Appendices
Appendix A:
Bright Futures Periodicity Schedule

Infancy Periodicity Schedule
- Initial Visit: 2 Months
- Newborn: 4 Months
- Within the First Week: 6 Months
- 1 Month: 9 Months

Early Childhood Periodicity Schedule
- 1 Year: 2 Years
- 15 Months: 3 Years
- 18 Months: 4 Years

Middle Childhood Periodicity Schedule
- 5 Years: 8 Years
- 6 Years: 10 Years

Adolescence Periodicity Schedule
- 11 Years: 17 Years
- 12 Years: 18 Years
- 13 Years: 19 Years
- 14 Years: 20 Years
- 15 Years: 21 Years
- 16 Years: 21 Years
Appendix B: Medical History

The medical history form is an important instrument for obtaining information relevant to health supervision. It is used to compile demographic information and chronicle past illnesses and present health concerns. While forms used by different health professionals vary, there are several key elements: contact information, a description of the family, and medical, developmental, and behavioral information on both the child and the family. Health professionals may supplement the form with additional questions to obtain a comprehensive history.

Contact Information

Contact information allows the health professional to follow up with the child and family and maintain continuity of health supervision.

<table>
<thead>
<tr>
<th>Child/adolescent</th>
<th>Parent/caregiver</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td>Address</td>
</tr>
<tr>
<td>Telephone number</td>
<td>Telephone number</td>
</tr>
<tr>
<td>Date of birth</td>
<td>Relationship to child</td>
</tr>
<tr>
<td></td>
<td>(parent, step-parent, guardian)</td>
</tr>
<tr>
<td></td>
<td>Employment status (company name, job title, address, telephone number)</td>
</tr>
<tr>
<td></td>
<td>Marital status</td>
</tr>
</tbody>
</table>

Description of the Family

The medical history form can provide the health professional with insight into the home environment of the child or adolescent. Questions about the people caring for the child or living in the child’s home can help the health professional discover possible influences on the child’s development, well-being, and general health. It is also important to obtain information on major changes in the family (e.g., new family members, family separation, chronic illnesses, death). Ascertaining the parents’ or caregivers’ language preferences, education, and reading level helps the health professional communicate more effectively with the family.

Medical, Developmental, and Behavioral Information

The medical history form can identify important medical, developmental, and behavioral issues.

Documenting the medical history of the parents or caregivers can be particularly useful. Health conditions that have a genetic component or tend to occur among members of the same family should definitely be noted.

The form completed by the family should highlight key events in the child’s medical history. By including questions on the frequency and occurrence of medical problems, health professionals can better identify and treat health concerns such as allergies, skin problems, neurological disorders, vision problems, bone or joint injuries, muscular ailments, infectious diseases, chronic illnesses, or other diseases or illnesses.

The medical history form assists health professionals in tracking interventions such as immunizations, hospitalizations, and surgeries. Questions about medications taken may be included as well.

Key milestones in the child’s development (e.g., tooth eruption, walking, onset of menses in girls) can be documented through the medical history form.

The form can include questions about the health habits of the child and family. Seat belt use, smoking, participation in athletic or other exercise programs, and consumption of alcohol may be assessed. Questions on sexual activity may be included for adolescents. Seeking information about nutrition and diet can help reveal concerns such as poor eating habits and identify illnesses such as anorexia nervosa or bulimia.

Additional clues about health status may be gleaned from the child’s academic and social performance. Questions that identify the strengths and vulnerabilities of the child and family can be particularly valuable.

Appendix C: Recommended Immunization Schedule and Growth Charts

Please see the back pocket of this publication for the Recommended Childhood Immunization Schedule and the CDC Growth Charts. The immunization schedule can also be downloaded from the CDC Web site at www.cdc.gov/nip/recs/child-schedule.pdf; the growth charts can be downloaded at www.cdc.gov/growthcharts.

Recommended Childhood Immunization Schedule

Each year, CDC’s Advisory Committee on Immunization Practices (ACIP) reviews the recommended childhood immunization schedule to ensure that it remains current with changes in manufacturers’ vaccine formulations, revisions in recommendations for the use of licensed vaccines, and recommendations for newly licensed vaccines.

Detailed recommendations for using vaccines are available from the manufacturers’ package inserts, ACIP statements on specific vaccines, and the American Academy of Pediatrics’ Red Book. ACIP statements for each recommended childhood vaccine can be viewed, downloaded, and printed from CDC’s National Immunization Program Web site at http://www.cdc.gov/nip/publications/ACIP-list.htm.

Vaccine Information Statements

The National Childhood Vaccine Injury Act requires that all health professionals provide parents and families with copies of vaccine information statements before administering each dose of the vaccines listed in the recommended childhood immunization schedule. Vaccine information statements, developed by CDC, can be obtained from the CDC Web site at www.cdc.gov/nip/publications/VIS. Instructions on the use of these statements are available at www.cdc.gov/nip/publications/VIS/vis-Instructions.pdf.

**CDC Growth Charts**

The CDC’s clinical growth charts are a tool to assess the health and well-being of infants, children, and adolescents. The following gender-specific growth charts are available:

- Charts for infants, birth to 36 months, which provide length-for-age, weight-for-age, head circumference-for-age, and weight-for-length percentiles
- Charts for children and adolescents, 2 to 20 years, which provide stature-for-age, weight-for-age, and body-mass-index (BMI)-for-age percentiles
- A chart for children, 2 to 5 years, which provides weight-for-stature percentiles

BMI correlates with an individual’s total body fat content or percentage of body fat. BMI can be used to monitor changes in body weight and to consistently assess risk of underweight and overweight in children and adolescents 2 to 20 years.

