# 2018-2019 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. The USPSTF is not updating the recommendation for screening for phenylketonuria, congenital hypothyroidism and sickle-cell disease and refers to the Health Resources & Service Administration (HRSA) and the Recommended Uniform Screening Panel (RUSP). However, state regulations define required screening. The state-specific lists of required newborn screening can be found at these sites:

   IL  http://dph.illinois.gov/topics-services/life-stages-populations/newborn-screening
   MT  http://dphhs.mt.gov/publichealth/cshs/NewbornScreeningPrograms.aspx
   NM  http://nmhealth.org/about/phd/fhb/cms/nbgs/
   OK  Newborn Screening Program - Oklahoma State Department of Health
   TX  https://www.dshs.texas.gov/newborn/screened_disorders.shtm

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
### Recommendations for Preventive Pediatric Health Care

**Bright Futures/American Academy of Pediatrics**

These recommendations represent a consensus by the American Academy of Pediatrics (AAP) and Bright Futures. The AAP continues to espouse the great importance of continuity of care in comprehensive health supervision and the need to avoid fragmentation of care. Refer to the specific guidelines on age as listed in the Bright Futures Guidelines Program, 8th ed., by L. Snow, J. Dunno, M. ed., Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, 8th ed. (St. Louis, Mo.: American Academy of Pediatrics, 2017).

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#### DATA COLLECTION MONTHLY (at 4-, 6-, 9-, and 12-month intervals)

- **Special measurements:**
  - Height
  - Weight
  - Head circumference
  - Body mass index (BMI)
  - Bone mineral density

- **General measurements:**
  - Temperature
  - Pulse
  - Respiratory rate

- **Assessment of growth and development:**
  - Developmental milestones
  - Language development
  - Motor development

- **Screening:**
  - Hearing screening
  - Vision screening
  - Dental screening

- **Developmental Behavioral Health:**
  - Autism spectrum disorder
  - Mental health

- **Additional screening:**
  - Maternal alcohol or drug use
  - Screening for tuberculosis
  - Sexually transmitted infections

- **continued...**

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#### DATA COLLECTION BIENNIALLY (at 18- and 24-month intervals)

- **Psychosocial history:**
  - Family history
  - Social history

- **Physical examination:**
  - Skin examination
  - Musculoskeletal examination
  - General examination

- **continued...**

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- **Prescriptions:**
  - Vaccinations
  - Medications
  - Laboratory tests

- **continued...**

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#### DATA COLLECTION THROUGHOUT LIFE (at age-appropriate intervals)

- **Health issues:**
  - Chronic conditions
  - Intellectual disabilities
  - Developmental delays

- **continued...**

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#### INTERVENTION GUIDELINES

1. If a child comes due later than the due date, infections are not accomplished at the expected due date, the child is not brought up to the usual maturity possible.
2. Development is not as rapid for the first year of life.
3. Significant developmental milestones are achieved prior to the second year of life.
4. Children should be monitored in all areas of development and education.
5. Recommendations are made for all areas of development and education.
6. Fellows should be encouraged to get the best information and best practices.
7. Quality and safety guidelines are provided by the AAP and Bright Futures.
8. Guidelines are provided for the evaluation of the health system.
9. Recommendations are made for the evaluation of educational and developmental milestones.
10. Evaluations should be performed at appropriate intervals.

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*Continued...*
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](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)
   - The U.S. Preventive Services Task Force (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.

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 6 months to 24 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

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
Note: Recommendations from different national entities vary. We encourage review of the detailed and nuanced language in the following references: (References: 39 – USPSTF; 40 - ADA; 70 - AHA).

- Screen men age 35 and older for lipid disorders.
- Screen women age 45 and older for lipid disorders.
- 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)

Note: Recommendations from different national entities vary. We encourage review of the detailed and nuanced language in the following references: (References: 33, 41 – USPSTF; 32 – ACS)

- 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, except for 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. The USPSTF recommends men ages 55 to 69 make an individual decision about prostate cancer screening with their clinician. The Task Force recommends against routine screening for men age 70 and older. 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.

Some entities recommend annual colorectal cancer screening in the 45 to 49 age group. The decision to start colorectal cancer screening before the age of 50 years should be an individual one and take into account patient context, disease risk, and include the patient’s preferences and values regarding specific benefit and harm.

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 39-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 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.

   **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.
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.

Divisions of Health Care Service Corporation, a Mutual Legal Reserve Company, an Independent Licensee of the Blue Cross and Blue Shield Association
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, 74 – USPSTF)
   - Screen for osteoporosis with bone measurement testing to prevent osteoporotic fractures in women 65 years and older.
   - Screen for osteoporosis with bone measurement testing to prevent osteoporotic fractures in postmenopausal women younger than 65 years who are at increased risk of osteoporosis, as determined by a formal clinical risk assessment tool.

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, 73 - 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 thrombophilies, 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, 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 implication 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 2018 Childhood: 0-18 Years

**Figure 1. Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger—United States, 2018.**

FOR THOSE WHO FALL BEHIND OR START LATE, SEE THE CATCH-UP SCHEDULE (FIGURE 2).

