

# Bright Futures Health Supervision Visits



# Introduction to the Bright Futures Health Supervision Visits

Health supervision visits are an important opportunity to assess the health and function of a family and child. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents* exists “to improve the health and well-being of all children” by improving a practice’s clinical health promotion and disease prevention efforts and the organizational processes necessary to meet this goal.

This fourth edition of the *Guidelines* follows the *Bright Futures/American Academy of Pediatrics (AAP) Recommendations for Preventive Pediatric Health Care*, commonly referred to as the *Periodicity Schedule*, which provides an up-to-date summary of the “what to do” in primary care practice today. The *Guidelines* seek to describe “how to do” this work efficiently.

Certainly, no health care professional has the time to do every possible Bright Futures intervention discussed for a particular age visit. How, then, can health care professionals choose what is most important for one child and family at this time in this community? Experienced health care professionals often say that a visit is made up of many “to dos”—things we *must* do, things we *need* to do, and things we *want* to do.

Families bring an agenda, and we *must* address these needs in the visit if we are to be successful. An overlap generally exists between what the family needs us to discuss and what we feel is important to discuss; thus, creating a shared agenda is essential to the visit’s success. Helping parents enumerate their concerns and questions is an efficient and effective way of establishing this shared agenda. Using parent and patient Previsit

Questionnaires, such as those provided in the *Bright Futures Tool and Resource Kit*, enhances visit efficiency by identifying concerns at the beginning of the visit.

Certainly, we *need* to do things for which evidence of effectiveness exists. We also may *need* to provide other services that we consider essential to that particular child’s health and well-being, such as those defined by professional guidelines or state mandates.

What about the things that we *want* to do? We bring a personal view to health based on our training and experience, our knowledge of our unique community and its needs, and our desires to adhere to guidelines from the AAP, American Academy of Family Physicians (AAFP), National Association of Pediatric Nurse Practitioners (NAPNAP), the American Academy of Pediatric Dentistry, the American Dietetic Association, or others. Often, the interventions we *want* to include relate to disease prevention and health promotion. Elucidation and enumeration of a child’s and family’s strengths is an important undertaking and a good example of what many experienced health care professionals *want* to do.

Accommodating all the *musts*, *needs*, and *wants* sounds like a pretty big task and an extremely long visit, unless a health care professional tailors the visit and possible interventions to *one* child and family in the community. Not everything needs to be done at every visit. The specifics covered during the physical examination, screenings, and anticipatory guidance will evolve over a sequence of visits during an age range. The time frame for providing health supervision is not just one visit. Actually, it



occurs over a child's development and may be provided by a variety of health care professionals in a variety of settings.

The following sections explore these ideas in further detail through a discussion of the content of the health supervision visit, the timing of the visit,

and the structure of the visit. We also recognize both the importance and relative paucity of evidence supporting many components of the visit, and describe how supporting evidence is represented in the *Guidelines*.

## The Content of the Visit

A visit is composed of many potential interventions or health care professional activities with the patient. Interventions include obtaining a medical history, administering questionnaires or screening tools, performing a physical examination, entering into discussion, and providing anticipatory guidance.

Some interventions, such as assessing growth and development, occur at all visits. But how do we capture the elements of disease prevention and health promotion that are important to an individual child? And, when we find these elements, how are the best interventions chosen so that the best outcomes can be sought?

Many health care professionals see *one* child health visit as *one* encounter, a view encouraged by third-party payers. Unlike sick care visits, which aim to remedy a particular malady, the health supervision visit seeks many unique outcomes, often related only in their shared goal of the child's health. Multiple desired outcomes inevitably drive many separate interventions within the one encounter of the visit. Would it not be better conceptualized as a visit of multiple encounters?

This question can be answered by considering 4 components of the health supervision encounter—disease detection, disease prevention, health promotion, and anticipatory guidance. Disease detection is the easiest to describe. Every professional in child health care has been trained in the disease model, in the care of children who are sick. However, the desired outcomes of the health

supervision visit are broader than just detecting disease and they involve very different actions in the same encounter. Failure to recognize their inherent incongruence will lead to incongruent practice, with frustrations and compromised outcomes. The tone and content of disease detection should be remarkably different from that employed in discussing health-promoting behaviors.

