

**ERMIC UNIFIED PEDIATRIC IMMUNIZATION SCHEDULE
April 2013**

AGE	IMMUNIZATIONS
Birth (or 2 weeks)	Hep B ¹ #1
2 months	DTaP ³ #1, IPV ⁷ #1, Hib ⁵ #1, Hep B ¹ #2, PCV13 ⁶ #1, RV ² #1
4 months	DTaP ³ #2, IPV ⁷ #2, Hib ⁵ #2, PCV13 ⁶ #2, RV ² #2
6 months	DTaP ³ #3, IPV ⁷ #3, Hib ⁵ #3, Hep B ¹ #3, PCV13 ⁶ #3, RV ² #3
12 months	MMR ^{9*} #1, Varicella ¹⁰ #1, Hep A ¹¹ #1
15 months	Hib ⁵ #4, PCV13 ⁶ #4
18 months	DTaP ³ #4, Hep A ¹¹ #2
4-6 years	DTaP ³ #5, IPV ⁷ #4, MMR ⁹ #2, Varicella ¹⁰ #2
11-12 years	MCV4 ¹³ #1, Tdap ⁴ , HPV vaccine ¹² (3 doses)
16 years	MCV4 ¹³ #2
OTHER	
6 months – 18 years	Annual Influenza vaccine ⁸

All Footnotes as per ACIP's Recommended Immunization Schedule for Persons Aged 0 Through 18 Years – United States 2013.

*Currently not requiring an MMR for all infants 6-11 months of age living in Europe, but you may give this vaccine if requested by the parents. These infants will still require 2 additional MMRs at 12 months and 4 years of life.

Selected/New (not complete) Product Information

Brand Name	Vaccine	Manufacturer	NDCs	NOTES
ActHIB	Hib	Sanofi-Pasteur	49281-0545-05 (5 dose box)	Reserve ActHIB for catch-up doses. Long term availability uncertain, use Pentacel + Hep B as alternative to Pediarix + ActHIB in schedule.
Engerix-B	Hep B	GSK	58160-0820-46 (10mcg, 5 count)	10mcg=peds; 20mcg=adult
Pediarix	DTaP + IPV + HepB	GSK	58160-0811-11 (10 dose box)	Alternative to Pentacel. Beware of confusion with Pentacel. Contains HepB, does not contain Hib.
Pentacel	DTaP + IPV + Hib	Sanofi-Pasteur	49281-0510-05 (5 dose box)	Alternative to Pediarix + ActHIB. Beware of confusion with Pediarix. Contains Hib, does not contain HepB. Recommend using at 2, 4, 6 and 15-18 months of age.
ProQuad	MMR + Varicella	Merck	00006-4999-00 (10 dose box)	Alternative to MMR and separate Varicella. Equal cost, less shot count. Do not use for the initial 12 month old MMR-V; can be used safely for the 4-6 year old MMR-V.
RotaTeq	RV	Merck	00006-4047-41	Preferred over Rotarix in ERMC, oral ready-to-use.

Footnotes

1. **Hepatitis B vaccine (HepB)** (Minimum age: birth)

At birth:

- Administer monovalent HepB to all newborns before hospital discharge.
- If mother is hepatitis B surface antigen (HBsAg)-positive, administer HepB and 0.5 ml of hepatitis B immune globulin (HBIG) within 12 hours of birth
- If mother's HBsAg status is unknown, administer HepB within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if HBsAg-positive, administer HBIG (no later than age 1 week).
- At 11-12 years of age: Administer the 3 dose series to those not previously vaccinated.
- A 2-dose series (separated by at least 4 months) of adult formulation Recombivax HB is licensed for children aged 11 through 15 years.

