

Evidence and Rationale

Health supervision is a complex and comprehensive package of services that takes place over each child's lifetime. It includes recommended preventive interventions, such as counseling or screening, and addresses the particular needs of each child in the context of family and community. Pediatric health care professionals have a unique opportunity to assess the health and developmental trajectory of children over time because of the frequent visits for both well-child and sick care. Monitoring a child's health over time (known as surveillance) is an important and complementary process of defined periodic assessment using standardized screening tools.

The *Bright Futures/AAP Recommendations for Preventive Pediatric Health Care (Periodicity Schedule)* are the standard for child preventive services. The *Bright Futures Guidelines, 4th Edition*, provide, evidence-informed guidance for implementing the recommendations included in the *Periodicity Schedule*. The *Bright Futures Guidelines* also describe other preventive care services that are likely to be beneficial but that are not supported by the same degree of evidence. In these instances, the *Guidelines* provide a rationale for the recommended preventive service and guidance to help pediatric health care professionals implement the service. We encourage pediatric health care professionals to also adopt these recommendations, for they were developed by expert panels with extensive feedback from families and the general public. Understanding the value of any specific preventive care service for children and their families is challenging because the intended outcomes may not develop for many years and may be difficult

to measure. In addition, individual preventive services are not provided in isolation but are additive. For example, recommendations about how to have a stimulating but safe environment can be based on a developmental assessment and at the same time incorporate anticipatory guidance promoting early literacy.

Evidence regarding the overall benefit and feasibility of providing preventive services in the primary care setting continues to be central to the recommendations for child health supervision in the *Bright Futures Guidelines*. We continue to emphasize that lack of evidence does not mean a lack of effectiveness. However, we also recognize the importance of demonstrating the value of the services that are central to pediatric care and for ensuring that the potential benefit of each recommended preventive service is balanced against potential harm (eg, labeling, overdiagnosis, opportunity cost). Filling the evidence gaps is highly desirable, and additional research is strongly encouraged.¹ However, it is not necessarily in the best interests of children's health for many of the specific interventions to stop until the evidence base is adequate. We believe that it is central to the practice of pediatric preventive care for health care professionals to understand the current state of the evidence, and we hope that they will participate in the important work necessary to improve the evidence base.

The *Periodicity Schedule* is reserved for preventive services with the highest degree of supporting evidence. Included are the Grade A and Grade B recommendations made by the US Preventive Services Task Force (USPSTF), the



community-based recommendations endorsed by the Centers for Disease Control and Prevention (CDC) Community Guide, and other preventive care services endorsed by the American Academy of Pediatrics (AAP) Executive Committee and Board of Directors. All of these services are based on a high degree of certainty of net benefit to children and their families. The *Periodicity Schedule* is continually reviewed and updated between editions of the *Bright Futures Guidelines* in a process directed by the Bright Futures Steering Committee and the AAP Committee on Practice and

Ambulatory Medicine. Deciding which preventive services should be included in the *Periodicity Schedule* is a complex task because of the incomplete evidence base regarding benefits and harms of preventive care services. The committees are fully committed to using a clearly defined and fully transparent process that weighs benefits, risk, and uncertainties of preventive services when making recommendations for updates to the *Periodicity Schedule*.



Updates to Recommended Preventive Services Since the *Bright Futures Guidelines*, 3rd Edition

The following preventive services are new to the *Bright Futures Guidelines*, 4th Edition. Other preventive services contained in the *Periodicity Schedule* have been modified to be in step with new recommendations. A more detailed summary of changes can be found on the *Periodicity Schedule* at www.aap.org/periodicitieschedule.

- Universal prepubertal cholesterol screening (in addition to the existing universal cholesterol screening in late adolescence)
- Universal depression screening for adolescents
- Universal human immunodeficiency virus (HIV) screening in middle/late adolescence
- Universal maternal depression screening
- Universal newborn critical congenital heart disease screening
- Universal newborn bilirubin screening
- Oral health (universal fluoride varnish for ages 6 months through 5 years, in addition to universal fluoride supplementation for ages 6 months to 16 years)
- Universal adolescent hearing screening

This following preventive service has been deleted from the *Periodicity Schedule*:

- Annual pelvic examinations for cervical dysplasia for sexually active adolescent and young adult females before age 21 years

Evidence Summaries and Rationale Tables

Bright Futures and its partners strive to ensure that, to the greatest extent possible, children receive health promotion and preventive services that are comprehensive, evidence based, and evidence informed and that reflect the knowledge and experience of the health care professionals from many disciplines who work together to ensure best outcomes in childhood and throughout the life course.

The remainder of this chapter presents the components of the *Periodicity Schedule* included in the fourth edition of the *Bright Futures Guidelines*. Each component begins with text that summarizes the supporting evidence. This summary is followed by tables that provide evidence citations, the rationale for the screening tasks, techniques, and risk assessment questions used in the *Guidelines*. The components are presented alphabetically by topic, unlike the *Periodicity Schedule*, which follows a different order.



Anemia

The USPSTF has concluded that current evidence is insufficient to recommend for or against screening for iron deficiency anemia in infants and children between 6 and 24 months of age (I Statement).²

Screening for anemia has limited accuracy for iron deficiency. Treatment of iron deficiency anemia shows improvement in iron deficiency but not necessarily in developmental outcomes. Evidence suggests some harm caused by increased incidence of iron poisoning when iron-containing medications are kept in the home. No high-quality studies were found regarding screening adolescents for anemia.

Because iron deficiency is associated with many and sometimes subtle detrimental effects, the AAP recommends iron supplementation or fortification in infants. They also recommend that all infants at age 12 months be screened for anemia by determining hemoglobin concentration.

