Summary of Recommendations for Childhood and Adolescent Immunization

Vaccine name and route	Schedule for routine vaccination and other guidelines (any vaccine can be given with another)	Schedule for catch-up vaccination and related issues	Contraindications and precautions (mild illness is not a contraindication)
Hepatitis B (HepB) *Give IM*	• Vaccinate all children age 0 through 18yrs. • Vaccinate all newborns with monovalent vaccine prior to hospital discharge. Give dose #2 at age 1–2m and the final dose at age 6–18m (the last dose in the infant series should not be given earlier than age 24wks). After the birth dose, the series may be completed using 2 doses of single-antigen vaccine or up to 3 doses of Comvax (ages 2m, 4m, 12–15m) or Pediarix (ages 2m, 4m, 6m), which may result in giving a total of 4 doses of hepatitis B vaccine. • **If mother is HBsAg-positive:** give the newborn HBIG + dose #1 within 12hrs of birth; complete series at age 6m or, if using Comvax, at age 12–15m. • **If mother's HBsAg status is unknown:** give the newborn dose #1 within 12hrs of birth. If mother is subsequently found to be HBsAg positive, give infant HBIG within 7d of birth and follow the schedule for infants born to HBsAg-positive mothers.	• Do not restart series, no matter how long since previous dose. • 3-dose series can be started at any age. • Minimum spacing between doses: 4wks between #1 and #2, 8wks between #2 and #3, and at least 16wks between #1 and #3 (e.g., 0-, 2-, 4m; 0-, 1-, 4m). **Special Notes on Hepatitis B Vaccine (HepB)** **Dosing of HepB:** Vaccine brands are interchangeable. For persons age 0 through 19yrs, give 0.5 mL of either Engerix-B or Recombivax HB. **Alternative dosing schedule for unvaccinated adolescents age 11 through 15yrs:** Give 2 doses Recombivax HB 1.0 mL (adult formulation) spaced 4–6m apart. (Engerix-B is not licensed for a 2-dose schedule.) **For preterm infants:** Consult ACIP hepatitis B recommendations (*MMWR* 2005; 54 [RR-16]).*	**Contraindication** Previous anaphylaxis to this vaccine or to any of its components. **Precaution** Moderate or severe acute illness.
DTaP, DT (Diphtheria, tetanus, acellular pertussis) *Give IM*	• Give to children at ages 2m, 4m, 6m, 15–18m, 4–6yrs. • May give dose #1 as early as age 6wks. • May give #4 as early as age 12m if 6m have elapsed since #3 and the child is unlikely to return at age 15–18m. • Do not give DTaP/DT to children age 7yrs and older. • If possible, use the same DTaP product for all doses.	• #2 and #3 may be given 4wks after previous dose. • #4 may be given 6m after #3. • If #4 is given before 4th birthday, wait at least 6m for #5 (age 4–6yrs). • If #4 is given after 4th birthday, #5 is not needed.	**Contraindications** • Previous anaphylaxis to this vaccine or to any of its components. • For DTaP/Tdap only: encephalopathy within 7d after DTP/DTaP. **Precautions** • Moderate or severe acute illness. • History of Arthus reaction following a prior dose of tetanus- and/or diphtheria-toxoid-containing vaccine, including MCV. • Guillain-Barré syndrome within 6wks after previous dose of tetanus toxoid-containing vaccine. • For DTaP only: Any of these events following a previous dose of DTP/DTaP: 1) temperature of 105°F (40.5°C) or higher within 48hrs; 2) continuous crying for 3hrs or more within 48hrs; 3) collapse or shock-like state within 48hrs; 4) convulsion with or without fever within 3d. • For DTaP/Tdap only: Unstable neurologic disorder. **Note:** Use of Td or Tdap is not contraindicated in pregnancy. At the provider's discretion, either vaccine may be administered during the 2nd or 3rd trimester.
