

Recommendations for Preventive Pediatric Health Care

Bright Futures/American Academy of Pediatrics

Each child and family is unique; therefore, these **Recommendations for Preventive Pediatric Health Care** are designed for the care of children who are receiving competent parenting, have no manifestations of any important health problems, and are growing and developing in satisfactory fashion. **Additional visits may become necessary** if circumstances suggest variations from normal.

Developmental, psychosocial, and chronic disease issues for children and adolescents may require frequent counseling and treatment visits separate from preventive care visits.

These guidelines represent a consensus by the American Academy of Pediatrics (AAP) and Bright Futures. The AAP continues to emphasize the great importance of **continuity of care** in comprehensive health supervision and the need to avoid **fragmentation of care**.

The recommendations in this statement do not indicate an exclusive course of treatment or standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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AGE ¹	INFANCY								EARLY CHILDHOOD						MIDDLE CHILDHOOD						ADOLESCENCE													
	PRENATAL ²	NEWBORN ³	3-5 d ⁴	By 1 mo	2 mo	4 mo	6 mo	9 mo	12 m	15 mo	18 mo	24 mo	30 mo	3 y	4 y	5 y	6 y	7 y	8 y	9 y	10 y	11 y	12 y	13 y	14 y	15 y	16 y	17 y	18 y	19 y	20 y	21 y		
HISTORY																																		
Initial/Interval	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
MEASUREMENTS																																		
Length/Height and Weight		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Head Circumference		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Weight for Length		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Body Mass Index																																		
Blood Pressure ⁵		★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	
SENSORY SCREENING																																		
Vision		★	★	★	★	★	★	★	★	★	★	★	★	★	★	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Hearing		● ⁷	★	★	★	★	★	★	★	★	★	★	★	★	★	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
DEVELOPMENTAL/BEHAVIORAL ASSESSMENT																																		
Developmental Screening ⁸								●																										
Autism Screening ⁹																																		
Developmental Surveillance ⁸		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Psychosocial/Behavioral Assessment		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Alcohol and Drug Use Assessment																							★	★	★	★	★	★	★	★	★	★	★	★
PHYSICAL EXAMINATION¹⁰		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
PROCEDURES¹¹																																		
Newborn Metabolic/Hemoglobin Screening ¹²		←	●	→																														
Immunization ¹³		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Hematocrit or Hemoglobin ¹⁴						★								★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	
Lead Screening ¹⁵																																		
Tuberculin Test ¹⁷					★			★	★	● ¹⁶	★	● ¹⁶	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	
Dyslipidemia Screening ¹⁸																																		
STI Screening ¹⁹																																		
Cervical Dysplasia Screening ²⁰																																		
ORAL HEALTH²¹								★	★	● ²¹	● ²¹	● ²¹	● ²¹	● ²²																				
ANTICIPATORY GUIDANCE²³	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

- If a child comes under care for the first time at any point on the schedule, or if any items are not accomplished at the suggested age, the schedule should be brought up to date at the earliest possible time.
- A prenatal visit is recommended for parents who are at high risk, for first-time parents, and for those who request a conference. The prenatal visit should include anticipatory guidance, pertinent medical history, and a discussion of benefits of breastfeeding and planned method of feeding per AAP statement "The Prenatal Visit" (2001) [URL: <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;107/6/1456>].
- Every infant should have a newborn evaluation after birth, breastfeeding encouraged, and instruction and support offered.
- Every infant should have an evaluation within 3 to 5 days of birth and within 48 to 72 hours after discharge from the hospital, to include evaluation for feeding and jaundice. Breastfeeding infants should receive formal breastfeeding evaluation, encouragement, and instruction as recommended in AAP statement "Breastfeeding and the Use of Human Milk" (2005) [URL: <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;115/2/496>]. For newborns discharged in less than 48 hours after delivery, the infant must be examined within 48 hours of discharge per AAP statement "Hospital Stay for Healthy Term Newborns" (2004) [URL: <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;113/5/1434>].
- Blood pressure measurement in infants and children with specific risk conditions should be performed at visits before age 3 years.
- If the patient is uncooperative, rescreen within 6 months per the AAP statement "Eye Examination in Infants, Children, and Young Adults by Pediatricians" (2007) [URL: <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;111/4/902>].
- All newborns should be screened per AAP statement "Year 2000 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs" (2000) [URL: <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;106/4/798>].

