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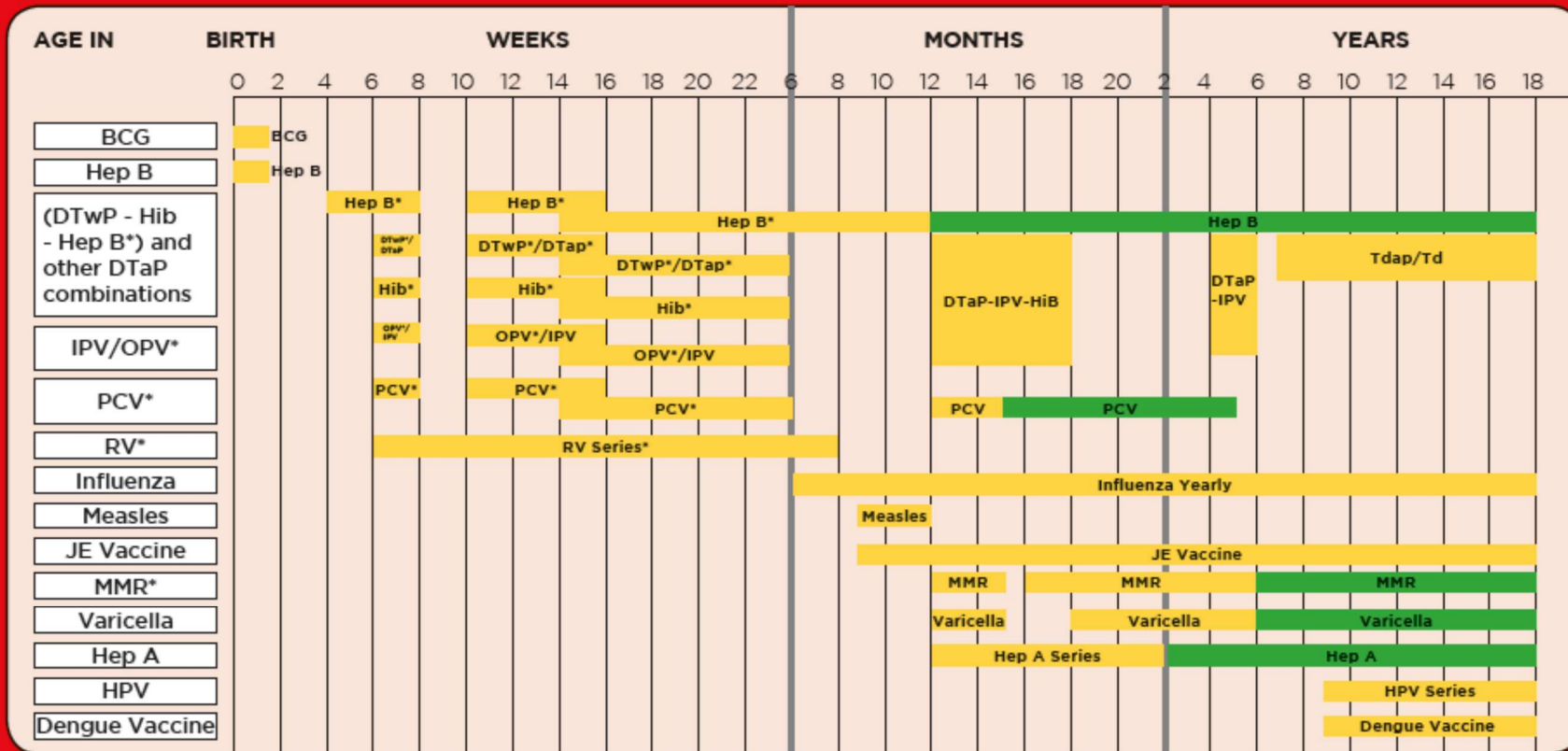
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Childhood Immunization Schedule 201757-60

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Childhood Immunization Schedule 2017



Range of Recommended Age

Catch Up Immunization

*Primary doses are given at least 4 weeks apart

ANNOTATIONS:

Bacille Calmette-Guérin (BCG)

Given intradermally (ID)

The dose of BCG is 0.05 ml for children < 12 months of age and 0.1 ml for children > 12 months of age

Given at the earliest possible age after birth preferably within the first 2 months of life

For healthy infants and children > 2 months who are not given BCG at birth, PPD prior to BCG vaccination is not necessary. However, PPD is recommended prior to BCG vaccination if any of the following is present:

- Suspected congenital TB
- History of close contact to known or suspected infectious TB cases
- Clinical findings suggestive of TB and/or chest x-ray suggestive of TB

In the presence of any of these conditions, an induration of > 5mm is considered positive.