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are shaded in gray.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Birth</th>
<th>1 mo</th>
<th>2 mos</th>
<th>4 mos</th>
<th>6 mos</th>
<th>9 mos</th>
<th>12 mos</th>
<th>15 mos</th>
<th>18 mos</th>
<th>19-23 mos</th>
<th>2-5 yrs</th>
<th>6-11 yrs</th>
<th>11-12 yrs</th>
<th>13-15 yrs</th>
<th>16 yrs</th>
<th>17-18 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B (Hegat)</td>
<td>1 dose</td>
<td></td>
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<tr>
<td>Rotavirus (RV) (RV1-2 dose series) (RV2) (3-dose series)</td>
<td>1 dose</td>
<td>2 dose</td>
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<td></td>
<td>3 dose</td>
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<tr>
<td>Diphtheria, tetanus, &amp; acellular pertussis (DTaP)</td>
<td>1 dose</td>
<td>2 dose</td>
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<td>3 dose</td>
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<tr>
<td>Haemophilus influenzae type B (Hib)</td>
<td>1 dose</td>
<td>2 dose</td>
<td></td>
<td>3 dose</td>
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<tr>
<td>Pneumococcal conjugate (PCV13)</td>
<td>1 dose</td>
<td>2 dose</td>
<td></td>
<td></td>
<td>3 dose</td>
<td>4 dose</td>
<td>5 dose</td>
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<tr>
<td>Inactivated poliovirus (IPV) (&lt;18 yrs)</td>
<td>1 dose</td>
<td>2 dose</td>
<td></td>
<td></td>
<td>3 dose</td>
<td>4 dose</td>
<td>5 dose</td>
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<tr>
<td>Influenza (IV)</td>
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<td></td>
<td></td>
<td>2 dose</td>
<td>3 dose</td>
<td>4 dose</td>
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<tr>
<td>Measles, mumps, rubella (MMR)</td>
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<td>2 dose</td>
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<tr>
<td>Varicella (VZV)</td>
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<td>2 dose</td>
<td>3 dose</td>
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<tr>
<td>Hepatitis A (HepA)</td>
<td>2 dose</td>
<td>3 dose</td>
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<td>4 dose</td>
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<td>6 dose</td>
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<tr>
<td>Haemophilus influenzae type B (Hib)</td>
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<td></td>
<td>2 dose</td>
<td>3 dose</td>
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<td>4 dose</td>
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<td>Meningococcal C (MenACWY-D)</td>
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<td>2 dose</td>
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<tr>
<td>Poliovalent meningococcal B (Non-Hep A)</td>
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<td></td>
<td></td>
<td></td>
<td>2 dose</td>
<td>3 dose</td>
<td>4 dose</td>
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<td>6 dose</td>
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<td>Polysaccharide meningococcal B (PCV)</td>
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<td>2 dose</td>
<td>3 dose</td>
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<tr>
<td>Polysaccharide meningococcal B (PCV23)</td>
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<td></td>
<td></td>
<td>2 dose</td>
<td>3 dose</td>
<td>4 dose</td>
<td>5 dose</td>
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</tbody>
</table>

**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, 2018.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age-For (in months)</th>
<th>Minimum Interval Between Doses</th>
<th>Children age 4 months through 18 years</th>
<th>Minimum Interval Between Doses</th>
<th>Children age 4 months through 18 years</th>
<th>Minimum Interval Between Doses</th>
<th>Children age 4 months through 18 years</th>
<th>Minimum Interval Between Doses</th>
<th>Children age 4 months through 18 years</th>
<th>Minimum Interval Between Doses</th>
<th>Children age 4 months through 18 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B</td>
<td>0</td>
<td>4 weeks and at least 16 weeks after first dose.</td>
<td>Dose 1 to Dose 2</td>
<td>Dose 2 to Dose 3</td>
<td>Dose 3 to Dose 4</td>
<td>Dose 4 to Dose 5</td>
<td></td>
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</tr>
<tr>
<td>Rotavirus</td>
<td>0</td>
<td>4 weeks</td>
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<tr>
<td>Diphtheria, tetanus, and acellular pertussis</td>
<td>0</td>
<td>4 weeks</td>
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<tr>
<td>Hemophilus influenza type B</td>
<td>0</td>
<td>4 weeks</td>
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<tr>
<td>Pneumococcal conjugate</td>
<td>0</td>
<td>4 weeks</td>
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<tr>
<td>Inactivated poliovirus</td>
<td>0</td>
<td>4 weeks</td>
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<tr>
<td>Measles, mumps, rubella</td>
<td>0</td>
<td>4 weeks</td>
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<tr>
<td>Hepatitis A</td>
<td>0</td>
<td>4 weeks</td>
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<tr>
<td>Meningooccal conjugate</td>
<td>0</td>
<td>4 weeks</td>
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<tr>
<td>Measles, mumps, rubella</td>
<td>0</td>
<td>4 weeks</td>
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<tr>
<td>Varicella</td>
<td>0</td>
<td>4 weeks</td>
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</tbody>
</table>

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, 2018

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, consult the General Best Practice Guidelines for Immunization and relevant ACIP statements, at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For calculating intervals between doses, 4 weeks = 28 days. Intervals of ≥4 months are determined by calendar months.
- Within a number range (e.g., 12–18), a dash (-) should be read as “through.”
- Vaccine doses administered ≤4 days before the minimum age or interval are considered valid. Doses of any vaccine administered ≥5 days earlier than the minimum interval or minimum age should not be counted as valid 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 3-1, Recommended and minimum ages and intervals between vaccine doses, in General Best Practice Guidelines for Immunization at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html.
- 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 claims. All routine child and adolescent vaccines 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)

   - Birth Dose (Monovalent HepB vaccine only):
     - Mother is HbAg-Negative: 1 dose within 24 hours of birth for medically stable infants ≥2,000 grams. Infants <2,000 grams administer 1 dose at chronological age 1 month or hospital discharge.
     - Mother is HbAg-Positive:
       - Give HepB vaccine and 0.5 mL of HBIG at separate anatomic sites within 12 hours of birth, regardless of birth weight.
       - Test for HbAg and anti-HB in at 9-12 months. If HepB series is delayed, test 1-2 months after final dose.

   - Mother’s HbAg status is unknown:
     - Give HepB vaccine within 12 hours of birth, regardless of birth weight.
     - For infants >2,000 grams, give 0.5 mL of HBIG in addition to HepB vaccine within 12 hours of birth.

   - Routine Series:
     - A complete series is 3 doses at 0, 1-2, and 6-18 months. (Monovalent HepB vaccine should be used for doses given before age 6 weeks.)