Td, Tdap (Tetanus, diphtheria, acellular pertussis) *Give IM*	• Give 1-time Tdap dose to adolescents age 11–12yrs if 5yrs have elapsed since last dose DTaP; then boost every 10yrs with Td. • Give 1-time dose of Tdap to all adolescents who have not received previous Tdap. Special efforts should be made to give Tdap to persons age 11yrs and older who are - in contact with infants younger than age 12m. - healthcare workers with direct patient contact. • In pregnancy, when indicated, give Td or Tdap in 2nd or 3rd trimester. If not administered during pregnancy, give Tdap in immediate postpartum period.	• If never vaccinated with tetanus- and diphtheria-containing vaccine: give Td dose #1 now, dose #2 4wks later, and dose #3 6m after #2, then give booster every 10yrs. A 1-time Tdap may be substituted for any dose in the series, preferably as dose #1. For persons who previously received a Td booster, an interval of 2yrs or less between Td and Tdap may be used.	
Polio (IPV) *Give SC or IM*	• Give to children at ages 2m, 4m, 6–18m, 4–6yrs. • May give dose #1 as early as age 6wks. • Not routinely recommended for U.S. residents age 18yrs and older (except certain travelers).	• All doses should be separated by at least 4wks. • If dose #3 is given after 4th birthday, dose #4 is not needed.	**Contraindication** Previous anaphylaxis to this vaccine or to any of its components. **Precautions** • Moderate or severe acute illness. • Pregnancy.
Human papilloma-virus (HPV) *Give IM*	• Give 3-dose series to girls at age 11–12yrs on a 0, 2, 6m schedule. (May be given as early as age 9yrs.) • Vaccinate all older girls and women (through age 26yrs) who were not previously vaccinated.	Minimum spacing between doses: 4wks between #1 and #2; 12 wks between #2 and #3. Overall, there must be at least 24wks between doses #1 and #3.	**Contraindication** Previous anaphylaxis to this vaccine or to any of its components. **Precautions** • Moderate or severe acute illness. • Pregnancy.

*This document was adapted from the recommendations of the Advisory Committee on Immunization Practices (ACIP). To obtain copies of the recommendations, call the CDC-INFO Contact Center at (800) 232-4636; visit CDC's website at www.cdc.gov/vaccines/pubs/ACIP-list.htm; or visit the Immunization Action Coalition (IAC) website at www.immunize.org/acip. This table is revised periodically. Visit IAC's website at www.immunize.org/childrules to make sure you have the most current version.

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Varicella (Var) (Chickenpox) *Give SC*	• Give dose #1 at age 12–15m. • Give dose #2 at age 4–6yrs. Dose #2 may be given earlier if at least 3m since dose #1. • Give a second dose to all older children and adolescents with history of only 1 dose. • MMRV may be used in children age 12m through 12yrs.	• If younger than age 13yrs, space dose #1 and #2 at least 3m apart. If age 13yrs or older, space at least 4wks apart. • May use as postexposure prophylaxis if given within 5d. • If Var and either MMR, LAIV, and/or yellow fever vaccine are not given on the same day, space them at least 28d apart.	**Contraindications** • Previous anaphylaxis to this vaccine or to any of its components. • Pregnancy or possibility of pregnancy within 4wks. • Children on high-dose immunosuppressive therapy or who are immunocompromised because of malignancy and primary or acquired cellular immunodeficiency, including HIV/AIDS (although vaccination may be considered if CD4+ T-lymphocyte percentages are either 15% or greater in children ages 1 through 8yrs or 200 cells/mL or greater in children age 9yrs or older). **Precautions** • Moderate or severe acute illness. • If blood, plasma, and/or immune globulin (IG or VZIG) were given in past 11m, see ACIP statement *General Recommendations on Immunization** regarding time to wait before vaccinating. **Note:** For patients with humoral immunodeficiency or leukemia, see ACIP recommendations*.
