ROUTINE VACCINATION

- 2-dose series: 11–12 years and 16 years.

CATCH-UP VACCINATION

- Age 13–15 years: 1 dose now and booster at age 16–18 years. Minimum interval 8 weeks.
- Age 16–18 years: 1 dose.

SPECIAL POPULATIONS AND SITUATIONS

- ▶ **Anatomic or functional asplenia, sickle cell disease, HIV infection, persistent complement component deficiency (including eculizumab use)**

Menveo

- 1st dose at 8 weeks: 4-dose series at 2, 4, 6, and 12 months
- 1st dose at 7–23 months: 2 doses (2nd dose at least 12 weeks after the 1st dose and after the 1st birthday)
- 1st dose at 24 months or older: 2 doses at least 8 weeks apart.

Menactra

- Persistent complement component deficiency:
 - 9–23 months: 2 doses at least 12 weeks apart
 - 24 months or older: 2 doses at least 8 weeks apart
- Anatomic or functional asplenia, sickle cell disease, or HIV infection
 - 24 months or older: 2 doses at least 8 weeks apart.
 - **Menactra** must be administered at least 4 weeks after completion of PCV13 series.

- ▶ **Children who travel to or live in countries where meningococcal disease is hyperendemic or epidemic, including countries in the African meningitis belt or during the Hajj, or exposure to an outbreak attributable to a vaccine serogroup:**

Children <24 months

Menveo (2–23 months)

- **Menveo (2–23 months)**
 - 1st dose at 8 weeks: 4-dose series at 2, 4, 6, and 12 months.
 - 1st dose at 7–23 months: 2 doses (2nd dose at least 12 weeks after the 1st dose and after the 1st birthday).

Menactra (9–23 months)

- 2 doses (2nd dose at least 12 weeks after the 1st dose. 2nd dose may be administered as early as 8 weeks after the 1st dose in travelers).

Children 2 years or older

- 1 dose of **Menveo** or **Menactra**.

NOTE: *Menactra* should be given either before or at the same time as DTaP. For MenACWY booster dose recommendations for groups listed under “Special populations and situations” above, and additional meningococcal vaccination information, see meningococcal *MMWR* publications at www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html.

12 Serogroup B meningococcal vaccines (minimum age: 10 years [Bexsero, Trumenba])

CLINICAL DISCRETION

- ▶ **Adolescents not at increased risk for meningococcal B infection who want MenB vaccine.**

MenB vaccines may be given at clinical discretion to adolescents 16–23 years (preferred age 16–18 years) who are not at increased risk.

- **Bexero:** 2 doses at least 1 month apart.
- **Trumenba:** 2 doses at least 6 months apart. If the 2nd dose is given earlier than 6 months, give a 3rd dose at least 4 months after the 2nd.

SPECIAL POPULATIONS AND SITUATIONS

- ▶ **Anatomic or functional asplenia, sickle cell disease, persistent complement component deficiency (including eculizumab use), serogroup B meningococcal disease outbreak**

- **Bexero:** 2-dose series at least 1 month apart.
- **Trumenba:** 3-dose series at 0, 1–2, and 6 months.

NOTE: *Bexero* and *Trumenba* are not interchangeable. For additional meningococcal vaccination information, see meningococcal *MMWR* publications at www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html.

13 Tetanus, diphtheria, and acellular pertussis (Tdap) vaccine (minimum age: 11 years for routine vaccination, 7 years for catch-up vaccination)

ROUTINE VACCINATION

- **Adolescents 11–12 years of age:** 1 dose.
- **Pregnant adolescents:** 1 dose during each pregnancy (preferably during the early part of gestational weeks 27–36).
- Tdap may be administered regardless of the interval since the last tetanus- and diphtheria-toxoid-containing vaccine.