### Disease Detection

#### Surveillance and Screening

Child health care professionals generally report 2 techniques of disease detection over time—surveillance and screening. Dworkin discussed surveillance and screening in the context of child development, and defined developmental surveillance as “a flexible, continuous process whereby knowledgeable professionals perform skilled observations of children during the provision of health care. The components of surveillance include eliciting and attending to parental concerns, obtaining a relevant developmental history, making accurate and informative observations of children, and sharing opinions and concerns with other relevant professionals.”<sup>21</sup>

Screening, on the other hand, is a formal process that employs a standardized tool to detect a particular disease state. Screening can be for all patients or for only some. Universal screening is performed on all patients at certain ages. Selective screening is performed on patients for whom a risk assessment suggests concern. For example, Bright Futures



recommends universal screening of 1-year-olds for anemia with a hemoglobin or hematocrit test. But, for a 2-year-old, anemia risk assessment includes dietary history, family history, and knowledge of socioeconomic risk factors. Determination of an increased risk would lead to hemoglobin or hematocrit screening.

Both surveillance and screening are essential elements of the disease-detection functions of the health supervision visit in helping determine how the characteristics of an individual child compare with characteristics of other children. Through ongoing assessment, the developmental trajectory of an individual child can be plotted and compared, just as height and weight are plotted and compared. This edition of Bright Futures will broaden the health care professional's detection skills by including or suggesting appropriate screening and assessment tools, found in the *Bright Futures Tool and Resource Kit*, according to a child's age or clinical presentation. Screening tools alone, however, are not sufficient. Health care professionals should couple screening with careful attention to parental concerns and insights (particularly during crucial developmental stages). This is particularly important for families who may have a child or youth with special health care needs, as this combination of screening and careful attention is more likely to successfully identify these special health care needs early and allow the health care professional to provide quality follow-up and intervention.

Surveillance and screening for developmental disorders has been reviewed.<sup>2</sup> Traditionally, health care professionals have used surveillance to assess development according to knowledge of the child over time and knowledge of child development milestones. It is held to be useful, but is certainly dependent on the health care professional, and has been shown to detect less than 30% of problems. Screening at select times, using a structured developmental assessment tool, increases the

identification rate with sensitivities and specificities of 90% or higher.<sup>2</sup>

Tools for surveillance and screening have been reviewed<sup>2</sup> and effective tools can be found in both the private and public domain. Screening tools vary by condition, by population screened, and in the scope of the conditions assessed. Sensitivity and specificity may vary within the same tool for related though different conditions assessed. Commonly used proprietary tools for use in the primary care setting include the *Ages and Stages Questionnaires (ASQ)*<sup>3</sup> and the *Parents' Evaluation of Developmental Status (PEDStest)*.<sup>4</sup> The *Survey of Well-being of Young Children (SWYC)*<sup>5</sup> and *Modified Checklist for Autism in Toddlers, Revised with Follow-Up*,<sup>6</sup> are screening tools in the public domain.

The SWYC uses brief questionnaires to assess 3 domains of children's developmental and emotional functioning—the Developmental Domain, the Behavioral/Emotional Domain, and the Family Context for socioeconomic risk assessment. The SWYC specifically assesses developmental milestones and notes red flags of developmental concern for clinicians. The Behavioral/Emotional assessment includes Parents' Observations of Social Interaction, a 7-item screening instrument for autism spectrum disorder.

The ASQ and PEDStest also assess social-emotional function, but do not include socioeconomic screening. Other tests are available and may be appropriate alternatives.

All screening tools should be administered at least as frequently as the times noted in the *Periodicity Schedule*. Some practices will elect to employ a screening tool at additional health supervision visits, although payment for screening may be limited to the recommended visits. The screening tools described always may be used as an assessment for a developmental concern identified with routine surveillance.





## The Physical Examination

The authors of this fourth edition of the *Guidelines* suggest that each visit include a complete physical examination, with particular focus on certain aspects at each visit. Experienced health care professionals will simultaneously champion the complete examination on the basis of their discovery of a previously asymptomatic neuroblastoma or murmur of aortic stenosis and point out the rarity of detecting significant pathology. Although the burden of suffering of these disease processes may be great, health analysts correctly question the cost-effectiveness of this approach to disease detection—many normals must be assessed to detect one abnormal. Despite these doubts, we believe that, in current practice in the care of children and adolescents, the complete physical examination does comprise “best care.” We acknowledge that, in certain situations, portions of the examination may be appropriately omitted (eg, an examination of the genitalia or when a specialist has recently assessed an organ system).

## Disease Prevention

The second essential component of the child health encounter—disease prevention—includes both primary prevention activities applied to a whole population and secondary prevention activities aimed at patients with specific risk factors. An example of a successful primary prevention is the recommendation that all infants be placed on their back for sleep and not sleep in bed with their parents to reduce the risk of sudden unexplained infant death. “Back to sleep,” like immunizations, is an essential disease prevention activity for the care of the infant. Bright Futures can assist the child and adolescent health care professional to individualize additional disease prevention strategies to the community and to the specific child and family.

