2017-2018 Preventive Care Guidelines

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Introduction

Blue Cross and Blue Shield of Illinois, Blue Cross and Blue Shield of Montana, Blue Cross and Blue Shield of New Mexico, Blue Cross and Blue Shield of Oklahoma, and Blue Cross and Blue Shield of Texas ("the Plans") publish and disseminate evidence-derived Preventive Care Guidelines ("Guidelines") based upon the recommendations of recognized sources such as professional medical associations, specialty societies, professional consensus panels, national task forces, and governmental entities. The Guidelines are designed to improve physician/practitioner awareness of (and compliance with) effective clinical preventive care, to improve patient education and to increase the percentage of members who receive recommended clinical preventive care services.

The Guidelines do not cover all possible circumstances, but should be considered a summary of basic preventive services for these populations:

1. Children from birth to 18 years
2. Adults 19 years and older
3. Adults 65 years and older
4. Women needing perinatal care

The Guidelines are focused upon primary prevention; that is, strategies that have been shown to reduce the likelihood of future adverse outcomes in individuals prior to the onset of symptomatic disease. Services such as immunizations, education and counseling, and screening tests are primary preventive services. The Guidelines apply to average risk, asymptomatic and otherwise healthy individuals. Preventive care interventions appropriate for those with other levels of risk (increased or decreased) will vary by individual circumstance, and physicians/practitioners are encouraged to tailor the approach to these patients as necessary. For certain increased risk groups, additional guidelines have been included to assist physicians/practitioners.

Expert groups may disagree on certain preventive interventions, and as a consequence, recommendations regarding preventive services are not always identical. Despite this disparity, there are numerous areas where consensus exists, allowing for the formulation of this set of guidelines. Whenever possible, the Guidelines follow the recommendations of the United States Preventive Services Task Force (USPSTF) that are considered "recommended" ("A" and "B" level recommendations). When USPSTF recommendations do not provide sufficient guidance, the Plans, with input from network providers, have adopted the recommendations of other professional organizations that evaluate the value of clinical preventive services.

The Guidelines represent a minimal set of recommended preventive health services. Additional interventions may be indicated, except where there is a specific recommendation against routine screening. Individual considerations for a given patient should dictate clinical decisions. In addition, physicians/practitioners are encouraged to review the USPSTF statements regarding services that are should not be routinely used (level "D"). These are available at: http://www.uspreventiveservicestaskforce.org/BrowseRec/Index.

The following points should be emphasized when using the guidelines:

- Unless specified, guidelines are meant to apply to average risk, asymptomatic and otherwise healthy individuals. Preventive care interventions appropriate for those with other levels of risk (increased or decreased) will vary by individual circumstance, and physicians are encouraged to tailor the approach to these patients as necessary.
- The interventions listed are minimal guidelines. Additional interventions may be useful.
- The Guidelines are designed to assist clinicians by providing a guide to clinical preventive care that is usually appropriate, and are not intended to replace a clinician’s judgment, establish a protocol for all patients, or define standards of practice. The final decision regarding medical treatment, including preventive care services, is made by the physician and the patient.
The Guidelines document is not a statement of coverage. Coverage is based upon member eligibility, the member’s specific benefit plan design, and state or federal law. There is substantial variation in coverage between benefit programs, and inclusion of a service in the Guidelines does not imply that the service is necessarily a covered benefit and does not guarantee payment.

Because the Guidelines summarize a large amount of information, all details cannot be provided. The practitioner is, therefore, encouraged to review the original sources for more complete discussion of indications and contraindications for specified preventive care services, and to verify the accuracy of the summary.

Sources are cited for each guideline. Where possible, the exact recommendation of the source is used. In some cases, the recommendation, or its periodicity, has been modified to resolve conflicting recommendations by various sources, or to facilitate practical usage of the guideline in clinical practice settings.

This material is provided for informational purposes only and is not intended to be a substitute for the sound independent medical judgment of health care practitioners. Health care providers are instructed to exercise their independent medical judgment based on the patient’s individual medical circumstances including, but not limited to symptoms, history, family history and other factors. The final decision about whether a particular service or treatment should be rendered is between the health care provider and the member (patient). The fact that a particular medical service is listed in this document is not a guarantee that benefits are available for such service. The member is instructed to refer to their health benefits document or certificate of coverage to determine what benefits are available for the particular medical service.

**Preventive Health Guidelines for Children Age Birth To 18**

**Part I: Neonates (Birth to 1 Month)**

1. **History and Physical Examination** (Reference: 1-AAP)
   - Perform newborn examination and at 3-5 days:
     a) History
b) Physical exam
   c) Length and weight, weight for length
   d) Head circumference
   e) Development surveillance

2. **Screening Tests** (References: 2, 3 – AAP; 4, 5, 6 – USPSTF; 7, 8, 9, 10, 11 – States of Illinois, Montana, New Mexico, Oklahoma and Texas)
   - Perform screening tests prior to discharge or transfer from the nursery, but no later than 7 days of age.
   - USPSTF recommends screening for phenylketonuria, congenital hypothyroidism and sickle-cell disease as a minimum. **However, state regulations define required screening.** The state-specific lists of required newborn screening can be found at these sites:
     - MT   [http://dphhs.mt.gov/publichealth/cshs/NewbornScreeningPrograms.aspx](http://dphhs.mt.gov/publichealth/cshs/NewbornScreeningPrograms.aspx)
     - NM   [http://nmhealth.org/about/phd/fhb/cms/nbgs/](http://nmhealth.org/about/phd/fhb/cms/nbgs/)
     - OK   Newborn Screening Program - Oklahoma State Department of Health
     - TX   [http://www.babysfirsttest.org/newborn-screening/states/texas#first-section](http://www.babysfirsttest.org/newborn-screening/states/texas#first-section)

3. **Ocular Chemoprophylaxis** (Reference: 12 – USPSTF)
   - Administer ocular antibiotic prophylaxis at birth.

4. **Immunizations** (References: 13, 19 – CDC)
   - Administer immunizations in accordance with the ACIP Recommended Immunization Schedules for Persons Aged 0 through 18 Years. Copies of the Schedules are attached at the end of the document.

5. **Counseling/Anticipatory Guidance** (Reference: 1 – AAP)
   - Relevant topics include injury prevention, nutrition, and sleep positioning.

**Part II: Children Age 1 month through 17 years – Average Risk Pediatric Population**

1. **General Recommendations – see table below.** Provide preventive services for children in accordance with the recommendation summarized in the following table. (References: 1, - AAP; 14, 16, 17, 18, 21, 22, 56, 66 - USPSTF).
   - For Texas Medicaid, ages 0 to 21, please use the periodicity schedule at [http://www.dshs.texas.gov/thsteps/providers.shtm](http://www.dshs.texas.gov/thsteps/providers.shtm)
2. Immunizations (References: 13 - CDC, 19 – ACIP; 20 – NMDOH)
   • Administer immunizations in accordance with ACIP Recommended Immunization Schedules for Persons Aged 0 through 18 years, or in accordance with state law or mandates if such exist. Copies of the ACIP immunization schedules are attached at the end of this document. NOTE: New Mexico physicians/practitioners are encouraged to follow the optimized “Done By One” immunization schedule. A copy of the “Done By One” schedule is attached and the most current version is available online at http://nmhealth.org/publication/view/general/450.

3. Prevention of Dental Caries in Children from Birth through Age 5 Years (Reference: 67 - USPSTF)
   • The USPSTF recommends that primary care clinicians prescribe oral fluoride supplementation starting at age 6 months for children whose water supply is deficient in fluoride. It is also recommended that primary care clinicians apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption.

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**Part III: Recommendations for Select Populations at Risk**

1. **Iron Supplementation** (Reference: 15 – USPSTF)
   - Routine iron supplementation is recommended for asymptomatic children age 6-12 months who are at increased risk for iron deficiency anemia. Premature and low birth weight infants are at increased risk for iron deficiency. In the U.S. race, income, education, and other socioeconomic factors are also associated with iron deficiency.

2. **Hepatitis B Screening** (Reference: 68 – USPSTF)
   - Screen for Hepatitis B in adolescents at high risk for infection. Risk factors include country of origin, HIV-positive persons, injection drug users, household contacts or sexual partners of persons with HBV infection, and men who have sex with men. Screening is also recommended for persons receiving hemodialysis or cytotoxic or immunosuppressive therapy.

3. **Behavioral Counseling to Prevent Skin Cancer** (Reference: 62 – USPSTF)
   - Children and adolescents age 10 to 17 should be counseled about minimizing ultraviolet radiation to reduce risk for skin cancer.

4. **Sexually Transmitted Infections** (Reference: 16, 17, and 18 – USPSTF)
   - a) Gonorrhea - Screen for Gonorrhea in sexually active adolescent females.
   - b) Chlamydia - Screen for Chlamydia in sexually active adolescent females.
   - c) Behavioral Counseling - Intensive behavioral counseling is recommended for all sexually active adolescents

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**Preventive Health Guidelines for Adults 18 years and Older**

**Part I: Adults at Average Risk**

1. **History and Physical Examination** (Reference: 28 - ACS)
   - a) Height and Weight Measurement: Get baseline height at initial visit and weight at every visit (References: 29 – AHA; 30 - USPSTF)
   - b) Calculation of Body Mass Index: At every visit (References: 30 – USPSTF; 29 - AHA)
   - c) Blood Pressure Measurement: At every visit (References: 31 - USPSTF)

2. **Counseling**
   - Provide health counseling regarding the following topics: (Reference: 18, 30, 34, 35, 37, 62 – USPSTF, 38 - ACS)
     - a) Avoidance of tobacco and/or tobacco cessation
     - b) Weight loss for obese adults
     - c) Promotion of healthy diet
     - d) Benefits of physical activity
     - e) Alcohol use
     - f) Sexually transmitted infection prevention
     - g) Risks and symptoms of endometrial cancer to women of average risk at the time of menopause. Strongly encourage women to report and unexpected bleeding or spotting to their physicians.
     - h) Minimizing exposure to ultraviolet radiation to reduce risk for skin cancer

3. **Screening Tests**
   - a) **Cholesterol**
Screen men age 35 and older for lipid disorders.

Screen women age 45 and older for lipid disorders if they are at increased risk for coronary heart disease.

Men age 20 to 35 and women age 20 to 45 that are at increased risk for coronary heart disease should be screened for lipid disorder.

Reasonable options for screening interval include: every 5 years; screening at <5 year intervals for people who have lipid levels close to those warranting therapy; and screening at intervals >5 years for low-risk people who have had low or repeatedly normal lipid levels.

For adult diabetics, perform a lipid profile at least annually. If lipid values are low-risk, the lipid profile may be performed every two years.

b) Breast cancer screening (female only)

Screen women aged 50 to 74 years for breast cancer with biennial mammography. Some entities recommend annual mammography in this age group.

The decision to start regular, biennial screening mammography before the age of 50 years should be an individual one and take patient context into account, including the patient’s values regarding specific benefit and harm. Some entities recommend annual mammography in the 40 to 49 age group.

Primary care providers should screen women who have family members with breast, ovarian, tubal, or peritoneal cancer with one of several screening tools designed to identify a family history that may be associated with an increased risk for potentially harmful mutations in breast cancer susceptibility genes (BRCA1 or BRCA2). Women with positive screening results should receive genetic counseling and, if indicated after counseling, BRCA testing.

c) Cervical Cancer Screening (Pap) (female only) (References: 25 – USPSTF; 26 – ACS; also see Reference 27 – ACOG)

Cervical cytology alone should be used for women aged 21 to 29 years, and screening should be performed every three years.

Younger women younger than 21 should not be screened, with the exception of women who are infected with HIV. More frequent screening is appropriate for certain women, including those infected with HIV.

Cytology and human papillomavirus (HPV) co-testing every five years is preferred for women aged 30 to 65 years; cytology alone every three years is acceptable.

Women younger than 30 years should not undergo co-testing.

Screening should be discontinued after age 65 years in women with adequate negative prior screening test results.

Routine cytology and HPV testing should be discontinued and not restarted for women who have had a total hysterectomy and never had cervical intraepithelial neoplasia 2 or higher.

Acceptable screening methods include liquid-based and conventional methods of cervical cytology collection.

d) Prostate Cancer Screening (male only) (Reference: 42 – ACS; also see references 43 – USPSTF and 44 – AUA)

Prostate cancer screening recommendations vary, and review of the detailed language in the references is recommended. While the USPSTF recommends against PSA-based screening for prostate cancer, the American Cancer Society (ACS) and the American Urological Association (AUA) recommend an informed decision making process for men age 50 and older (ACS) or men age 55-69 (AUA) who have at least a ten year life expectancy. Among the potential considerations for informed decision making are the risks, benefits and uncertainties of screening, as well as individual values and preferences. ACS states that prostate cancer screening should not occur without an informed decision making process.

e) Colorectal Cancer Screening (Reference: 46 – USPSTF; also see References 45 – ACS and 47 - ACOG)

Screen men and women age 50-75 for colorectal cancer using:
• Guaiac Fecal Occult Blood Test (gFOBT) annually or;
• Fecal Immunochemical Testing (FIT) annually or;
• Fecal Immunochemical Testing (FIT)–DNA every 1-3 years or;
• Flexible sigmoidoscopy every 5 years or;
• Flexible sigmoidoscopy every 10 years with FIT annually or;
• Colonoscopy every 10 years or;
• CT Colonography every 5 years

For patients at high risk, colonoscopy should start at age 40 with screening interval every 5-10 years.