CATCH-UP VACCINATION

- **Adolescents 13–18 years who have not received Tdap:** 1 dose, followed by a Td booster every 10 years.
- **Persons age 7–18 years not fully immunized with DTaP:** 1 dose of Tdap as part of the catch-up series (preferably the first dose). If additional doses are needed, use Td.
- **Children 7–10 years** who receive Tdap inadvertently or as part of the catch-up series may receive the routine Tdap dose at 11–12 years.
- **DTaP inadvertently given after the 7th birthday:**
 - **Child 7–10:** DTaP may count as part of catch-up series. Routine Tdap dose at 11–12 may be given.
 - **Adolescent 11–18:** Count dose of DTaP as the adolescent Tdap booster.

- For other catch-up guidance, see Figure 2.

14 Human papillomavirus (HPV) vaccine (minimum age: 9 years)

ROUTINE AND CATCH-UP VACCINATION

- Routine vaccination for all adolescents at 11–12 years (can start at age 9) and through age 18 if not previously adequately vaccinated. Number of doses dependent on age at initial vaccination:
 - Age 9–14 years at initiation: 2-dose series at 0 and 6–12 months. Minimum interval: 5 months (repeat a dose given too soon at least 12 weeks after the invalid dose and at least 5 months after the 1st dose).
 - Age 15 years or older at initiation: 3-dose series at 0, 1–2 months, and 6 months. Minimum intervals: 4 weeks between 1st and 2nd dose; 12 weeks between 2nd and

3rd dose; 5 months between 1st and 3rd dose (repeat dose(s) given too soon at or after the minimum interval since the most recent dose).

- Persons who have completed a valid series with any HPV vaccine do not need any additional doses.

SPECIAL SITUATIONS

- ▶ **History of sexual abuse or assault:** Begin series at age 9 years.
- ▶ **Immunocompromised* (including HIV)** age 9–26 years: 3-dose series at 0, 1–2 months, and 6 months.
- ▶ **Pregnancy:** Vaccination not recommended, but there is no evidence the vaccine is harmful. No intervention is needed for women who inadvertently received a dose of HPV vaccine while pregnant. Delay remaining doses until after pregnancy. Pregnancy testing not needed before vaccination.

* See *MMWR*, December 16, 2016;65(49):1405–1408 at www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6549a5.pdf

The table below shows vaccine acronyms, and brand names for vaccines routinely recommended for children and adolescents. The use of trade names in this immunization schedule is for identification purposes only and does not imply endorsement by the ACIP or CDC.

VACCINE TYPE	ABBREVIATION	BRAND(S)
Diphtheria, tetanus, and acellular pertussis	DTaP	Daptacel; Infanrix
Diphtheria, tetanus	DT	No trade name
Haemophilus influenzae type B	Hib (PRP-T) Hib (PRP-OMP)	ActHIB; Hiberix; PedvaxHIB
Hepatitis A	HepA	Havrix; Vaqta
Hepatitis B	HepB	Engerix-B; Recombivax HB
Human papillomavirus	HPV	Gardasil 9
Influenza (inactivated)	IIV	Multiple
Measles, mumps, and rubella	MMR	M-M-R II
Meningococcal serogroups A, C, W, Y	MenACWY-D MenACWY-CRM	Menactra Menveo
Meningococcal serogroup B	MenB-4C MenB-FHbp	Bexsero Trumenba
Pneumococcal 13-valent conjugate	PCV13	Prenvax 13
Pneumococcal 23-valent polysaccharide	PPSV23	Pneumovax 23
Poliovirus (inactivated)	IPV	IPOL
Rotavirus	RV1 RV5	Rotarix RotaTeq
Tetanus, diphtheria, and acellular pertussis	Tdap	Adacel; Boostrix
Tetanus and diphtheria	Td	Tenivac; No trade name
Varicella	VAR	Varivax
COMBINATION VACCINES		
DTaP, HepB, and IPV	DTaP-HepB-IPV	Pediarix
DTaP, IPV, and Hib	DTaP-IPV/Hib	Pentacel
DTaP, and IPV	DTaP-IPV	Kinrix; Quadracel
MMR and VAR	MMRV	ProQuad