Hepatitis B Vaccine (HBV)

Given intramuscularly (IM)

The first dose is given at birth or within the 1st 12 hours of life. The minimum interval between doses is 4 weeks. The final dose is administered not earlier than age 24 weeks. Another dose is needed if the last dose was given at age < 24 weeks.

For preterm infants:

- If born to HBsAg (-) mothers and medically stable, the 1st dose of HBV may be given at 30 days of chronological age regardless of weight, and this can be counted as part of the 3-dose primary series.
- Another dose of HBV is needed for those < 2 kgs whose 1st dose was received at birth

For infants born to HBsAg (+) mothers, administer HBV and HBIG (0.5ml) within 12 hours of life. HBIG should be administered not later than 7 days of age, if not immediately available.

For infants born to mothers with unknown HBsAg status:

- With birth weight \geq 2 kgs, administer HBV within 12 hours of birth and determine mother's HBsAg as soon as possible. If HBsAg (+) administer HBIG not later than 7 days of age.
- With birth weight < 2 kgs., administer HBIG in addition to HBV within 12 hours of life.

Haemophilus influenzae Type b Conjugate Vaccine (Hib)

Given intramuscularly (IM)

Given as a 3-dose primary series with a minimum age of 6 weeks and a minimum interval of 4 weeks

A booster dose is given between 12-15 months of age with an interval of 6 months from the 3rd dose

Refer to Vaccines for Special Groups for Hib recommendation in high risk children

Diphtheria and Tetanus Toxoid and Pertussis Vaccine (DTP)

Given intramuscularly (IM)

Given at a minimum age of 6 weeks with a minimum interval of 4 weeks

The recommended interval between the 3rd and 4th dose is 6 months, but a minimum interval of 4 months is valid

The 5th dose may not be given if the 4th dose was administered at age 4 years or older

Inactivated Poliovirus Vaccine (IPV)

Given intramuscularly (IM)

Given at a minimum age of 6 weeks with a minimum interval of 4 weeks

The primary series consists of 3 doses

A booster dose should be given on or after the 4th birthday and at least 6 months from the previous dose

Rotavirus Vaccine (RV)

Given per os (PO)

Given at a minimum age of 6 weeks with a minimum interval of 4 weeks between doses. The last dose should be administered not later than 32 weeks of age.

The monovalent human rotavirus vaccine (RV1) is given as a 2-dose series and the pentavalent human bovine rotavirus vaccine (RV5) is given as a 3-dose series.

Pneumococcal Conjugate Vaccines (PCV)

Given intramuscularly (IM)

Given at a minimum age of 6 weeks

Primary vaccination consists of 3 doses with an interval of at least 4 weeks between doses plus a booster dose given 6 months after the 3rd dose.

Healthy children 2 to 5 years old who does not have previous PCV vaccination may be given 1 dose of PCV 13 or 2 doses of PCV 10 given at least 8 weeks apart.

Refer to Vaccines for Special Group for Pneumococcal Vaccine recommendation in high-risk children.

Influenza Vaccine (Trivalent/Quadrivalent Influenza Vaccine)

Trivalent influenza vaccine given intramuscularly (IM) or subcutaneously (SC)

Quadrivalent influenza vaccine given intramuscularly (IM)

Given at a minimum age of 6 months

ADDENDUM: MEASLES-MUMPS-RUBELLA-VARICELLA (MMRV)

- Given subcutaneously (SC)

- The maximum age is 12 years

- Given at a minimum age of 12 months

- The recommended minimum interval between doses is 6 weeks

- MMRV may be given as an alternative to separately administered MMR and Varicella vaccine

The dose of influenza vaccine is 0.25 ml for children 6 months to 35 months and 0.5 ml for children 36 months to 18 years.

Children 6 months to 8 years receiving influenza vaccine for the first time should receive 2 doses separated by at least 4 weeks. If only 1 dose was given during the previous influenza season, give 2 doses of the vaccine then 1 dose yearly thereafter. Children aged 9 to 18 years should receive 1 dose of the vaccine yearly. Annual vaccination should begin in February but may be given throughout the year.

Measles Vaccine

Given subcutaneously (SC)

Given at the age of 9 months, but may be given as early as 6 months of age in cases of outbreaks as declared by public health authorities.

In lieu of monovalent measles vaccine, MMR may be given if recommended by public health authorities.