Note: Single–panel gFOBT performed in the medical office using a stool sample collected during a digital rectal examination is not a recommended option for CRC screening due to its very low sensitivity for advanced adenomas and cancer.

f) Screening for Alcohol Misuse (Reference: 35 – USPSTF)
• Screen adults 18 and over for alcohol misuse and provide persons engaged in risky or hazardous drinking with brief counseling interventions to reduce alcohol misuse.

g) Screening for Depression (Reference: 48 – USPSTF)
• Screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.

h) Screening for Tobacco Use (Reference: 34 - USPSTF)
• Ask all adults, including pregnant women, about tobacco use.

i) Screening for Obesity (Reference: 30 - USPSTF)
• Screen all adults for obesity. Clinicians should offer or refer patients with a body mass index (BMI) of 30 kg/m2 or higher to intensive, multicomponent behavioral interventions.

j) HIV Serology (Reference: 56 – USPSTF)
• Screen for HIV infection in adults age 18 to 65 years. Older adults who are at increased risk should also be screened. Screen all pregnant women for HIV, including those who present in labor who are untested and whose HIV status is unknown. The evidence is insufficient to determine optimum time intervals for HIV screening.

k) Screening for Intimate Partner Violence (Reference: 59 – USPSTF)
• Screen women of childbearing age for intimate partner violence, such as domestic violence, and provide or refer women who screen positive to intervention services.

l) Screening for Hepatitis C (Reference: 64 – USPSTF)
• Screen for Hepatitis C (HCV) infection in persons at high risk for infection and offer one-time screening for HCV infection to adults born between 1945 and 1965.

m) Screening for Lung Cancer (Reference: 69 - USPSTF)
• Screen annually for lung cancer with low-dose computed tomography in adults ages 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.
4. **Immunizations** (References: 49, 50, 19 – ACIP)
   - Administer immunizations in accordance with the ACIP Recommended Adult Immunization Schedule or in accordance with state law or regulations. See the ACIP Recommended Adult Immunization Schedule at the end of this document.

5. **Preventive Treatment**
   a) **Aspirin** (Reference: 51 – USPSTF)
      - Adults aged 50 to 59 years with a ≥10% 10-year CVD risk: The USPSTF recommends initiating low-dose aspirin use for the primary prevention of cardiovascular disease (CVD) and colorectal cancer (CRC) in adults aged 50 to 59 years who have a 10% or greater 10-year CVD risk, are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years.
   b) **Folic acid** (Reference: 52 – USPSTF)
      - All women planning or capable of pregnancy should take a daily supplement containing 0.4 to 0.8 mg (400 to 800 µg) of folic acid.
   c) **Chemoprevention of breast cancer** (Reference: 53 – USPSTF)
      - Engage in shared, informed decision making with women who are at increased risk for breast cancer about medications to reduce their risk. For women who are at increased risk for breast cancer and at low risk for adverse medication effects, clinicians should offer to prescribe risk-reducing medications.
   d) **Statins for Cardiovascular Disease Prevention** (Reference 73- USPSTF)
      - The USPSTF recommends that adults without a history of cardiovascular disease (CVD) (ie, symptomatic coronary artery disease or ischemic stroke) use a low- to moderate-dose statin for the prevention of CVD events and mortality when all of the following criteria are met:
        - they are aged 40 to 75 years;
        - they have 1 or more CVD risk factors (ie, dyslipidemia, diabetes, hypertension, or smoking);
        - they have a calculated 10-year risk of a cardiovascular event of 10% or greater.
      - Identification of dyslipidemia and calculation of 10-year CVD event risk requires universal lipids screening in adults aged 40 to 75 years.

**Part II: Recommendations for Select Adult Populations at Increased Risk**

1. **Screening for Diabetes** (References: 54 – USPSTF; 55 – ADA)
   - Screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese. Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity.
   a) **Prevention or Delay of Type 2 Diabetes**
      - Test all adults, beginning at age 45, regardless of weight.
      - Test asymptomatic adults of any age who are overweight, are obese, or have one or more additional risk factors for diabetes.
      - Consider metformin therapy to prevent type 2 diabetes for:
        - Prediabetes;
        - BMI > 35 kg/m²
        - Age < 60 years
        - Women who have had gestational diabetes
      - Refer patients with prediabetes to a program of intensive diet and physical activity with a behavioral counseling component:
        - Target 7% body weight loss
        - Encourage at least 150 minutes/week of moderate-intensity physical activity.
        - Offer follow-up, including counseling, diabetes self-management education, and ongoing support.

2. **Tuberculosis Testing: Test person at increased risk for TB**, (References: 23, 24 – CDC)
   - Persons with increased risk for developing TB include the following:
Persons who may have recent infection, including: close contacts of persons with infectious pulmonary TB; persons who have recently immigrated from areas of the world with high rates of TB; or groups of people with high rates of TB transmission (homeless persons, those with HIV infections, injection drug use, persons who reside or work in institutional settings).

Persons with clinical conditions that are associated with progression to active TB, including: HIV infection, injections drug use, pulmonary fibrotic lesions on CXR, underweight, silicosis, chronic renal failure on hemodialysis, diabetes, gastrectomy, jejunoileal bypass, renal and cardiac transplantation, head and neck cancer, other neoplasms, prolonged corticosteroid or immunosuppressive therapy.

3. **Syphilis Serology** (References: 57, 58 – USPSTF)
   - The USPSTF recommends screening for syphilis infection in persons who are at increased risk for infection
   - Perform for all pregnant women.

4. **Gonorrhea Screening** (References: 17 – USPSTF)
   - Screen for gonorrhea in sexually active women age 24 years and younger and in older women who are at increased risk for infection.

5. **Chlamydia Screening** (References: 16 – USPSTF)
   - Screen for chlamydia in sexually active women age 24 years and younger and in older women who are at increased risk for infection.

6. **Counseling and Interventions to Address Tobacco Use** (Reference: 34 – USPSTF).
   - Ask all adults about tobacco use and provide tobacco cessation interventions for those who use tobacco products. Provide augmented, pregnancy-tailored counseling for pregnant women who use tobacco.

7. **Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults With Cardiovascular Risk Factors: Behavioral Counseling** (Reference: 37 - USPSTF)
   - Offer or refer adults who are overweight or obese and have additional cardiovascular disease (CVD) risk factors to intensive behavioral counseling interventions to promote a healthful diet and physical activity for CVD prevention.

8. **Screening for Hepatitis B Virus Infection** (Reference: 68 - USPSTF)
   - Screen for Hepatitis B in adults at high risk for infection.
   - Risk factors include country of origin, HIV positive persons, Injection drug users, household contacts or sexual partners with HBV infection, and men who have sex with men.
   - Screening is also recommended for persons receiving hemodialysis or cytotoxic or immunosuppressive therapy.

9. **Sexually Transmitted Infections: Behavioral Counseling** (Reference: 18- USPSTF)
   - Intensive behavioral counseling for adults who are at increased risk for sexually transmitted infections (STIs).

**Part III: Additional Recommendations for Adults Age 65 and Older**

In addition to the services recommended in the guidelines for adults age 19 and older, the following services are recommended for individuals age 65 and older:

1. **Immunizations** (Reference: 49 – ACIP)
   - Administer immunizations in accordance with the ACIP Recommended Adult Immunization Schedule. A copy is attached.

2. **Osteoporosis Screening** (Reference: 60 – USPSTF)
3. **Screening for Abdominal Aortic Aneurysm** (Reference: 61 - USPSTF)
   - Men ages 65 to 75 who have ever smoked should be screened one time for abdominal aortic aneurysm, using ultrasonography.

4. **Prevention of Falls In Community Dwelling Older Adults** (Reference: 63 - USPSTF)
   - Exercise or physical therapy and vitamin D Supplementation to prevent falls is recommended for community-dwelling adults aged 65 years or older who are at increased risk for falls.

*Part IV: Women Receiving Perinatal Care* (References: 49 - ACIP; 65 - ACOG; 71, 72 - USPSTF)

The following summary addresses key aspects of the American College of Obstetricians and Gynecologists Guidelines for Preconception Care, Prenatal Care and Postpartum Care, as they apply in uncomplicated situations. However, it does not attempt to cover all details, and readers are encouraged to refer to the original source document for the comprehensive guidelines.

**I. Preconception Care**

**Preconception Care**

Preconception care aims to optimize a woman’s health, health behaviors, and knowledge prior to conception. Recommended care includes:

- **History**
  - Gynecologic, obstetrical, medical, surgical and psychiatric histories
  - Family history and genetic history
  - Assessment of socioeconomic, educational and cultural context
  - Immunization status
  - Medications (prescription and nonprescription)

- **Physical Exam**

- **Preconception counseling and interventions, including:**
  - Substance use (tobacco, alcohol, and drugs)
  - Family planning
  - Sexually transmitted diseases including HIV
  - Nutritional counseling and folic acid use
  - Safety and social supports
  - Immunizations, as indicated
  - Evaluation of medications
  - Consideration of preconception genetic screening

- **Management of medical conditions, including diabetes, hypertension, epilepsy, thyroid conditions, maternal phenylketonuria, asthma, history of bariatric surgery, hemoglobinopathies, inherited thrombophilias, obesity, and other chronic diseases**
II. Prenatal Care

Prenatal care involves an ongoing process of risk identification, assessment and management. Prenatal care visits should begin in the first trimester. A typical visit schedule is every 4 weeks for the first 28 weeks of gestation, every 2 weeks until 36 weeks of gestation, and weekly thereafter. The visit schedule may be altered for women requiring close surveillance, such as those with medical or obstetric problems or at the extremes of reproductive age.

First Prenatal Visit

- **History**
  - Obstetrical and medical histories
  - Family history and genetic history
  - History of substance use and abuse, including tobacco, alcohol, drugs
  - Assessment of socioeconomic, educational and cultural context
  - Immunization status
  - Medications (prescription and nonprescription) and allergies
- Physical exam including pelvic exam
- Education about the expected course of pregnancy, nausea and vomiting, signs and symptoms to report to the physician, laboratory tests to be done, costs, physician/midwife coverage for labor and delivery
- Education and counseling about safety practices (lap and shoulder belt use, infection prevention), counseling about substance use and abuse, psychosocial issues, nutrition, exercise, air travel
- Documentation of Last Menstrual Period (LMP) and assignment of Estimated Date of Delivery (EDD) / Estimated Date of Confinement (EDC)
- Recommend prenatal vitamins with folic acid and iron

Each Subsequent Prenatal Visit

- **Blood pressure**
  - Screen for preeclampsia in pregnant women with blood pressure measurements throughout pregnancy
- **Weight**
- Uterine size for progressive growth and consistency with EDD
- Presence of fetal heart activity at appropriate gestational ages
- Ask about fetal movement (at appropriate gestational ages), leakage of fluid, vaginal bleeding
- Urine dipstick, as clinically indicated

Initial Testing

- Blood type, D(Rh) type, Antibody screen
- Complete blood count
- Urinalysis
- Hepatitis B (HBsAg)
- Syphilis (VDRL/RDR)
- Rubella titer
- HIV
- Chlamydia
- For women at higher risk:
  - Gonorrhea
  - Tuberculin skin test
- Ultrasound, as indicated to address specific clinical questions

### Antepartum Genetic Screening and Diagnosis
- Family history and ethnic background are key considerations in the need for genetic testing. There are a variety of ways to screen for fetal birth defects or genetic abnormalities. Obstetric providers should provide recommended screening or establish referral sources for screening. Patients should be educated about available options.
- Screening for aneuploidy should be offered to all women who seek prenatal care before 20 weeks gestation, regardless of maternal age, along with counseling to assist in informed decision-making.

### Recommended Subsequent Testing

#### Testing recommended for all pregnant women
- Hematocrit or hemoglobin – early in third trimester
- Diabetes screening – usually at 24-28 weeks with a plasma glucose one hour after a 50 g oral glucose challenge. A 3 hour oral glucose tolerance test should be performed for those with an abnormal screening test.
- Screening for Group B streptococcal disease at 35-37 weeks
  - Women with group B streptococcal bacteriuria during the current pregnancy and those who have previously given birth to a neonate with early-onset group B streptococcal disease do not need to be screened, but should be treated with intrapartum prophylactic antibiotics.