The *Guidelines* are an appropriate compendium of both primary and secondary prevention topics,

again noted by age and stage of development.

However, a compendium such as ours cannot, by itself, drive an encounter. Where evidence exists for specific disease prevention activities at a particular age, it has been incorporated into the guidance for that encounter. The Bright Futures expert panels have used clinical guidelines and other sources of evidence to feature 5 priorities for each visit as particularly high in value to the clinical visit for health care professionals to consider. (*For more information on this topic, see the Evidence and Rationale chapter.*)

## Health Promotion

Health promotion activities constitute the third component of the encounter. These actions distinguish health supervision from other work that health care professionals do with children and families. Other encounters with the health care system focus on disease detection and, often, on disease prevention, but it is health promotion activities that focus the visit on *wellness*.

## Social Determinants of Health

This fourth edition of the *Guidelines* includes a new health promotion theme, *Promoting Lifelong Health for Families and Communities*. What are now referred to as social determinants of health are social factors that affect children and families. These factors have driven Bright Futures, beginning with the planning of the first edition of the *Guidelines*. Reflecting a growing body of neuroscience on social determinants of health and a greater focus on this issue by the public health community and the AAP, this fourth edition highlights social determinants of health to reflect the importance of a broad view of health promotion. Contemporary health supervision looks beyond the office encounter to assess and address the family’s risks, and strengths and protective factors, through intensified efforts in health promotion to focus on family, community, and social factors,



that affect health, both positively and negatively. Although social factors are not new issues for health care professionals who care for children, adolescents, and families, new science underpins their importance and provides evidence for effective interventions. If we are to intervene to address risks and bolster strengths and protective factors, we must know the problem. And to know the problem, we must have effective screening techniques.

Brief and standardized screening tools now exist for prenatal alcohol exposure, parental depression, food insecurity, and adverse family experiences. These screens are included in selected visits according to age of the child and timing of risk. Certain screening is included in the previsit screening tools for these visits, and additional social determinants of health questions are found in the Anticipatory Guidance section of the visits.

The *Guidelines* intentionally include some repetition in these questions. Experienced health care professionals recognize that sensitive topics typically require that patient and family trust be established before affected individuals are likely or able to speak up. To avoid causing upset to families by questioning about sensitive and private topics, such as family violence, alcohol and drug use, and similar risks, screening about these topics can begin with an introductory statement, such as, “I ask all patients standard health questions to understand factors that may affect the health of their child and their health.” Perhaps the patient becomes more comfortable *with the health care professional’s comfort with the topic*.

Health promotion activities add new opportunities to the encounter. They shift the focus from disease to assets and strengths, on what the family does well and how health care professionals can help them do even better. The skilled health care professional uses these strengths to help the family build assets.

## Anticipatory Guidance

Brazelton described the process of anticipatory guidance as one in which child health care professionals assess emerging issues that a child and family face and give advice that is developmentally consistent.<sup>7</sup> For anticipatory guidance to be effective, it must be *timely* (ie, delivered at the right age), *appropriate* to the child and family in their community, and *relevant*, so that key recommendations are adopted by the family. This is an opportunity to broach important safety topics, help the family address relationship issues, access community services, and engage with the extended family, school, neighborhood, and faith communities. Again, the health care professional must prioritize and select. But how? Bright Futures provides techniques to assist the health care professional in designing effective and time-efficient child health supervision interventions.

The Anticipatory Guidance section of each visit does not simply tell clinicians what to do, but suggests how to do it. Sample questions and suggested talking points are provided for the health care professional to use and adapt to the individual patient and family. The wording was provided by expert panel members from their own clinical experience and from that of colleagues. Health care professionals are encouraged to model this approach in developing their own anticipatory guidance discussions.

## Children and Youth With Special Health Care Needs

The care of children and youth with special health care needs requires a dual approach consisting of both (1) screening and ongoing assessment to identify the special health care needs and (2) health supervision and anticipatory guidance.



An essential task of a Bright Futures Visit is to identify children with special health care needs. Ongoing surveillance over sequential Bright Futures Visits, careful attention to parental concerns, and screening allow practitioners to find and diagnose these children. Screening may be structured and generalized to be applicable for all children or it can be specific to address concerns in one child.

Bright Futures emphasizes that children and youth with special health care needs are, of course, children, and they have health care needs like all their peers. Their special health care needs, while important, do not negate their needs for health supervision, identification of strengths, and anticipatory guidance. Immunizations, nutrition and physical activity, screening for vision and hearing, school adjustment, and vehicle or firearm safety are only a few of the topics that are important to the health of every child and youth. Sufficient time and attention to identifying and reinforcing youth strengths and their healthy emotional development are key. Through ongoing assessment, the developmental trajectory of an individual child can be plotted and compared, just as height and weight are plotted and compared, and the process of providing care is normalized.