- Joint Committee on Infant Hearing. Year 2007 position statement: principles and guidelines for early hearing detection and intervention programs. *Pediatrics*. 2007;120:898-921.
- AAP Council on Children With Disabilities, AAP Section on Developmental Behavioral Pediatrics, AAP Bright Futures Steering Committee, AAP 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;118:405-420 [URL: <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;118/1/405>].
- Gupta VB, Hyman SL, Johnson CP, et al. Identifying children with autism early? *Pediatrics*. 2007;119:152-153 [URL: <http://pediatrics.aappublications.org/cgi/content/full/119/1/152>].
- At each visit, age-appropriate physical examination is essential, with infant totally unclothed, older child undressed and suitably draped.
- These may be modified, depending on entry point into schedule and individual need.
- Newborn metabolic and hemoglobinopathy screening should be done according to state law. Results should be reviewed at visits and appropriate retesting or referral done as needed.
- Schedules per the Committee on Infectious Diseases, published annually in the January issue of *Pediatrics*. Every visit should be an opportunity to update and complete a child's immunizations.
- See AAP *Pediatric Nutrition Handbook*, 5th Edition (2003) for a discussion of universal and selective screening options. See also Recommendations to prevent and control iron deficiency in the United States. *MMWR*. 1998;47(RR-3):1-36.
- For children at risk of lead exposure, consult the AAP statement "Lead Exposure in Children: Prevention, Detection, and Management" (2005) [URL: <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;116/4/1036>]. Additionally, screening should be done in accordance with state law where applicable.

- Perform risk assessments or screens as appropriate, based on universal screening requirements for patients with Medicaid or high prevalence areas.
- Tuberculosis testing per recommendations of the Committee on Infectious Diseases, published in the current edition of *Red Book: Report of the Committee on Infectious Diseases*. Testing should be done on recognition of high-risk factors.
- "Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) Final Report" (2002) [URL: <http://circ.ahajournals.org/cgi/content/full/106/25/3143>] and "The Expert Committee Recommendations on the Assessment, Prevention, and Treatment of Child and Adolescent Overweight and Obesity." Supplement to *Pediatrics*. In press.
- All sexually active patients should be screened for sexually transmitted infections (STIs).
- All sexually active girls should have screening for cervical dysplasia as part of a pelvic examination beginning within 3 years of onset of sexual activity or age 21 (whichever comes first).
- Referral to dental home, if available. Otherwise, administer oral health risk assessment. If the primary water source is deficient in fluoride, consider oral fluoride supplementation.
- At the visits for 3 years and 6 years of age, it should be determined whether the patient has a dental home. If the patient does not have a dental home, a referral should be made to one. If the primary water source is deficient in fluoride, consider oral fluoride supplementation.
- Refer to the specific guidance by age as listed in Bright Futures Guidelines. (Hagan JF, Shaw JS, Duncan PM, eds. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*. 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2008.)

KEY
● = to be performed ★ = risk assessment to be performed, with appropriate action to follow, if positive ← ● → = range during which a service may be provided, with the symbol indicating the preferred age

SACHDNC Recommended Uniform Screening Panel¹
CORE² CONDITIONS³
(as of February 2010)