#### Testing recommended when indicated
- Ultrasound
  - The timing and type of ultrasound should be based on the clinical question being asked. The optimal timing for a single ultrasound examination in the absence of specific indications for a first trimester exam is 18-20 weeks of gestation.
- Antepartum tests of fetal well-being are indicated when there is increased risk of fetal demise.
  - The type of test, when to start testing, and frequency of testing are dependent upon the clinical situation.

#### Testing recommended only for women at increased risk
- Antibody tests in unsensitized D-negative patients at 28-29 weeks
- Third trimester HIV, chlamydia, syphilis, gonorrhea
- Testing at time of hospital admission: Hepatitis B

### Education and Counseling (After Initial Prenatal Visit)
- Working
- Childbirth education classes
- Newborn care provider
- Anticipating labor
- Preterm labor
- Trial of labor after Cesarean delivery
- Elective deliveries are not recommended prior to 39 weeks of gestation without medical indication and documentation of term gestation
- Breastfeeding
- Postpartum contraception/sterilization/tubal ligation
• Psychosocial issues, including substance use or abuse, depression, intimate partner violence

### Treatment

- Anti-D immune globulin for unsensitized D-negative patients at 28-29 weeks and at the time of ectopic gestation, abortion, procedures associated with possible fetal-to-maternal bleeding, conditions associated with fetal-maternal hemorrhage, unexplained vaginal bleeding, delivery of a newborn who is D-positive.
- Immunizations:
  - Influenza vaccine for women who will be pregnant during the influenza season, using inactivated influenza vaccine.
  - Tdap – Administer one dose of Tdap during each pregnancy, preferably between 27 and 36 weeks gestation, regardless of the interval since prior Td or Tdap vaccination.
  - Other vaccines when specifically indicated: Hepatitis A, Hepatitis B, pneumococcal, meningococcal
- Use low-dose aspirin (81 mg/d) as preventive medication after 12 weeks of gestation in women who are at high risk for preeclampsia.

### III. Postpartum Care

For women with a Cesarean section or complicated pregnancy, a visit 7-14 days after delivery may be recommended. A postpartum visit is recommended for all women approximately 4-6 weeks after delivery. Services at that visit should include:

#### Postpartum Visit

**Interval History**

**Physical Exam**
- Weight, blood pressure, breasts, abdomen, pelvic exam (including examination of episiotomy repair and evaluation of uterine involution)
- Pap test if needed

**Testing**
- Women with gestational diabetes should be screened for diabetes 6-12 weeks postpartum

**Counseling**
- Breastfeeding
- Screen for postpartum depression, postpartum blues
- Discuss contraception and plans for future pregnancies
- Discuss implications of any pregnancy complications on future pregnancies
- Review immunizations and administer Tdap, rubella and/or varicella vaccines if indicated
- Counseling regarding behaviors, such as tobacco, alcohol, and other substance use, with referrals for follow up care if appropriate
### Immunization Schedules 2017

#### Childhood: 0-18 Years

This table provides recommended immunization schedules for children and adolescents aged 18 years or younger in the United States, 2017. It is important to note that these recommendations are based on the latest available data and should be read in conjunction with the footnotes provided. The schedule includes vaccination timetables for various vaccines, with emphasis on the importance of catch-up immunization for those who fall behind on their schedule.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>0 mos</th>
<th>1 mos</th>
<th>2 mos</th>
<th>3 mos</th>
<th>4 mos</th>
<th>5 mos</th>
<th>6 mos</th>
<th>7 mos</th>
<th>8 mos</th>
<th>9 mos</th>
<th>10 mos</th>
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<td>1st dose</td>
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<td>Inactivated poliovirus (IPV: &lt;18 yrs)</td>
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<td>Meningococcal 4v (MenC, MenB)</td>
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<td>Tetanus, diphtheria, &amp; acellular pertussis</td>
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**NOTE:** The above recommendations must be read along with the footnotes of this schedule.
**Catch-up Schedule: 4 Months to 18 Years**

Catch-up immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind — United States, 2016.

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**FIGURE 2. Catch-up immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind—United States, 2016.**

The figure below provides catch-up schedules and minimum intervals between doses. Doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child’s age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age for Dose 1</th>
<th>Dose 1 to Dose 2</th>
<th>Minimum Interval Between Doses</th>
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<tr>
<td></td>
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<td>Dose 2 to Dose 3</td>
<td>Dose 3 to Dose 4</td>
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<tr>
<td>Hepatitis B</td>
<td>Birth</td>
<td>4 weeks</td>
<td>8 weeks</td>
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<tr>
<td>Rotavirus</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks</td>
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<tr>
<td>Diphtheria, tetanus, and acellular pertussis</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks</td>
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<tr>
<td>Haemophilus influenzae type b</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>8 weeks</td>
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<tr>
<td>Haemophilus influenzae type b</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>8 weeks (as final dose)</td>
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<tr>
<td>Pneumococcal</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>8 weeks (as final dose)</td>
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<tr>
<td>Inactivated poliovirus</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>8 weeks</td>
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<tr>
<td>Measles, mumps, rubella</td>
<td>12 months</td>
<td>4 weeks</td>
<td>4 weeks</td>
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<tr>
<td>Varicella</td>
<td>12 months</td>
<td>3 months</td>
<td>4 weeks</td>
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<tr>
<td>Varicella</td>
<td>12 months</td>
<td>6 months</td>
<td>4 weeks</td>
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<tr>
<td>Menigococcal [I]</td>
<td>HB-MeningCY 6 weeks;</td>
<td>8 weeks</td>
<td>See footnote 11</td>
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<tr>
<td></td>
<td>Menigococcal [II]</td>
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<td>[II]: Menigococcal [II]</td>
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<td></td>
<td>HB: MenigCY 6 weeks;</td>
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<td>MenigW:CRM 2 weeks</td>
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<tr>
<td>Inactivated poliovirus</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>8 weeks</td>
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<tr>
<td>Measles, mumps, rubella</td>
<td>N/A</td>
<td>4 weeks</td>
<td>4 weeks</td>
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<tr>
<td>Varicella</td>
<td>N/A</td>
<td>4 weeks</td>
<td>4 weeks</td>
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</tbody>
</table>

**Children and adolescents age 7 through 18 years**

| Vaccine                        | Minimum Age for Dose 1 | Dose 1 to Dose 2 | Minimum Interval Between Doses |
|                                |                        | Dose 2 to Dose 3 | Dose 3 to Dose 4 | Dose 4 to Dose 5 |
| Meningococcal [I]              | Not Applicable (N/A)   | 8 weeks         |                  |                  |
|                                |                        |                 |                   |                  |
| Tetanus, diphtheria, tetanus,  | 7 years                | 4 weeks         | 4 weeks           |                  |
| diphtheria, and acellular      |                        |                 |                   |                  |
| pertussis                      |                        |                 |                   |                  |
|                                |                        |                 |                   |                  |
| Human papillomavirus           | 9 years                | 4 weeks         | 4 weeks           |                  |
|                                |                        |                 |                   |                  |
| Hepatitis A                   | N/A                    | 4 weeks         | 4 weeks           |                  |
|                                |                        |                 |                   |                  |
| Hepatitis B                   | N/A                    | 4 weeks         | 4 weeks           |                  |
|                                |                        |                 |                   |                  |
| Measles, mumps, rubella       | N/A                    | 4 weeks         | 4 weeks           |                  |
|                                |                        |                 |                   |                  |
| Varicella                      | N/A                    | 4 weeks         | 4 weeks           |                  |

**NOTE:** The above recommendations must be read along with the footnotes of this schedule.
Footnotes — Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger, UNITED STATES, 2017

For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

For vaccine recommendations for persons 19 years of age and older, see the Adult Immunization Schedule.

Additional information
- For information on contraindications and precautions for the use of a vaccine and for additional information regarding that vaccine, vaccination providers should consult the ACIP General Recommendations on Immunization and the relevant ACIP statement, available online at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For purposes of calculating intervals between doses, 4 weeks = 28 days. Intervals of 4 months or greater are determined by calendar months.
- Vaccine doses administered ≤4 days before the minimum interval considered valid. Doses of any vaccine administered ≤5 days earlier than the minimum interval or minimum age should not be counted as valid doses and should be repeated as age-appropriate. The repeat dose should be spaced after the invalid dose by the recommended minimum interval. For further details, see Table 1, Recommended minimal ages and intervals between vaccine doses, in MMWR, General Recommendations on Immunization and Reports / Vol. 60 / No. 2, available online at www.cdc.gov/mmwr/pdf/rr/rr6002.pdf.
- Information on travel vaccine requirements and recommendations is available at wwwnc.cdc.gov/travel/.
- The National Vaccine Injury Compensation Program (VICP) is a no-fault alternative to the traditional legal system for resolving vaccine injury petitions. Created by the National Childhood Vaccine Injury Act of 1986, it provides compensation to people found to be injured by certain vaccines. All vaccines within the recommended childhood immunization schedule are covered by VICP except for pneumococcal polysaccharide vaccine (PPSV23). For more information, see www.hrsa.gov/vaccinecompensation/index.html.

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

Routine vaccination:
- At birth:
  - Administer monovalent HepB Vaccine to all newborns within 24 hours of birth.
  - For infants born to hepatitis B surface antigen (HBsAg)-positive mothers, administer HepB vaccine and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) at age 9 through 12 months (preferably at the next well-child visit) or 1 to 2 months after completion of the HepB series if the series was delayed.
  - If mother's HBsAg status is unknown, within 12 hours of birth, administer HepB vaccine regardless of birth weight. For infants weighing less than 2,000 grams, administer HBIG in addition to HepB vaccine within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if mother is HBsAg-positive, also administer HBIG to infants weighing 2,000 grams or more as soon as possible, but no later than age 7 days.

Doses following the birth date:
- The second dose should be administered at age 1 or 2 months. Monovalent HepB vaccine should be used for doses administered before age 6 weeks.
- Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine on a schedule of 0, 1 to 2 months, and 6 months, starting as soon as feasible (see figure 2).
- Administer the second dose 1 to 2 months after the first dose (minimum interval of 4 weeks; administer the third dose at least 8 weeks after the second dose AND at least 16 weeks after the first dose). The final (third or fourth) dose in the HepB vaccine series should be administered no earlier than age 24 weeks.

- Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered after the birth dose.

Catch-up vaccination:
- Unvaccinated persons should complete a 3-dose series.
- A 2-dose series (doses separated by at least 4 months) of adult formulation Recombivax HB is licensed for use in children aged 11 through 15 years.
- For other catch-up guidance, see Figure 2.

Rotavirus (RV) vaccines. (Minimum age: 6 weeks for both RV1 [Rotarix] and RV5 [RotaTeq])

Routine vaccination:
- Administer a series of RV vaccine to all infants as follows:
  1. If Rotarix is used, administer a 2-dose series at ages 2 and 4 months.
  2. If RotaTeq is used, administer a 3-dose series at ages 2, 4, and 6 months.
  3. If any dose in the series was RotaTeq or vaccine product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be administered.

Catch-up vaccination:
- The maximum age for the first dose in the series is 14 weeks, 6 days; vaccination should not be initiated for infants aged 15 weeks, 0 days, or older.
- The maximum age for the first dose in the series is 8 months, 0 days.
- For other catch-up guidance, see Figure 2.

2. Haemophilus influenzae type b (Hib) conjugate vaccine.

- Minimum age: 6 weeks for PRP-T (ActHib, DTaP-IPV/Hib (Pentacel), Hibermix, and Hib-MenCY (MenHibrix), PRP-OMP (PedvaxHIB))

Routine vaccination:
- Administer a 2- or 3-dose Hib vaccine primary series and a booster dose (dose 3 or 4, depending on vaccine used in primary series) at age 12 through 15 months to complete a full Hib vaccine series.
- The primary series with ActHib, MenHibrix, Hibermix, or Pentacel consists of 3 doses and should be administered at ages 2, 4, and 6 months. The primary series with PedvaxHIB consists of 2 doses and should be administered at ages 2 and 4 months; a dose at age 6 months is not indicated.
- One booster dose (dose 3 or 4, depending on vaccine used in primary series) of any Hib vaccine should be administered at age 12 through 15 months.
- For recommendations on the use of MenHibrix in infants at increased risk for meningococcal disease, refer to the meningococcal vaccine footnotes and also to MMWR February 28, 2014 / 63(01):1-13, available at www.cdc.gov/mmwr/PDF/rr/rr6301.pdf.
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

Catch-up vaccination:

- If dose 1 was administered at ages 12 through 14 months, administer a second (final) dose at least 8 weeks after dose 1, regardless of Hib vaccine used in the primary series.
- If both doses were PRP-OMP (PedvaxHIB or COMVAX) and were administered before the first birthday, the third (and final) dose should be administered at age 12 through 59 months and at least 8 weeks after the second dose.
- If the first dose was administered at age 7 through 11 months, administer the second dose at least 4 weeks later and a third (and final) dose at age 12 through 15 months or 8 weeks after second dose, whichever is later.
- If first dose is administered before the first birthday and second dose administered at younger than 15 months, a third (and final) dose should be administered 8 weeks later.
- For unvaccinated children aged 15–59 months, administer only 1 dose.
- For other catch-up guidance, see Figure 2. For catch-up guidance related to MenHibrix, see the meningococcal vaccine footnotes and also MMWR February 28, 2014 / 63(RR01)-13, available at www.cdc.gov/mmwr/PDF/rr/rr6301.pdf.