Japanese Encephalitis Vaccine (JE)

Given subcutaneously (SC)

Given at a minimum age of 9 months

Children 9 months to 17 years of age should receive one primary dose followed by a booster dose 12-24 months after the primary dose

Individuals 18 years and older should receive a single dose only

Measles-Mumps-Rubella (MMR) Vaccine

Given subcutaneously (SC)

Given at a minimum age of 12 months

2 doses of MMR vaccine are recommended

The 2nd dose is usually given from 4-6 years of age but may be given at an earlier age with a minimum of 4 weeks interval between doses.

Varicella Vaccine

Given subcutaneously

Given at a minimum age of 12 months

2 doses of varicella vaccine are recommended

The 2nd dose is usually given at 4-6 years of age, but may be given earlier at an interval of 3 months from the first dose.

If the 2nd dose was given 4 weeks from the first dose, it is considered valid.

For children 13 years and above, the recommended minimum interval between doses is 4 weeks.

Hepatitis A Vaccine

Given intramuscularly (IM)

Given as a 2 dose series at a minimum age of 12 months

A 2nd dose is given at least 6 months from the 1st dose

Human Papillomavirus Vaccine (HPV)

Given Intramuscularly (IM)

Primary vaccination consists of a 3-dose series with a minimum age of 9 years.

The recommended schedule is as follows:

- Bivalent HPV (2vHPV) at 0, 1 and 6 months
- Quadrivalent HPV (4vHPV) at 0, 2 and 6 months

The minimum interval between the 1st and the 2nd dose is at least 1 month and the minimum interval between the 2nd and the 3rd dose is at least 3 months. The 3rd dose should be given at least 6 months from the 1st dose

A 2-dose schedule is an option for girls 9 to 14 years of age, for both 2vHPV and 4vHPV vaccines. The doses are given at least 6 months apart.

Only 4vHPV can be given to males 9-18 years of age for the prevention of anogenital warts.

Administer HPV vaccine beginning at age 9 years to children and youth with any history of sexual abuse who have not initiated or completed the 3-dose series.

Tetanus and Diphtheria Toxoid (Td)/ Tetanus and Diphtheria Toxoid and Acellular Pertussis Vaccine (Tdap)

Given intramuscularly (IM)

For children who are fully immunized* Td booster doses should be given every 10 years.

A single dose of Tdap can be given in place of a due Td and can be administered regardless of the interval since the last tetanus and diphtheria toxoid containing vaccine.

*Fully immunized is defined as 5 doses of DTP or 4 doses of DTP if the 4th dose was given on or after the 4th birthday

For fully immunized pregnant adolescent, administer one dose of Tdap vaccine anytime after 20 weeks age of gestation.

For the unimmunized pregnant adolescent, give the 3 dose tetanus-diphtheria containing vaccine (Td/Tdap) following a 0-1-6 month schedule. Tdap should replace one dose of Td given preferably after 20 weeks age of gestation.

Dengue Tetravalent Vaccine (Dengue Vaccine)

Given subcutaneously

Given at a minimum age of 9 years

Given as a 3 dose series at 0.6 and 12 months

ANNOTATIONS: VACCINES FOR HIGH RISKS / SPECIALGROUPS

Pneumococcal Conjugate Vaccine (PCV)/ Pneumococcal Polysaccharide Vaccine (PPSV23)

Given intramuscularly (IM)

Indications for children with high-risk medical conditions:

Chronic heart, lung and kidney disease, DM, CSF leak, cochlear implant, sickle cell disease and other hemoglobinopathies, anatomic and functional asplenia, HIV and congenital immunodeficiency, diseases associated with treatment with immunosuppressive drugs or radiation therapy, malignancy and solid organ transplantation

All recommended PCV doses should be given prior to PPSV23 if possible

- Children >2 to 5 years of age
 - Give one dose of PCV 13 if an incomplete schedule of 3 doses of any PCV was administered previously
 - Give 2 doses of PCV 13 at least 8 weeks apart if unvaccinated or any incomplete schedule of less than 3 doses of any PCV was administered previously
 - Give a supplemental dose of PCV13 if 4 doses of PCV7 or other age-appropriate complete PCV7 series was given
 - For children with no history of PPSV23 vaccination, give PPSV23 at least 8 weeks after the most recent PCV13
- Children 6 to 18 years of age
 - If neither PCV13 nor PPSV23 has been received, give one dose of PCV13 followed by one dose of PPSV23 at least 8 weeks after
 - If with previous PCV13 but without PPSV23 vaccination, give one dose of PPSV23 at least 8 weeks after the most recent PCV13
 - If PPSV23 has been received but PCV13 has not, give 1 dose of PCV13 at least 8 weeks after the most recent dose of PPSV23
- ONLY A SINGLE revaccination with PPSV23 should be administered 5 years after the 1st dose of PPSV23 to children with high-risk medical conditions.