MMR (Measles, mumps, rubella) *Give SC*	• Give dose #1 at age 12–15m. • Give dose #2 at age 4–6yrs. Dose #2 may be given earlier if at least 4wks since dose #1. • Give a second dose to all older children and teens with history of only 1 dose. • MMRV may be used in children age 12m through 12yrs.	• If MMR and either Var, LAIV, and/or yellow fever vaccine are not given on the same day, space them at least 28d apart. • When using MMR for both doses, minimum interval is 4wks. • When using MMRV for both doses, minimum interval is 3m. • Within 72hrs of measles exposure, give 1 dose of MMR as postexposure prophylaxis to susceptible healthy children age 12m and older.	**Contraindications** • Previous anaphylaxis to this vaccine or to any of its components. • Pregnancy or possibility of pregnancy within 4wks. • Severe immunodeficiency (e.g., hematologic and solid tumors; receiving chemotherapy; congenital immunodeficiency; long-term immunosuppressive therapy, or severely symptomatic HIV). Note: HIV infection is NOT a contraindication to MMR for children who are not severely immunocompromised (consult ACIP MMR recommendations [*MMWR* 1998;47 [RR-8] for details*). **Precautions** • Moderate or severe acute illness. • If blood, plasma, or immune globulin given in past 11m, see ACIP statement *General Recommendations on Immunization** regarding time to wait before vaccinating. • History of thrombocytopenia or thrombocytopenic purpura. **Note:** MMR is not contraindicated if a TST (tuberculosis skin test) was recently applied. If TST and MMR are not given on same day, delay TST for at least 4wks after MMR.
Influenza Trivalent inactivated influenza vaccine (TIV) *Give IM* —— Live attenuated influenza vaccine (LAIV) *Give intranasally*	• Vaccinate all children and teens age 6m through 18yrs, as well as all household contacts of infants and children through age 59m (4yrs 11m). • Vaccinate persons age 19yrs and older who - have a risk factor (e.g., pregnancy, heart or lung disease, renal, hepatic, hematologic, or metabolic disorder [including diabetes], immunosuppression, or have a condition that compromises respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration) or live in a chronic-care facility. - live or work with at-risk people as listed above. • All other persons who want to reduce the likelihood of becoming ill with influenza or of spreading it to others. • LAIV may be given to healthy, non-pregnant persons age 2–49yrs. • Give 2 doses to first-time vaccinees age 6m through 8yrs, spaced 4wks apart. • For TIV, give 0.25 mL dose to children age 6–35m and 0.5 mL dose if age 3yrs and older.		**Contraindications** • Previous anaphylaxis to this vaccine, to any of its components, or to eggs. • For LAIV only: Pregnancy, asthma, reactive airways disease, or other chronic disorder of the pulmonary or cardiovascular systems; an underlying medical condition, including metabolic diseases such as diabetes, renal dysfunction, and hemoglobinopathies; known or suspected immune deficiency diseases or immunosuppressed states; for children younger than age 5yrs, possible reactive airways disease (e.g., recurrent wheezing or a wheezing episode within the past 12m). **Precautions** • Moderate or severe acute illness. • History of Guillain-Barré syndrome within 6wks of a previous influenza vaccination. **Note:** If LAIV and either MMR, Var, and/or yellow fever vaccine are not given on the same day, space them at least 28d apart.
Rotavirus (RV) *Give orally*	• Rotarix (RV1): give at age 2m, 4m • RotaTeq (RV5): give at age 2m, 4m, 6m • May give dose #1 as early as age 6wks. • Give dose #3 no later than age 8m 0 days.	• Do not begin series in infants older than age 15wks 0 days. • Intervals between doses may be as short as 4wks. • If prior vaccination included use of different or unknown brand(s), a total of 3 doses should be given.	**Contraindication** Previous anaphylaxis to this vaccine or to any of its components, including latex for RV1. **Precautions** • Moderate or severe acute illness. • Altered immunocompetence. • Moderate to severe acute gastroenteritis or chronic gastrointestinal disease. • History of intussusception.

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Hib (*Haemophilus influenzae* type b) *Give IM*	• ActHib (PRP-T): give at age 2m, 4m, 6m, 12–15m (booster dose). • PedvaxHIB or Comvax (containing PRP-OMP): give at age 2m, 4m, 12–15m (booster dose). • Dose #1 of Hib vaccine should not be given earlier than age 6wks. • The last dose (booster dose) is given no earlier than age 12m and a minimum of 8wks after the previous dose. • Hib vaccines are interchangeable; however, if different brands of Hib vaccines are administered for dose #1 and dose #2, a total of 3 doses are necessary to complete the primary series in infants. • Any Hib vaccine may be used for the booster dose. • Hib is not routinely given to children age 5yrs and older.	**All Hib vaccines:** • If #1 was given at 12–14m, give booster in 8wks. • Give only 1 dose to unvaccinated children from age 15 through 59m. **ActHib:** • #2 and #3 may be given 4wks after previous dose. • If #1 was given at age 7–11m, only 3 doses are needed; #2 is given 4–8wks after #1, then boost at age 12–15m (wait at least 8wks after dose #2). **PedvaxHIB and Comvax:** • #2 may be given 4wks after dose #1.	**Contraindications** • Previous anaphylaxis to this vaccine or to any of its components. • Age younger than 6wks. **Precaution** Moderate or severe acute illness.