Vaccination of persons with high-risk conditions:
Children aged 12 through 59 months who are at increased risk for Hib disease, including chemotherapy recipients and those with anatomic or functional asplenia (including sickle cell disease), human immunodeficiency virus (HIV) infection, immunoglobulin deficiency, or early component complement deficiency, who have received either no doses or only 1 dose of Hib vaccine before age 12 months, should receive 2 additional doses of Hib vaccine, 8 weeks apart; children who received 2 or more doses of Hib vaccine before age 12 months should receive 1 additional dose.

- For patients younger than age 5 years undergoing chemotherapy or radiation treatment who received a Hib vaccine dose(s) within 14 days of starting therapy or during therapy, repeat the dose(s) at least 3 months following therapy completion.
- Recipients of hematopoietic stem cell transplant (HSCT) should be vaccinated with a 3-dose regimen of Hib vaccine starting 6 to 12 months after successful transplant, regardless of vaccination history; doses should be administered at least 4 weeks apart.
- A single dose of any Hib-containing vaccine should be administered to unimmunized* children and adolescents 15 months of age and older undergoing an elective splenectomy; if possible, vaccine should be administered at least 14 days before procedure.
- Hib vaccine is not routinely recommended for patients 5 years or older. However, 1 dose of Hib vaccine should be administered to unimmunized* persons aged 5 years or older who have anatomic or functional asplenia (including sickle cell disease) and unimmunized* persons 5 through 18 years of age with HIV infection.
- Patients who have not received a primary series and booster dose or at least 1 dose of Hib vaccine after 14 months of age are considered unimmunized.

Pneumococcal vaccines. (Minimum age: 6 weeks for PCV13, 2 years for PPSV23)

Routine vaccination with PCV13:
Administer a 4-dose series of PCV13 at ages 2, 4, and 6 months and at age 12 through 15 months.

Catch-up vaccination with PCV13:
- Administer 1 dose of PCV13 to all healthy children aged 24 through 59 months who are not completely vaccinated for their age.
- For other catch-up guidance, see Figure 2.

Vaccination of persons with high-risk conditions with PCV13 and PPSV23:
- All recommended PCV13 doses should be administered prior to PPSV23 vaccination if possible.
- For children aged 2 through 5 years with any of the following conditions: chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure); chronic lung disease (including asthma if treated with high-dose oral corticosteroid therapy); diabetes mellitus; renal failure; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; generalized malignancy; solid organ transplantation; or multiple myeloma.

Inactivated poliovirus vaccine (IPV). (Minimum age: 6 weeks)

Routine vaccination:
- Administer a 4-dose series of IPV at ages 2, 4, through 18 months, and 4 through 6 years. The final dose in the series should be administered on or after the fourth birthday and at least 6 months after the previous dose.

Catch-up vaccination:
- In the first 6 months of life, minimum age and minimum intervals are only recommended if the person is at risk of imminent exposure to circulating poliovirus (i.e., travel to a polio-endemic region or during an outbreak).
- If 4 or more doses are administered before age 4 years, an additional dose should be administered at age 4 through 6 years and at least 6 months after 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 after the previous dose.
- If both oral polio vaccine (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. If only OPV was administered, and all doses were given prior to age 4 years, 1 dose of IPV should be given at 4 years or older, at least 4 weeks after the last OPV dose.
- IPV is not routinely recommended for U.S. residents aged 18 years or older.

For other catch-up guidance, see Figure 2.
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

7. Influenza vaccines. (Minimum age: 6 months for inactivated influenza vaccine [IIV], 18 years for recombinant influenza vaccine [RIV])

Routine vaccination:
- Administer influenza vaccine annually to all children beginning at age 6 months. For the 2016–2017 season, use of live attenuated influenza vaccine (LAIV) is not recommended.

For children aged 6 months through 8 years:
- For the 2016–2017 season, administer 2 doses (separated by at least 4 weeks) to children who are receiving influenza vaccine for the first time or who have not previously received ≥2 doses of trivalent or quadrivalent influenza vaccine before July 1, 2016. For additional guidance, follow dosing guidelines in the 2016–2017 ACIP influenza vaccine recommendations (see MMWR August 26, 2016;65(5):1-34, available at www.cdc.gov/mmwr/volumes/65/rr/pdfs/rr6505.pdf).


For persons aged 9 years and older:
- Administer 1 dose.

8. Measles, mumps, and rubella (MMR) vaccine. (Minimum age: 12 months for routine vaccination)

Routine vaccination:
- Administer a 2-dose series of MMR vaccine at ages 12 through 15 months and at 4 through 6 years. The second dose may be administered before age 4 years, provided that at least 4 weeks have elapsed since the first dose.
- Administer 1 dose of MMR vaccine to infants aged 6 through 11 months before departure from the United States for international travel. These children should be revaccinated with 2 doses of MMR vaccine, the first at age 12 through 15 months (12 months if the child remains in an area where disease risk is high), and the second dose at least 4 weeks later.
- Administer 2 doses of MMR vaccine to children aged 12 months and older before departure from the United States for international travel. The first dose should be administered on or after age 12 months and the second dose at least 4 weeks later.

Catch-up vaccination:
- Ensure that all school-aged children and adolescents have had 2 doses of MMR vaccine; the minimum interval between the 2 doses is 4 weeks.

9. Varicella (VAR) vaccine. (Minimum age: 12 months)

Routine vaccination:
- Administer a 2-dose series of VAR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided that at least 3 months have elapsed since the first dose. If the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.

Catch-up vaccination:
- Ensure that all persons aged 7 through 18 years without evidence of immunity (see MMWR 2007;56(No. RR-4), available at www.cdc.gov/mmwr/pdf/rr/rr5604.pdf) have 2 doses of varicella vaccine. For children aged 7 through 12 years, the recommended minimum interval between doses is 3 months (if the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid); for persons aged 13 years and older, the minimum interval between doses is 4 weeks.

10. Hepatitis A (HepA) vaccine. (Minimum age: 12 months)

Routine vaccination:
- Initiate the 2-dose HepA vaccine series at ages 12 through 23 months; separate the 2 doses by 6 to 18 months.
- Children who have received 1 dose of HepA vaccine before age 24 months should receive a second dose 6 to 18 months after the first dose.
- For any person aged 2 years and older who has not already received the HepA vaccine series, 2 doses of HepA vaccine separated by 6 to 18 months may be administered if immunity against hepatitis A virus infection is desired.

Catch-up vaccination:
- The minimum interval between the 2 doses is 6 months.

Special populations:
- Administer 2 doses of HepA vaccine at least 6 months apart to previously unvaccinated persons who live in areas where vaccination programs target older children, or who are at increased risk for infection. This includes persons traveling to or working in countries that have high or intermediate endemicity of infection; men having sex with men; users of injection and non-injection illicit drugs; persons who work with HIV-infected primates or with HIV in a research laboratory; persons with clotting factor disorders; persons with chronic liver disease; and 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. The first dose should be administered as soon as the adoption is planned, ideally, 2 or more weeks before the arrival of the adoptee.

11. Meningococcal vaccines. (Minimum age: 6 weeks for Hib-MenCY [MenB]rix, 2 months for MenACWY-CRM [Menveo], 9 months for MenACWY-D [Menactra], 10 years for serogroup B meningococcal [MenB] vaccines; MenB-4C [Boxerco] and MenB-Hib [Trumenba])

Routine vaccination:
- Administer a single dose of MenB or Menveo vaccine at age 11 through 12 years, with a booster dose at age 16 years.
- For children aged 2 months through 18 years with high-risk conditions, see “Meningococcal conjugate ACWY vaccination of persons with high-risk conditions and other persons at increased risk” and “Meningococcal B vaccination of persons with high-risk conditions and other persons at increased risk of disease” below.

Catch-up vaccination:
- Administer Menactra or Menveo vaccine at age 13 through 18 years if not previously vaccinated.
- If the first dose is administered at age 13 through 15 years, a booster dose should be administered at age 16 through 18 years, with a minimum interval of at least 8 weeks between doses.
- If the first dose is administered at age 16 years or older, a booster dose is not needed.

Clinical discretion:
- Young adults aged 16 through 23 years (preferred age range is 16 through 18 years) who are not at increased risk for meningococcal disease may be vaccinated with a 2-dose series of either Boxerco (0, ≤1 month) or Trumenba (0, 6 months) vaccine to provide short-term protection against most strains of serogroup B meningococcal disease. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses.
- If the second dose of Trumenba is given at an interval of <6 months, a third dose should be given at least 6 months after the first dose; the minimum interval between the second and third doses is 4 weeks.

Meningococcal conjugate ACWY vaccination of persons with high-risk conditions and other persons at increased risk:
- Children with anatomic or functional asplenia (including sickle cell disease), children with HIV infection, or children with persistent complement component deficiency. Includes persons with inherited or chronic deficiencies in C3, C5, C9, properdin, factor D, factor H, or taking eculizumab (Soliris):
  - Menveo
    - Children who initiate vaccination at 8 weeks. Administer doses at ages 2, 4, 6, and 12 months.
    - Unvaccinated children who initiate vaccination at 7 through 23 months. Administer 2 primary doses, with the second dose at least 12 weeks after the first dose AND after the first birthday.
    - Children 24 months and older who have not received a complete series. Administer 2 primary doses at least 8 weeks apart.
  - MenBrix
    - Children who initiate vaccination at 6 weeks. Administer doses at ages 2, 4, 6, and 12 through 15 months.
    - If the first dose of MenBrix is given at or after age 12 months, a total of 2 doses should be given at least 8 weeks apart to ensure protection against serogroups C and Y meningococcal disease.
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

- **Menactra**
  - **Children with anatomic or functional asplenia or HIV infection**
    - Children 24 months and older who have not received a complete series. Administer 2 primary doses at least 8 weeks apart. If Menactra is administered to a child with asplenia (including sickle cell disease) or HIV infection, do not administer Menactra until age 2 years and at least 4 weeks after the completion of all PCV13 doses.
  - **Children with persistent complement component deficiency**
    - Children 9 through 23 months. Administer 2 primary doses at least 12 weeks apart.
    - Children 24 months and older who have not received a complete series. Administer 2 primary doses at least 8 weeks apart.
  - **All high-risk children**
    - If Menactra is to be administered to a child at high risk for meningococcal disease, it is recommended that Menactra be given either before or at the same time as DTaP.

Meningococcal B vaccination of persons with high-risk conditions and other persons at increased risk of disease: Children with anatomic or functional asplenia (including sickle cell disease) or children with persistent complement component deficiency includes persons with inherited or chronic deficiencies in C3, C5-9, properdin, factor D, factor H, or having eczema (Solliris).

- **Bexsero or Trumenba**
  - **Persons 10 years or older who have not received a complete series.** Administer a 2-dose series of Bexsero with doses at least 1 month apart, or a 3-dose series of Trumenba, with the second dose at least 1–2 months after the first and the third dose at least 6 months after the first. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses.

For children who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic, including countries in the African meningitis belt or the Hajj:

- **Administer an age-appropriate formulation and series of Menactra or Meneve for protection against serogroups A and W meningococcal disease.** Prior receipt of MenBpXrix is not sufficient for children traveling to the meningitis belt or the Hajj because it does not contain serogroups A or W.

For children at risk during an outbreak attributable to a vaccine serogroup:

- **For serogroup A, C, W, or Y:** Administer or complete an age- and formulation-appropriate series of MenBpXrix, Menactra, or Meneve.

- **For serogroup B:** Administer a 2-dose series of Bexsero with doses at least 1 month apart, or a 3-dose series of Trumenba, with the second dose at least 1–2 months after the first and the third dose at least 6 months after the first. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses.


For other catch-up recommendations for these persons and complete information on use of meningococcal vaccines, including guidance related to vaccination of persons at increased risk of infection, see meningococcal MMWR publications, available at www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html.

12. **Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine. **(Minimum age: 10 years for both Boostrix and Adacel)

Routine vaccination:
- **Administer 1 dose of Tdap vaccine to all adolescents aged 11 through 12 years.**
- **Tdap may be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.**
- **Administer 1 dose of Tdap vaccine to pregnant adolescents during each pregnancy (preferably during the early part of gestational weeks 27 through 36), regardless of time since prior Td or Tdap vaccination.