Haemophilus influenzae Type b Conjugate Vaccine (Hib)

Given intramuscularly (IM)

Indications for children with high risk conditions:

Chemotherapy recipients, anatomic/functional asplenia including sickle cell disease, HIV infection, immunoglobulin or early complement deficiency

- Children aged 12-59 months:
 - Unimmunized* or with one dose of Hib vaccine received before age 12 months, give 2 additional doses 8 weeks apart
 - Given ≥ 2 doses of Hib vaccine before age 12 months, give one additional dose
- Children ≤ 5 years old who received a Hib booster dose during or within 14 days of starting chemotherapy/radiation treatment:
 - Given another dose of Hib vaccine at least 3 months after completion of therapy
- Children 5-18 years old
 - Unimmunized* and with anatomic/functional asplenia (including sickle cell disease) and HIV infection, give 1 dose of Hib vaccine
- Children who are hematopoietic stem cell transplant recipients:
 - Regardless of vaccination history, with 3 doses of Hib vaccine given 4 weeks apart, 6-12 months after transplant, is recommended
- Unimmunized children > 15 months of age and undergoing elective splenectomy:
 - Give one dose of Hib-containing vaccine at least 14 days before procedure

* Unimmunized children are those without a primary series and booster dose or those without at least one dose of the vaccine after 14 months of age

Meningococcal Vaccine

Given intramuscularly (IM) or subcutaneously (SC)

Tetavalent meningococcal (ACYW-135) conjugate vaccine MCV4-D, MCV4-TT, MCV4-CRM given intramuscularly

Tetavalent meningococcal polysaccharide vaccine (MPSV4) given intramuscularly (IM)/subcutaneously (SC)

Indicated for those at high risk for invasive disease:

Persistent complement deficiencies, anatomic/functional asplenia, HIV, travellers to or resident of areas where meningococcal disease is hyperendemic or epidemic or belonging to a defined risk group during a community or institutional meningococcal outbreak

Dosing schedule:

- MCV4-D: minimum age is 9 months. For children 9-23 months give 2 doses 3 months apart.

For children 2 years and above give one dose.

- MCV4-TT given to children 12 months and above as a single dose
- MCV4-CRM given to children 2 years and above as a single dose

Revaccinate with a MCV4 vaccine every 5 years as long as the person remains at increased risk of infection.

MPSV4 given to children 2 years and above as a single dose. If MPSV4 is used for high risk individuals as the 1st dose, a 2nd dose using MCV4 should be given 2 months later. Booster doses of MPSV4 are not recommended.

- MCV4-D and PCV13 should be given at least 4 weeks apart

Rabies Vaccine

Given intramuscularly (IM) or intradermally (ID)

Recommended regimens for pre-exposure prophylaxis:

- Intramuscular regimen: Purified Vero Cell Rabies Vaccine (PVRV) 0.5 ml or Purified Chick Embryo Cell Vaccine (PCECV) 1 ml given on days 0, 7, 21 or 28
- Intradermal regimen: PVRV or PCECV 0.1 ml given on days 0, 7, 21 or 28

A repeat dose should be given if the vaccine is inadvertently given subcutaneously. Rabies vaccine should never be given in the gluteal area since absorption is unpredictable.

In the event of subsequent exposures, those who have completed 3 doses of pre-exposure prophylaxis regardless of the interval between exposure and last dose of the vaccine will require only booster doses given on day 0 and 3. Booster doses may be given IM (0.5 ml PVRV or 1 ml PCECV) or ID (0.1 ml of PVRV or PCECV). There is no need to give rabies immune globulin.

Typhoid Vaccine

Given intramuscularly (IM)

Given at a minimum age of 2 years old with revaccination every 2–3 years

Recommended for travellers to areas where there is a risk for exposure and for outbreak situations as declared by public health authorities

Cholera Vaccine

Given per os (PO)

Given at a minimum age of 12 months as a 2-dose series two weeks apart.