   - Infants who did not receive a birth dose should begin the series as soon as feasible (see Figure 2).
   - Administration of 4 doses is permitted when a combination vaccine containing HepB is used after the birth dose.
   - Minimum age for the final (3rd or 4th) dose: 24 weeks.
   - Minimum Intervals: Dose 1 to Dose 2: 4 weeks / Dose 2 to Dose 3: 8 weeks / Dose 1 to Dose 3: 16 weeks. (When 4 doses are given, substitute “Dose 4” for “Dose 3” in these calculations.)

   - Catch-up vaccination:
     - Unvaccinated persons should complete a 3-dose series at 0, 1-2, and 6 months.
     - For other catch-up guidance, see Figure 2.

2. Rotavirus vaccine. (minimum age: 6 weeks)

   - Routine vaccination:
     - Rotate: 2-dose series at 2 and 4 months. RotaTeq: 3-dose series at 2, 4, and 6 months.
     - If any dose in the series is either RotaTeq or unknown, default to 3-dose series.

   - Catch-up vaccination:
     - Do not start the series on or after age 15 weeks, 0 days.
     - The maximum age for the final dose is 8 months, 0 days.
     - 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](http://www.cdc.gov/vaccines/hcp/acip-recs/index.html)

4. *Haemophilus influenzae* type b (Hib) vaccine.  
(minimum age: 6 weeks)

**Routine vaccination:**
- ActHIB, Hiberm, or Pentacel: 4-dose series at 2, 4, 6, and 12–15 months.
- PedvaxHIB: 3-dose series at 2, 4, and 12–15 months.

**Catch-up vaccination:**
- 1st dose at 7–11 months: Give 2nd dose at least 4 weeks later and 3rd (final) dose at 12–15 months or 8 weeks after 2nd dose (whichever is later).
- 1st dose at 12–14 months: Give 2nd (final) dose at least 8 weeks after 1st dose.
- 1st dose before 12 months and 2nd dose before 15 months: Give 3rd (final) dose 8 weeks after 2nd dose.
- 2 doses of PedvaxHIB before 12 months: Give 3rd (final) dose at 12–15 months and at least 8 weeks after 2nd dose.
- Unvaccinated at 15–59 months: 1 dose.
- For other catch-up guidance, see Figure 2.

**Special Situations:**
- Chemotherapy or radiation treatment 12–59 months:
  - Unvaccinated or only 1 dose before 12 months: Give 2 doses, 8 weeks apart.
  - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.
- Doses given within 14 days of starting therapy or during therapy should be repeated at least 3 months after therapy completion.
- Hematopoietic stem cell transplant (HSCT): 3-dose series with doses 4 weeks apart starting 6 to 12 months after successful transplant (regardless of Hib vaccination history).
- Anatomic or functional asplenia (including sickle cell disease): 12–59 months:
  - Unvaccinated or only 1 dose before 12 months: Give 2 doses, 8 weeks apart.
  - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.
- Unimmunized* persons 5 years or older:
  - Give 1 dose.
- Elective splenectomy
  - Unimmunized* persons 15 months or older:
    - Give 1 dose (preferably at least 14 days before procedure).

- **HIV infection**
  - 12–59 months:
    - Unvaccinated or only 1 dose before 12 months: Give 2 doses, 8 weeks apart.
    - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.
- Unimmunized* persons 5 years or older:
  - Give 1 dose.
- **Immunoglobulin deficiency, early component complement deficiency**
  - 12–59 months:
    - Unimmunized or only 1 dose before 12 months: Give 2 doses, 8 weeks apart.
    - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.

**Neumococcal vaccines. (minimum age: 6 weeks**  
(PCV13), 2 years (PPSV23))

**Routine vaccination with PCV13:**
- 4-dose series at 2, 4, 6, and 12–15 months.

**Catch-up vaccination with PCV13:**
- 1 dose for healthy children aged 24–59 months with any incomplete* PCV13 schedule.
- For other catch-up guidance, see Figure 2.

**Special situations: High-risk conditions:**
- Administer PCV13 doses before PPSV23 if possible.
- Chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure).
- Chronic lung disease (including asthma treated with high-dose oral corticosteroids: diabetes mellitus).

**Age 2–5 years:**
- Any incomplete* schedules with:
  - 3 PCV13 doses: 1 dose of PCV13 at least 8 weeks after any prior PCV13 dose.
  - 2, 3 PCV13 doses: 2 doses of PCV13 at least 8 weeks after any prior PCV13 dose.
- Unimmunized* persons 5 years or older:
  - Give 1 dose.
- Elective splenectomy
  - Unimmunized* persons 15 months or older:
    - Give 1 dose (preferably at least 14 days before procedure).

**Cerebrospinal fluid leak; cochlear implant:**

**Age 2–5 years:**
- Any incomplete* schedules with:
  - 3 PCV13 doses: 1 dose of PCV13 (at least 8 weeks after any prior PCV13 dose).
  - 2 PCV13 doses: 2 doses of PCV13 at least 8 weeks after any prior PCV13 dose.
- Unimmunized* persons 5 years or older:
  - Give 1 dose.
- **Immunoglobulin deficiency, early component complement deficiency**
  - 12–59 months:
    - Unimmunized or only 1 dose before 12 months: Give 2 doses, 8 weeks apart.
    - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.

**Sickle cell disease and other hemoglobinopathies:**
- Anemia or functional asplenia; congenital or acquired immunodeficiency; HIV infection; chronic renal failure; nephrotic syndrome; malignancy (neoplasms, leukemias, lymphomas, Hodgkin disease, and other diseases associated with treatment with immunosuppressive drugs or radiation therapy; solid organ transplantation; multiple myeloma).

**Age 2–5 years:**
- Any incomplete* schedules with:
  - 3 PCV13 doses: 1 dose of PCV13 (at least 8 weeks after any prior PCV13 dose).
  - 2 PCV13 doses: 2 doses of PCV13, at least 8 weeks after the most recent dose and given 8 weeks apart.
- Unimmunized* persons 5 years or older:
  - Give 1 dose.
- Elective splenectomy
  - Unimmunized* persons 15 months or older:
    - Give 1 dose (preferably at least 14 days before procedure).