Catch-up vaccination:
- **Persons aged 7 years and older who are not fully immunized with DTaP vaccine should receive Tdap vaccine at 1 dose (preferably the first) in the catch-up series, if additional doses are needed. Use Td vaccine.**
- **For children 1 through 10 years who have received Tdap as part of the catch-up series, adolescents aged 11 through 12 years may be administered.**
- **Persons aged 11 through 18 years who have not received Tdap vaccine should receive a dose, followed by tetanus and diphtheria toxoids (Td) booster doses every 10 years thereafter.**
- **Inadvertent doses of Td vaccine:**
  - **If administered inadvertently to a child aged 7 through 10 years, the dose may count as part of the catch-up series.**
  - **If administered inadvertently to a child aged 11 through 18 years, the dose should be counted as the adolescent Tdap booster.**
- **For other catch-up guidance, see Figure 2.**

13. **Human papillomavirus (HPV) vaccines. **(Minimum age: 9 years for 4vHPV [Gardasil] and 9vHPV [Gardasil 9])

Routine and catch-up vaccination:
- **Administer a 2-dose series of HPV vaccine on a schedule of 0, 6-12 months to all adolescents aged 11 or 12 years.**
- **The vaccination series can start at age 9 years.**
- **Administer HPV vaccine to all adolescents through age 18 years who were not previously adequately vaccinated. The number of recommended doses is based on age at administration of the first dose.**
- **For persons initiating vaccination before age 15, the recommended immunization schedule is 2 doses of HPV vaccine at 0, 6-12 months.**
- **For persons initiating vaccination at age 15 years or older, the recommended immunization schedule is 3 doses of HPV vaccine at 0, 1–2, 6 months.**
- **A vaccine dose administered at a shorter interval should be readministered at the recommended interval.**
- **In a 2-dose schedule of HPV vaccine, the minimum interval is 5 months between the first and second dose. If the second dose is administered at a shorter interval, a third dose should be administered a minimum of 12 weeks after the second dose and a minimum of 5 months after the first dose.**
- **In a 3-dose schedule of HPV vaccine, the minimum intervals are 4 weeks between the first and second dose, 12 weeks between the second and third dose, and 5 months between the first and third dose. If a vaccine dose is administered at a shorter interval, it should be readministered after another minimum interval has been met since the most recent dose.**

Special populations:
- **For children with history of sexual abuse or assault, administer HPV vaccine beginning at age 9 years.**
- **Immunocompromised persons**, including those with human immunodeficiency virus (HIV) infection, should receive a 3-dose series at 0, 1–2, and 6 months, regardless of age at vaccine initiation.
- **Note: HPV vaccination is not recommended during pregnancy, although there is no evidence that the vaccine poses harm. If a woman is found to be pregnant after initiating the vaccination series, no intervention is needed; the remaining vaccine doses should be delayed until after the pregnancy. Pregnancy testing is not needed before HPV vaccination.**

*See MMWR December 16, 2016;65(49):1405-1408, available at www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6549a5.pdf.*
The New Mexico Optimized “Done BY One” Schedule takes advantage of the fact that childhood immunizations can be completed by the first birthday. Research has shown that this increase the likelihood children will get their full set of immunizations. The 2014 schedule is the most current version available at the time of publication. More Information is at: [http://nmhealth.org/publication/view/general/450](http://nmhealth.org/publication/view/general/450)

### New Mexico Optimized “Done by One” Schedule

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Birth</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7-11</th>
<th>12</th>
<th>18</th>
<th>24</th>
<th>48</th>
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<tbody>
<tr>
<td>DTaP¹ (Diphtheria, Tetanus, Pertussis)</td>
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<tr>
<td>Hepatitis A²</td>
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<td>HIB⁴ (Haemophilus influenzae type b)</td>
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<td>MMR⁶ (Measles, Mumps, Rubella)</td>
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<td>Pneumococcal⁸</td>
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<td>Polio</td>
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<td>Rotavirus⁹</td>
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<td>Varicella¹⁰</td>
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'DBO' indicates the earliest ages for routine administration of currently licensed childhood vaccines, as of July 22, 2014 for children aged 0 through 6 years. Additional information is available at [www.cdc.gov/vaccines/recs/schedules](http://www.cdc.gov/vaccines/recs/schedules). Any dose not administered at the recommended age should be administered at any subsequent visit, when indicated and feasible. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines are recommended whenever any components of the combination are indicated and other components of the vaccine are not contraindicated and if approved by the Food and Drug Administration for that dose of the series. Providers should consult the respective Advisory Committee on Immunization Practices statement for detailed recommendations, including for high risk conditions: [http://www.cdc.gov/vaccines/pubs/ACIP-list.htm](http://www.cdc.gov/vaccines/pubs/ACIP-list.htm). Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete VAERS form is available at [www.vaers.hhs.gov](http://www.vaers.hhs.gov) or by telephone, 800-822-7967.

_new Mexico 2014_
1. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP). (Minimum age: 6 weeks)
   - The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose.
   - Administer the final dose in the series at age 4-6 years.

2. Hepatitis A vaccine (HepA). (Minimum age: 12 months)
   - HepA is recommended for all children aged 1 yr (i.e., aged 12–23 months). The 2 doses in the series should be administered at least 6 months apart.
   - Children not fully vaccinated by age 2 years can be vaccinated at subsequent visits.

3. Hepatitis B vaccine (HepB). (Minimum age: birth)
   - Monitor patients with maternal status unknown (HBsAg-positive mothers must be given HepB vaccine and 65 ml of hepatitis B immune globulin (HBIG) within 12 hours of birth).
   - If the mother’s HBsAg status is unknown, administer HepB within 12 hours of birth.
   - Determine the HBsAg status as soon as possible and if HBsAg-positive, administer HBIG (no later than age 1 week).
   - If the mother is HBsAg-negative, the birth dose can be delayed, in rare cases, with a provider’s order and a copy of the mother’s negative HBsAg laboratory report in the infant’s medical record.
   - The HepB series should be completed with either monovalent HepB or a combination vaccine containing HepB. The second dose should be administered at age 1–2 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 after completion of at least 3 doses of a licensed HepB series, at age 9–18 months (generally at the next well-child visit).
   - 4-month dose:
     - If the patient weighs more than 2 kg (4 lb 6.5 oz) prior to hospital discharge, delayed giving HepB vaccine until smaller infants reach 2 kg except that all infants with hepatitis B surface antigen (HBsAg)-positive mothers must be given HepB vaccine and 65 ml of hepatitis B immune globulin (HBIG) within 12 hours of birth.

4. Haemophilus influenzae type b conjugate vaccine (Hib). (Minimum age: 6 weeks)
   - Pedvax-Hib or Comvax are recommended for Native American patients.
   - If PRP-OMP (Pedvax-Hib) or Comvax (Merk) is administered at both 2 and 4 months, a dose at age 6 months is not indicated.
   - TetraHIB (DTaP + Hib) should not be used for doses at ages 2, 4, or 6 months but can be used as the final dose in children 12 months or older.

5. Influenza vaccine. (Minimum age: 6 months for inactivated influenza vaccine [IIV]; 2 years for live, attenuated influenza vaccine [LAIV])
   - Administer annually to all over 6 months of age.
   - For healthy nonpregnant persons (i.e., those who do not have underlying medical conditions that predispose them to influenza complications) aged 2 through 49 years, either LAIV or IIV may be used.
   - Children receiving IIV should receive 0.25 ml if aged 6 through 35 months or 0.5 ml if aged 3 years or older.
   - Administer 2 doses (separated by at least 4 weeks) to children aged younger than 9 years who are receiving influenza vaccine for the first time. Most children younger than 9 years who have not received at least 2 doses in the past 2 years may also need 2 doses. Check current flu season immunization information at www.cdc.gov for algorithm to see who needs a second dose.

6. Measles, mumps, and rubella vaccine (MMR). (Minimum age: 12 months)
   - Administer the second dose of MMR at age 4–6 years. MMR may be administered before age 4–6 years, provided 4 weeks or more have elapsed since the first dose.
   - Where children may be exposed to measles during travel, the first dose may be given as early as 8 months, but any dose delivered before 12 months does not count toward the 2 doses needed at the regularity scheduled ages.

7. Meningococcal vaccine. (Minimum age: 9 months for meningococcal conjugate vaccine (MCV) and 2 years for meningococcal polysaccharide vaccine (MPSV))
   - MCV is recommended for children aged 9 months to 10 years with terminal complement deficiencies or anatomic or functional asplenia and certain other high-risk groups. Use of MPSV is acceptable.
   - Persons who received MPSV 3 or more years prior and remain at increased risk for meningococcal disease should be vaccinated with MCV.

8. Pneumococcal vaccine. (Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPSV])
   - Administer one dose of PCV 13 to all healthy children aged 24–59 months who are not completely vaccinated for their age.
   - Administer PPSV to children aged 2 years and older with underlying medical conditions. The definition of qualifying medical conditions causing a need for a PPSV dose is contained in the ACP statement available at http://www.cdc.gov/mmwr/prevw/mmwrhtml/rr4998a1.htm

The NM “Done by One” Childhood Immunization Schedule is consistent with the schedule approved by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/recs/acip), the American Academy of Pediatrics (http://www.aap.org), and the American Academy of Family Physicians (http://www.aafp.org).

New Mexico Department of Health & New Mexico Medical Society, IPAC (Immunization Practices Advisory Council), July 2014
### Adult: Over 18 Years

Figures 1 and 2 should be read with the footnotes that contain important general information and considerations for special populations.

#### Figure 1. Recommended immunization schedule for adults aged 19 years or older by age group, United States, 2017

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–21 years</th>
<th>22–26 years</th>
<th>27–59 years</th>
<th>60–64 years</th>
<th>≥ 65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Influenza</strong>¹</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 dose annually</td>
</tr>
<tr>
<td><strong>Td/Tdap</strong>²</td>
<td></td>
<td></td>
<td></td>
<td>Substitute Tdap for Td once, then Td booster every 10 yrs</td>
<td></td>
</tr>
<tr>
<td><strong>MMR</strong>³</td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VAR</strong>⁴</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 doses</td>
</tr>
<tr>
<td><strong>HZV</strong>⁵</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 dose</td>
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<tr>
<td><strong>HPV–Female</strong>⁶</td>
<td></td>
<td>3 doses</td>
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<tr>
<td><strong>HPV–Male</strong>⁶</td>
<td></td>
<td></td>
<td>3 doses</td>
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<tr>
<td><strong>PCV13</strong>⁷</td>
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<td></td>
<td></td>
<td>1 dose</td>
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<tr>
<td><strong>PPSV23</strong>⁷</td>
<td></td>
<td></td>
<td></td>
<td>1 dose</td>
<td>1 dose</td>
</tr>
<tr>
<td><strong>HepA</strong>⁸</td>
<td></td>
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<td></td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
</tr>
<tr>
<td><strong>HepB</strong>⁹</td>
<td></td>
<td></td>
<td></td>
<td>3 doses</td>
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</tr>
<tr>
<td><strong>MenACWY or MPSV4</strong>¹⁰</td>
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<td></td>
<td>1 or more doses depending on indication</td>
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<td></td>
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<tr>
<td><strong>MenB</strong>¹⁰</td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hib</strong>¹¹</td>
<td></td>
<td></td>
<td></td>
<td>1 or 3 doses depending on indication</td>
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</tbody>
</table>

**Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection**

**Recommended for adults with additional medical conditions or other indications**

**No recommendation**
## Figure 2. Recommended immunization schedule for adults aged 19 years or older by medical condition and other indications, United States, 2017

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Pregnancy</th>
<th>Immunocompromised (excluding HIV infection)</th>
<th>HIV infection CD4+ count (cells/µL)</th>
<th>Asplenia, persistent complement deficiencies</th>
<th>Kidney failure, end-stage renal disease, on hemodialysis</th>
<th>Heart or lung disease, chronic alcoholism</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
<th>Healthcare personnel</th>
<th>Men who have sex with men</th>
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<tbody>
<tr>
<td>Influenza³</td>
<td></td>
<td>1 dose annually</td>
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<tr>
<td>Td/Tdap²</td>
<td>1 dose</td>
<td>Substitute Tdap for Td once, then Td booster every 10 yrs</td>
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<tr>
<td>MMR³</td>
<td>contraindicated</td>
<td></td>
<td>1 or 2 doses depending on indication</td>
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<tr>
<td>VAR⁴</td>
<td>contraindicated</td>
<td></td>
<td>2 doses</td>
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<tr>
<td>HZV⁵</td>
<td>contraindicated</td>
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<td>1 dose</td>
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<tr>
<td>HPV–Female⁶</td>
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<td>3 doses through age 26 yrs</td>
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<tr>
<td>HPV–Male⁶</td>
<td></td>
<td>3 doses through age 26 yrs</td>
<td></td>
<td>3 doses through age 21 yrs</td>
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<tr>
<td>PCV13⁷</td>
<td></td>
<td>1 dose</td>
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<tr>
<td>PPSV23⁷</td>
<td></td>
<td>1, 2, or 3 doses depending on indication</td>
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<tr>
<td>HepA⁸</td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td>HepB⁹</td>
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<td>MenACWY or MPSV4⁹⁰</td>
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<td>1 or more doses depending on indication</td>
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<tr>
<td>MenB³⁹⁰</td>
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<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td>Hib¹¹</td>
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<td>3 doses post-HSCT recipients only</td>
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</tbody>
</table>

* Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection
* Recommended for adults with additional medical conditions or other indications
* Contraindicated
* No recommendation

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Divisions of Health Care Service Corporation, a Mutual Legal Reserve Company, an Independent Licensee of the Blue Cross and Blue Shield Association
Footnotes. Recommended immunization schedule for adults aged 19 years or older, United States, 2017

1. Influenza vaccination

General information
- All persons aged 6 months or older who do not have a contraindication should receive annual influenza vaccination with an age-appropriate form of inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV).
- In addition to standard-dose IV, available options for adults in specific age groups include: high-dose or adjuvanted IV for adults aged 65 years or older, intradural IV for adults aged 18 through 64 years, and IIV for adults aged 18 years or older.
- Notes: Live attenuated influenza vaccine (LAIV) should not be used during the 2016–2017 influenza season. A list of currently available influenza vaccines is available at www.cdc.gov/mmwr/preview/ mmwrhtml/mm6504.htm.