The interpretation of BMI depends on the child’s or adolescent’s age. Established cut-off points should be used to identify underweight and overweight children and adolescents. The following BMI-for-age percentile cutoffs may indicate a health risk. In these cases, further health screening and assessment (including nutrition, physical activity, and laboratory tests) is recommended.

- Underweight: BMI-for-age less than the 5th percentile
- At risk for overweight: BMI-for-age greater than or equal to the 85th percentile but less than the 95th percentile
- Overweight: BMI-for-age greater than or equal to the 95th percentile
Appendix D: Hearing Screening

Infants Ages Newborn Through 6 Months

Universal Newborn Screening*

All newborns should receive initial hearing screening at birth, before discharge from the hospital. If this is not possible, screening should be completed within the first month of life. Hearing loss is one of the most common conditions present at birth and, if undetected, will impede speech, language, cognitive, and socioemotional development. Mild hearing loss may also have significant consequences for child development. It is essential to (1) conduct initial hearing screening for all newborns before discharge from the hospital, (2) ensure appropriate follow-up for those infants referred for formal audiologic assessment after initial screening, (3) identify infants with congenital hearing loss by 3 months of age, and (4) initiate intervention before 6 months of age.

Risk indicators identify only about 50 percent of infants with hearing loss and are not a substitute for universal newborn hearing screening. Infants who pass screening but who have the following risk indicators should be monitored both medically and audiologically on a regular basis: family history of hereditary childhood sensorineural hearing loss; in utero infection; craniofacial anomalies, including abnormalities of the pinna and ear canal; birthweight less than 1,500 g; hyperbilirubinemia at a serum level requiring exchange transfusion; ototoxic medications and chemotherapeutic agents; Apgar scores of 0 to 4 at 1 minute or 0 to 6 at 5 minutes; mechanical ventilation lasting 5 or more days; stigmata or other findings associated with a syndrome known to include sensorineural and/or conductive hearing loss; bacterial meningitis; neurodegenerative disorders; and persistent pulmonary hypertension. Infants and children with unilateral, mild, and/or chronic conductive hearing losses should also be monitored because they are at risk.

Additional risk indicators include parental or caregiver concerns about hearing and/or developmental delay; anatomic malformations and other disorders that affect eustachian tube function; inner ear malformations; syndromes associated with progressive hearing loss; head trauma; recurrent or persistent otitis media with effusion (OME) for at least 3 months; and neural conductive disorders.

Screening Methodologies*

The two physiologic tests described below are the only valid and reliable measures for use with newborns. The tests can be used alone or in combination. Both are noninvasive and require less than 5 minutes to perform.

- **Auditory brainstem response (ABR).** This test measures the electroencephalographic waves generated in response to clicks via three electrodes applied to the infant’s scalp. This method requires the infant to be quiet, and the response may be affected by middle or external ear debris.

- **Distortion product or transient evoked otoacoustic emissions (EOAE).** This test measures sound waves generated in the inner ear in response to clicks or tone bursts emitted and recorded via miniature microphones placed in the external ear canals of the infant. The test may be affected by debris or fluid in the external and middle ear when screening is performed during the first 24 hours after birth.

If a two-step system is used, and the initial screen with ABR or EOAE results in a referral for a second screening, either method (ABR or EOAE) may be used for rescreening. If possible, the second screening should also be performed before discharge from the birthing hospital, but may be done on an outpatient basis. Infants who do not pass the rescreening must be referred promptly for formal audiologic assessment.
Intervention

When hearing loss is identified, families should be referred for early intervention services provided in accordance with the Individuals with Disabilities Education Act (IDEA). Each state has a designated agency responsible for coordinating child find and early intervention services for children ages newborn through 21 years who have special needs.

Infants and Young Children Ages 7 Months Through 3 Years

Health professionals should continue to monitor and refer for formal audiologic screening those infants and children with risk indicators of possible hearing loss. A significant portion of hearing loss is acquired after birth.

Screen audiologically all infants and toddlers not previously screened and those with any of the following risk indicators for delayed onset or acquired hearing loss: parent, caregiver, or health provider concerns about the infant’s or toddler’s hearing, speech, language, and/or developmental delay; craniofacial anomalies; birthweight less than 1,500 g; hyperbilirubinemia; ototoxic medications; bacterial meningitis; Apgar scores of 0 to 4 at 1 minute or 0 to 6 at 5 minutes; mechanical ventilation lasting 5 or more days; stigmata or other findings associated with a syndrome known to include sensorineural and/or conductive hearing loss; head trauma associated with loss of consciousness or skull fracture; family history of hereditary childhood sensorineural hearing loss; in utero infection; recurrent or persistent OME for at least 3 months; neurodegenerative disorders; or anatomic disorders that affect eustachian tube function.

Screening Methodologies*

The following methods are recommended for audiologic screening of children functioning at a developmental age of 7 months through 3 years.

- **Visual reinforcement audiometry (VRA).** In this procedure, stimulus tones and visually animated reinforcers (e.g., lighted toys) are paired and presented together. After the child has been conditioned to expect a relationship between the visually animated reinforcers and sounds, the visual reinforcer is withheld and the sound is presented alone. The child looks for the visual reinforcer in response to the sound, and the visual reinforcer is then presented as a reward.