Anemia: Universal

Bright Futures Visits	12 Month
Citation	American Academy of Pediatrics Committee on Nutrition. Iron. In: Kleinman RE, Greer FR, eds. <i>Pediatric Nutrition: Policy of the American Academy of Pediatrics</i> . 7th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2014:449-466 (p 462)



Anemia: Selective	
Bright Futures Visits	4, 15, 18 Month; 2, 2½ Year, Annually Beginning With 3 Year
Risk assessment	<p>4 Month Visit</p> <ul style="list-style-type: none"> • Prematurity • Low birth weight • Use of low-iron formula or infants not receiving iron-fortified formula • Early introduction of cow's milk <p>15, 18 Month; 2, 2½, 3, 4, 5 Year Visits</p> <ul style="list-style-type: none"> • At risk of iron deficiency because of special health needs • Low-iron diet (eg, nonmeat diet) • Environmental factors (eg, poverty, limited access to food)
Citation	American Academy of Pediatrics Committee on Nutrition. Iron. In: Kleinman RE, Greer FR, eds. <i>Pediatric Nutrition: Policy of the American Academy of Pediatrics</i> . 7th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2014:449-466 (p 457)
Risk assessment	<p>6 through 10 Year Visits</p> <ul style="list-style-type: none"> • Children who consume a strict vegetarian diet and are not receiving an iron supplement • Environmental factors (eg, poverty, limited access to food)
Citation	American Academy of Pediatrics Committee on Nutrition. Iron. In: Kleinman RE, Greer FR, eds. <i>Pediatric Nutrition: Policy of the American Academy of Pediatrics</i> . 7th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2014:449-466 (p 460)
Risk assessment	<p>Adolescents (11 through 21 Year Visits)</p> <ul style="list-style-type: none"> • Starting in adolescence, screen all nonpregnant females for anemia every 5 to 10 years throughout their childbearing years during routine health examinations. • Annually screen for anemia in females having risk factors for iron deficiency (eg, extensive menstrual or other blood loss, low iron intake, or a previous diagnosis of iron deficiency anemia). • Environmental factors (eg, poverty, limited access to food)
Citation	American Academy of Pediatrics Committee on Nutrition. Iron. In: Kleinman RE, Greer FR, eds. <i>Pediatric Nutrition: Policy of the American Academy of Pediatrics</i> . 7th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2014:449-466 (p 460)



Autism Spectrum Disorder

The AAP has recommended administering an autism spectrum disorder (ASD)–specific screening tool at the 18 Month and 2 Year health supervision visits in addition to a general developmental screening tool. The USPSTF has concluded that current evidence is insufficient to recommend for or against screening for ASD in young children when no concerns of ASD have been raised by their parents or no clinical suspicion exists (I Statement).³ Although the USPSTF found that screening can accurately identify children with ASD, it found a lack of evidence regarding the benefit of treatment for otherwise asymptomatic individuals.

Autism Spectrum Disorder: Universal

Bright Futures Visits

18 Month, 2 Year

Citation

American Academy of Pediatrics Council on Children with Disabilities, Section on Developmental Behavioral Pediatrics, Bright Futures Steering Committee and Medical Home Initiatives for Children With Special Needs Project Advisory Committee. Identifying infants and young children with developmental disorders in the medical home: an algorithm for developmental surveillance and screening. *Pediatrics*. 2006;118(1):405-420



Blood Pressure

Bright Futures Guidelines includes blood pressure screening as a vital sign for all visits beginning with the 3 Year Visit. The USPSTF recommends screening for high blood pressure beginning at 18 years of age (Grade A).⁴

In babies and children younger than 3 years, blood pressure is a selective screening with risk assessment questions drawn from the National High Blood Pressure Working Group on High Blood Pressure in Children and Adolescents, cited in the next table. The USPSTF has concluded that current evidence is insufficient to recommend for or against blood pressure screening in children and adolescents younger than 18 years (I Statement).⁵

Blood Pressure: Selective	
Bright Futures Visits	All Visits <3 Years (This screening becomes a component of the annual physical examination at the 3 Year Visit.)
Risk assessment	<ul style="list-style-type: none"> • History of prematurity, very low birth weight, or other neonatal complication requiring intensive care • Congenital heart disease (repaired or non-repaired) • Recurrent urinary tract infections, hematuria, or proteinuria • Known kidney disease or urological malformations • Family history of congenital kidney disease • Solid-organ transplant • Malignancy or bone marrow transplant • Treatment with drugs known to raise blood pressure • Other systemic illnesses associated with hypertension (eg, neurofibromatosis, tuberous sclerosis) • Evidence of increased elevated intracranial pressure
Citation	National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. The fourth report on the diagnosis, evaluation, and treatment of high blood pressure in children and adolescents. <i>Pediatrics</i> . 2004;114(2 suppl 4th report):555-576 (p 556)



Cervical Dysplasia

The USPSTF recommends *against* cervical dysplasia screening (Grade D)⁶ for females younger than 21 years.

The USPSTF recommends cytology screening for cancer for women aged 21 to 65 (Grade A). Cervical dysplasia screening is recommended at the 21 Year Visit.

Cervical Dysplasia: Universal	
Bright Futures Visits	21 Year
US Preventive Services Task Force	Moyer VA; US Preventive Services Task Force. Screening for cervical cancer: US Preventive Services Task Force recommendation statement. <i>Ann Intern Med.</i> 2012;156(12):880-891



Depression: Adolescent

The USPSTF recommends screening for major depressive disorder in adolescents and adults aged 12 to 18 years (Grade B) and for the general adult population (Grade B). The USPSTF further notes, “screening should be implemented with adequate systems in place to assure accurate diagnosis, effective treatment, and appropriate follow-up.”⁷

The USPSTF has concluded that current evidence is insufficient to recommend for or against screening for major depressive disorder in children younger than 12 years (I Statement).⁷

The USPSTF has concluded that current evidence is insufficient to recommend for or against screening for suicide risk in adolescents or adults (I Statement).⁸

Depression: Universal	
Bright Futures Visits	Adolescents (12 Through 21 Year)
US Preventive Services Task Force	<p>Siu AL; US Preventive Services Task Force. Screening for depression in children and adolescents: US Preventive Services Task Force recommendation statement. <i>Pediatrics</i>. 2016;137(3):1-8</p> <p>Siu AL, Bibbins-Domingo K, Grossman DC, et al; US Preventive Services Task Force. Screening for depression in adults: US Preventive Services Task Force recommendation statement. <i>JAMA</i>. 2016;315(4):380-387</p>

Depression: Maternal

The USPSTF recommends screening for depression in the general adult population, including pregnant and postpartum women (Grade B). The USPSTF further notes, “screening should be implemented with adequate systems in place to assure accurate diagnosis, effective treatment, and appropriate follow-up.”⁹ The AAP has suggested screening up to 6 months of age.

Maternal Depression: Universal	
Bright Futures Visits	1, 2, 4, 6 Month
US Preventive Services Task Force	Siu AL; US Preventive Services Task Force. Screening for depression in adults: US Preventive Services Task Force recommendation statement. <i>JAMA</i> . 2016;315(4):380-387
Citation	Earls MF; American Academy of Pediatrics Psychosocial Aspects of Child and Family Health. Incorporating recognition and management of perinatal and postpartum depression into pediatric practice. <i>Pediatrics</i> . 2010;126(5):1032-1039



Development

Consensus exists within the AAP and with others regarding the value of early detection and intervention for developmental delays, including gross motor, fine motor, communication, and social development. Surveillance, even by experienced parents and pediatric health care professionals, can miss cases. Therefore, in 2006 the AAP recommended developmental screening at specific ages in addition to surveillance at each preventive care visit.