Child and adolescent health care professionals, who couple clinical observation with careful attention to parental concerns and insights, particularly during crucial developmental stages, competently serve children and youth with special health care needs. The Bright Futures Visits support that goal.

### The Timing of the Visit

Health supervision visits usually are scheduled as a longer encounter than a sick visit. Data from an AAP survey of pediatricians found that the average length of a preventive care visit, including all care by all personnel, ranges from 28 to 30 minutes,

depending on the age of the patient. Pediatricians personally spend an average of 17 to 20 minutes with patients and parents, depending on the patient's age.<sup>8</sup> The complexity of family questions is often a determinant in visit duration, as are the needs of the child that are anticipated before the visit or detected during the visit. The pressures of practice cost and the day's queue of patients may limit the time available.

Experienced health care professionals see the Bright Futures Visit as an opportunity, but most also report a genuine tension as they seek to accomplish so much in so little time. Resolving this tension is important to the success of the visit and is key to family and health care professional satisfaction. This edition of the *Guidelines* provides solutions to improve clinical and organizational processes in health supervision care. Using the Bright Futures materials, health care professionals who work with office or clinic staff can create effective encounters that meet their goals of disease detection, disease prevention, health promotion, and anticipatory guidance (Box 1).

We chose 15 to 18 minutes as the target time for the face-to-face encounter of the health care professional and the patient. This time does not include screening time for the patient, which may include parent questionnaires, developmental screenings, and professional nursing time with the patient. Consequently, the patient's time of encounter will exceed that of the health care professionals.

### Employing Evidence

Satisfactory studies on preventive health issues in children are uncommon. Few studies have evaluated the effectiveness of components of the physical examination, for example. Absent evidence does not demonstrate a lack of usefulness, however. The lack of evidence of effectiveness most often simply reflects the lack of study. This edition



## Box 1

### The Bright Futures Tool and Resource Kit

The *Bright Futures Tool and Resource Kit* provides forms and tools for health care professionals, patients, and families to complete before, during, or after health supervision visits. Practitioners can use or adapt these materials to meet the needs of their individual practice setting and to ensure they are following the recommendations presented in the *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents* when delivering care to patients. Core tools include

- Previsit Questionnaires
- Visit Documentation Forms
- Patient/Parent Education Handouts

Clinicians who participated in quality improvement projects using Bright Futures measures found that the Previsit Questionnaires, documentation forms, and patient handouts in the *Guidelines* were most commonly used in their practices. Supplemental tools and additional patient education materials also are included in the *Bright Futures Tool and Resource Kit*.

of the *Guidelines* relies on a range of sources to ensure that relevant evidence and expert opinion are included in the construct of every Bright

Futures encounter. (For more information on this topic, see the *Evidence and Rationale* chapter.)

## Components of the Bright Futures Visit

Bright Futures views the relationship of parents and pediatric health care professionals as a partnership, consistent with the “medical home” philosophy. The *Guidelines* support the care of children and youth in their families, in their personal cultures, and in their community.

Bright Futures practitioners recognize the importance of a family’s strengths in caring for their children. We seek to identify strengths in each encounter, and move the focus of the health supervision visit away from the disease detection model toward a strength-based approach to health promotion and disease prevention. Each visit is an essential opportunity to help a family recognize their strengths and protective factors to enhance their health.

The remainder of this section describes the health supervision visit as presented in the *Guidelines* and illustrated in Box 2.

### A. Context

For each visit, the Bright Futures expert panels begin with a description of children at the age of the visit, their developmental milieu, their family development, and their environment. This information reminds health care professionals of key developmental tasks and milestones for that age. Contextual discussions describe expected growth and development over time and set the stage for the priorities and tasks that follow. It is intended to assist the health care professional in focusing on the unique qualities of a child this age, as opposed to their near-age peers.

### B. Priorities for the Visit

For the visit to be successful, the needs and agenda of the family must be addressed. Thus, the Bright Futures expert panels note that “the first priority is to address the concerns of the parents and the child/adolescent and parent.”