Subsequent dosing:

- The HepB series should be completed with monovalent HepB. The second dose should be administered at age 1 or 2 months. The final dose should be administered no earlier than age 24 weeks.
- Infants born to HBsAg-positive mothers should be tested for HBsAg and antibody to HBsAg (anti-HBs) after completion of at least 3 doses of the HepB series, at age 9 through 18 months (generally at the next well-child visit).
- Administration of 4 doses of HepB to infants is permissible when combination vaccines containing HepB (such as PEDIARIX®) are administered after the birth dose.

2. **Rotavirus vaccine (RV)**. Minimum age: 6 weeks.

- Administer the first dose at age 6 through 14 weeks (maximum age: 14 weeks 6 days). Vaccination should not be initiated for infants aged 15 weeks or older (i.e. 15 weeks 0 days or older).
- Administer the final dose in the series by age 8 months 0 days.
- This is an ORAL vaccine. RotaTeq is provided in ready-to-use container. Gently squeeze liquid into infant's mouth toward inner cheek until dosing tube is empty. A residual drop may remain in the tip of the tube. Do not mix RotaTeq with any other vaccine or solution. Do not dilute.

3. **Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP)**.

(Minimum age: 6 weeks)

- The fourth dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose.
- Administer the final dose in the series at age 4 through 6 years.

4. **Haemophilus influenzae type b (Hib)**

- Due to shortages and discontinuations of many of the Hib products, Pentacel + Hep B is now available as an alternative to Pediarix + ActHIB in the schedule. Monovalent Hib (ActHIB) is still available; however regular supply continues to be a challenge and should be reserved for for "catch-up" vaccinations. ActHiB is one of the components of Pentacel.
- The manufacturer of Pentacel recommends that the Hib booster be administered at the 18 month appointment so as to also provide the scheduled dose of DTaP during that time. Per the 07August 2009 MMWR, the additional dose of IPV that Pentacel provides is acceptable, but the child will still require an IPV booster between 4-6 years of age. This will result in a 5-dose IPV vaccine series which is considered acceptable by the ACIP.

Footnotes

5. **Pneumococcal vaccine (PCV13)** (Minimum age: 6 weeks for pneumococcal conjugate vaccine (PCV); 2 years for pneumococcal polysaccharide vaccine (PPSV)).
 - PCV is recommended for all children aged younger than 5 years. Routine administration is at 2, 4, 6 and 12 months of age.
 - Administer PPSV to children aged 2 years or older with certain underlying medical conditions, to include a cochlear implant, at least 8 weeks after the last dose of PCV. A single revaccination (with PCV13) should be administered after 5 years to children with functional or anatomic asplenia or other immunocompromising condition.
 - Administer a single dose of PCV13 to children aged 6 to 18 years who have functional asplenia, HIV infection or other immunocompromising condition, cochlear implant or CSF leak. See MMWR 2010;59 (No.RR-11).
 - A PCV series begun with 7-valent PCV (PCV7) should be completed with 13-valent PCV (PCV13).
 - Administer 1 dose of PCV13 to all healthy children aged 24 through 59 months, even if they have previously received 4 doses of PCV7.

6. **Influenza vaccine** (Minimum age; 6 months for trivalent inactivated influenza vaccine (TIV); 2 years for live, attenuated influenza vaccine (LAIV)).
 - Administer annually to children aged 6 months through 18 years.
 - For healthy children aged 2 and older (i.e. those who do not have underlying medical conditions that predispose them to influenza complications) aged 2 through 49 years, either LAIV or TIV may be used. LAIV should not be used in children 2-4 years old who have had wheezing in the past 12 months.
 - Children receiving TIV should receive 0.25mL if aged 6 through 35 months or 0.5mL if aged 3 years or older.
 - Administer 2 doses (separated by at least 4 weeks) to children aged 6 months through 8 years who are receiving seasonal influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but only received 1 dose.
 - Children aged 6 months through 8 years who received no doses of the monovalent 2009 H1N1 vaccine should receive 2 doses of 2010-11 seasonal influenza vaccine. See MMWR 2010;59 (No. RR-8):33-34.