Special populations
- Adults with a history of egg allergy who have only hives after exposure to egg should receive age-appropriate IV or RIV.
- Adults with a history of egg allergy other than hives, e.g., angioedema, respiratory distress, lightheadedness, or recurrent emesis, or who required epinephrine or another emergency medical intervention, may receive age-appropriate IV or RIV. The selected vaccine should be administered in an inpatient or outpatient medical setting and under the supervision of a healthcare provider who is able to recognize and manage severe allergic reactions.
- Pregnant women and women who might become pregnant in the upcoming influenza season should receive IIV.

2. Tetanus, diphtheria, and acellular pertussis vaccination

General information
- Adults who have not received tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap) or for whom pertussis vaccination status is unknown should receive 1 dose of Tdap followed by a tetanus and diphtheria toxoids (Td) booster every 10 years. Tdap should be administered regardless of when a tetanus or diphtheria toxoid-containing vaccine was last given.
- Adults with an unknown or incomplete history of a 3-dose primary series with tetanus and diphtheria toxoid-containing vaccines should receive 1 dose of Tdap followed by a Td booster every 10 years. Unvaccinated adults should receive the first 2 doses at least 4 weeks apart and the third dose 6–12 months after the second dose.
- Notes: Information on the use of Td or Tdap as tetanus prophylaxis in wound management is available at www.cdc.gov/mmwr/preview/mmwrhtml/mm6901.htm.

Special populations
- Pregnant women should receive 1 dose of Tdap during each pregnancy, at least 28 weeks’ gestation, to prevent early onset of neonatal tetanus.

3. Measles, mumps, and rubella vaccination

General information
- Adults born in 1957 or later who have no evidence of immunity to measles, mumps, or rubella (defined below) should receive 1 dose of measles, mumps, and rubella vaccine (MMR) unless they have a medical contraindication to the vaccine, e.g., pregnancy or severe immunodeficiency.
- Notes: Acceptable evidence of immunity to measles, mumps, or rubella in adults born before 1957 is documentation of receipt of MMR. Laboratory evidence of immunity or disease. Documentation of healthcare provider-diagnosed disease without laboratory confirmation is not acceptable evidence of immunity.

Special populations
- Pregnant women should be assessed for evidence of immunity. Pregnant women who do not have evidence of immunity should receive the first dose of MMR upon completion or termination of pregnancy and before discharge from the healthcare facility. Pregnant women of childbearing age without evidence of immunity should receive 1 dose of MMR.
- Adults with primary or acquired immunodeficiency including malignant conditions affecting the bone marrow or lymphatic system, systemic immunodeficiency, or cellular immunodeficiency should not receive MMR.
- Adults with human immunodeficiency virus (HIV) infection and CD4+ T-lymphocyte count <200 cells/μl may receive 2 doses of VAR 3 months apart. Adults with HIV infection and CD4+ T-lymphocyte count <200 cells/μl should not receive Tdap.

5. Herpes zoster vaccination

General information
- Adults aged 60 years or older should receive 1 dose of herpes zoster vaccine (HZV), regardless of whether they had a prior episode of herpes zoster.
- Special populations
  - Adults aged 60 years or older with chronic medical conditions may receive HZV unless they have a medical contraindication, e.g., pregnancy or severe immunodeficiency.
  - Adults with malignant conditions, including those that affect the bone marrow or lymphatic system or who receive systemic immunosuppressive therapy, should not receive HZV.
  - Adults with human immunodeficiency virus (HIV) infection and CD4+ T-lymphocyte count <200 cells/μl should not receive HZV.

6. Human papillomavirus vaccination

General information
- Adult females through age 26 years and adult males through age 21 years who have not received any human papillomavirus (HPV) vaccine should receive a 3-dose series of HPV vaccine at 0, 1, and 6 months.
- Adults ages 22 through 26 years may be vaccinated with a 4-dose series of HPV vaccine at 0, 1, 2, and 6 months.
- Adult males through age 26 years and adult males through age 21 years (and males aged 22 through 26 years who may receive HPV vaccination) who initiated the HPV vaccination series before age 15 years and received 2 doses at least 5 months apart are considered adequately vaccinated and do not need an additional dose of HPV vaccine.
- Adults females through age 26 years and adult males through age 21 years (and males aged 22 through 26 years who may receive HPV vaccination) who initiated the HPV vaccination series before age 10 years, and received only 1 dose, or 2 doses less than 5 months apart are not considered adequately vaccinated and should receive 1 additional dose of HPV vaccine.
- Notes: HPV vaccination is routinely recommended for children at age 11 or 12 years. For adults who had initiated but did not complete the HPV vaccination series, consider their age at first HPV vaccination (described above) and other factors (described below) to determine if they have been adequately vaccinated.

Special populations
- Men who have sex with men through age 26 years who have not received any HPV vaccine should receive a 3-dose series of HPV vaccine at 0, 1, and 6 months.
- Adult females and males through age 26 years with immunocompromising conditions (described below), including those with human immunodeficiency virus (HIV) infection, should receive a 3-dose series of HPV vaccine at 0, 1, and 6 months.
- Pregnant women are not recommended to receive HPV vaccine, although there is no evidence that the vaccine poses harm. If a woman is found to be pregnant after initiating the HPV vaccination series, delay the remaining doses until after the pregnancy. No other intervention is needed. Pregnancy testing is not needed before administering HPV vaccine.
- Notes: Immunocompromising conditions for which a 3-dose series of HPV vaccine is indicated are primary or secondary immunocompromising conditions that might reduce cell-mediated or humoral immunity, e.g., hemoglobinopathy and antibody deficiencies, complete or partial T lymphocyte defects, HIV infection, malignant neoplasm, transplantation, autoimmune disease, and immunosuppressive therapy.
7. Pneumococcal vaccination

General Information

- Adults who are immunocompetent and aged 65 years or older should receive 13-valent pneumococcal conjugate vaccine (PCV13) followed by 23-valent pneumococcal polysaccharide vaccine (PPSV23) at least 1 year after PCV13.

Notes: Adults are recommended to receive 1 dose of PCV13 and 1, 2, or 3 doses of PCV13 depending on age and indication. When both PCV13 and PPSV23 are indicated, PCV13 should be administered first, and PPSV23 should not be administered during the same visit. If PPSV23 has previously been administered, PCV13 should be administered at least 1 year after PPSV23. When both doses of PPSV23 are indicated, the interval between PPSV23 doses should be at least 5 years.

Supplemental information on pneumococcal vaccine timing for adults aged 65 years or older, and adults aged 19 years or older with a history of pneumococcal disease (described below) is available at www.cdc.gov/vaccines/pdp-vac/preven/downloads/adult-vac-clinic-id.pdf. No additional doses of PPSV23 are indicated for adults who received PCV13 at 2 years of age.

Special populations

- Adults aged 19 through 64 years with chronic heart disease including congestive heart failure and cardiomyopathies (excluding hypertension), chronic lung disease including chronic obstructive lung disease, emphysema, and asthma; chronic liver disease including cirrhosis; alcoholics or diabetes mellitus; or who smoke cigarettes should receive PPSV23. At age 65 years or older, they should receive PCV13 and another dose of PPSV23 at least 1 year after PCV13 and at least 5 years after the most recent dose of PPSV23.

- Adults aged 19 years or older with immunocompromising conditions or anatomical or functional asplenia (described below) should receive PCV13 and a dose of PPSV23 at least 8 weeks after PCV13, followed by a second dose of PPSV23 at least 8 weeks after the first dose.

- Adults aged 19 years or older with cerebrospinal fluid leak or cochlear implant should receive PCV13 followed by PPSV23 at least 8 weeks after PCV13. The first dose of PPSV23 was administered before age 65 years, at age 65 years or older, administer another dose of PPSV23 at least 8 weeks after PCV13.

- Adults aged 19 years or older with cerebrospinal fluid leak or cochlear implant should receive PCV13 followed by PPSV23 at least 8 weeks after PCV13. The second dose of PPSV23 was administered before age 65 years, at age 65 years or older, administer another dose of PPSV23 at least 8 weeks after PCV13.

- Adults aged 19 years or older with cerebrospinal fluid leak or cochlear implant should receive PCV13 followed by PPSV23 at least 8 weeks after PCV13. The third dose of PPSV23 was administered before age 65 years, at age 65 years or older, administer another dose of PPSV23 at least 8 weeks after PCV13.

- Adults aged 19 years or older with cerebrospinal fluid leak or cochlear implant should receive PCV13 followed by PPSV23 at least 8 weeks after PCV13. The fourth dose of PPSV23 was administered before age 65 years, at age 65 years or older, administer another dose of PPSV23 at least 8 weeks after PCV13.

8. Hepatitis A vaccination

General Information

- Adults who seek protection from hepatitis A virus infection should receive a 2-dose series of single antigen hepatitis A vaccine (HepAt) at either 0 and 6–12 months (Havat) or 0 and 18 months (Vaxat). Adults may also receive a combined hepatitis A and Hepatitis B vaccine (Twintak) as a 3-dose series at 0, 1, and 6 months. Acknowledgment of a specific risk factor by those who seek protection is not needed.

9. Hepatitis B vaccination

General Information

- Adults who seek protection from hepatitis B virus infection may receive a 3-dose series of single-antigen hepatitis B vaccine (HepB) (Engerix-B, Recombivax HB, or Engerix-B) at 0, 1, and 6 months. Adults may also receive a combined hepatitis A and hepatitis B vaccine (HepA-HepB) (Twintak) at 0, 1, and 6 months. Acknowledgment of a specific risk factor by those who seek protection is not needed.

Special populations

- Adults at risk for hepatitis B virus infection by sexual exposure should receive a HepB series, including sex partners of hepatitis B surface antigen (HBsAg)-positive persons, sexually active persons who are not in a mutually monogamous relationship, persons seeking evaluation or treatment for a sexually transmitted infection, and men who have sex with men (MSM).

- Adults at risk for hepatitis B virus infection by percutaneous or mucosal exposure to blood should receive a HepB series, including adults who are recent or current users of injection drugs, household contacts of HBsAg-positive persons, residents or staff of facilities for developmentally disabled persons, incarcerated, healthcare and public safety workers at risk for exposure to blood or blood-contaminated body fluids, younger than age 16 years, adults with diabetes mellitus, and age 65 years or older with diabetes mellitus at the discretion of the treating clinician.

- Adults with no prior hepatitis infectionincluding, but not limited to, hepatitis C virus infection, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, and an alanine aminotransferase (ALT) or aspartate aminotransferase (AST) level greater than twice the upper limit of normal.

- Adults with end-stage renal disease including those on pre-dialysis care, hemodialysis, peritoneal dialysis, and home dialysis should receive a HepB series. Adults on hemodialysis should receive 3 doses of 40 µg Recombivax HB at 0, 1, and 6 months or a 4-dose series of 40 µg Engerix-B at 0, 1, 2, and 6 months.

- Adults with human immunodeficiency virus (HIV) infection should receive a HepB series.

- Pregnant women who are at risk for hepatitis B virus infection during pregnancy, e.g., having more than one sex partner during the previous six months, been evaluated or treated for a sexually transmitted infection, recent or current injection drug use, or had an HBsAg-positive sex partner, should receive a HepB series.