**Box 2****Bright Futures Health Supervision Visit Outline, Using a Strength-Based Approach**

- A. Context
- B. Priorities for the Visit
  - The first priority is to attend to the concerns of the parents.
  - The Bright Futures expert panel has given priority to 5 additional topics for discussion in each visit.
- C. Health Supervision
  - C1. History
    - General Questions
    - Past Medical History
    - Family History
    - Social History
  - C2. Surveillance of Development
  - C3. Review of Systems
  - C4. Observation of Parent-Child/Youth Interaction
  - C5. Physical Examination
    - Assessment of Growth
      - ▶ <2 years: weight, length, head circumference, and weight-for-length
      - ▶ ≥2 years: weight, height, and BMI
    - Listing of particular components of the examination that are important for the child at each age visit
  - C6. Screening
    - Universal Screening
    - Selective Screening
      - ▶ Risk Assessment
      - ▶ Action if Risk Assessment Positive (+)
  - C7. Immunizations
- D. Anticipatory Guidance
  - Information for the health care professional
  - Health promotion questions for the 5 priorities for the visit
  - Anticipatory guidance for the parent and child

Abbreviation: BMI, body mass index.

Each Bright Futures expert panel has enumerated 5 additional priorities for each visit. These priorities and their component elements assist the health care professional to focus the visit on the most important priorities for a child this age. The priorities are drawn from relevant literature, expert opinion, and the rich conversation of expert panel members. They are offered as a representation of current practice in the care for children of each age. Given the multiple sources of the priorities and the guidance contained within them, it must be noted that although evidence for an intervention strengthens the health care professional's

knowledge of child health supervision and assists in setting priorities and managing time, a lack of evidence does not imply lower priority, lack of value, or irrelevance.

**C. Health Supervision****C1. History**

In each Bright Futures Visit, the history component begins with the following guidance:

- “Interval history may be obtained according to the concerns of the family and the health care professional's preference or style of practice.”



History that is relevant to the age-specific health supervision encounter is determined to assess strengths, accomplish surveillance, and enhance the health care professional's understanding of the child and family and to guide their work together. Past Medical History and pertinent Family History are important elements of the initial and interval history. Some visits also include relevant Social History questions.

The Bright Futures expert panels also suggest questions that can encourage an in-depth discussion about certain priorities for this visit.

### C2. Surveillance of Development

Developmental surveillance occurs with each clinical encounter with the infant, child, and adolescent, and these observations are central to health supervision for children. Surveillance is the observation over time by experienced eyes of a child's acquisition of developmental milestones. To assist health care professionals in their observations, each Bright Futures Visit includes a rich discussion of developmental nuance for that age.

As children grow older, developmental *milestones* are replaced with developmental *tasks*. For older children and adolescents, developmental tasks assume a central position in this assessment. Developmental tasks of middle childhood and adolescence, such as connection to family and peers and autonomy, are described in the *Promoting Lifelong Health for Families and Communities* theme.

### C3. Review of Systems

A standard, brief review of systems is an effective method of ensuring that significant problems are addressed.

### C4. Observation of Parent-Child/Youth Interaction

Health supervision activities always involve observation of the parent-child interaction. Often accomplished without formal thought, this assessment provides context for the work of the visit.

### C5. Physical Examination

The physical examination is the cornerstone of any pediatric evaluation. It is the one portion of the evaluation that only a licensed child health care professional can perform. Molded by a thoughtful acquisition of medical history, a complete physical examination is included as part of every visit. The physical examination must be comprehensive, yet also focus on specific assessments that are appropriate to the child's or adolescent's age, developmental attainment, and needs, which are discerned from the patient history. This portion of each Bright Futures Visit opens with the following guidance:

- “A complete physical examination is included as part of every health supervision visit.”

In the context of a complete physical examination, the experienced health care professional incorporates certain specific components that are necessary to the examination of a child of a specific age or stage of development. To set this stage, the following statement also is made in each visit:

- “When performing a physical examination, the health care professional's attention is directed to the following components of the examination that are important for a child/youth this age:”

Most children in the United States are healthy and have normal physical examinations. Regardless of health status, for all children, each visit's examination will be different, will demonstrate growth and maturation, and will provide the opportunity for discussion of the physical changes associated with healthy development.



No evidence-based data exist to indicate that a complete physical examination dramatically improves health care outcomes. However, evidence does demonstrate the importance of key elements of the complete physical examination at different ages. (*For more information on this topic, see the Evidence and Rationale chapter.*) In addition, there are numerous reasons why the examination may be in the best interests of the child and family. Most important is the possibility that a silent or subtle illness could be identified. Furthermore, the examination provides an opportunity for the child health care professional to model respect for the child, to educate both the child and the parents about the child and her body and growth, and to acknowledge the child's individuality. One study of well child care found the importance of this reassurance to parents regarding their parenting and their child's health.<sup>9</sup>

The health supervision examination should be unhurried, with adequate uninterrupted time set aside for questions and discussion by parents and the child. Ensuring privacy can help the parents and the child address a variety of issues in a comfortable and non-pressured setting. Beginning in middle childhood and by adolescence, policies related to privacy and confidentiality must be established and reviewed for the child and family (Box 3). Children are reminded that we want them to begin to make their own good health decisions, that good decisions require good information, and that our questions are aimed at really getting

to know them better. Children and adolescents are always encouraged to discuss any concerns with their parents, the adults who know them best and, in most families, the people who can best help them find answers and solve problems. But, if patients of any age prefer to discuss concerns privately with their health care professional, they should be supported and allowed to do so.