7. **Measles, mumps, and rubella vaccine (MMR)**. (Minimum age: 12 months)
 - Administer the second dose at age 4 through 6 years. However, the second dose may be administered before age 4, provided at least 28 days have elapsed since the first dose.
 - If not previously vaccinated, administer 2 doses with at least 4 weeks between doses.

8. **Varicella vaccine** (Minimum age: 12 months)
 - Administer the second dose at age 4 through 6 years. However, the second dose may be administered before age 4, provided at least 3 months have elapsed since the first dose.
 - For children aged 12 months through 12 years the minimum interval between doses is 3 months. However, if the second dose was administered at least 28 days after the first dose, it can be accepted as valid.
 - For persons aged 7 through 18 years without evidence of immunity (see MMWR 2007;56 (No. RR-4), administer 2 doses if not previously vaccinated or the second dose if they have received only 1 dose.
 - For persons aged 13 years and older, the minimum interval between doses is 28 days.

Footnotes

9. **Hepatitis A vaccine (HepA)** (minimum age: 12 months)
- Administer to all children aged 12 through 23 months. Administer 2 doses at least 6 months apart.
 - Children not fully vaccinated by age 2 years can be vaccinated at subsequent visits.
 - HepA is recommended for children older than 1 year who live in areas where vaccination programs target older children or who are at increased risk of infection. See MMWR 2006;55 (No. RR-7)
10. **Meningococcal conjugate vaccine (MCV4)** (minimum age: 2 years for MENACTRA and 11 years for MENVEO)
- Administer MCV4 at age 11 through 12 years, with a booster dose at age 16 years.
 - Administer 1 dose at age 13 through 18 years if not previously vaccinated. Persons who receive their first dose at age 13 through 15 years should get a booster dose at age 16 through 18 years.
 - Administer 2 doses of MCV4 at least 8 weeks apart to children aged 2 through 10 years with persistent complement deficiency and anatomic or functional asplenia, and 1 dose every 5 years thereafter.
 - Administer 1 dose to previously unvaccinated college freshmen living in a dormitory.
 - Administer MCV4 to children at continued risk for meningococcal disease who were previously vaccinated with MCV4 or meningococcal polysaccharide vaccine (MPSV) after 3 years (if first dose administered at age 2 through 6 years) or after 5 years (if first dose administered at age 7 years or older).
11. **Tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap).**
(Minimum age: 10 years for BOOSTRIX and 11 years for ADACEL)
- Administer at age 11 or 12 years for those who have completed the recommended childhood DTP/DTaP vaccination series and have not received a tetanus and diphtheria toxoid (Td) booster dose.
 - Persons aged 13 through 18 years who have not received Tdap should receive a dose.
 - A 5-year interval from the last Td dose is encouraged when Tdap is used as a booster dose; however, a shorter interval may be used if pertussis immunity is needed.
 - Persons aged 7 through 10 years who are not fully immunized against pertussis should receive a single dose of Tdap (either Boostrix or Adacel). Although this is considered off-label use, clinical trials have not demonstrated safety concerns. MMWR 2011; 60 (01):13-15.
 - Fully vaccinated is defined as 5 doses of DTaP or 4 doses of DTaP if the fourth dose was administered on or after the fourth birthday
12. **Human papillomavirus vaccine (HPV)** (Minimum age: 9 years)
- Administer the first dose to females at age 11 or 12 years.
 - Administer the second dose 1-2 months after the first dose, and the third dose 6 months after the first dose (at least 24 weeks after the first dose)
 - Administer the series to females at age 13 through 18 years if not previously vaccinated.
 - HPV4 may be administered in a 3-dose series to males aged 9 to 18 years to reduce the likelihood of genital warts.
13. **Inactivated poliovirus vaccine (IPV).**
- The final dose in the series should be administered on or after the fourth birthday and at least 6 months following the previous dose.

- A fourth dose is not necessary if the third dose was administered at age 4 years or older AND at least 6 months following the previous dose.
- If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered, regardless of the child's current age.