All children, most of whom will not have identifiable risks or whose development appears to be proceeding typically, should receive periodic developmental screening using a standardized test. In the absence of established risk factors or parental or provider concerns, a general developmental screening, including neuromotor screening, is recommended at the 9 Month, 18 Month, and 2½ Year Visits.

These recommended ages for developmental screening are suggested only as a starting point for children who appear to be developing normally. Surveillance should continue throughout childhood, and screenings should be conducted anytime concerns are raised by parents, child health professionals, or others involved in the care of the child.

Speech and Language

The USPSTF has concluded that current evidence is insufficient to recommend for or against the routine use of brief, formal screening instruments in primary care to detect speech and language delay in babies and children up to age 5 years (I Statement).¹⁰

Uncertainty exists on the accuracy of tests available to screen specifically for speech or language delay or disorders and the outcomes for children identified specifically through screening.

Bright Futures does not recommend screening specifically for speech or language delay or disorders but instead recommends broadband developmental screening as well as surveillance over time to evaluate the developmental trajectory of the child. This approach can identify speech and language delay or disorders, as well as other developmental problems.

Gross Motor and Other Development Screening at 4 Years of Age

Bright Futures does not recommend screening at 4 years of age. No new strong evidence has been published since the AAP 2006 statement. Motor development evaluation at 4 years of age has been reviewed and is a suggested component of the physical examination at this visit.¹¹

Development: Universal	
Bright Futures Visits	9, 18 Month; 2½ Year
Citations	<p>American Academy of Pediatrics Council on Children With Disabilities, Section on Developmental Behavioral Pediatrics, Bright Futures Steering Committee and Medical Home Initiatives for Children With Special Needs Project Advisory Committee. Identifying infants and young children with developmental disorders in the medical home: an algorithm for developmental surveillance and screening. <i>Pediatrics</i>. 2006;118(1):405-420 (pp 409, 414)</p> <p>AAP publications retired and reaffirmed. <i>Pediatrics</i>. 2010;125(2):e444-e445</p> <p>AAP publications reaffirmed or retired. <i>Pediatrics</i>. 2014;134(5):e1520-e1520</p>



Dyslipidemia

The Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents of the National Heart, Lung, and Blood Institute and the AAP found sufficient evidence to support universal prepubertal cholesterol screening. A fasting lipoprotein profile (total cholesterol, low-density lipoprotein cholesterol, high-density lipoprotein cholesterol, and triglyceride) should be obtained before pubertal onset and in late adolescence. Screening should be considered for younger children when a history of familial hypercholesterolemia has been identified.

The USPSTF has concluded that current evidence is insufficient to recommend for or against lipid screening from infancy to age 20 years (I Statement).¹²

Dyslipidemia: Universal	
Bright Futures Visits	Once Between 9 and 11 Year; Once Between 17 and 21 Year
Citation	National Heart, Lung, and Blood Institute. Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents: summary report. <i>Pediatrics</i> . 2011;128(suppl 5):S213-S256

Dyslipidemia: Selective	
Bright Futures Visits	2, 4, 6, 8 Year
Risk assessment	Measure fasting lipid profile (FLP) twice. Average the results if <ul style="list-style-type: none"> • Parent, grandparent, aunt or uncle, or sibling with myocardial infarction (MI); angina; stroke; or coronary artery bypass graft (CABG)/stent/angioplasty at <55 years in males and <65 years in females. • Parent with total cholesterol \geq240 mg/dL or known dyslipidemia. • Patient has diabetes, hypertension, or body mass index (BMI) \geq95th percentile or smokes cigarettes. • Patient has a moderate- or high-risk medical condition.
Bright Futures Visits	12 Through 16 Year
Risk assessment	Measure FLP twice. Average the results if new knowledge of <ul style="list-style-type: none"> • Parent, grandparent, aunt or uncle, or sibling with MI, angina, stroke, CABG/stent/angioplasty, or sudden death at <55 years in males and <65 years in females. • Parent with total cholesterol \geq240 mg/dL or known dyslipidemia. • Patient has diabetes, hypertension, or BMI \geq85th percentile or smokes cigarettes. • Patient has a moderate- or high-risk medical condition.
Citation	National Heart, Lung, and Blood Institute. Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents: summary report. <i>Pediatrics</i> . 2011;128(suppl 5):S213-S256



Hearing

Strong evidence shows that newborn hearing screening leads to earlier identification and treatment of babies with hearing loss. The AAP supports the 1994 statement of the Joint Committee on Infant Hearing, which endorses the goal of universal detection of hearing loss in babies before 3 months of age, with appropriate intervention no later than 6 months of age.¹³ Universal detection of infant hearing loss requires universal screening of all infants. Newborn hearing screening is mandated in most states.

No high-quality studies were found on hearing screening for older children or adolescents. In spite of the rising incidence of hearing loss, presumably related to environmental or headphone and earbud acoustic trauma, hearing screening questions used in the primary care setting do not identify adolescents at risk of hearing loss. For these reasons, universal hearing screening is recommended once during the Early Adolescence, the Middle Adolescence, and the Late Adolescence Visits. Screening in these age groups may be enhanced by including 6,000 and 8,000 Hz high frequencies in the screening audiogram. In addition to screening, counseling on the risk of hearing loss caused by environmental exposures may be considered.