The practice's or clinic's policies regarding privacy should be shared and discussed with parents and children by the 7 or 8 Year Visit. At this time, it is appropriate to offer the option of part of the visit without the parent present. Most health care professionals will always excuse the parent from part of the visit by the 12 Year Visit. In some health care systems, time alone with the health care professional is a quality-control measure for adolescent care. It is useful to frame confidentiality and privacy as part of the child's increasing self-reliance and a standard part of the visit.

The physical examination always should include an assessment of growth.

- Younger than 2 years: weight, length, head circumference, and weight-for-length
- 2 years and older: weight, height, and body mass index (BMI)<sup>10</sup>

Measurements should be plotted on the World Health Organization (WHO) Growth Charts for birth to age 18 months (Appendix A), and beginning at age 2 years on the Centers for Disease Control and Prevention (CDC) growth

### Box 3

#### Privacy, Confidentiality, and the Bright Futures Health Supervision Visit

Practices may want to establish formal confidentiality policies. Parents are important participants in these policies. A sample confidentiality statement addressed to youth could look as follows:

"Our discussions with you are private. We hope you will feel free to talk openly with us about yourself and your health. Information is not shared with other people without your permission unless we are concerned that someone is in danger."

From Jack Mayer, MD, MPH, Rainbow Pediatrics, Middlebury, VT.



and BMI-for-age charts (Appendix B). Growth charts permit the evaluation of appropriate changes in growth over time. Deviations from normed percentiles require further investigation or anticipatory guidance. *(For more information on this topic, see the Promoting Healthy Weight theme.)*

Children and youth with special health care needs have chronic physical, developmental, behavioral, or emotional conditions that may affect their growth. Growth may be further affected by illness, medication use, congenital anomalies, and impaired motor skills. Assessment of growth is a key component of care for children and youth with special health care needs, and use of age-appropriate WHO or CDC growth charts, especially weight and height charts, for early detection of growth trends is important. The CDC also has evaluated reference growth charts for some children with special health care needs, including trisomy 21, achondroplasia, Prader-Willi syndrome, Turner syndrome, and Williams syndrome. Use of these specialized charts may be considered for affected children. Important limitations of these charts are the small sample sizes on which these charts are based, the lack of BMI data, and the risk of underestimating the child's growth potential. It is recommended that these charts be used in conjunction with the standard-reference WHO or CDC growth and BMI-for-age charts. The child's growth then can be assessed against that of the general

population of children and can be monitored more accurately for inadequate growth or overweight. These CDC charts and guidance regarding their use are available at [www.cdc.gov/growthcharts](http://www.cdc.gov/growthcharts).<sup>11</sup>

Body mass index should be calculated at each visit beginning at age 2 years, when the measurement of height replaces the measurement of length. *(For more information on this topic, see the Promoting Healthy Weight theme.)* At earlier visits, when length is measured, the weight-for-length should be plotted on the WHO Growth Chart. Weight-for-length and BMI charting can improve recognition of an underweight or overweight problem, prompt health care professional concerns, and enhance guidance about techniques to promote a healthy weight (Table 1).<sup>12</sup> Review of growth charts with the parent and child is an important component to the discussion of growth and development at each visit.

The US Preventive Services Task Force recommends screening for overweight in children older than age 6 years,<sup>13</sup> and Bright Futures recommends plotting BMI growth curves. Some populations, such as Native Americans, Mexican Americans, Asian and Pacific Islanders, and non-Hispanic blacks, are at a greater risk of developing overweight than are whites. Following BMI curves in these groups may offer long-term benefits.

**Table 1**

Interpreting Body Mass Index		
Growth Indicator	Anthropometric Indexes	Percentile Cutoff
Underweight	Low BMI for age and sex	<5th percentile
Healthy	Normal BMI for age and sex	≥5th percentile but <85th percentile
Overweight	High BMI for age and sex	≥85th percentile but <95th percentile
Obese	High BMI for age and sex	≥95th percentile

Abbreviation: BMI, body mass index.