- International travelers to regions with high or intermediate levels of endemic hepatitis B virus infection should receive a HepB series.

- Adults in the following settings are assumed to be at risk for hepatitis B virus infection and should receive a HepB series: sexually transmitted disease treatment facilities, HIV testing and treatment facilities, facilities providing drug-abuse treatment and prevention services, healthcare settings targeting services to MSM, injection drug use, correctional facilities, healthcare setting targeting services to MSM, hemodialysis facilities and end-stage renal disease programs, and maternity and nonresidential day care facilities for developmentally disabled persons.

10. Meningococcal vaccination

Special populations

- Adults with anatomical or functional asplenia or persistent complement component deficiencies should receive a 2-dose primary series of serogroups A, C, W, and Y meningococcal conjugate vaccine (MencWxM) at least 2 months apart and revaccinate every 5 years. Adults with human immunodeficiency virus (HIV) infection who have not been previously vaccinated should receive a 2-dose primary series of MencWxM at least 2 months apart and revaccinate every 5 years. Those who previously received 1 dose of MencWxM should receive a second dose at least 2 months after the first dose. Adults with HIV infection are not routinely recommended to receive MencWxM because meningococcal disease in this population is caused primarily by serogroups C, W, and Y.

- Microbiologists who are routinely exposed to isolates of Neisseria meningitidis should receive a 2-dose series of MencWxM at least 1 month apart or a 3-dose series of MencWxM at least 1 month apart or a 3-dose series of MencWxM at least 1 month apart.

- Adults at risk because of a meningococcal disease outbreak should receive 1 dose of MencWxM if the outbreak is attributable to serogroups A, C, W, or Y, or either a 2-dose series of MencWxM at least 1 month apart or a 3-dose series of MencWxM at least 1 month apart.

- First-year college students who live in residence halls should receive 1 dose of MencWxM if they have not received MencWxM at age 16 years or older.

- Young adults aged 19 years or older with the most recent preferred age range is 16 through 18 years who are healthy and not at increased risk for serogroup B meningococcal disease (described above) may receive either a 2-dose series of MencWxM at least 1 month apart or a 2-dose series of MencWxM at least 1 month apart or a 3-dose series of MencWxM at least 1 month apart or a 3-dose series of MencWxM at least 1 month apart.

11. Haemophilus influenzae type b vaccination

Special populations

- Adults who have an anatomical or functional asplenia or sickle cell disease, or are undergoing bone marrow transplantation, should receive Haemophilus influenzae type b conjugate vaccine (Hib) if they have not previously received Hib. Hib should be administered at least 14 days before vaccination.

- Adults with a hematopoietic stem cell transplant (HSCT) should receive 3 doses of Hib in at least 4-week intervals 6–12 months after transplant regardless of their Hib history.

- Notes: Hib is not routinely recommended for adults with human immunodeficiency virus infection because their risk for Haemophilus influenzae type b infection is low.
### Table. Contraindications and precautions for vaccines recommended for adults aged 19 years or older

The Advisory Committee on Immunization Practices (ACIP) recommendations and package inserts for vaccines provide information on contraindications and precautions related to vaccines. Contraindications are conditions that increase chances of a serious adverse reaction in vaccine recipients and the vaccine should not be administered when a contraindication is present. Precautions are measures that can be taken to reduce potential risks and benefits for vaccine recipients. For a person with a severe allergy to latex, e.g., anaphylaxis, vaccines supplied in vials or syringes that contain natural rubber latex should not be administered unless the benefit of vaccination clearly outweighs the risk for a potential allergic reaction. For latex allergies other than anaphylaxis, vaccines supplied in vials or syringes that contain dry, natural rubber or natural rubber latex may be administered.

#### Contraindications and precautions for vaccines recommended for adults

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Contraindications</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>All vaccines recommended for adults</td>
<td>Severe reaction, e.g., anaphylaxis, after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
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#### Additional contraindications and precautions for vaccines recommended for adults

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Additional Contraindications</th>
<th>Additional Precautions</th>
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</thead>
<tbody>
<tr>
<td>IV†</td>
<td></td>
<td>History of Guillain-Barré syndrome within 6 weeks after previous influenza vaccination</td>
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<tr>
<td></td>
<td></td>
<td>Egg allergy other than hives, e.g., angioedema, respiratory distress, lightheadedness, or recurrent emesis or required epinephrine or another emergency medical intervention (IV may be administered in an inpatient or outpatient medical setting and under the supervision of a healthcare provider who is able to recognize and manage severe allergic conditions)</td>
</tr>
<tr>
<td>RR†</td>
<td>LAIV should not be used during 2016–2017 Influenza season</td>
<td>History of Guillain-Barré syndrome within 6 weeks after previous influenza vaccination</td>
</tr>
<tr>
<td>LAd/Td</td>
<td>For pertussis-containing vaccines: encephalopathy, e.g., coma, decreased level of consciousness, or prolonged seizures, not attributable to another identifiable cause within 7 days of administration of a previous dose of a vaccine containing tetanus or diphtheria toxoid or acellular pertussis</td>
<td>History of Guillain-Barré syndrome within 6 weeks after previous dose of tetanus toxoid-containing vaccine</td>
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<tr>
<td></td>
<td>Gallbladder type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid-containing vaccine, Defer vaccination until at least 10 years have elapsed since the last tetanus toxoid-containing vaccine</td>
<td>History of Arthus-type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid-containing vaccine</td>
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<tr>
<td>MMR†</td>
<td>Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy, Human Immunodeficiency Virus (HIV) infection with severe immunodeficiency</td>
<td>Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)</td>
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<td>Pregnancy</td>
<td>History of thrombocytopenia or thrombocytopenic purpura</td>
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<tr>
<td></td>
<td>Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy, HIV infection with severe immunodeficiency</td>
<td>Need for tuberculin skin testing</td>
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<tr>
<td>VAR†</td>
<td>Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy, HIV infection with severe immunodeficiency</td>
<td>Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)</td>
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<tr>
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<td>Pregnancy</td>
<td>Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination)</td>
</tr>
<tr>
<td>HZV†</td>
<td>Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy, HIV infection with severe immunodeficiency</td>
<td>Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination)</td>
</tr>
<tr>
<td>HPV vaccine</td>
<td>Severe allergic reaction to any vaccine containing diphtheria toxoid</td>
<td>Pregnancy</td>
</tr>
<tr>
<td>PCV13</td>
<td>Severe allergic reaction to any vaccine containing diphtheria toxoid</td>
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</tbody>
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1. For additional information on use of influenza vaccines among persons with egg allergy, see CDC: Prevention and control of seasonal influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices—United States, 2016–17 influenza season. MMWR 2016;65( RR-3):1–34. Available at [www.cdc.gov/mmwr/volumes/65/rr/mm6503a1.htm](http://www.cdc.gov/mmwr/volumes/65/rr/mm6503a1.htm).
2. MMWR may be administered together with VAR or HZV on the same day. If not administered on the same day, separate live vaccines by at least 28 days.
3. Immunosuppressive steroid dose is considered to be daily receipt of 20 mg or more prednisolone or equivalent for two or more weeks. Vaccination should be deferred for at least 1 month after discontinuation of immunosuppressive steroid therapy. Providers should consult ACIP recommendations for complete information on the use of specific live vaccines among persons on immune-suppressing medications or with immune suppression because of other causes.
4. Vaccine should be deferred for the appropriate interval if replacement immune globulin products are being administered. See CDC: General recommendations on immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2011;60(No. RR-2). Available at [www.cdc.gov/mmwr/preview/mmwrhtml/mm6002a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6002a1.htm).
5. Measles vaccination may temporarily suppress tuberculin reactivity. Measles-containing vaccine may be administered on the same day as tuberculin skin testing, or should be postponed for at least 4 weeks after vaccination.


#### Acronyms of vaccines recommended for adults

- **HepA**: hepatitis A vaccine
- **HepA-HepB**: hepatitis A and hepatitis B vaccines
- **HepB**: hepatitis B vaccine
- **Hib**: Haemophilus influenzae type b conjugate vaccine
- **HPV vaccine**: human papillomavirus vaccine
- **HZV**: herpes zoster vaccine
- **IV**: inactivated influenza vaccine
- **IVV**: live attenuated influenza vaccine
- **LAIV**: live attenuated influenza vaccine
- **MMR**: measles, mumps, and rubella vaccine
- **MMr**: measles, mumps, and rubella vaccine
- **MPSV4**: serogroups A, C, W, and Y meningococcal polysaccharide vaccine
- **PCV13**: 13-valent pneumococcal conjugate vaccine
- **PPSV23**: 23-valent pneumococcal polysaccharide vaccine
- **RAV**: varicella vaccine
- **Tc**: tetanus and diphtheria toxoids
- **Tdt**: tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine
- **VAR**: varicella vaccine
References and Links to Websites


7. Illinois Department of State Health Services. All Illinois newborns are screened for these disorders. Available at: http://www.idph.state.il.us/HealthWellness/disorderlist.htm. Accessed April 04, 2017. A list of the disorders included in the Illinois newborn panel is provided.

8. Texas Department of State Health Services. All Texas newborns are screened for these disorders. Available at: http://www.babysfirsttest.org/newborn-screening/about-newborn-screening. Accessed April 04, 2017. A list of the disorders for which Texas newborns are screened is provided.

9. Oklahoma State Department of Health. Newborn Screening. Accessed April 04, 2017. Available at: https://www.ok.gov/health/Community & Family Health/Screening & Special Services/Newborn Screening Program/. Every baby born in Oklahoma is required to have a blood test in the first week of life; a link is provided to the list of disorders included in the testing.


15. U.S. Preventive Services Task Force. Screening and supplementation for iron deficiency anemia May 2006. Available at: http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/iron-deficiency-anemia-screening. Accessed March 23, 2017. The USPSTF concludes that evidence is insufficient to recommend for or against routine screening for iron deficiency anemia in asymptomatic children aged 6 to 12 months, but recommends routine iron supplementation for asymptomatic children aged 6 to 12 months who are at increased risk for iron deficiency anemia. The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for iron deficiency anemia in children ages 6 to 24 months.


20. New Mexico Department of Health. NM “Done By One” childhood immunization schedule. Available at: http://nmhealth.org/publication/view/general/450/. Accessed April 03, 2017. The rationale for the New Mexico Done By One Childhood immunization is discussed and the schedule is provided.


25. U.S. Preventive Services Task Force. Screening for cervical cancer March 2012. Available at: http://www.uspreventiveservicestaskforce.org/uspstf11/cervcancer/cervcancerrs.htm. Accessed March 24, 2017. The USPSTF recommends screening for cervical cancer in women ages 21 to 65 years with cytology (Pap smear) every 3 years or, for women ages 30 to 65 years who want to lengthen the screening interval, screen with a combination of cytology and human papillomavirus (HPV) testing every 5 years. The USPSTF recommends against screening for cervical cancer in women younger than age 21 years. The USPSTF recommends against routinely screening women older than 65 for cervical cancer and recommends against routine Pap smear screening in women who have had a hysterectomy with removal of the cervix and who do not have a history of a high-grade precancerous lesion or cervical cancer. The USPSTF recommends against screening for cervical cancer with HPV testing, alone or in combination with cytology, in women younger than age 30 years.

26. Saslo D. Soloman D, Lawson, HW et al. American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology. Screening guidelines for the prevention and early detection of cervical cancer. CA cancer J Clin 2012; 62:147-172. Available at: http://onlinelibrary.wiley.com/doi/10.3322/caac.21139/pdf. Accessed April 05, 2017. ACS and its partners recommend no screening for cervical cancer before 21 years of age. For women aged 21-29 years, cervical cytology alone is recommended every 3 years with HPV testing not recommended for screening in this age group. For women age 30-65 years, options include HPV and cytology "cotesting" every 5 years (preferred) or cytology alone every 3 years (acceptable). Screening by HPV testing alone is not recommended for most clinical settings. For women age >65 years, no screening is recommended following adequate negative prior screening and are not otherwise at high risk for cervical cancer. Women who have received HPV vaccine should be screened in the same manner as women who have not been vaccinated.


- Younger women should not be screened, with the exception of women who are infected with HIV. More frequent screening is appropriate for certain women, including those infected with HIV.
- Cervical cytology alone should be used for women aged 21 to 29 years, and screening should be performed every three years.
- Women younger than 30 years should not undergo co-testing.
- Cytology and human papillomavirus (HPV) co-testing every five years is preferred for women aged 30 to 65 years; cytology alone every three years is acceptable.
- Screening should be discontinued after age 65 years in women with adequate negative prior screening test results.
- Routine cytology and HPV testing should be discontinued and not restarted for women who have had a total hysterectomy and never had cervical intraepithelial neoplasia 2 or higher.
- Acceptable screening methods include liquid-based and conventional methods of cervical cytology collection.