- **Conditioned play audiometry (CPA).** CPA is the most commonly used behavioral audiometric procedure for preschool children. The child is taught to play listening games, using blocks, rings, or other objects. The child learns to wait and listen for a sound, then perform a motor task in response. The motor task is the response, followed by social reinforcement.

For children ages 6 months to 2 years, VRA is the recognized method of choice. At a developmental age of about 2 years, CPA may be used. (Noncalibrated toys or noisemakers and signals that lack frequency specificity are inappropriate screening methods.)

Children Ages 4 Through 10 Years

Screen audiologically all children at ages 4, 5, 6, 8, and 10 years. Children may need more frequent screening if they have any of the following risk indicators: parent, caregiver, or health provider concerns about the child’s hearing, speech, language, and/or developmental delay, based on observation and/or standardized screening; family history of hereditary childhood hearing loss; in utero infection; ototoxic medications; bacterial meningitis; craniofacial anomalies; stigmata or other findings associated with a syndrome known to include sensorineural and/or conductive hearing loss; head trauma with loss of consciousness or skull fracture; neurodegenerative disorders; or recurrent or persistent OME for at least 3 months.
**Screening Methodologies***

If the child can reliably participate in CPA or conventional audiometry, screen under earphones (conventional or insert earphones) using 1000, 2000, and 4000 Hz tones at 20 dB HL. Teach the child the desired motor response before screening, and administer a minimum of two conditioning trials at a presumed suprathreshold level to ensure that the child understands the task. At least two presentations of each test stimulus may be required to ensure reliability.

Following are pass/refer screening criteria: pass if the child’s responses are judged clinically reliable at criterion dB level at each frequency in each ear. If the child does not respond at criterion dB level at any frequency in either ear, re-instruct, re-position earphones, and rescreen in the same screening session. Pass if the child passes rescreening; refer to an audiologist if the child fails rescreening or cannot learn the screening task.

**Adolescents Ages 11 Through 21 Years**

Screen audiologically all adolescents at ages 12, 15, and 18 years, or more frequently if needed. In addition, screen at entry into special education, at grade repetition, at new entry to a school system without evidence of having passed a previous hearing screening, or if absent during a previously scheduled screening. Assess risk of hearing loss annually and screen if any of the following risk factors are present: parent/caregiver, health professional, or educator concerns about the adolescent’s hearing, speech, language, or learning abilities; family history of late or delayed onset hereditary hearing loss; recurrent or persistent OME for at least 3 months; craniofacial anomalies; stigmata or other findings associated with a syndrome known to include sensorineural and/or conductive hearing loss; head trauma with loss of consciousness; or reported exposure to potentially damaging noise levels or ototoxic medications.

**Screening Methodologies***

CPA and conventional audiometry are the procedures of choice for this age group. Conduct screening under earphones using 1000, 2000, and 4000 Hz tones at 20 dB HL.

Following are pass/refer screening criteria: pass if the adolescent’s responses are judged clinically reliable at criterion dB level at each frequency in each ear. If the adolescent does not respond at criterion dB level at any frequency in either ear, re-instruct, re-position earphones, and rescreen in the same screening session. Pass if the adolescent passes rescreening; refer to an audiologist if the adolescent fails rescreening or cannot learn the screening task.

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*Hearing screening must be done with audiometric equipment that is calibrated in accordance with American National Standards Institute (ANSI) standards and in locations where ambient noise levels meet ANSI standards and reliable and valid measures can be obtained.

Source: Information in “Infants Ages Newborn Through 6 Months” has been adapted from AAP1 with permission and from the Joint Committee on Infant Hearing 1994 Position Statement.2 Risk indicators, and screening methods for children 7 months to 21 years, are drawn from ASHA3 with permission.

**References**


**Suggested Reading**


Appendix E: Vision Screening

Due to copyright permissions restrictions, this appendix is not available on the Web. Please see print version of the publication.
Appendix F: Iron-Deficiency Anemia Screening

Iron deficiency is the most prevalent form of nutritional deficiency in this country. The risk of anemia is highest during infancy and adolescence because of the increased iron requirements from rapid growth. (In full-term infants, iron stores are adequate until age 4 to 6 months.)

The following information is based primarily on recommendations by the Centers for Disease Control and Prevention (CDC), with additional screening recommendations by the American Academy of Pediatrics (AAP).

Risk Assessment

Increased demand for iron, decreased intake of iron, and/or greater loss of iron from the body are associated with a higher risk of iron-deficiency anemia. The following conditions are associated with an increased risk of developing iron-deficiency anemia:
- Periods of rapid growth
- Low birthweight or preterm birth
- Low dietary intake of meat, fish, poultry, or foods rich in ascorbic acid
- Macrobiotic diets
- Inappropriate consumption of cow’s milk (infants younger than 12 months should not consume cow’s milk; children 12 months and older should consume no more than 24 oz per day)
- Use of infant formula not fortified with iron
- Exclusive breastfeeding after age 6 months without the addition of iron-fortified supplemental foods in the infant’s diet
- Meal skipping, frequent dieting
- Pregnancy or recent pregnancy
- Participation in endurance sports (e.g., long-distance running, swimming, cycling)
- Intensive physical training
- Recent blood loss, heavy/lengthy menstrual periods
- Chronic use of aspirin or nonsteroidal anti-inflammatory drugs such as ibuprofen
- Parasitic infections

Screening

Following are the CDC screening recommendations (hemoglobin or hematocrit) for iron-deficiency anemia by age, sex, and risk of anemia.