Source: Centers for Disease Control and Prevention; Division of Nutrition, Physical Activity, and Obesity; National Center for Chronic Disease Prevention and Health Promotion. About Children & Teen BMI. [http://www.cdc.gov/healthyweight/assessing/bmi/childrens\\_bmi/about\\_childrens\\_bmi.html](http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html). Updated May 15, 2015. Accessed September 18, 2016.





## C6. Screening

### A. Universal Screening

### B. Selective Screening

- Risk Assessment
- Action if Risk Assessment Positive (+)

Recommended screening occurs at each Bright Futures Visit. Certain screening is universal—it is applied to each child at that visit. Other screening is selective and occurs only if a risk assessment is positive. For example, 1-year-olds are universally screened for elevated blood lead levels in most states, but only those children whose parents have concerns are selectively screened with a hearing test. Where specific screening tools or tests are indicated, they are noted in the visit.

Screening recommendations are derived from the *Recommendations for Preventive Pediatric Health Care (Periodicity Schedule)*.<sup>14</sup> Screening tasks were chosen on the basis of available evidence or on expert opinion statements from the Maternal and Child Health Bureau, CDC, AAP, AAFP, NAPNAP, and others. Broad consultation was obtained to achieve consensus.

## C7. Immunizations

Assessing the completeness of a child's or adolescent's immunizations is a key element of preventive health services. The value of immunizations in avoiding preventable diseases and disease complications is an important discussion for providers to have with parents. Often, parental anxiety and misinformation regarding immunization must be addressed.

Bright Futures uses the following sources for up-to-date immunization schedules:

- The CDC National Immunization Program, [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines).<sup>15</sup> This source is listed in each Bright Futures Visit.

- American Academy of Pediatrics Red Book, <http://redbook.solutions.aap.org>, is recommended as an additional source of information for the health care professional.

Both sources include professionals' and parents' guides, address evidence behind immunizations, and discuss myths regarding immunization. The CDC-INFO Contact Center, a toll-free number to request information on immunization (**800-CDC-INFO**), is an additional resource.

## D. Anticipatory Guidance

The Bright Futures expert panels have provided extensive detail for anticipatory guidance activities.

For each visit, anticipatory guidance is organized by the visit's 5 priorities and their component elements. Within each priority, the anticipatory guidance begins with a brief description for the health care professional. This provides a developmental context for the sample questions and guidance that follow, and it may highlight aspects of a topic that are of particular importance for discussion. The sample questions and anticipatory guidance points provide a possible script for discussion and help frame a relevant conversation with the family and child. Many questions are framed as *Ask the Parent*. Throughout Bright Futures, the term *parent* encompasses all types of caregivers who care for and raise children, including grandparents, other kin, or guardians. Health care professionals are encouraged to adjust and enhance the questions and guidance as needed.



## Examining Children and Adolescents at Each Stage: Useful Information to Make the Visit Go Smoothly

### Infancy

The health care professional should examine the infant in front of the parents so that the parents can ask questions and the health care professional can comment on the physical findings. This is a wonderful opportunity to evaluate parent-infant interactions. During the examination, the health care professional can reinforce positive interactions between infant and parents as well as provide guidance for dealing with upcoming changes in infant development. The neurodevelopmental assessment is an ideal opportunity to discuss developmental milestones. The health care professional can incorporate anticipatory guidance regarding developmental stimulation and injury prevention in a developmental context.

The health care professional can speak about sounds, light, touch (both light and firm), body movement, and position (proprioceptive and vestibular input), while stressing that every baby is unique. The parents need to understand the individual aspects of their baby, which will enable them to comfort and support his development. Approaching the baby's development this way helps parents recognize those very important qualities of the caretaking environment. Demonstrating ways to interact with the infant helps give parents a sense of confidence in making changes to best fit their infant.<sup>16</sup>

### Early Childhood

Successfully accomplishing an accurate physical examination of a young child requires both skill and art. An ordered approach to the child as a whole and to each individual organ system reduces the likelihood of missing a problem. Younger

children need close contact with a parent to reduce anxiety and to ease performance of the examination, whereas older children may take the lead in guiding the health care professional through the examination. Box 4 summarizes some calming techniques to improve cooperation in children aged 1 to 4 years.

### Middle Childhood

Middle childhood includes many important milestones for children—learning to read and write, developing important relationships outside the family with friends and teachers, and, for some, the onset of puberty. This is a period of time when lifelong habits that can influence health promotion and disease prevention become established.

The identification of learning barriers and mental health problems are important issues in this age group. Close monitoring of physical health and development are essential for preventive care and the early identification of neurodevelopmental and mental health problems.