30. U.S. Preventive Services Task Force. Screening for and management of obesity of adults, June 2012. Available at: http://www.uspreventiveservicestaskforce.org/uspptf/uspsobes.htm. Accessed March 30, 2017. The USPSTF recommends screening all adults for obesity. Body mass index is calculated from the measured weight and height of an individual. No evidence was found about appropriate intervals for screening. Clinicians should offer or refer patients with a body mass index (BMI) of 30 kg/m² or higher to intensive, multicomponent behavioral interventions.


32. Smith, R. A., Manassaram-Baptiste, D., Brooks, D., Doroshenk, M., Fedewa, S., Saslow, D., Brawley, O. W. and Wender, R. (2015), Cancer screening in the United States, 2015: A review of current American Cancer Society guidelines and current issues in cancer screening. CA: A Cancer Journal for Clinicians, 65: 30–54. doi: 10.3322/caac.21261. Available at: http://onlinelibrary.wiley.com/doi/10.3322/caac.21261/full. Accessed March 30, 2017. Women should undergo regular screening mammography starting at age 45 y; women ages 45 to 54 y should be screened annually; women should have the opportunity to begin annual screening between ages 40 and 44 y. Women aged ≥55 y should transition to biennial screening or have the opportunity to continue screening annually; women should continue screening mammography as long as their overall health is good and they have a life expectancy of ≥10 y.

33. U. S. Preventive Services Task force. Breast Cancer: Screening. January 2016. Available at: https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening1?ds=1&s=breast%20cancer. Accessed April 03, 2017. The USPSTF recommends biennial screening mammography for women aged 50 to 74 years. The decision to start regular, biennial screening mammography before the age of 50 years should be an individual one and take patient context into account, including the patient’s values regarding specific benefits and harms. The USPSTF concluded that, the current evidence is insufficient to assess the additional benefits and harms of screening mammography in women 75 years or older. The USPSTF recommends against teaching breast self-examination (BSE) and concludes that the current evidence is insufficient to assess the additional benefits and harms of clinical breast examination (CBE) beyond screening mammography in women 40 years or older.

Interventions for those who use tobacco products. Pregnant woman should be asked about tobacco use, and augmented pregnancy-tailored counseling should be provided for those who smoke.


39. U.S. Preventive Service Task Force. Screening for lipid disorders in adults June 2008. Available at: http://www.uspreventiveservicestaskforce.org/uspsft/uspschol.htm. Accessed March 23, 2017. The USPSTF strongly recommends screening men age 35 and older for lipid disorders. The USPSTF strongly recommends screening women age 45 and older for lipid disorders if they are at increased risk for coronary heart disease. The USPSTF recommends screening men age 20-35 and women age 20-45 if they are at increased risk for coronary heart disease. The optimal interval for screening is uncertain. Reasonable options include every 5 years, shorter intervals for people who have lipid levels close to those warranting therapy, and longer intervals for those not at increased risk who have had repeatedly normal lipid levels.

40. American Diabetes Association. Standards of Medical Care in Diabetes 2017. Available at: Rchcls1hcmtdatahcmtdataQIPPreventive Guidelines 2015-2017\PCG 2017 to 2018\Resources\Diabetes ADA2017_final.pdf. Accessed March 31, 2017. In adults not taking statins, it is reasonable to obtain a lipid profile at the time of diabetes diagnosis, at an initial medical evaluation, and every 5 years thereafter, or more frequently if indicated.

41. U.S. Preventive Services Task Force. Risk assessment, genetic counseling, and genetic testing for BRCA-related cancer in women December 2013. Available at: http://www.uspreventiveservicestaskforce.org/uspsft/uspsbrgen.htm. Accessed April 03, 2017. The USPSTF recommends that primary care providers screen women who have family members with breast, ovarian, tubal, or peritoneal cancer with one of several screening tools designed to identify a family history that may be associated with an increased risk for potentially harmful mutations in breast cancer susceptibility genes (BRCA1 or BRCA2). Women with positive screening results should receive genetic counseling and, if indicated after counseling, BRCA testing.

Men who have at least a 10-year life expectancy should have an opportunity to make an informed decision with their health care provider about whether to be screened for prostate cancer, after receiving information about the benefits, risks, and uncertainties associated with prostate cancer. Prostate cancer screening should not occur without an informed decision-making process.


44. American Urological Association. Early detection of prostate cancer. Available at: http://www.auanet.org/guidelines/early-detection-of-prostate-cancer-(2013-reviewed-and-validity-confirmed-2015). Accessed March 30, 2017. The AUA recommends against screening for prostate cancer in men under age 40 years, does not recommend routine screening in men age 40-54 years at average risk, and recommends shared decision making for men age 55-69 years that are considering PSA screening, and proceeding based on a man’s values and preferences. A routine screening interval of two years or more may be preferred over annual screening in those who have decided on screening. Routine PSA screening is not recommended in men over 70 years of age or in any man with less than a 10-15 year life expectancy.

45. Smith, R. A., Manassaram-Baptiste, D., Brooks, D., Doroshenk, M., Fedewa, S., Saslow, D., Brawley, O. W. and Wender, R. (2017), Cancer screening in the United States, 2017: A review of current American Cancer Society guidelines and current issues in cancer screening. CA: A Cancer Journal for Clinicians, 65: 30–54. doi: 10.3322/caac. Accessed April 04/2017. The American Cancer Society recommends that beginning at age 50, men and women should have colorectal cancer screening by means of one of the following screening options: annual FOBT with at least 50% test sensitivity for cancer or FIT with at least 50% test sensitivity for cancer, flexible sigmoidoscopy every 5 years, gFOBT or FIT annually plus flexible sigmoidoscopy every 5 years, double contrast barium enema every 5 years, colonoscopy every 10 years, computed tomography colonography every 5 years, or stool DNA test, for which the screening interval is uncertain.

46. U.S. Preventive Services Task Force. Screening for colorectal cancer October 2008. Available at: http://www.uspreventiveservicestaskforce.org/usps/pdf/uspscolo.htm. Accessed April 04/2017. The USPSTF recommends screening for colorectal cancer starting at age 50 years and continuing until age 75 years. This is an update of the 2008 USPSTF recommendation. In 2008, the USPSTF recommended screening with colonoscopy every 10 years, annual FIT, annual high-sensitivity FOBT, or flexible sigmoidoscopy every 5 years combined with high-sensitivity FOBT every 3 years. In the current recommendation, instead of emphasizing specific screening approaches, the USPSTF has instead chosen to highlight that there is convincing evidence that colorectal cancer screening substantially reduces deaths from the disease among adults aged 50 to 75 years and that not enough adults in the United States are using this effective preventive intervention. The reasons for this gap between evidence and practice are multifaceted and will require sustained effort among clinicians, policy makers, advocates, and patients to overcome.


50. Centers for Disease Control and Prevention. Prevention and Control of Seasonal Influenza with Vaccines Recommendations of the Advisory Committee on Immunization Practices—United States, 2016-17 Influenza Season. Available at: https://www.cdc.gov/flu/professionals/acip/index.htm. Accessed April 07, 2017. Routine annual influenza vaccination of all persons aged ≥6 months continues to be recommended. No preferential recommendation is made for one influenza vaccine product over another for persons for whom more than one product is otherwise appropriate.

51. U. S. Preventive Services Task Force. Aspirin Use to Prevent Cardiovascular Disease and Colorectal Cancer: Preventive Medication April 2016. Accessed March 30, 2017 http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/aspirin-to-prevent-cardiovascular-disease-and-cancer. Adults aged 50 to 59 years with a ≥10% 10-year CVD risk: The USPSTF recommends initiating low-dose aspirin use for the primary prevention of cardiovascular disease (CVD) and colorectal cancer (CRC) in adults aged 50 to 59 years who have a 10% or greater 10-year CVD risk, are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years.

52. U.S. Preventive Services Task Force. Folic acid to prevent neural tube defects, May 2009. Available at: http://www.uspreventiveservicestaskforce.org/uspsf/uspsnrfol.htm. Accessed March 30, 2017. USPSTF recommends that all women planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 (400 to 800 µg) of folic acid.

53. U.S. Preventive Services Task Force. Medications for risk reduction of primary breast cancer in women, September 2013. Available at: http://www.uspreventiveservicestaskforce.org/uspsf/uspsbrpv.htm. Accessed March 31, 2017. The USPSTF recommends that clinicians engage in shared, informed decision making with women who are at increased risk for breast cancer about medications to reduce their risk. For women who are at increased risk for breast cancer and at low risk for adverse medication effects, clinicians should offer to prescribe risk-reducing medications.

54. U.S. Preventive Services Task Force. Abnormal Blood Glucose and Type 2 Diabetes Mellitus: Screening. Adults aged 40 to 70 years who are overweight or obese: http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/screening-for-abnormal-blood-glucose-and-type-2-diabetes. Accessed March 31, 2017. The USPSTF recommends screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese. Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity.

55. American Diabetes Association. Standards of medical care in diabetes 2017. Available at: http://care.diabetesjournals.org/content/diacare/suppl/2016/12/15/40.Supplement_1.DC1/DC_40_S1_final.pdf. © 2017 by the American Diabetes Association Diabetes Care 2017 Jan; 40 (Supplement 1): S1-S136. Reprinted with permission from the American Diabetes Association . Accessed March 31, 2017. Testing should be considered in all adults who are overweight (BMI≥25 kg² or ≥23 kg/m² in Asian Americans) and have additional risk factors: Prevention or Delay of Type 2 Diabetes

- Test all adults, beginning at age 45, regardless of weight.
- Test asymptomatic adults of any age who are overweight, are obese, or have one or more additional risk factors for diabetes.
- Consider metformin therapy to prevent type 2 diabetes for:
  - Prediabetes;
  - BMI > 35 kg/m²;
  - Age < 60 years;
  - Women who have had gestational diabetes.
- Refer patients with prediabetes to a program of intensive diet and physical activity with a behavioral counseling component.
- Target 7% body weight loss;
- Encourage at least 150 minutes/week of moderate-intensity physical activity;
- Offer follow-up, including counseling, diabetes self-management education, and ongoing support.


59. U.S. Preventive Services Task Force. Screening for intimate partner violence and abuse of elderly and vulnerable adults. January 2013. Available at: http://www.uspreventiveservicestaskforce.org/uspstf/uspsipv.htm. Accessed March 30, 2017. The USPSTF recommends that clinicians screen women of childbearing age for intimate partner violence, such as domestic violence, and provide or refer women who screen positive to intervention services. The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening all elderly or vulnerable adults (physically or mentally dysfunctional) for abuse and neglect.

60. U.S. Preventive Services Task Force. Screening for osteoporosis January 2011. Available at: http://www.uspreventiveservicestaskforce.org/uspstf10/osteoporosis/osteors.htm. Accessed March 30, 2017. The USPSTF recommends screening for osteoporosis in women aged 65 years or older and in younger women whose fracture risk is equal to or greater than that of a 65-year-old white woman who has no additional risk factors. The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for osteoporosis in men.


69. U.S. Preventive Services Task Force. Screening for Lung Cancer December 2013. Available at http://www.uspreventiveservicestaskforce.org/uspstf/uspslung.htm. Accessed March 07, 2016. The USPSTF recommends annual screening for lung cancer with low-dose computed tomography in adults ages 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.

70. American Heart Association. American College of Cardiology/American Heart Association Task Force on Practice 2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk: A report of The American College of Cardiology/American Heart Association task force on practice guidelines. Available at: http://content.onlinejacc.org/article.aspx?articleid=1879711. Accessed March 04, 2016. The AHA recommends it is reasonable to assess traditional ASCVD risk factors every 4 to 6 years in adults 20 to 79 year of age who are free from ASCVD and estimate 10-year ASCVD risk every 4 to 6 years in adults 40 to 79 years of age who are free from ASCVD. The race- and sex-specific Pooled Cohort Equations to predict 10-year risk for a first hard ASCVD* event should be used in non-Hispanic African Americans and non-Hispanic Whites, 40 to 79 years of age.


73. U.S. Preventive Services Task Force. Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: Preventive Medication. Accessed May 17, 2017. Available at: https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/statin-use-in-adults-preventive-medication. The USPSTF recommends that adults without a history of cardiovascular disease (CVD) (ie, symptomatic coronary artery disease or ischemic stroke) use a low- to moderate-dose statin for the prevention of CVD events and mortality when all of the following criteria are met: 1) they are aged 40 to 75 years; 2) they have 1 or more CVD risk factors (ie, dyslipidemia, diabetes, hypertension, or smoking); and 3) they have a calculated 10-year risk of a cardiovascular event of 10% or
greater. Identification of dyslipidemia and calculation of 10-year CVD event risk requires universal lipids screening in adults aged 40 to 75 years. See the "Clinical Considerations" section for more information on lipids screening and the assessment of cardiovascular risk.