Recommended for outbreak situations and natural disasters as declared by health authorities

SUMMARY TABLE: Immunization of Teens and Pre-teens 2017 (7 to 18 yrs.old)

Vaccine	Range of Recommended Age	Dose(s) Needed	Schedule of Immunization	Route of Administration	Precautions & Contraindication
Hep B Vaccine	Unvaccinated 7-18 yrs. old	3	0, 1, 6 months	IM	<ul style="list-style-type: none"> Severe allergic reaction to vaccine component Moderate to severe illness
Hep A Vaccine	Unvaccinated 7-18 yrs. old	2	2nd dose given at least 6 months from the 1st dose	IM	<ul style="list-style-type: none"> Severe allergic reaction to vaccine component Moderate to severe illness
MMR	Unvaccinated 7-18 yrs. old	2	4 weeks interval between doses	SC	<ul style="list-style-type: none"> Severe allergic reaction to vaccine component Pregnancy Immunosuppression Recent receipt of blood products Moderate to severe illness
	Incompletely vaccinated 7-18 yrs. old	1	2nd dose given anytime but at least 4 weeks from 1st dose		
Varicella Vaccine	Unvaccinated 7-12 yrs. old	2	Minimum interval between doses is 3 months	SC	<ul style="list-style-type: none"> Severe allergic reaction to vaccine component Pregnancy Immunosuppression Recent receipt of blood products Moderate to severe illness
	Unvaccinated ≥ 13 yrs. old	2	Minimum interval between doses is one month		
	Incompletely vaccinated 7-18 yrs. old	1	Anytime: 7-12 yrs. old at least 3 mos. from the 1st dose, 13 yrs. old at least 1 month from the 1st dose		
Influenza Vaccine	9-18 yrs. old	Annually	Begin immunizing in February	IM/SC	<ul style="list-style-type: none"> Severe allergic reaction to vaccine component Moderate to severe illness History of Guillain-Barre syndrome following a previous dose
Td/Tdap	Unvaccinated 7-18 yrs. old	3	0, 1 and 6 months: Tdap preferably as the 1st dose then Td for the remaining doses	IM	<ul style="list-style-type: none"> Severe allergic reaction to vaccine component, Moderate to severe illness
	Incompletely vaccinated 7-18 yrs. old	1-2	One dose Tdap then Td for remaining dose		
	Fully vaccinated 7-18 yrs. old (Fully vaccinated defined as 5 doses of DTaP or 4 doses of DTap if the 4th dose was administered on or after the 4th birthday)	1	1 dose Tdap then Td every 10 years		
Dengue Vaccine (Tetravalent)	9-18 yrs. old	3	0, 6, 12 months	SC	<ul style="list-style-type: none"> Severe allergic reaction to vaccine component Pregnant and breastfeeding women Immunosuppression Recent receipt of blood products Moderate to severe illness
HPV: Bivalent HPV (2vHPV)	Females: 9-18 yrs. old	3	0, 1, 6 months	IM	<ul style="list-style-type: none"> Severe allergic reaction to vaccine component Moderate to severe illness If found to be pregnant after starting immunization, delay remaining doses until completion of pregnancy
Quadrivalent HPV (4vHPV)	Females: 9-18 yrs. old Males: 9-18 yrs. old	3	0, 2 and 6 months		
2vHPV/4vHPV Alternative schedule for girls aged 9-14 yrs. old	9-14 years old 9-18 yrs. old	2	0, 6 months	IM	

The National Immunization Program (NIP) consists of the following:

- BCG Vaccine, single dose given at birth.
- Monovalent Hepatitis B vaccine given at birth.
- DPT-Hib-Hep B Vaccines, 3 doses given at 6-10-14 weeks of age.
- Oral Polio Vaccine (OPV), 3 doses given at 6-10-14 weeks of age. A single dose of Inactivated Polio Vaccine (IPV) is given with the third dose of OPV at 14 weeks of age.
- Pneumococcal conjugate vaccine (PCV), 3 doses given at 6-10-14 weeks of age.
- Measles containing vaccine (either monovalent or MMR) given at 9 months of age.
- Measles-Mumps-Rubella (MMR) vaccine given at 12 months of age.
- Rotavirus vaccine given at a minimum age of 6 weeks with minimum interval of 4 weeks between doses. The last dose should be administered not later than 32 weeks.

A school based immunization program to provide catch-up doses for school children and adolescents has been established. Measles-Rubella (MR) vaccine and Tetanus-Diphtheria (Td) vaccines are administered to Grade 1 and Grade 7 students enrolled in public schools. Human Papillomavirus Vaccine (HPV) shall be given to female children 9-10 years old at health facilities in priority provinces. Quadrivalent HPV 2 doses are given at 0, 6 months.

DISCLAIMER:

The Childhood Immunization Schedule presents recommendations for immunization for children and adolescents based on the knowledge, experience and premises current at the time of publication. The schedule represents a consensus with which physicians may at times disagree. The PPS, PIDSP and PFV acknowledge that individual circumstances may warrant a decision differing from the recommendations given here. This schedule is not absolute. Physicians must regularly update their knowledge about specific vaccines and their use because information about safety and efficacy of vaccines and recommendations relative to their administration continue to develop after a vaccine is licensed.