Infants Ages Newborn to 12 Months and Children Ages 1 to 5 Years

Health professionals should assess all infants and young children for risk of anemia. Those at high risk or those with known risk factors need to be screened for iron-deficiency anemia with a standard laboratory test.

Universal Screening for Infants and Children at High Risk

At ages 9 to 12 months, 6 months later (at 15 to 18 months), and annually from ages 2 to 5 years, screen those at high risk for iron-deficiency anemia, including:
- Infants and children in families with low incomes
- Infants and children who are eligible for WIC
- Infants and children who are migrants or recently arrived refugees

Selective Screening for Infants and Children with Known Risk Factors

In populations of infants and young children not at high risk, screen only those who have known risk factors for iron-deficiency anemia:
- Before age 6 months, screen preterm infants and low-birthweight infants who are fed infant formula not fortified with iron.
- At ages 9 to 12 months, and 6 months later (at ages 15 to 18 months), screen the following:
• Infants born preterm or with low birthweight
• Infants fed non-iron-fortified infant formula for more than 2 months
• Infants fed cow’s milk before 12 months of age
• Breastfed infants who do not receive adequate iron from supplemental foods after 6 months of age
• Children who consume more than 24 oz of cow’s, goat’s, or soy milk per day after 12 months of age
• Children with special health care needs who use medications that interfere with iron absorption (e.g., antacids, calcium, phosphorus, magnesium), or those with chronic infection and inflammation, restrictive diets, or extensive blood loss

At ages 2 to 5 years, annually screen the following:
• Children who consume a diet low in iron
• Children with limited access to food because of poverty or neglect
• Children with special health care needs

Children Ages 5 to 12 Years and Adolescent Males Ages 12 to 18 Years
• Screen only those with known risk factors, such as low iron intake, special health care needs, or a history of iron-deficiency anemia.

Adolescent Females Ages 12 to 18 Years and Nonpregnant Women of Childbearing Age
• Screen annually those with known risk factors, such as extensive menstrual or other blood loss, low iron intake, or a history of iron-deficiency anemia.
• Screen every 5 to 10 years during routine health examinations.

Pregnant Adolescents and Women
• Screen for anemia at the first prenatal care visit.

Males 18 Years and Older
• No routine screening is recommended. Iron deficiency or anemia detected during routine examinations should be fully evaluated.

Additional Screening Recommendations

AAP recommends the following additional screening (hemoglobin/hematocrit) for iron-deficiency anemia:\textsuperscript{2,3}
• Screen all infants at 9 to 12 months, not just those at high risk or with known risk factors
• Screen adolescent males during routine physical examinations during their peak growth period
• Screen adolescent females during all routine physical examinations

References

Appendix G: Screening for Elevated Blood Lead Levels

In 1997, the Centers for Disease Control and Prevention (CDC) updated its lead screening guidelines and published revised guidance to help state and local public health authorities determine which children are at risk for elevated blood lead levels and are most likely to benefit from lead screening. The American Academy of Pediatrics (AAP) supports these revised guidelines. The following information has been compiled from CDC and AAP guidelines. Federal Medicaid policy requires that all eligible children be screened for lead poisoning as described below under Universal Screening, because they are at high risk for lead poisoning.

Screening Recommendations

To prevent lead poisoning, lead screening should begin at 9 to 12 months of age and be considered again at approximately 24 months of age. Health professionals should follow the local or state health department recommendations for universal or targeted screening.

Universal Screening

Universal screening will be recommended in communities in which the risk of lead exposure is widespread. A universal screening recommendation may read as follows:

Using a blood lead test, screen all children at ages 1 and 2, and all children 36–72 months of age who have not been previously screened.

Targeted Screening

Targeted screening will be recommended in communities in which the risk of lead exposure is not widespread or is confined to specific geographic areas or to certain subpopulations. Health professionals should determine whether each child is at risk and screen when necessary. A sample targeted screening recommendation follows:

Using a blood lead test, screen children at ages 1 and 2, and all children 36–72 months of age who have not been previously screened, if they meet one of the following health department criteria:

- Child resides in a geographic area (e.g., a specified zip code) in which ≥ 27 percent of housing was built before 1950
- Child receives services from public assistance programs such as Medicaid or WIC
- Child's parent or guardian answers “yes” or “don’t know” to any of the three questions in the basic personal-risk questionnaire

A Basic Personal-Risk Questionnaire for Lead Exposure in Children

1. Does your child live in or regularly visit a house or child-care facility that was built before 1950?
2. Does your child live in or regularly visit a house or child-care facility built before 1978 that is being or has recently been renovated or remodeled (within the last 6 months)?
3. Does your child have a sibling or playmate who has or did have lead poisoning?

Source: Reproduced with permission from AAP, copyright ©1998 American Academy of Pediatrics. See also CDC.