Hearing: Universal	
Bright Futures Visits	Newborn, First Week; 1, 2 Month
Citation	American Academy of Pediatrics Task Force on Newborn and Infant Hearing. Newborn and infant hearing loss: detection and intervention. <i>Pediatrics</i> . 1999;103(2):527-530
Bright Futures Visits	4, 5, 6, 8, 10 Year
Citation	Harlor AD Jr, Bower C. Hearing assessment in infants and children: recommendations beyond neonatal screening. <i>Pediatrics</i> . 2009;124(4):1252-1263
Bright Futures Visits	Once During the Early, the Middle, and the Late Adolescence Visits
Citation	Sekhar DL, Zalewski TR, Beiler JS, et al. The sensitivity of adolescent hearing screens significantly improves by adding high frequencies. <i>J Adolesc Health</i> . 2016;59(3):362-364

Hearing: Selective	
Bright Futures Visits	4, 6, 9, 12, 15, 18 Month; 2, 2½ Year
Risk assessment	<ul style="list-style-type: none"> • Caregiver concern^a regarding hearing, speech, language or developmental delay. • Family history^a of permanent childhood hearing loss. • Neonatal intensive care of >5 days or any of the following regardless of length of stay: extracorporeal membrane oxygenation, assisted ventilation, exposure to ototoxic medications (gentamycin and tobramycin) or loop diuretics (furosemide/Lasix), and hyperbilirubinemia that requires exchange transfusion. • In utero infections such as cytomegalovirus,^a herpes, rubella, syphilis, and toxoplasmosis. • Craniofacial anomalies, including those involving the pinna, ear canal, ear tags, ear pits, and temporal bone anomalies.

continued



Hearing: Selective (continued)

Bright Futures Visits 4, 6, 9, 12, 15, 18 Month; 2, 2½ Year

Risk assessment
(continued)

- Physical findings, such as white forelock, associated with a syndrome known to include a sensorineural or permanent conductive hearing loss.
- Syndromes associated with hearing loss or progressive or late-onset hearing loss,^a such as neurofibromatosis, osteopetrosis, and Usher syndrome. Other frequently identified syndromes include Waardenburg, Alport, Pendred, and Jervell and Lange-Nielson.
- Neurodegenerative disorders,^a such as Hunter syndrome, or sensory motor neuropathies, such as Friedreich ataxia and Charcot-Marie-Tooth disease.
- Culture-positive postnatal infections associated with sensorineural hearing loss,^a including confirmed bacterial and viral (especially herpesvirus and varicella-zoster virus) meningitis.
- Head trauma, especially basal skull or temporal bone fracture^a requiring hospitalization.
- Chemotherapy.^a

The Joint Committee on Infant Hearing recognizes that an optimal surveillance and screening program within the medical home would include

- At each visit consistent with the *Periodicity Schedule*, infants should be monitored for auditory skills, middle ear status, and developmental milestones (surveillance). Concerns elicited during surveillance should be followed by administration of a validated global developmental screening tool. A validated global developmental screening tool is administered at 9, 18, and 24 to 30 months or, if there is physician or parental concern about hearing or language, sooner.
- If an infant does not pass the speech-language portion of the global screening in the medical home or if there is physician or caregiver concern about hearing or spoken-language development, the child should be referred immediately for further evaluation by an audiologist and a speech-language pathologist for a speech and language evaluation with validated tools.
- A careful assessment of middle ear status (using pneumatic otoscopy, tympanometry or both) should be completed at all well-child visits, and children with persistent middle ear effusion (≥3 months) should be referred for otologic evaluation.
- Once hearing loss is diagnosed in an infant, siblings who are at increased risk of having hearing loss should be referred for audiological evaluation.
- All infants with a risk indicator for hearing loss, regardless of surveillance findings, should be referred for an audiological assessment at least once by 24 to 30 months of age. Children with risk indicators that are highly associated with delayed-onset hearing loss, such as having received extracorporeal membrane oxygenation or having cytomegalovirus infection, should have more frequent audiological assessments.
- All infants for whom the family has significant concerns regarding hearing or communication should be promptly referred for an audiological and speech-language assessment.

^a Risk indicators that are of greater concern for delayed onset hearing loss.

continued

**Hearing: Selective (continued)**

Bright Futures Visits	4, 6, 9, 12, 15, 18 Month; 2, 2½ Year
Citation	American Academy of Pediatrics Joint Committee on Infant Hearing. Year 2007 position statement: principles and guidelines for early hearing detection and intervention programs. <i>Pediatrics</i> . 2007;120(4):898-921
Bright Futures Visits	3, 7, 9 Year
Risk assessment	Parental concern
Citation	At this time, no studies provide validated screening questions for this age group.

Human Immunodeficiency Virus

The USPSTF recommends screening for HIV infection in adolescents and adults aged 15 to 65 years. Screening of younger and older persons at increased risk is also recommended (Grade A). Youth at increased risk of HIV infection, including those who are sexually active, participate in injected drug use, or are being tested for other sexually transmitted infections (STIs), should be tested for HIV and reassessed annually. Bright Futures recommendations follow the USPSTF and call for HIV screening once between the ages of 15 and 18 years, making every effort to preserve confidentiality of the adolescent.

Human Immunodeficiency Virus: Universal

Bright Futures Visits	Once Between 15 and 18 Year
US Preventive Services Task Force	Moyer VA; US Preventive Services Task Force. Screening for HIV: US Preventive Services Task Force recommendation statement. <i>Ann Intern Med</i> . 2013;159(1):51-60



Human Immunodeficiency Virus: Selective	
Bright Futures Visits	Adolescents (11 Through 21 Year)
Risk assessment	<ul style="list-style-type: none"> • Males who have sex with males • Active injection drug users • Males and females having unprotected vaginal or anal intercourse • Males and females having sexual partners who are human immunodeficiency virus (HIV) infected, bisexual, or injection drug users • Males and females who exchange sex for drugs or money • Males and females who have acquired or request testing for other sexually transmitted infections <p>Patients may request HIV testing in the absence of reported risk factors.</p> <p>To further clarify, the US Preventive Services Task Force notes “that these categories are not mutually exclusive, the degree of sexual risk is on a continuum, and individuals may not be aware of their sexual partners’ risk factors for HIV infection. For patients younger than 15 years and older than 65 years, it would be reasonable for clinicians to consider HIV risk factors among individual patients, especially those with new sexual partners. However, clinicians should bear in mind that adolescent and adult patients may be reluctant to disclose having HIV risk factors, even when asked.”</p>
Citation	Moyer VA; US Preventive Services Task Force. Screening for HIV: US Preventive Services Task Force recommendation statement. <i>Ann Intern Med.</i> 2013;159(1):51-60 (p 53)

Lead

The USPSTF has concluded that current evidence is insufficient to recommend for or against routine screening for elevated lead levels for asymptomatic children between ages 1 and 5 years who are at increased risk (I Statement).¹⁴

The USPSTF recommends *against* routine screening for elevated lead levels for asymptomatic children between ages 1 and 5 who are at average risk (Grade D).

Controlled trials demonstrate no neurodevelopmental benefit from interventions to decrease blood lead levels in asymptomatic children. However, lead screening is mandated in many states because of high prevalence of elevated blood lead levels, older housing stock, or Medicaid requirements. Identification might help decrease ongoing exposure and may be of benefit to other children in the same environment.