**Age 6–18 years:**
- No history of either PCV13 or PPSV23: 1 dose of PCV13, 2 doses of PPSV23 (1st dose of PPSV23 administered 8 weeks after PCV13 and 2nd dose of PPSV23 administered at least 5 years after the 1st dose of PPSV23).
- Any PCV13 but no PPSV23: 2 doses of PCV13 at least 8 weeks after the most recent dose of PCV13 at least 8 weeks after the most recent dose of PPSV23.
- Unimmunized* persons 5 years or older:
  - Give 1 dose.
- **Immunoglobulin deficiency, early component complement deficiency**
  - 12–59 months:
    - Unimmunized or only 1 dose before 12 months: Give 2 doses, 8 weeks apart.
    - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.

**Age 6–18 years:**
- No history of either PCV13 or PPSV23: 1 dose of PCV13, 2 doses of PPSV23 (1st dose of PPSV23 administered 8 weeks after PCV13 and 2nd dose of PPSV23 administered at least 5 years after the 1st dose of PPSV23).
- Any PCV13 but no PPSV23: 2 doses of PCV13 at least 8 weeks after the most recent dose of PCV13 at least 8 weeks after the most recent dose of PPSV23.
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

- PPSV23 but no PCV13: 1 dose of PCV13 at least 8 weeks after the most recent PPSV23 dose and a 2nd dose of PPSV23 to be given 5 years after the 1st dose of PPSV23 and at least 8 weeks after a dose of PCV13.

Chronic liver disease, alcoholism:

Age 6–18 years:
- No history of PPSV23: 1 dose of PPSV23 (at least 8 weeks after any prior PCV13 dose).
- Incomplete schedules are any schedules where PCV13 doses have not been completed according to ACIP recommended catch-up schedules. The total number and timing of doses for complete PCV13 series are dictated by the age at first vaccination. See Tables 8 and 9 in the ACIP pneumococcal vaccine recommendations (www.cdc.gov/mmwr/pdf/rr/rr911.pdf) for complete schedule details.

6. Inactivated poliovirus vaccine (IPV), (minimum age: 6 weeks)
Routine vaccination:
- 4-dose series at ages 2, 4, 6–18 months, and 4–6 years. Administer the final dose on or after the 4th birthday and at least 6 months after the previous dose.

Catch-up vaccination:
- In the first 6 months of life, use minimum ages and intervals only for travel to a polio-endemic region or during an outbreak.
- If 4 or more doses were given before the 4th birthday, give 1 more dose at age 4–6 years and at least 6 months after the previous dose.
- A 4th dose is not necessary if the 3rd dose was given on or after the 4th birthday and at least 6 months after the previous dose.
- IPV is not routinely recommended for U.S. residents 18 years and older.

Series Containing Oral Polio Vaccine (OPV), either mixed OPV/IPV or OPV-only series:
- Total number of doses needed to complete the series is the same as that recommended for the US IPV schedule. See www.cdc.gov/mmwr/volumes/66/wr/mm6606a1.htm§_s_cid:mm6606a1_w.
- Only trivalent OPV (TOPV) counts toward the U.S. vaccination requirements. For guidance to assess doses documented as “OPV” see www.cdc.gov/mmwr/volumes/66/wr/mm6606a7.htm§_s_cid:mm6606a7_w.
- For other catch-up guidance, see Figure 2.

7. Influenza vaccines. (minimum age: 6 months)
Routine vaccination:
- Administer an age-appropriate formulation and dose of influenza vaccine annually.
- Children 6 months–8 years who did not receive at least 2 doses of influenza vaccine before July 1, 2017 should receive 2 doses separated by at least 4 weeks.
- Persons 9 years and older 1 dose
- Live attenuated influenza vaccine (LAIV) not recommended for the 2017–18 season.

Catch-up vaccination:
- Ensure persons 7–18 years without evidence of immunity (see MMWR 2007;56(Nos. RR-4), at www.cdc.gov/mmwr/pdf/rr/rr911.pdf) have 2 doses of varicella vaccine:
- Ages 7–12: routine interval 3 months (minimum interval 4 weeks).
- Ages 13 and older: minimum interval 4 weeks.

10. Hepatitis A (HepA) vaccine. (minimum age: 12 months)
Routine vaccination:
- 2 doses, separated by 6-18 months, between the 1st and 2nd birthdays. (A series begun before the 2nd birthday should be completed even if the child turns 2 before the second dose is given.)

Catch-up vaccination:
- Anyone 2 years of age or older may receive HepA vaccine if desired. Minimum interval between doses is 6 months.

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

11. Serogroup A, C, W, Y meningococcal vaccines. (minimum age: 2 months [Menvee], 9 months [Menactra])
Routine:
- 2-dose series: 11–12 years and 16 years.

Catch-Up:
- Age 13–15 years: 1 dose now and booster at age 16–18 years. Minimum interval 8 weeks.
- Age 16–18 years: 1 dose.
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

Special populations and situations:
Anatomic or functional asplenia, sickle cell disease, HIV infection, persistent complement component deficiency (including eculizumab use):
- Menveo
  - 1 dose at 8 weeks: 4-dose series at 2, 4, 6, and 12 months.
  - 1 dose at 7–23 months; 2 doses (2nd dose at least 12 weeks after the 1st dose and after the 1st birthday).
  - 1 dose at 24 months or older: 2 doses at least 8 weeks apart.
- Menactra
  - Persistent complement component deficiency:
    - 9–23 months: 2 doses at least 12 weeks apart
    - 24 months or older: 2 doses at least 8 weeks apart
  - Anatomic or functional asplenia, sickle cell disease, or HIV infection:
    - 24 months or older: 2 doses at least 8 weeks apart
  - Menactra must be administered at least 4 months after completion of PCV13 series.