In middle childhood, children are developing a growing consciousness about their bodies and may feel uncomfortable without an examination gown or a curtain around the examination table. The child's privacy should be respected.

### Adolescence

Adolescence is often thought of as the healthiest age group in the human lifespan. The infectious diseases and developmental issues that constitute most visits to health care professionals during the childhood years are much less common during adolescence, and the chronic illnesses of adulthood are not yet an issue for most adolescents.



## Box 4

### Calming Techniques to Improve Physical Examination Accuracy in 1- to 4-Year-Olds

**Preparation:** Encourage parents to read stories about health checkups or health visits before the appointment.

**Parent contact:** The child sits or lies in the parent's lap or is held chest-to-chest by the parent.

#### Distraction

**Auditory:** Gentle, relaxed, reassuring constant banter from the examiner or parent, singing or music, or non-sense buzzing noises or whispering.

**Manual:** The child holds a tongue blade in each hand or feels the stethoscope head, holds jingling keys, or brings dolls or toys to the appointment.

**Visual:** The otoscope is shown to the child while lighting the examiner's palm, then the child's, before the ear examination; or the examiner puts the otoscope into his or her own ear declaring, "See! It's okay! Just a flashlight. Do you have a flashlight at home?"

**Demonstration:** A doll or stuffed animal is examined before the patient, or the child's shoe is "listened" to with the stethoscope before listening to the patient.

**Recruitment:** Request the child's help in holding the stethoscope head or tongue blade; "blowing out" the otoscope light; or while listening to the chest, asking the child to blow on a piece of tissue held in front of the mouth to encourage deep breathing.

#### Comfort Measures

**Avoid fear-inducing actions:** Avoid direct looks into the eyes of a young toddler until the eyes are examined; delay invasive portions of the examination (eg, otoscopy) until last; or examine toes or fingers first.

**Provide pleasant office surroundings:** Books, toys, and pictures or drawings on the walls.

Despite their relatively good health, adolescents have significant physical issues that require attention on preventive health visits. The significant growth and major hormonal changes that mark the adolescent years, for example, make it necessary to follow growth parameters, including height, weight, and sexual maturity rating,<sup>17</sup> to ensure that they are proceeding appropriately and to watch for the development of possible problems (eg, scoliosis, myopia, or acne) that accompany changes in growth and hormonal milieu.

Other medical issues are related to adolescent health-risk behaviors. Because 46.8% of adolescents report ever having sex,<sup>18</sup> and with a pregnancy rate of 57.4 per 1,000, among female

adolescents aged 15 to 19 years, managing sexuality-related issues, including contraception and sexually transmitted infections (STIs), is an important component of adolescent health care.<sup>19</sup> The CDC estimates that 20 million new STIs occur each year, of which 50% occur among adolescents and young adults aged 15 to 24 years.<sup>20</sup>

The health care professional also can help prevent the onset of diseases in adulthood, particularly cardiovascular disease and malignancies. Factors associated with the onset of cardiovascular disease in adults (eg, overweight, hypertension, hyperlipidemia, and cigarette smoking) may have antecedents in the adolescent age group. Screening for these cardiovascular risk factors is increasingly important.



With rising levels of overweight and obesity in all age groups, the association between overweight and adult-onset diabetes mellitus in adolescents also has become a major concern. Human papillomavirus immunization and counseling about sun protection and tobacco use also are important interventions to prevent future malignancies.

### School-Based Health Clinics

School-based health clinics, which are on-site integrated health services in the schools, are an increasingly prevalent model for delivery of adolescent health care. Referrals for supplementary services are made available to health care professionals and community agencies and mental health centers.

The school-based health center may be the only medical home for some youth. School-based health centers can be especially effective in ensuring immunizations, promoting sports safety, and providing access for students with special health care needs. All services and programs should work to improve communication between school and home so that parents stay involved in their

adolescents' lives away from home and learn effective strategies to deal with some of the challenges that their children face.

Health care professionals may use Bright Futures for health promotion in schools to help adolescents establish good health habits and avoid those that can lead to morbidity and mortality. Health promotion curricula can include family life education and social skills training, as well as information on pregnancy prevention, abstinence, conflict resolution, healthy nutrition and physical activity practices, and avoidance of unhealthy habits, such as the use of tobacco products, alcohol, or other drugs. Referrals to appropriate, culturally respectful, and accessible community resources also help adolescents learn about and address mental health concerns, nutrition and physical health, and sexual health issues. When young people decide to seek assistance beyond their family, these resources should provide appropriate confidential counseling and support to them in making healthy choices while encouraging good communication with parents and family.

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