History of Possible Lead Exposure

Health professionals should periodically assess infants and children between 6 months and 6 years of age for a history of possible lead exposure, using the basic personal-risk questionnaire here and any additional community-specific questions recommended by the state or local health department. Blood lead testing should also be considered in abused or neglected children and in children who have conditions associated with increased lead exposure.
Anticipatory Guidance

Health professionals should provide anticipatory guidance on lead exposure to parents of all infants and young children, including information on risk factors and specific prevention strategies (Table G-1).² CDC recommends providing anticipatory guidance at prenatal visits, when the infant is 3 to 6 months of age, and again at 12 months of age; parental guidance at these times might prevent some lead exposure and the resulting increase in blood lead levels that often occurs during a child’s second year of life. When children are 1 to 2 years old, parental guidance should be provided at health supervision visits and when the personal-risk questionnaire is administered.¹(p83)

References


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Due to copyright permissions restrictions, this appendix is not available on the Web. Please see print version of the publication.
Appendix I: Hypertension Screening

In children and adolescents, primary or essential hypertension is diagnosed when persistently elevated blood pressure cannot be explained by any underlying organic cause. According to the recommendations of the National Heart, Lung, and Blood Institute’s Task Force on Blood Pressure Control in Children, children and adolescents 1–17 years of age are considered hypertensive if their average systolic and/or diastolic blood pressure readings are at or above the 95th percentile (based on age, sex, and height) on at least three separate occasions. Definitions of normal blood pressure and hypertension are as follows:

- Normal blood pressure: < 90th percentile
- High-normal blood pressure: > 90th and < 95th percentiles
- Hypertension: > 95th percentile (on three separate occasions)

For adolescents ages 18 and older, the severity of elevated blood pressure, when observed on two or more occasions, is evaluated on the basis of the adult criteria in Table I-1.

In 1987, the Second Task Force on Blood Pressure Control in Children reported that children and adolescents with frequent blood pressure readings between the 90th and 95th percentiles for their age, sex, and height (unless tall for their age) are at risk for developing hypertension. The task force advised that these children and adolescents with high-normal blood pressure should be followed regularly for early detection of further elevation in blood pressure. Tables I-2 and I-3, on the following pages, present the current blood pressure standards for the 90th and 95th percentiles for males and females ages 1–17 years, by percentile of height.

Table I-1. Classification of Blood Pressure for Adults Ages 18 Years and Older

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<thead>
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<th>Category</th>
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<td></td>
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*Not taking antihypertensive drugs and not acutely ill. When systolic and diastolic blood pressures fall into different categories, the higher category should be selected to classify the individual’s blood pressure status.

bOptimal blood pressure with respect to cardiovascular risk is less than 120/80 mm Hg. However, unusually low readings should be evaluated for clinical significance.

cBased on the average of two or more readings taken at each of two or more visits after an initial screening.

References


### Table I-2. Blood Pressure Levels for the 90th and 95th Percentiles of Blood Pressure for Boys Ages 1 to 17

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Source: Reprinted from National High Blood Pressure Education Program Working Group on Hypertension Control in Children and Adolescents.³

*Blood pressure percentile determined by a single measurement.
### Table I-3. Blood Pressure Levels for the 90th and 95th Percentiles of Blood Pressure for Girls Ages 1 to 17

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<sup>a</sup>Blood pressure percentile determined by a single measurement.

Source: Reprinted from National High Blood Pressure Education Program Working Group on Hypertension Control in Children and Adolescents.³
Appendix J: Tooth Eruption Chart

PRIMARY DENTITION

Upper Teeth
- Central incisor
- Lateral incisor
- Canine (cuspid)
- First molar
- Second molar

Erupt
- 8-12 months
- 9-13 months
- 16-22 months
- 13-19 months
- 25-33 months

Exfoliate
- 6-7 years
- 7-8 years
- 10-12 years
- 9-11 years
- 10-12 years

Lower Teeth
- Second molar
- First molar
- Canine (cuspid)
- Lateral incisor
- Central incisor

Erupt
- 23-31 months
- 14-18 months
- 17-23 months
- 10-16 months
- 6-10 months

Exfoliate
- 10-12 years
- 9-11 years
- 9-12 years
- 7-8 years
- 6-7 years

PERMANENT DENTITION

Upper Teeth
- Central incisor
- Lateral incisor
- Canine (cuspid)
- First premolar (first bicuspid)
- Second premolar (second bicuspid)
- First molar
- Second molar
- Third molar (wisdom tooth)

Erupt
- 7-8 years
- 8-9 years
- 11-12 years
- 10-11 years
- 10-12 years
- 6-7 years
- 12-13 years
- 17-21 years

Lower Teeth
- Third molar (wisdom tooth)
- Second molar
- First molar
- Second premolar (second bicuspid)
- First premolar (first bicuspid)
- Canine (cuspid)
- Lateral incisor
- Central incisor

Erupt
- 17-21 years
- 12-13 years
- 6-7 years
- 10-12 years
- 10-11 years
- 11-12 years
- 8-9 years
- 7-8 years

Source: Reproduced with permission from the Arizona Department of Health Services, Office of Oral Health, courtesy of Don Altman, D.D.S., M.P.H. The assistance of the American Dental Hygienists’ Association is gratefully acknowledged.
Appendix K: Sexual Maturity Ratings

Sexual maturity ratings (SMRs) are widely used to assess adolescents’ physical development during puberty in five stages (from preadolescent to adult). Also known as Tanner stages, SMRs are a way of assessing the degree of maturation of secondary sexual characteristics. The developmental stages of the adolescent’s sexual characteristics should be rated separately (i.e., one stage for pubic hair and one for breasts in females, one stage for pubic hair and one for genitals in males), because these characteristics may differ in their degree of maturity.