Children who travel to or live in countries where meningococcal disease is hyperendemic or epidemic, including countries in the African meningitis belt or during the Hajj, or exposure to an outbreak attributable to a vaccine serogroup:
- Children ≥24 months of age:
  - Menveo (2-23 months):
    - 1 dose at 8 weeks: 4-dose series at 2, 4, 6, and 12 months.
    - 1 dose at 7–23 months: 2 doses (2nd dose at least 12 weeks after the 1st dose and after the 1st birthday).
  - Menactra (9–23 months):
    - 2 doses (2nd dose at least 12 weeks after the 1st dose) may be administered as early as 8 weeks after the 1st dose in travelers.
  - Children ≥2 years or older: 1 dose of Menveo or Menactra.

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

12. Serogroup B meningococcal vaccines (minimum age: 10 years; Bexsero, Trumenba).
Clinical discretion: Adolescents not at increased risk for meningococcal B infection who want MenB vaccine.
MenB vaccines may be given at clinical discretion to adolescents 16–23 years (preferred age 16–18 years) who are not at increased risk.
- Bexsero: 2 doses at least 1 month apart.
- Trumenba: 2 doses at least 6 months apart. If the 2nd dose is given earlier than 6 months, give a 3rd dose at least 4 months after the 2nd.

13. Tetanus, diphtheria, and acellular pertussis (Tdap) vaccine. (minimum age: 11 years for routine vaccinations, 7 years for catch-up vaccination)
Routine vaccination:
- Adolescents 11–12 years of age: 1 dose.
- Pregnant adolescents: 1 dose during each pregnancy (preferably during the early part of gestational weeks 27–36).
- Tdap may be administered regardless of the interval since the last tetanus- and diphtheria-toxoid-containing vaccine.

Catch-up vaccination:
- Adolescents 13–18 who have not received Tdap: 1 dose, followed by a 10 booster every 10 years.
- Persons aged 7–18 years not fully immunized with Tdap: 1 dose of Tdap as part of the catch-up series (preferably the first dose). If additional doses are needed, use Td.
- Children 7–10 years who receive Tdap inadvertently or as part of the catch-up series may receive the routine Tdap dose at 11–12 years.
- DTaP inadvertently given after the 7th birthday:
  - Child 7–10: DTaP may count as part of the catch-up series. Routine Tdap dose at 11–12 may be given.
  - Adolescent 11–18: Count dose of DTaP as the adolescent Tdap booster.
  - For other catch-up guidance, see Figure 2.

14. Human papillomavirus (HPV) vaccine (minimum age: 9 years)
Routine and catch-up vaccination:
- Routine vaccination for all adolescents at 11–12 years can start at age 9 and through age 18 if not previously adequately vaccinated. Number of doses dependent on age at initial vaccination:
  - Age 9–14 years at initiation: 2-dose series at 0 and 6–12 months. Minimum interval: 5 months (repeat a dose given too soon at least 12 weeks after the invalid dose and at least 5 months before the 1st dose).
  - Age 15 years or older at initiation: 3-dose series at 0, 1–2 months, and 6 months. Minimum intervals: 4 weeks between 1st and 2nd dose; 12 weeks between 2nd and 3rd dose; 5 months between 1st and 3rd dose (repeat doses given too soon at or after the minimum interval since the most recent dose).
- Persons who have completed a valid series with any HPV vaccine do not need any additional doses.

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

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)

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Age of child in months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>DTaP (Diphtheria, Tetanus, Pertussis)</td>
<td>✓</td>
</tr>
<tr>
<td>Hepatitis A²</td>
<td>✓</td>
</tr>
<tr>
<td>Hepatitis B³</td>
<td>✓</td>
</tr>
<tr>
<td>Hib (Haemophilus influenzae type b)</td>
<td>✓</td>
</tr>
<tr>
<td>Influenza</td>
<td>✓</td>
</tr>
<tr>
<td>MMR (Measles, Mumps, Rubella)</td>
<td>✓</td>
</tr>
<tr>
<td>Meningococcal²</td>
<td>✓</td>
</tr>
<tr>
<td>Pneumococcal³</td>
<td>✓</td>
</tr>
<tr>
<td>Polio</td>
<td>✓</td>
</tr>
<tr>
<td>Rotavirus³</td>
<td>✓</td>
</tr>
<tr>
<td>Varicella¹³</td>
<td>✓</td>
</tr>
</tbody>
</table>

*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 Optimized “Done by One” Schedule Footnotes

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 first dose.
   - Administer the third 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)*
   - Administer monovalent HepB vaccine to all newborns weighing more than 2 kg (4 lb 6 oz) prior to hospital discharge.
   - Delay giving HepB vaccine until earlier infants reach 2 kg except that all infants with Hepatitis B surface antigen (HBsAg) positive mothers must be given HepB vaccine and 0.5 ml of hepatitis B immune globulin (HBIG) within 12 hours of birth.
   - If mother’s HBsAg status is unknown, administer HepB within 12 hours of birth. Determine the HBsAg status as soon as possible and if HBsAg positive, administer HBIG (no later than 1 week after birth).
   - If 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.
   - After the birth dose:
     - 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 first 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 2 doses of a licensed HepB series, at age 9-18 months (generally at the well-child visit).
   - 4-month dose:
     - It is permissible to administer 4 doses of HepB when combination vaccines are administered after the birth dose. If monovalent HepB is used for doses after the birth dose, a dose at age 4 months is not needed.

   - Pedvax HIB® or Comvax are recommended for Native American infants.
   - If PRP-OMP® (Pedvax Hib® or Comvax® [Merck]) is administered at both 2 and 4 months, a dose at age 6 months is not indicated.
   - Td/Hib (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 3 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 should be administered before age 4-6 years, provided 4 weeks or more have elapsed since the first dose.
   - Halve children may be exposed to measles during travel. The first dose may be given as early as 6 months, but any dose delivered before 12 months does not count toward the 2 doses needed at the regularly scheduled age.

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 also acceptable.
   - Persons who received MPSV 1 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 2-59 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 PPSV is contained in the ACP statement available at http://www.cdc.gov/pneumonia/documents/immunization/primer.pdf#page=22.