Pneumo. conjugate (PCV) *Give IM*	• Give at ages 2m, 4m, 6m, 12–15m. • Dose #1 may be given as early as age 6wks. • Give 1 dose to unvaccinated healthy children age 24–59m. • For high-risk** children ages 24–59m, give 2 doses at least 8wks apart if previous vaccinations were fewer than 3 doses, or give 1 dose if previously received 3 doses. • PCV is not routinely given to children age 5yrs and older. **High-risk: Those with sickle cell disease; anatomic/functional asplenia; chronic cardiac, pulmonary, or renal disease; diabetes; cerebrospinal fluid leaks; HIV infection; immunosuppression; diseases associated with immunosuppressive and/or radiation therapy; or who have or will have a cochlear implant.	• For age 7–11m: If history of 0–2 doses, give additional doses 4wks apart with no more than 3 total doses by age 12m; then give booster 8wks later. • For age 12–23m: If 0–1 dose before age 12m, give 2 doses at least 8wks apart. If 2–3 doses before age 12m, give 1 dose at least 8wks after previous dose. • For age 24–59m: If patient has had no previous doses, or has a history of 1–3 doses given before age 12m but no booster dose, or has a history of only 1 dose given at age 12–23m, give 1 dose now.	**Contraindication** Previous anaphylaxis to this vaccine or to any of its components. **Precaution** Moderate or severe acute illness.
Pneumo. polysacch. (PPSV) *Give IM or SC*	• Give 1 dose at least 8wks after final dose of PCV to high-risk children age 2yrs and older. • For children who are immunocompromised or have sickle cell disease or functional or anatomic asplenia, give a 2nd dose of PPSV 5yrs after previous PPSV (consult ACIP PPSV recommendations at http://www.cdc.gov/vaccines/pubs/ACIP-list.htm*).		**Contraindication** Previous anaphylaxis to this vaccine or to any of its components. **Precaution** Moderate or severe acute illness.
Hepatitis A (HepA) *Give IM*	• Give 2 doses to all children at age 1yr (12–23m) spaced 6m apart. • Vaccinate all previously unvaccinated children and adolescents age 2 years and older who - Live in a state, county, or community with a routine vaccination program already in place for children age 2yrs and older. - Travel anywhere except U.S., W. Europe, N. Zealand, Australia, Canada, or Japan. - Wish to be protected from HAV infection. - Have chronic liver disease, clotting factor disorder, or are MSM adolescents. - Are injecting or non-injecting drug users.	• Minimum interval between doses is 6m. • Children who are not fully vaccinated by age 2yrs can be vaccinated at subsequent visits. • Consider routine vaccination of children age 2yrs and older in areas with no existing program. • Give 1 dose as postexposure prophylaxis to incompletely vaccinated children age 12m and older who have recently (during the past 2wks) been exposed to hepatitis A virus.	**Contraindication** Previous anaphylaxis to this vaccine or to any of its components. **Precautions** • Moderate or severe acute illness. • Pregnancy.
Meningococcal conjugate (MCV) *Give IM* — **polysaccharide** (MPSV) *Give SC*	• Give 1-time dose of MCV to adolescents age 11 through 18yrs. • Vaccinate all college freshmen living in dorms who have not been vaccinated. • Vaccinate all children age 2yrs and older who have any of the following risk factors (MCV is preferable to MPSV): - Anatomic or functional asplenia, or terminal complement component deficiency. - Travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic (e.g., the "meningitis belt" of Sub-Saharan Africa).	If previously vaccinated with MPSV and risk continues, give MCV 5yrs after MPSV.	**Contraindication** Previous anaphylaxis to this vaccine or to any of its components, including diphtheria toxoid (for MCV). **Precautions** • Moderate or severe acute illness. • For MCV only: history of Guillain-Barré syndrome (GBS).