Table K-1. Sexual Maturity Ratings: Males

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<th>SMR</th>
<th>Pubic Hair</th>
<th>SMR</th>
<th>Genitals</th>
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<td>Penis</td>
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<tr>
<td>Stage 1</td>
<td>None</td>
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<td>Preadolescent</td>
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<tr>
<td>Stage 2</td>
<td>Scanty, long, slightly pigmented, primarily at base of penis</td>
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<td>Slight enlargement</td>
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<tr>
<td>Stage 3</td>
<td>Darker, coarser, starts to curl, small amount</td>
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<td>Slight enlargement of testes and scrotum; scrotal skin reddened, texture altered</td>
</tr>
<tr>
<td>Stage 4</td>
<td>Coarse, curly; resembles adult type but covers smaller area</td>
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<td>Longer</td>
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<td>Stage 5</td>
<td>Adult quantity and distribution, spread to medial surface of thighs</td>
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<td>Further enlargement of testes and scrotum</td>
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<td>Testes</td>
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<tr>
<td>Stage 4</td>
<td>Larger in breadth, glans penis develops</td>
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<td>Further enlargement of testes and scrotum</td>
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<td>Stage 5</td>
<td>Adult</td>
<td></td>
<td>Adult</td>
</tr>
</tbody>
</table>

Table K-2. Sexual Maturity Ratings: Females

<table>
<thead>
<tr>
<th>SMR</th>
<th>Pubic Hair</th>
<th>SMR</th>
<th>Breasts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Preadolescent</td>
</tr>
<tr>
<td>Stage 1</td>
<td>None</td>
<td></td>
<td>Preadolescent</td>
</tr>
<tr>
<td>Stage 2</td>
<td>Sparse, slightly pigmented, straight, at medial border of labia</td>
<td></td>
<td>Breast and papilla elevated as small mound; areolar diameter increased</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Darker, beginning to curl, increased amount</td>
<td></td>
<td>Breast and areola enlarged, no contour separation</td>
</tr>
<tr>
<td>Stage 4</td>
<td>Coarse, curly, abundant, but amount less than in adult</td>
<td></td>
<td>Areola and papilla form secondary mound</td>
</tr>
<tr>
<td>Stage 5</td>
<td>Adult feminine triangle, spread to medial surface of thighs</td>
<td></td>
<td>Mature; nipple projects, areola part of general breast contour</td>
</tr>
</tbody>
</table>

Source: Tables have been adapted with permission from Daniels\(^1\)(p29) (as drawn from Tanner\(^2\)); see also Spear\(^3\)(p4)

References

Appendix L: Sexually Transmitted Disease Prevention and Screening

Adolescents at Risk

In the United States, the highest rates of many sexually transmitted diseases (STDs) are found in adolescent populations. At least one-fourth of our nation’s estimated 15.3 million new cases of STDs each year occur in adolescents, and about two-thirds of those who acquire STDs are younger than 25.

Adolescents at high risk for STDs include sexually active heterosexuals having unprotected sexual intercourse, male homosexuals, injection-drug users, and clients of STD clinics. Sexually active adolescents younger than 15 are at particular risk for infection. Adolescents are at greatest risk for STDs for three reasons: they often have unprotected sexual intercourse, they may be biologically more susceptible to infections, and they face multiple barriers to accessing and using health care.

Data from CDC’s 1997 Youth Risk Behavior Surveillance System indicate that 48 percent of the adolescents surveyed in grades 9 through 12 had sexual intercourse at least once. Nearly 35 percent reported being currently sexually active, and 43 percent did not use condoms during their last intercourse. Sixteen percent reported having had four or more sex partners during their lifetime.

The Role of the Health Professional

Counseling by a health professional reinforces generalized classroom instruction in a group setting. On average, students in grades 7 through 12 receive only 5 hours of instruction on contraception and 6 hours of instruction on STDs, and educators often are constrained in the information they can provide. Health professionals can provide counseling on a one-on-one basis and are trusted by many adolescents as highly authoritative sources of information.

Building trust and ensuring confidentiality are key components in effectively preventing and controlling STDs. Health professionals need to reassure adolescents that all information and diagnostic and treatment services will be confidential. With limited exceptions, all states permit adolescent consent for confidential diagnosis and treatment of most STDs, without requiring parental notification.

Health professionals can help adolescents identify and understand the risks and consequences of their sexual behaviors and support the development of healthy sexuality through the following risk assessment, screening, and counseling strategies:

- Obtain a complete medical and sexual history, and ask about specific high-risk practices.
- Clearly identify the adolescent’s risk factors, and tailor prevention and counseling messages to the individual’s risky behaviors (e.g., sexual practices, drug use).
- Screen all sexually active adolescents and other at-risk adolescents annually for STDs, even if they are asymptomatic. (See Table L-1 for screening guidelines.)
- Provide one-on-one counseling that is direct, detailed, compassionate, and nonjudgmental. Prevention counseling should include discussion of specific actions that the adolescent can take to reduce the risk of acquiring or transmitting STDs.
- Adapt the style and content of counseling to the adolescent’s developmental level and individual needs. Ask open-ended questions, use language that is both understandable and respectful, and offer reassurance that services will be provided regardless of ability to pay, immigration status, language, or lifestyle.
- Include information on STDs other than HIV. While most individuals are aware of the effects of HIV infection, few realize the serious risks and consequences of more common STDs such as chlamydia, gonorrhea, and human papilloma virus (HPV). STDs, particularly genital ulcer diseases, also
increase the risk of becoming HIV-infected if exposed to the virus.