   - Administer the first dose at age 6 through 14 weeks (maximum age: 14 weeks 6 days). Vaccination should not be initiated for infants aged 15 weeks or older (i.e. 15 weeks 0 days or older).
   - Administer the final dose in the series by age 20 weeks 6 days.
   - Only two doses of Rotarix are needed, the first no later than 14 weeks 6 days, and the second no later than 18 weeks 6 days.

9. Varicella vaccine. *(Minimum age: 12 months)*
   - Administer second dose at age 4-6 years, may be administered 3 months or more after first dose.
   - Don’t repeat second dose if administered 28 days or more after first dose.

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
### Recommended Immunization Schedule for Adults Aged 19 Years or Older by Medical Conditions and Other Indications, United States, 2018

#### Adults: Over 18 Years

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19-21 years</th>
<th>22-26 years</th>
<th>27-49 years</th>
<th>50-64 years</th>
<th>≥65 years</th>
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<tbody>
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<td>Influenza</td>
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</tr>
<tr>
<td>Tdap or Td</td>
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<tr>
<td>MMR</td>
<td>1 or 2 doses depending on indication (if born in 1957 or later)</td>
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<td></td>
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</tr>
<tr>
<td>VAR</td>
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</tr>
<tr>
<td>or ZVL</td>
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<td></td>
</tr>
<tr>
<td>HPV-Female</td>
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<tr>
<td>PCV13</td>
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</tr>
<tr>
<td>PPSV23</td>
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<td></td>
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<td>3 doses</td>
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<td>MenACWY</td>
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<tr>
<td>MenB</td>
<td>2 or 3 doses depending on vaccine</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Hib</td>
<td>1 or 3 doses depending on indication</td>
<td></td>
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</tr>
</tbody>
</table>

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

**Recommended for adults with other indications**

**No recommendation**

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<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Pregnancy</th>
<th>Immune-compromised (excluding HIV infection)</th>
<th>HIV Infection CD4+ count (cells/μL)</th>
<th>Asplenia, complement deficiencies</th>
<th>End-stage renal disease, on hemodialysis</th>
<th>Heart or lung disease, alcoholics</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
<th>Health care personnel</th>
<th>Men who have sex with men</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>1 dose annually</td>
<td>1 dose Tdap each pregnancy</td>
<td>1 dose Tdap, then Td booster every 10 yrs</td>
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<tr>
<td>Tdap</td>
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<tr>
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<td>or ZVL3</td>
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<td>2 or 3 doses through age 26 yrs</td>
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<tr>
<td>PCV13</td>
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<tr>
<td>PPSV23</td>
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<td>2 or 3 doses depending on vaccine</td>
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<td>HepA</td>
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<td>2 or 3 doses depending on vaccine</td>
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<td>HepB</td>
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<td>3 doses</td>
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<tr>
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<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td>Hib</td>
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</tr>
</tbody>
</table>

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

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, 2018

1. Influenza vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/flu.html
   **General information**
   - Administer 1 dose of age-appropriate inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV) annually
   - Live attenuated influenza vaccine (LAIV) is not recommended for the 2017–2018 influenza season
   - A list of currently available influenza vaccines is available at www.cdc.gov/vaccinesprevent/vaccine/vaccines.htm

   **Special populations**
   - Administer age-appropriate IV or RIV to:
     - Pregnant women
     - Adults with egg allergy other than hives (e.g., angioedema or respiratory distress): Administer IV or RIV in a medical setting under supervision of a healthcare provider who can recognize and manage severe allergic conditions.

2. Tetanus, diphtheria, and pertussis vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/tdap-td.html
   **General information**
   - Administer to adults who previously did not receive a dose of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine (Tdap) as an adult or child (routinely recommended at age 11–12 years) 1 dose of Tdap, followed by a dose of tetanus and diphtheria toxoids (Td) booster every 10 years
   - Information on the use of Tdap or Td in tetanus prophylaxis in wound management is available at www.cdc.gov/nip/prov/rec/rec3/pdf/mmwrhtml/mm5117a1.htm

   **Special populations**
   - Pregnant women: Administer 1 dose of Tdap during each pregnancy, preferably in the early part of gestational weeks 24–26.

3. Measles, mumps, and rubella vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mmr.html
   **General information**
   - Administer 1 dose of measles, mumps, and rubella vaccine (MMR) to adults with no evidence of immunity to measles, mumps, or rubella
   - Evidence of immunity is:
     - Born before 1957 (except for healthcare personnel, see below)
     - Documentation of receipt of MMR
     - Laboratory evidence of immunity or disease
   - Documentation of a healthcare provider-diagnosed disease without laboratory confirmation is not considered evidence of immunity

   **Special populations**
   - Pregnant women and nonpregnant women of childbearing age with no evidence of immunity to rubella: Administer 1 dose of MMR (if pregnant, administer MMR after pregnancy and before discharge from health care facility)
   - No additional dose is needed

4. Varicella vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/varicella.html
   **General information**
   - Administer to adults without evidence of immunity to varicella 2 doses of varicella vaccine (VAR) 4–8 weeks apart if previously received 1 dose of varicella-containing vaccine, administer 1 dose of VAR at least 4 weeks after the first dose
   - Evidence of immunity to varicella:
     - U.S.-born before 1980 (except for pregnant women and healthcare personnel, see below)
     - Documentation of receipt of 2 doses of varicella or varicella-containing vaccine at least 4 weeks apart
     - Diagnosis or verification of history of varicella or herpes zoster by a healthcare provider
   - Laboratory evidence of immunity or disease

   **Special populations**
   - Administer 2 doses of VAR 4–8 weeks apart if previously received 1 dose of varicella-containing vaccine (if previously received 1 dose of varicella-containing vaccine, administer 1 dose of VAR at least 4 weeks after the first dose): Pregnant women without evidence of immunity:
   - Administer the first of the 2 doses or the second dose after pregnancy and before discharge from health care facility