Bright Futures recommends blood lead screening at the 12 Month Visit. It may be considered again at the 2 Year Visit when blood lead levels peak. The AAP recommends targeted screening of children 12 to 24 months of age for elevated blood lead level concentrations “who live in communities or census block groups with >25% of housing built before 1960 or a prevalence of children’s blood concentrations >5 ug/dL (>50 ppb) of >5%.”



Elevated Blood Lead Levels: Universal	
Bright Futures Visits	12 Month (High Prevalence Area or Medicaid); 2 Year (High Prevalence Area or Medicaid)
Citations	American Academy of Pediatrics Council on Environmental Health. Prevention of children lead toxicity. <i>Pediatrics</i> . 2016;138(1):e20161493 Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention. <i>Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention</i> . Atlanta, GA; 2012. http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf . Accessed November 22, 2016
Lead: Selective	
Bright Futures Visits	6, 9 Month; 12 Month (Low Prevalence, Not on Medicaid); 18 Month; 2 Year (Low Prevalence, Not on Medicaid); 3, 4, 5, 6 Year
Risk assessment	Does your child live in or visit a home or child care facility with an identified lead hazard or a home built before 1960 that is in poor repair or was renovated in the past 6 months?
Citation	American Academy of Pediatrics Council on Environmental Health. Prevention of childhood lead toxicity. <i>Pediatrics</i> . 2016;138(1):e20161493
Risk assessment	Local health care professionals should work with state, county, or local health authorities to develop sensitive, customized questions appropriate to the housing and hazards encountered locally.
Citation	Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention. <i>Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention</i> . Atlanta, GA; 2012. http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf . Accessed November 22, 2016
Risk assessment	The Centers for Disease Control and Prevention recommends blood lead testing for all refugee children who are 6 months to 16 years of age upon entering the United States. Repeated blood lead level testing of all refugee children who are 6 months to 6 years of age 3 to 6 months after they are placed in permanent residences should be considered a “medical necessity,” regardless of initial test results.
Citation	Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention. <i>Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention</i> . Atlanta, GA; 2012. http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf . Accessed November 22, 2016



Newborn: Bilirubin

The AAP recommends universal assessment of bilirubin level in infants with gestational age of 35 weeks or greater, using either measurement of total serum bilirubin or transcutaneous bilirubin, with standardized management and follow-up based on the bilirubin level, gestational age, and other risk factors for the development of hyperbilirubinemia.

It is important to critically consider the initial bilirubin level and individual child risk factors to avoid missing cases but also to avoid overtreatment and overdiagnosis.

This recommendation was based primarily on expert opinion and the development of nomograms regarding age-based changes in bilirubin levels. The goal of this assessment is to prevent the development of chronic bilirubin encephalopathy or kernicterus. As kernicterus is a rare event, evaluating the direct linkage between screening and changes in the incidence of kernicterus is difficult. However, the indirect linkage between bilirubin levels and kernicterus and the treatment effect of phototherapy was considered strong enough to support this recommendation. Timely identification could also decrease the need for exchange transfusion, which can be associated with significant morbidity.

Bilirubin: Universal	
Bright Futures Visits	Newborn
Citation	Maisels MJ, Bhutani VK, Bogen D, Newman TB, Stark AR, Watchko JF. Hyperbilirubinemia in the newborn infant ≥ 35 weeks' gestation: an update with clarifications. <i>Pediatrics</i> . 2009;124(4):1193-1198

Newborn: Blood

Newborn screening is an essential public health responsibility that is critical for improving the health outcomes of affected children. Participation by pediatric health care professionals is necessary to ensure that testing and any indicated follow-up are completed in a timely fashion. Because of state-by-state variation, it is important for health care professionals know which conditions are included in the panel in the state in which a child was born.

Because the conditions that are included in newborn screening are mandated at the state level, Bright Futures did not summarize the evidence supporting this testing.

Newborn Blood: Universal	
Bright Futures Visits	Newborn, First Week; 1, 2 Month
Citation	American College of Medical Genetics Newborn Screening Expert Group. Newborn screening: toward a uniform screening panel and system—executive summary. <i>Pediatrics</i> . 2006;117(5 pt 2):S296-S307 (p S298)



Newborn: Critical Congenital Heart Disease

A significant body of evidence suggests that early detection of critical congenital heart disease through pulse-oximetry monitoring is an effective strategy for reducing morbidity and mortality rates in young children. In some states, this screening is mandated as a component of newborn screening. Health care professionals should be aware of state-specific reporting requirements.

Critical Congenital Heart Disease: Universal

Bright Futures Visits	Newborn
Citations	Kemper AR, Mahle WT, Martin GR, et al. Strategies for implementing screening for critical congenital heart disease. <i>Pediatrics</i> . 2011;128(5):e1259-e1267 Mahle WT, Martin GR, Beekman RH III, Morrow WR; American Academy of Pediatrics Section on Cardiology and Cardiac Surgery Executive Committee. Endorsement of Health and Human Services recommendation for pulse oximetry screening for critical congenital heart disease. <i>Pediatrics</i> . 2012;129(1):190-192



Oral Health

No high-quality studies were found that examined accuracy by the primary care health professional in identifying children who displayed one or more risk indicators for oral disease.

Referral by the primary care physician or health care professional has been recommended, based on risk assessment, as early as 6 months of age, 6 months after the first tooth erupts, and no later than 12 months of age.

Fluoride Dental Varnish

Strong evidence shows that providing fluoride varnishing in the primary care setting for children younger than 5 years as part of a comprehensive approach to preventing caries is beneficial.

The USPSTF recommends that primary health care professionals apply fluoride varnish to the primary teeth of all infants and children from the time of primary tooth eruption through age 5 years (Grade B). The USPSTF found that the “optimum frequency of fluoride varnishing is not known.” Three good- and fair-quality trials assessed by the USPSTF compared varnishing every 6 months versus no varnishing.

A recent Cochrane Review evaluated the effect of fluoride varnish in children and adolescents.¹⁵ Of the 21 trials that were identified, 8 included children aged 1 to 5 years. Across all studies, use of fluoride varnish on primary dentition was associated with approximately a 37% reduction in decayed, missing, and filled tooth surfaces. This report did not identify the optimum frequency of varnishing. No important adverse events were reported. However, the review identified that this might be a limitation in the quality of reporting.