- Recognize that detailed discussions and careful counseling are especially important for adolescents who may not be willing to acknowledge their high-risk behaviors.¹

**Specific Guidance for Adolescents**

The most effective way to prevent STDs is to delay having sexual relations as long as possible. The younger individuals are when having sex for the first time, the more susceptible they become to developing an STD. The risk of acquiring an STD also increases with the number of partners over a lifetime.⁷

For sexually active adolescents, these preventive practices can help reduce their risk of STDs:⁷

- Have a mutually monogamous (committed) sexual relationship with an uninfected partner.
- Correctly and consistently use a male condom. (Use a new condom for each act of intercourse.)
- Avoid anal intercourse. (If engaging in anal intercourse, be sure to use a male condom.)
- Avoid drug use. (If injecting drugs, be sure to use clean needles.)
- Learn the common symptoms of STDs. Seek medical help immediately if any suspicious symptoms develop, even if they are mild.
- Have regular checkups for STDs even in the absence of symptoms, especially if you are having sex with a new partner. Testing can be done during routine health visits.
- Prevent and treat other STDs to decrease susceptibility to HIV infection or, if already HIV-infected, to reduce the risk of transmitting the infection to others.
- Avoid having sex during menstruation. HIV-infected women are probably more infectious, and HIV-uninfected women are probably more susceptible to becoming infected during that time.
- Avoid douching because it removes some of the normal protective bacteria in the vagina and increases the risk of infection with some STDs.

Meeting the needs of adolescent populations can be particularly challenging because of the barriers they face in accessing and using comprehensive reproductive health services. A trusting and confidential relationship between the health professional and the adolescent is a critical component of STD preventive guidance.

**References**


### Table L-1. Common Sexually Transmitted Diseases: Screening Criteria and Consequences

<table>
<thead>
<tr>
<th>Disease</th>
<th>Screening</th>
<th>Females</th>
<th>Males</th>
<th>Fetus and Newborn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia</td>
<td>Screen sexually active males and females (including asymptomatic persons)</td>
<td>Pelvic inflammatory disease</td>
<td>Epididymitis</td>
<td>Premature delivery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ectopic pregnancy</td>
<td>Infertility</td>
<td>Pneumonia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic pelvic pain</td>
<td>Increased HIV risk if exposed</td>
<td>Neonatal eye infections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infertility</td>
<td>Eye infections</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased HIV risk if exposed</td>
<td>Reiter’s syndrome</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chronic prostatitis</td>
<td></td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>Screen sexually active males and females (including asymptomatic persons)</td>
<td>Pelvic inflammatory disease</td>
<td>Infertility</td>
<td>Blindness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ectopic pregnancy</td>
<td>Infection of joints, heart valves, or brain</td>
<td>Meningitis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infertility</td>
<td>Increased HIV risk if exposed</td>
<td>Septic arthritis</td>
</tr>
<tr>
<td>Human papilloma virus (HPV)</td>
<td>Examine sexually active males and females annually for warts, and screen females with Pap smear</td>
<td>Cancer of the cervix, vulva, vagina, or anus</td>
<td></td>
<td>Warts in throat that can obstruct air passages</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Anogenital warts</td>
</tr>
<tr>
<td>Herpes simplex virus</td>
<td>Examine sexually active males and females for ulcerative lesions; ask about genital pain</td>
<td>Recurrent painful genital ulcers; Increased HIV risk if exposed</td>
<td>Recurrent painful genital ulcers; Increased HIV risk if exposed</td>
<td>Severe central nervous system damage or death in infants infected during birth; if mother has active lesion(s) during labor, a caesarean section must be performed</td>
</tr>
<tr>
<td>Bacterial vaginosis (BV)</td>
<td>Screen asymptomatic pregnant females; screen symptomatic females</td>
<td>Increased risk of pelvic inflammatory disease</td>
<td>Does not apply</td>
<td>Increased risk of premature delivery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased risk of postpartum and postabortal endometritis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trichomoniasis</td>
<td>Screen symptomatic females</td>
<td>Possible increased risk of pelvic inflammatory disease; Possible increased risk of HIV if exposed</td>
<td>Possible increased risk of HIV if exposed</td>
<td>Trichomonas vaginitis</td>
</tr>
<tr>
<td>Hepatitis B virus (HBV)</td>
<td>Be sure that adolescent has been immunized</td>
<td>Cirrhosis; Liver cancer; Immune system disorders</td>
<td>Cirrhosis; Liver cancer; Immune system disorders</td>
<td>Liver disease; Liver cancer; Death</td>
</tr>
<tr>
<td>Syphilis (VDRL/RPR)</td>
<td>Screen if requested or if any risk criteria are met*</td>
<td>Serious damage to many body systems; Mental illness; Increased HIV risk if exposed</td>
<td>Serious damage to many body systems; Mental illness; Increased HIV risk if exposed</td>
<td>Stillbirth or neonatal death; Active syphilis; Damage to heart, brain, or eyes</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>Screen if requested or if any risk criteria are met*</td>
<td>Immune system disorders; Increased risk of other STDs; Death</td>
<td>Immune system disorders; Increased risk of other STDs; Death</td>
<td>Immune system disorders; Death</td>
</tr>
</tbody>
</table>
Appendix M: Safe, Quality Child Care

The following information has been developed by two federal agencies to help parents, health professionals, and child care providers ensure safe, quality child care.

Selecting a Child Care Provider

The U.S. Department of Health and Human Services’ Administration for Children and Families (ACF) recommends four steps for parents as they begin the process of selecting a child care provider.¹

1. Interview Caregivers

Call the caregiver first and ask these questions:

- Is there an opening for my child?
- What hours and days are you open and where are you located?
- How much does care cost? Is financial assistance available?
- How many children are in your care?
- What age groups do you serve?
- Do you provide transportation?
- Do you provide meals (breakfast, lunch, dinner, snacks)?
- Do you have a license, accreditation, or other certification?
- When can I come to visit?