5. Zoster vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/shingles.html
   **General information**
   - Administer 2 doses of recombifent zoster vaccine (ReZV) 2–6 months apart to adults aged 50 years or older regarding past episode of herpes zoster or receipt of zoster vaccine live (ZVL)
   - Administer 2 doses of ReZV 2–6 months apart to adults who previously received ZVL at least 2 months after ZVL
   - For adults aged 60 years or older, administer either ReZV or ZVL (ReZV is preferred)

6. Human papillomavirus vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hpv.html
   **General information**
   - Administer human papillomavirus (HPV) vaccine to males through age 26 years and males through age 21 years (males aged 22 through 26 years may be vaccinated based on individual clinical decision)
   - The number of doses of HPV vaccine to be administered depends on age at initial HPV vaccination:
     - No previous dose of HPV vaccine: Administer 3-dose series at 0, 1–2, and 6 months (minimum interval: 4 weeks between doses 1 and 2, 12 weeks between doses 2 and 3, and 5 months between doses 1 and 3; repeat doses if given too soon)
     - Aged 9–14 years at HPV vaccine series initiation and received 1 dose or 2 doses less than 5 months apart: Administer 1 dose
     - Aged 9–14 years at HPV vaccine series initiation and received 2 doses at least 5 months apart: No additional dose is needed

   **Special populations**
   - Adults with immunocompromising conditions (including HIV infection) through age 26 years: Administer 3-dose series at 0, 1–2, and 6 months
   - Men who have sex with men through age 26 years: Administer 2–3 dose series depending on age at initial vaccination (see above); if no history of HPV vaccine, administer 3-dose series at 0, 1–2, and 6 months
   - Pregnant women through age 26 years: HPV vaccination is not recommended during pregnancy, but there is no evidence that the vaccine is harmful and no intervention needed for women who inadvertently receive HPV vaccine while pregnant; delay remaining doses until after pregnancy; pregnancy testing is not needed before vaccination

7. Pneumococcal vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/pneumonia.html
   **General information**
   - Administer to immunocompetent adults aged 65 years or older 1 dose of 13-valent pneumococcal conjugate vaccine (PCV13), if not previously administered, followed by 1 dose of 23-valent pneumococcal polysaccharide vaccine (PPSV23) at least 1 year after PCV13; if PPSV23 was previously administered but not PCV13, administer PCV13 at 1 year after PPSV23
   - When both PCV13 and PPSV23 are indicated, administer PCV1 first (PCV13 and PPSV23 should not be administered during the same visit; additional information on vaccine timing is available at www.cdc.gov/vaccines/vpd/pneumococcal/downloads/pneumovaccine-timing.pdf

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### 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 the chance of a serious adverse reaction in vaccine recipients and the vaccine should not be administered when a contraindication is present. Precautions should be reviewed for potential risks and benefits for vaccine recipients.

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

<table>
<thead>
<tr>
<th>Vaccines(s)</th>
<th>Contraindications</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>All vaccines routinely 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>
</tr>
</tbody>
</table>

#### Additional contraindications and precautions for vaccines routinely recommended for adults

<table>
<thead>
<tr>
<th>Vaccines(s)</th>
<th>Additional Contraindications</th>
<th>Additional Precautions</th>
</tr>
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<tbody>
<tr>
<td>IPV</td>
<td></td>
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<tr>
<td>IPV</td>
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<tr>
<td>Tdap, 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>Guillain–Barré syndrome within 6 weeks after previous influenza vaccination</td>
</tr>
<tr>
<td>MMR²</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 immunocompromise</td>
<td>Recent (within 11 months) receipt of antibody-containing blood product specific interval depends on product²</td>
</tr>
<tr>
<td>VAR¹</td>
<td>Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy; HIV infection with severe immunocompromise</td>
<td>Recent (within 11 months) receipt of antibody-containing blood product specific interval depends on product²</td>
</tr>
<tr>
<td>ZVL¹</td>
<td>Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy; HIV infection with severe immunocompromise</td>
<td>Recent (within 11 months) receipt of antibody-containing blood product specific interval depends on product²</td>
</tr>
<tr>
<td>HPV vaccine</td>
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</tr>
<tr>
<td>PCV13</td>
<td>Severe allergic reaction to any vaccine containing diphtheria toxoid</td>
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</tr>
</tbody>
</table>

2. MMR may be administered together with VAR or ZVL on the same day. If not administered on the same day, separate live vaccines by at least 28 days.
3. Immunosuppressive therapy is considered to be daily receipt of 20 mg or more prednisone or equivalent for 2 or more weeks. Vaccination should be delayed for at least 1 month after discontinuation of immunosuppressive 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 reasons.
4. Vaccine should be deferred for the appropriate interval if replacement immune globulin products are being administered. See Best practices guidance for the Advisory Committee on Immunization Practices (ACIP). Available at www.cdc.gov/vaccines.hcp/acip-recs/general-recs/index.html.
5. Measles vaccination may be temporarily suppressed 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.

#### Abbreviations of vaccines

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Vaccine Type</th>
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<tbody>
<tr>
<td>IPV</td>
<td>inactivated influenza vaccine</td>
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<tr>
<td>IPV</td>
<td>inactivated influenza vaccine</td>
</tr>
<tr>
<td>Tdap</td>
<td>tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine</td>
</tr>
<tr>
<td>Td</td>
<td>tetanus and diphtheria toxoids</td>
</tr>
<tr>
<td>MMR²</td>
<td>measles, mumps, and rubella vaccine</td>
</tr>
<tr>
<td>VAR</td>
<td>varicella vaccine</td>
</tr>
<tr>
<td>VAR</td>
<td>varicella vaccine</td>
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<tr>
<td>RZV</td>
<td>recombinant zoster vaccine</td>
</tr>
<tr>
<td>ZVL</td>
<td>zoster vaccine live</td>
</tr>
<tr>
<td>HPV vaccine</td>
<td>human papillomavirus vaccine</td>
</tr>
<tr>
<td>PCV13</td>
<td>13-valent pneumococcal conjugate vaccine</td>
</tr>
<tr>
<td>PPSV23</td>
<td>23-valent pneumococcal polysaccharide vaccine</td>
</tr>
<tr>
<td>HepA</td>
<td>hepatitis A vaccine</td>
</tr>
<tr>
<td>HepA-HepB</td>
<td>hepatitis A and hepatitis B vaccines</td>
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<tr>
<td>HepB</td>
<td>hepatitis B vaccine</td>
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<tr>
<td>Hepatitis A vaccine</td>
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</table>