The AAP recommends that fluoride varnish be applied to the teeth of all infants and children at least once every 6 months and every 3 months for children at elevated caries risk, starting when the first tooth erupts and until establishment of a dental home. This was based on the recommendations from the American Academy of Pediatric Dentistry to apply fluoride to high-risk children. Some health insurers, including some state Medicaid programs, limit the application to every 6 months.

Fluoride Supplementation

The USPSTF recommends “that primary care clinicians prescribe oral fluoride supplementation starting at 6 months of age for children whose water supply is deficient in fluoride” (Grade B).

Systemic fluoride intake through optimal fluoridation of drinking water or professionally prescribed supplements is recommended to at least age 16 years or the eruption of the second permanent molars, whichever comes first.

Oral Health Risk Assessment: Universal	
Bright Futures Visits	6, 9 Month
Citations	American Academy of Pediatric Dentistry Council on Clinical Affairs. Policy on the dental home. <i>Reference Manual</i> . 2015;37(6):24-25. http://www.aapd.org/media/Policies_Guidelines/P_DentalHome.pdf . Accessed August 8, 2016 Casamassimo P, Holt K, eds. <i>Bright Futures in Practice: Oral Health—Pocket Guide</i> . 3rd ed. Washington, DC: National Maternal and Child Oral Health Resource Center; 2016



Fluoride Dental Varnishing: Universal (in the absence of a dental home)	
Bright Futures Visits	6 Month Through 5 Year
US Preventive Services Task Force	Moyer VA; US Preventive Services Task Force. Prevention of dental caries in children from birth through age 5 years: US Preventive Services Task Force recommendation statement. <i>Pediatrics</i> . 2014;133(6):1102-1111
Citations	<p>Marinho VC, Worthington HV, Walsh T, Clarkson JE. Fluoride varnishes for preventing dental carries in children and adolescents. <i>Cochrane Database Syst Rev</i>. 2013;(7):CD002279</p> <p>Clark MB, Slayton RL; American Academy of Pediatrics Section on Oral Health. Fluoride use in caries prevention in the primary care setting. <i>Pediatrics</i>. 2014;134(3):626-633</p> <p>Achembong LN, Kranz AM, Rozier RG. Office-based preventive dental program and statewide trends in dental caries. <i>Pediatrics</i>. 2014;133(4):e827-e834</p>

Oral Health (Dental Home): Selective	
Bright Futures Visits	12, 18 Month; 2, 2½, 3, 4, 5, 6 Year
Risk assessment	Referral by the primary care physician or health care professional has been recommended, based on risk assessment, as early as 6 months of age, 6 months after the first tooth erupts, and no later than 12 months of age.
Citations	<p>American Academy of Pediatric Dentistry Council on Clinical Affairs. Policy on the dental home. <i>Reference Manual</i>. 2015;37(6):24-25. http://www.aapd.org/media/Policies_Guidelines/P_DentalHome.pdf. Accessed August 8, 2016</p> <p>Casamassimo P, Holt K, eds. <i>Bright Futures in Practice: Oral Health—Pocket Guide</i>. 3rd ed. Washington, DC: National Maternal and Child Oral Health Resource Center; 2016</p>

Oral Health (Fluoride Supplementation): Selective	
Bright Futures Visits	6, 9, 12, 18 Month; 2, 2½, 3, 4, 5, 6 to 16 Years
Risk assessment	The US Preventive Services Task Force recommends that primary care clinicians prescribe oral fluoride supplementation at currently recommended doses to preschool children >6 months whose primary water source is deficient in fluoride.
Citation	US Preventive Services Task Force. <i>Prevention of Dental Caries in Preschool Children: Recommendations and Rationale</i> . Rockville, MD. Agency for Healthcare Research and Quality; 2004. http://www.ahrq.gov/clinic/3rduspstf/dentalchild/dentchrs.htm . Accessed August 8, 2016
Risk assessment	Systemic fluoride intake through optimal fluoridation of drinking water or professionally prescribed supplements is recommended to 16 years of age or the eruption of the second permanent molars, whichever comes first.
Citations	<p>American Academy of Pediatric Dentistry Clinical Affairs Committee. Clinical guideline on adolescent oral health care. <i>Reference Manual</i>. 2015;37(6):151-158. http://www.aapd.org/media/policies_guidelines/g_adoleshealth.pdf. Accessed August 8, 2016</p> <p>Moyer VA. Prevention of dental caries in children from birth through age 5 years: US Preventive Services Task Force recommendation statement. <i>Pediatrics</i>. 2014;133(6):1102-1111</p>



Scoliosis

Bright Futures includes examination of the back for scoliosis or other abnormality for all Adolescence Visits; a scoliometer may be employed to avoid overidentification. The AAP has endorsed the American Academy of Orthopedic Surgeons and Scoliosis Research Society recommendation to screen for scoliosis.^{16,17}

The USPSTF recommends *against* routine screening for scoliosis (Grade D).¹⁸

Sexually Transmitted Infections

Prenatal Screening

Screening pregnant women for hepatitis B, HIV, syphilis, chlamydia, and gonorrhea can have direct health benefits later for the child.

The USPSTF recommends that all pregnant women be screened for hepatitis B (Grade A), HIV (Grade A), and syphilis (Grade A). Each of these infections requires urgent treatment of the newborn.

The USPSTF recommendation for chlamydia and gonorrhea screening of pregnant women is the same as for nonpregnant women. The USPSTF recommends that females younger than 25 years and those engaging in high-risk sexual behaviors be screened for chlamydia (Grade B) and gonorrhea (Grade B). Although the USPSTF does not recommend routine screening for chlamydia in pregnant women who are older than 25 and not at increased risk, it notes that individual circumstances may support screening.

The USPSTF has concluded that current evidence is insufficient to recommend for or against screening for gonorrhea in pregnant women who are not at increased risk (I Statement).¹⁹

Screening Adolescents for *Chlamydia trachomatis*

Chlamydia is the most common STI in the United States, and many of those infected are asymptomatic. In females, untreated chlamydial infection can lead to infertility. Furthermore, infants may develop serious illness if chlamydial infection is acquired through vertical transmission. In adolescent and adult males, chlamydia rarely leads to significant illness. Of course, infected adolescent and adult males can be important vectors for transmission.

The USPSTF recommends screening for chlamydial infection in all sexually active, nonpregnant females 24 years and younger (Grade B).

The USPSTF has concluded that current evidence is insufficient to recommend for or against screening for chlamydial infection in men (I Statement).¹⁹

The *Periodicity Schedule* calls for screening of adolescents for STIs according to the recommendations in the current edition of the AAP *Red Book: Report of the Committee on Infectious Diseases*.