Next, visit the child care facility or home; visit more than once, and stay as long as you can. Look for these indicators of a healthy environment:

- Responsive, nurturing, warm interactions between caregiver and children
- Children who are happily involved in daily activities and comfortable with their caregivers

2. Check References

Ask other parents who use the caregiver these questions:

- Was the caregiver reliable on a daily basis?
- How did the caregiver discipline your child?
- Did your child enjoy the child care experience?
- How did the caregiver respond to you as a parent?
- Was the caregiver respectful of your values and culture?
- Would you recommend the caregiver without reservation?

- A clean, safe, and healthy indoor and outdoor environment, especially napping, eating, and toileting areas
- A variety of toys and learning materials that your child will find interesting and that will contribute to his or her growth and development
- Children getting individual attention

Ask the caregiver:

- Can I visit at any time?
- How do you handle discipline?
- What do you do if a child is sick?
- What would you do in case of an emergency?
- What training have you (and other staff/substitutes) had?
- Are all children and staff required to be immunized?
- May I see a copy of your license or other certification?
- Do you have a substitute or back-up caregiver?
- May I have a list of parents who use or have used your care?
- Where do children nap? Do you know that babies should go to sleep on their backs?
• If your child is no longer with the caregiver, why did you leave?

Ask the local child-care resource and referral program or licensing office:
• What regulations should child care providers meet in my area?
• Is there a record of complaints about the child care provider I am considering, and how do I find out about it?

3. Make the Decision for Quality Care

From what you heard and saw, ask yourself these questions:
• Which child care should I choose so that my child will be happy and grow?
• Which caregiver can meet the special needs of my child?
• Are the caregiver’s values compatible with my family’s values?
• Is the child care available and affordable according to my family’s needs and resources?
• Do I feel good about my decision?

4. Stay Involved

Ask yourself these questions about your child care arrangement:
• How can I arrange my schedule so that I can
  Talk to my caregiver every day?
  Talk to my child every day about how the day went?
  Visit and observe my child in care at different times of the day?
  Be involved in my child’s activities?
• How can I work with my caregiver to resolve issues and concerns that may arise?
• How do I keep informed about my child’s growth and development while in care?
• How can I promote good working conditions for my child care provider?
• How can I network with other parents?

Obtaining Additional Information

ACF recommends gathering as much information as possible to help select the best child care provider. For more information, call Child Care Aware at (800) 424-2246 for the name of the nearest Child Care Resource and Referral Program. For more complete guidelines on health and safety in child care, call the National Resource Center for Health and Safety in Child Care at (800) 598-KIDS (5437).


[See p. 324 for the Child Care Safety Checklist for Parents and Child Care Providers.]
Child Care Safety Checklist for Parents and Child Care Providers

In 1998, the U.S. Consumer Product Safety Commission (CPSC) staff conducted a national study to identify potential safety hazards in 220 licensed child care facilities (federal, nonprofit, for-profit, and in-home settings). CPSC staff investigated eight product areas with potential safety hazards (see checklist below). Overall, two-thirds of the child care facilities had at least one of these safety hazards.

To increase injury prevention awareness and reduce injuries among young children, CPSC has developed the following safety checklist:

- **Cribs:** To prevent the strangulation and suffocation associated with older cribs and mattresses that are too small, make sure cribs meet current national safety standards and are in good condition. Look for a certification safety seal. Older cribs may not meet current standards. Crib slats should be no more than 2 3/8 inches apart, and mattresses should fit snugly.

- **Soft bedding:** Be sure that no pillows, soft bedding, or comforters are used when you put babies to sleep. Babies should be put to sleep on their backs in a crib with a firm, flat mattress. These measures can help reduce sudden infant death syndrome (SIDS) and suffocation related to soft bedding.

- **Playground surfacing:** Look for safe surfacing on outdoor playgrounds: at least 12 inches of wood chips, mulch, sand, or pea gravel, or mats made of safety-tested rubber or rubber-like materials.

- **Playground maintenance:** Check playground surfacing and equipment regularly to make sure they are maintained in good condition.

- **Safety gates:** Be sure that safety gates are used to keep children away from potentially dangerous areas, especially stairs.

- **Window blind and curtain cords:** To prevent strangulation, be sure miniblinds and venetian blinds do not have looped cords. Check that vertical blinds, continuous looped blinds, and drapery cords have tension or tie-down devices to hold the cords tight.

- **Clothing drawstrings:** Be sure there are no drawstrings around the hood and neck of children’s outerwear; these can catch on playground and other equipment and strangle young children. Other types of fasteners (like snaps, zippers, or Velcro) should be used.

- **Recalled products:** Check that (1) no recalled products are being used and (2) a current list of recalled children’s products is readily visible to remind caretakers and parents to remove or repair potentially dangerous toys and products.

For more information about children’s safety and recalls of children’s toys and products, contact CPSC at the following address and numbers:

U.S. Consumer Product Safety Commission  
Washington, DC 20207  
Toll-free hotline: 1-800-638-2772  
Web site: http://www.cpsc.gov (go to Recalls/News)

Appendix N: Bibliography

Infancy


Leventhal JM, Pew MC, Berg AT, Garber RB. 1996. Use of health services by children who were identified during the postpartum period as being at high risk of child abuse or neglect. *Pediatrics* 97(3):331–335.


### Early Childhood


**Middle Childhood**


**Adolescence**


**General**


APPENDIX N


Appendix O:
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