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References and Links to Websites


8. Texas Department of State Health Services. All Texas newborns are screened for these disorders. Available at: https://www.dshs.texas.gov/newborn/screened_disorders.shtm. Accessed March 27, 2018. A list of the disorders for which Texas newborns are screened is provided.

9. Oklahoma State Department of Health. Newborn Screening. Accessed March 27, 2018. 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.
10. New Mexico Department of Health. New Mexico Department of Health Newborn Screening Program. Available at: https://nmhealth.org/about/phd/hi/cms/hbgs/. Accessed March 27, 2018. The State of New Mexico mandates two Newborn Screens be collected on every Newborn born in New Mexico.


15. U.S. Preventive Services Task Force. Screening and supplementation for iron deficiency anemia May 2006. Available at: http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendationstatement/iron-deficiency-anemia. Accessed March 20, 2018. 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. This Recommendation is for informational purposes only since it is not an A or B recommendation.


25. U.S. Preventive Services Task Force. Screening for cervical cancer March 2012. Available at: http://www.uspreventiveservicestaskforce.org/uspsf11/cervcancer/cervcancers.htm. Accessed March 28, 2018. 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://onlineibrary.wiley.com/doi/10.3322/caac.21139/pdf. Accessed March 28, 2018. ACS and its partners recommend no screening for cervical cancer before 21 years of age. For women ages 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.


32. Smith, R. A., Andrews, K. S., Brooks, D., Fedewa, S. A., Manassaram-Baptiste, D., Saslow, D., Brawley, O. W. and Wender, R. C. (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, 67: 100-121. doi:10.3322/caac.21392. Accessed April 23, 2018. 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.

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.


39. U.S. Preventive Service Task Force. Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: Preventive Medication. Accessed March 23, 2018. U.S. Preventive Services Task Force. Available at: https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/statin-use-in-adults-preventive-medicine1. 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.

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/uspstf/uspsbrgen.htm. Accessed April 23, 2018. 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.


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 April 23, 2018. 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.


46. U.S. Preventive Services Task Force. Screening for colorectal cancer October 2018. Available at: http://www.uspreventiveservicestaskforce.org/uspstf/uspscolo.htm. Accessed March 30, 2018. 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 3 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, 2017-18 Influenza Season. Available at: https://www.cdc.gov/flu/professionals/acip/index.htm. Accessed April 23, 2018. Routine annual influenza vaccination is recommended for all persons aged 6 months who do not have contraindications. No preferential recommendation is made for one influenza vaccine product over another for persons for whom more than one licensed, recommended product is available.

51. U. S. Preventive Services Task Force. Aspirin Use to Prevent Cardiovascular Disease and Colorectal Cancer: Preventive Medication April 2016. Accessed March 30, 2018 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.


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 30, 2018. 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 2018. Available at: http://care.diabetesjournals.org/content/diacare/suppl/2017/12/08/41.Supplement_1_DC1/DC_41_S1_Combined.pdf. © 2018 by the American Diabetes Association. Accessed April 23, 2018. Testing should be considered in all adults who are overweight (BMI≥25 kg/m² or ≥23 kg/m² in Asian Americans) and who have one or more 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.

56. U.S. Preventive Services Task Force. Screening for human immunodeficiency virus infection. April 2013. Available at: http://www.uspreventiveservicestaskforce.org/uspstf/usphivi.htm. Accessed March 30, 2018. The USPSTF recommends that clinicians screen for HIV infections in adolescents and adults aged 15 to 65 years. Younger adolescents and older adults who are at risk should also be screened. The USPSTF recommends that clinicians screen all pregnant women for HIV. The evidence is insufficient to determine optimum time intervals for HIV screening.


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, 2018. 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. Osteoporosis screening: postmenopausal women younger than 65 years at increased risk of osteoporosis. Available at: https://www.uspreventiveservicestaskforce.org/Page/Name/uspsst-a-and-b-recommendations-by-date/. Accessed June 28, 2018. The USPSTF recommends screening for osteoporosis with bone measurement testing to prevent osteoporotic fractures in postmenopausal women younger than 65 years who are at increased risk of osteoporosis, as determined by a formal clinical risk assessment tool.


69. U.S. Preventive Services Task Force. Screening for Lung Cancer December 2013. Available at http://www.uspreventiveservicestaskforce.org/uspslfalls.htm. Accessed April 10, 2018. 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 April 23, 2018 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. ACO Committee Opinion. Available at: https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Optimizing-Postpartum-Care. A recent update to the ACOG recommendation on Postpartum care. Accessed June 06, 2018. It is recommended that all women have contact with their obstetrician–gynecologists or other obstetric care providers within the first 3 weeks postpartum. This initial assessment should be followed up with ongoing care as needed, concluding with a comprehensive postpartum visit no later than 12 weeks after birth. The comprehensive postpartum visit should include a full assessment of physical, social, and psychological well-being, including the following domains: mood and emotional well-being; infant care and feeding; sexuality, contraception, and birth spacing; sleep and fatigue; physical recovery from birth; chronic disease management; and health maintenance. Women with chronic medical conditions such as hypertensive disorders, obesity, diabetes, thyroid disorders, renal disease, and mood disorders should be counseled regarding the importance of timely follow-up with their obstetrician–gynecologists or primary care providers for ongoing coordination of care (it was decided not to make this update until 2019).