Screening Adolescents for *Neisseria gonorrhoea*

The USPSTF recommends screening for gonorrheal infection in all sexually active, nonpregnant females 24 years and younger (Grade B).

The USPSTF has concluded that current evidence is insufficient to recommend for or against screening for gonorrheal infection in men (I Statement).¹⁹ Asymptomatic infection is less common in males than in females.

Males who have sex with males or who have other STIs are at increased risk.

Screening Adolescents for Syphilis

The USPSTF strongly recommends that clinicians screen persons at increased risk for syphilis infection (Grade A).

The USPSTF does not recommend routine screening of asymptomatic persons who are not at increased risk for syphilis infection (Grade D).

Chlamydia: Selective	
Bright Futures Visits	Adolescents (11 Through 21 Year)
Risk assessment	The US Preventive Services Task Force strongly recommends that clinicians routinely screen all sexually active females ≤25 years and other asymptomatic females at increased risk for infection for chlamydial infection.
US Preventive Services Task Force	LeFevre ML; US Preventive Services Task Force. Screening for chlamydia and gonorrhea: US Preventive Services Task Force recommendation statement. <i>Ann Intern Med.</i> 2014;161(12):902-910
Risk assessment	<p>The American Academy of Pediatrics recommends that sexually active males who have sex with females may be considered for annual screening in settings with high prevalence rates.</p> <ul style="list-style-type: none"> • Jails or juvenile corrections facilities • National job training programs • Sexually transmitted infection clinics • High school-based clinics • Adolescent clinics for patients who have a history of multiple partners <p>Sexually active males who have sex with males (MSM) should be screened annually for rectal and urethral chlamydia. MSM at high risk should be screened every 3 to 6 months.</p> <ul style="list-style-type: none"> • Multiple or anonymous sex partners • Sex in conjunction with illicit drug use • Sex with partners who participate in these activities
Citation	American Academy of Pediatrics Committee on Adolescence, Society for Adolescent Health and Medicine. Screening for nonviral sexually transmitted infections in adolescents and young adults. <i>Pediatrics.</i> 2014;134(1):e302-e311



Gonorrhea: Selective	
Bright Futures Visits	Adolescents (11 Through 21 Year)
Risk assessment	The US Preventive Services Task Force recommends that clinicians screen all sexually active females, including those who are pregnant, for gonorrheal infection if they are at increased risk for infection (ie, if they are young or have other individual or population risk factors).
US Preventive Services Task Force	LeFevre ML; US Preventive Services Task Force. Screening for chlamydia and gonorrhea: US Preventive Services Task Force recommendation statement. <i>Ann Intern Med.</i> 2014;161(12):902-910
Risk assessment	<p>The American Academy of Pediatrics recommends that sexually active males who have sex with females (known as MSF) may be considered for annual screening on the basis of individual and population risk factors, such as disparities by race and neighborhood.</p> <p>Sexually active males who have sex with males (MSM) should be screened annually for rectal and urethral gonorrhea.</p> <p>MSM at high risk should be screened every 3 to 6 months.</p> <ul style="list-style-type: none"> • Multiple or anonymous sex partners • Sex in conjunction with illicit drug use • Sex with partners who participate in these activities
Citation	American Academy of Pediatrics Committee on Adolescence, Society of Adolescent Health and Medicine. Screening for nonviral sexually transmitted infections in adolescents and young adults. <i>Pediatrics.</i> 2014;134(1):e302-e311

Syphilis: Selective	
Bright Futures Visits	Adolescents (11 Through 21 Year)
Risk assessment	<ul style="list-style-type: none"> • Males who have sex with males and engage in high-risk sexual behavior • Persons living with human immunodeficiency virus • Commercial sex workers • Persons who exchange sex for drugs • Those in adult correctional facilities
US Preventive Services Task Force	US Preventive Services Task Force. Screening for syphilis infection in nonpregnant adults and adolescents: US Preventive Services Task Force recommendation statement. <i>JAMA.</i> 2016;315(21):2321-2327
Citation	American Academy of Pediatrics Committee on Adolescence, Society of Adolescent Health and Medicine. Screening for nonviral sexually transmitted infections in adolescents and young adults. <i>Pediatrics.</i> 2014;134(1):e302-e311



Tobacco, Alcohol, or Drug Use

Tobacco Use

The USPSTF recommends “primary care clinicians provide interventions, including education or brief counseling, to prevent initiation of tobacco use among adolescents” (Grade B). The USPSTF made the same recommendation for pregnant women (Grade A) and for adults (≥ 18 years) who are not pregnant (Grade A).

The AAP has developed comprehensive reports regarding tobacco use prevention and cessation and recommends asking about tobacco use and secondhand smoke exposure, using office systems that require documentation of tobacco use and secondhand smoke exposure and providing anticipatory guidance by age 5 years.

The AAP recommends that pediatric health care professionals increase their capacity in substance use detection, assessment, and intervention and suggests that research-informed Screening, Brief Intervention, and Referral to Treatment practices can be applied across the variety of practice settings and health care professionals who provide health care to adolescents.

Alcohol Use

The USPSTF has concluded that current evidence is insufficient to recommend for or against screening and behavioral interventions for adolescents for alcohol misuse in primary care settings (I Statement).²⁰ However, the USPSTF recommends screening adults 18 years and older for alcohol misuse and recommends brief behavioral counseling interventions to reduce alcohol misuse for “persons engaged in risky of hazardous drinking” (Grade B).

Drug Use

The USPSTF has concluded that current evidence is insufficient to recommend for or against screening adolescents, adults, and pregnant women for illicit drug use (I Statement). The USPSTF further concluded that current evidence is insufficient to recommend for or against primary care behavioral interventions to prevent or reduce illicit drug use in children and adolescents who do not have a substance use disorder (I Statement).²¹

Tobacco, Alcohol, or Drug Use: Universal	
Bright Futures Visits	Adolescents (11 Through 21 Year)
US Preventive Services Task Force	Moyer VA; US Preventive Services Task Force. Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: US Preventive Services Task Force recommendation statement. <i>Ann Intern Med.</i> 2013;159(3):210-218
Citation	American Academy of Pediatrics Committee on Substance Abuse. Substance use Screening, Brief Intervention, and Referral to Treatment. <i>Pediatrics.</i> 2016;138(1):e20161210



Tuberculosis

The USPSTF is reviewing the topic of screening for latent tuberculosis infection in populations that are at increased risk. The USPSTF draft recommendation is for screening adults who are at increased risk for tuberculosis (Grade B).