ACMG Code	Core Condition	Metabolic Disorder			Endocrine Disorder	Hemoglobin Disorder	Other Disorder
		Organic acid condition	Fatty acid oxidation disorders	Amino acid disorders			
PROP	Propionic academia						
MUT	Methylmalonic acidemia (methylmalonyl-CoA mutase)						
Cbl A,B	Methylmalonic acidemia (cobalamin disorders)						
IVA	Isovaleric acidemia						
3-MCC	3-Methylcrotonyl-CoA carboxylase deficiency						
HMG	3-Hydroxy-3-methylglutaric aciduria						
MCD	Holocarboxylase synthase deficiency						
BKT	β-Ketothiolase deficiency						
GA1	Glutaric acidemia type I						
CUD	Carnitine uptake defect/carnitine transport defect						
MCAD	Medium-chain acyl-CoA dehydrogenase deficiency						
VLCAD	Very long-chain acyl-CoA dehydrogenase deficiency						
LCHAD	Long-chain L-3 hydroxyacyl-CoA dehydrogenase deficiency						
TFP	Trifunctional protein deficiency						
ASA	Argininosuccinic aciduria						
CIT	Citrullinemia, type I						
MSUD	Maple syrup urine disease						
HCY	Homocystinuria						
PKU	Classic phenylketonuria						
TYR I	Tyrosinemia, type I						
CH	Primary congenital hypothyroidism						
CAH	Congenital adrenal hyperplasia						
Hb SS	S,S disease (Sickle cell anemia)						
Hb S/BTh	S, β-thalassemia						
Hb S/C	S,C disease						
BIOT	Biotinidase deficiency						
GALT	Classic galactosemia						
SCID	Severe Combined Immunodeficiencies						
CF	Cystic fibrosis						
HEAR	Hearing loss						

1. The selection of these conditions is based on the report "Newborn Screening: Towards a Uniform Screening Panel and System. Genet Med. 2006; 8(5) Suppl: S12-S252" as authored by the American College of Medical Genetics (ACMG) and commissioned by the Health Resources and Services Administration (HRSA).
2. Disorders that should be included in every Newborn Screening Program
3. The Nomenclature for Conditions is based on the report "Naming and Counting Disorders (Conditions) Included in Newborn Screening Panels" Pediatrics 2006; 117 (5) Suppl: S308-S314

SACHDNC Recommended Uniform Screening Panel¹
SECONDARY² CONDITIONS³
(as of February 2010)

ACMG Code	Secondary Condition	Metabolic Disorder			Hemoglobin Disorder	Other Disorder
		Organic acid condition	Fatty acid oxidation disorders	Amino acid disorders		
Cbl C,D	Methylmalonic acidemia with homocystinuria					
MAL	Malonic acidemia					
IBG	Isobutyrylglycinuria					
2MBG	2-Methylbutyrylglycinuria					
3MGA	3-Methylglutaconic aciduria					
2M3HBA	2-Methyl-3-hydroxybutyric aciduria					
SCAD	Short-chain acyl-CoA dehydrogenase deficiency					
M/SCHAD	Medium/short-chain L-3-hydroxyacyl-CoA dehydrogenase deficiency					
GA2	Glutaric acidemia type II					
MCAT	Medium-chain ketoacyl-CoA thiolase deficiency					
DE RED	2,4 Dienoyl-CoA reductase deficiency					
CPT IA	Carnitine palmitoyltransferase type I deficiency					
CPT II	Carnitine palmitoyltransferase type II deficiency					
CACT	Carnitine acylcarnitine translocase deficiency					
ARG	Argininemia					
CIT II	Citrullinemia, type II					
MET	Hypermethioninemia					
H-PHE	Benign hyperphenylalaninemia					
BIOPT (BS)	Biopterin defect in cofactor biosynthesis					
BIOPT (REG)	Biopterin defect in cofactor regeneration					
TYR II	Tyrosinemia, type II					
TRY III	Tyrosinemia, type III					
Var Hb	Various other hemoglobinopathies					
GALE	Galactosepimerase deficiency					
GALK	Galactokinase deficiency					
	T-cell related lymphocyte deficiencies					

1. The selection of these conditions is based on the report "Newborn Screening: Towards a Uniform Screening Panel and System. Genet Med. 2006; 8(5) Suppl: S12-S252" as authored by the American College of Medical Genetics (ACMG) and commissioned by the Health Resources and Services Administration (HRSA).
2. Disorders that can be detected in the differential diagnosis of a core disorder
3. The Nomenclature for Conditions is based on the report "Naming and Counting Disorders (Conditions) Included in Newborn Screening Panels" Pediatrics 2006; 117 (5) Suppl: S308-S314