There is no evidence of benefit or harm from screening asymptomatic children and adolescents for tuberculosis (TB). Questionnaires that address contact with a person who has TB, birth in or travel to endemic areas, regular contact with high-risk adults, and HIV infection in the child have been shown to have adequate sensitivity and specificity when compared with a positive tuberculin skin test.

Tuberculosis: Selective	
Bright Futures Visits	1, 6, 12 Month; Annually Beginning at 2 Year Through 17 Year
Risk assessment	<p>Children who should have annual tuberculin skin test</p> <ul style="list-style-type: none"> • Children infected with human immunodeficiency virus (HIV) <p>Validated questions for determining risk of latent tuberculosis (TB) infection in children in the United States</p> <ul style="list-style-type: none"> • Has a family member or contact had tuberculosis disease? • Has a family member had a positive tuberculin skin test? • Was your child born in a high-risk country (countries other than the United States, Canada, Australia, New Zealand, or Western European countries)? • Has your child traveled (had contact with resident populations) to a high-risk country for more than 1 week?
Citation	American Academy of Pediatrics. Tuberculosis. In: Kimberlin DW, Brady MT, Jackson MA, Long SS. <i>Red Book: 2015 Report of the Committee on Infectious Diseases</i> . 30th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2015:814-831
Bright Futures Visits	Annually Beginning at 18 Year
US Preventive Services Task Force	<p>Young adults at increased risk, including those</p> <ul style="list-style-type: none"> • Born in, or former residents of, countries with increased TB prevalence • Living in, or who have lived in, high-risk congregate settings (eg, homeless shelters, correctional facilities) • Immunocompromised or living with HIV
Citation	US Preventive Services Task Force. Screening for latent tuberculosis infection in adults: US Preventive Services Task Force recommendation statement. <i>JAMA</i> . 2016;316(9):962-969



Vision

Children should have an assessment for eye problems in the newborn period and at all subsequent routine health supervision visits.

Infants and children at high risk of eye problems or with a concerning finding at physical examination should be referred for specialized eye examination by an ophthalmologist experienced in treating children. This includes children who are very premature; those with family histories of congenital cataracts, retinoblastoma, and metabolic or genetic diseases; those who have significant developmental delay or neurologic difficulties; and those with systematic diseases associated with eye abnormalities.

The USPSTF has concluded that current evidence is insufficient to recommend for or against vision screening for children younger than 3 years (I Statement).²² Although instrument-based screening devices can be used to screen young children, not enough evidence is available for *Bright Futures Guidelines* to recommend for or against their use in children younger than age 3 years.

Strong evidence shows that identifying amblyopia risk factors can lead to therapeutic measures that prevent persistent vision loss. There is no evidence that instrument-based screeners (eg, auto-refractors, photo-screeners) are superior to repeated traditional vision screening tests at health supervision visits over time. However, instrument-based screeners require less cooperation on the part of the child. Examination of the eyes, including assessment for ocular motility and the cover-uncover test, is included in Bright Futures Visits.

The USPSTF recommends vision screening “for all children at least once between the ages of 3 and 5 years, to detect the presence of amblyopia or its risk factors” (Grade B). Traditional vision testing requires a cooperative, verbal child and cannot be performed reliably until ages 3 to 4 years. Strong evidence shows that vision screening tests have reasonable accuracy in identifying strabismus, amblyopia, and refractive error in children with these conditions and that treatment of strabismus and amblyopia for children aged 3 through 5 can improve visual acuity and reduce long-term amblyopia.

Bright Futures supports the screening recommendations for ages 6 to 21 years that are found in the guidelines developed by the AAP, American Association of Certified Orthoptists, American Association for Pediatric Ophthalmology and Strabismus, and American Academy of Ophthalmology.

Vision: Universal	
Bright Futures Visits	3, 4, 5 Year
US Preventive Services Task Force	US Preventive Services Task Force. Vision screening for children 1 to 5 years of age: US Preventive Services Task Force recommendation statement. <i>Pediatrics</i> . 2011;127(2):340-346 Donahue SP, Ruben JB; American Academy of Ophthalmology, American Academy of Pediatrics Ophthalmology Section, American Association for Pediatric Ophthalmology and Strabismus, Children's Eye Foundation, American Association of Certified Orthoptists. US Preventive Services Task Force vision screening recommendations. <i>Pediatrics</i> . 2011;127(3):569-570

continued



Vision: Universal (continued)	
Bright Futures Visits	6, 8, 10, 12, 15 Year
Citation	American Academy of Pediatrics Committee on Practice and Ambulatory Medicine, Section on Ophthalmology; American Association of Certified Orthoptists; American Association for Pediatric Ophthalmology and Strabismus; American Academy of Ophthalmology. Visual system assessment in infants, children, and young adults by pediatricians. <i>Pediatrics</i> . 2016;137(1):e20153596

Vision: Selective	
Bright Futures Visits	Newborn, First Week; 1, 2, 4, 6, 9, 12, 15, 18 Month; 2, 2½, 7, 9, 11, 13, 14, 16, 17, 18 Through 21 Year
Risk assessment	Birth to Age 3 Years
	<p>Eye evaluation should include</p> <ul style="list-style-type: none"> • Ocular history • Vision assessment • External inspection of the eyes and lids • Ocular motility assessment • Pupil examination • Red reflex examination <p>Ocular history. Parents' observations are valuable. Questions that can be asked include</p> <ul style="list-style-type: none"> • Do your child's eyes appear unusual? • Does your child seem to see well? • Does your child exhibit difficulty with near or distance vision? • Do your child's eyes appear straight, or do they seem to cross? • Do your child's eyelids droop, or does one eyelid tend to close? • Has your child ever had an eye injury? <p>Relevant family histories regarding eye disorders or preschool or early childhood use of glasses in parents or siblings should be explored.</p>
	≥3 Years
	<p>Above criteria plus</p> <ul style="list-style-type: none"> • Age-appropriate visual acuity measurement • Attempt at ophthalmoscopy
Citation	Donahue SP, Baker CN; American Academy of Pediatrics Committee on Practice and Ambulatory Medicine, Section on Ophthalmology; American Association of Certified Orthoptists; American Association for Pediatric Ophthalmology and Strabismus; American Academy of Ophthalmology. Procedures for the evaluation of the visual system by pediatricians. <i>Pediatrics</i> . 2016;137(1)



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