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B. COMPREHENSIVE PHYSICAL EXAMINATION REQUIREMENT

The comprehensive physical examination component of a Healthy Kids preventive visit must include documentation of an unclothed physical examination in a systems approach with age-appropriate assessments of vision and hearing, blood pressure measurement, growth measurements with BMI and nutritional assessment.

Unclothed Physical Examination by Systems

A licensed physician, MD or osteopath, or certified nurse practitioner must perform an unclothed physical examination. A certified physician’s assistant working under a licensed MD or osteopath may also perform the exam. Documentation of a systems approach is required. A minimum of five systems constitutes a complete physical examination. Recording “PE within-normal-limits” or “PE WNL” as complete physical is not acceptable. Documentation of individual systems as “within normal limits” or “WNL” is acceptable. Document all suspect findings, discuss with the parent/child, and develop a plan of care. Monitor, treat, and/or refer the child to an appropriate specialty service for any identified problems.

The physical examination includes assessment of the following:

- General physical appearance
- Skin (evidence of scars, burns, bruises) and hair
- Head & neck (including facial features, thyroid palpation and fontanels for infants)
- Eyes and ears, including ability to see and hear
- Nose/throat
- Age appropriate growth parameters with BMI, graphing and interpretation of measurements
- Oral cavity including palate, cheeks, tongue and floor of mouth; dental ridges (including erupting teeth); gums for evidence of infection, bleeding or inflammation; malformation or decay of erupting teeth
- Blood pressure measurement (≥ 3 years of age)
- Cardiopulmonary evaluation, including pulses (palpation of femoral arteries)
- Abdomen (musculature, organs, masses)
- Urogenital evaluation
- Orthopedic evaluation, including muscle tone and scoliosis
- Neurological evaluation, including gross and fine motor coordination

Assessment of Hearing

An assessment of the child's ability to hear is required at each Healthy Kids preventive visit. Screen using the health history, physical examination and a gross subjective or an objective hearing assessment. The physical examination includes an external and internal (otoscopic) examination of the ears.

The hearing of all newborns should be screened. Maryland hospitals test for hearing impairments in newborn infants. Contact the DHMH Infant Hearing Helpline at 1-800-633-1316 with questions or for assistance with follow-up of suspect or positive screens. Refer to the Early Hearing Detection and Intervention (EHDI) Guidelines for Pediatric Medical Home Providers (Refer to Section 3, Addendum).

Assess children through 5 years of age for hearing impairment by means of a complete health history, physical examination, and gross subjective assessment. The initial health history should include an assessment for a family history of hereditary deafness, in particular any blood relative; e.g., grandparents, aunts, uncles or cousins known to have a childhood hearing impairment. This does not include hearing impairment due to aging, ear infections, meningitis, measles, mumps, trauma, or serious complications at birth.

Subjective Hearing Assessment

A gross subjective assessment can be completed during the developmental assessment by noting response to auditory stimuli and assessing for speech and language delays. Assess school-age children and adolescents for hearing impairment by means of a health history, physical examination, and gross subjective or objective assessment. A subjective assessment is required at every well visit. Schools generally conduct hearing and vision screening in grades K, 3, 5 and 9. Results of these hearing screens suffice as a “subjective assessment.”

Objective Hearing Test Using an Audiometer/Audioscope

Objective testing is recommended at 4-6 years of age, and at the following ages: 12, 15 and 18 years of age. Providers can bill Medical Assistance for objective hearing tests on children not enrolled in a MCO. Objective Hearing Forms are available to document the results (Refer to Section 7, Appendix I). The audiometer must be used according to the manufacturer's specifications and meet with ANSI 1969 standards. Yearly calibration of equipment is required. Recommended test frequencies and screening levels are 1000 HZ, 2000 HZ and 4000 HZ at 20 decibels (dB); test each ear separately.

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Tympanometry and impedance testing are not required for a Healthy Kids preventive visit. These tests are covered if they are medically necessary for diagnosis and treatment.

Referral and Follow-up

If the child responds to all presented tones at 20 dB in each ear, the test is normal. If the child fails to respond to any one frequency in either ear at 20 dB, the test is suspect/positive. Providers may elect to re-screen the child in approximately 2 weeks or refer directly for evaluation. For assistance in locating community-based services for children with suspect or positive hearing problems, contact the appropriate MCO network or the Division of Children’s Services at 410-767-1903.

Assessment of Vision

An assessment of the ability to see is required at each Healthy Kids preventive visit. Screen using the health history, physical examination and a gross subjective or an objective vision assessment. Children should have age-appropriate assessments for eye problems in the newborn period and at all subsequent health supervision visits. Vision screening and eye examinations are vital for detection of conditions that distort or suppress the normal visual image that may lead to inadequate school performance or blindness in children. Retinal abnormalities, cataracts, glaucoma, retinoblastoma, eye muscle imbalances, and systemic diseases with ocular manifestations may all be identified by careful examination. Before objective testing, obtain an adequate history to elicit evidence of any visual difficulties.

The physical examination should include an ophthalmoscopic examination of the eye; response to light stimulation and direction of light; an estimate of alignment of the eyes using the monocular cover test (as early as one year of age) and the Hirschberg (corneal) reflex to observe eye movements. The examination of ocular mobility, muscle balance, and visual acuity may be performed together. The assessment of ocular alignment in the preschool and early school-age child is of considerable importance. The development of ocular muscle imbalance may occur at any age in children and may represent not only simple strabismus, but also serious orbital, intraocular, and intracranial disease. Examination of the eyelids and orbits consists of evaluating the structures for symmetry and function, such as the ability to open both eyes. External examination of the eyes consists of a penlight evaluation of the conjunctiva, sclera, cornea and iris.

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Subjective Vision Assessment

Assess children through 5 years of age for vision impairment by means of a health history, physical examination, and gross subjective assessment. A gross subjective assessment can be completed during the developmental assessment by noting response to visual stimuli and assessing for delays in fine motor development.

For school-aged children and adolescents, providers may use the results of school vision screening reports in their assessment in addition to the history and complete physical examination. Schools generally conduct vision screenings in grades K, 3, 5 and 9. The Snellen eye chart can also be used for a gross vision assessment.

Objective Vision Tests

An objective vision test is recommended at 4-6 years of age, 12, 15 and 18 years of age. Objective Vision Forms are available to document vision results (See Section 7, Appendix I). The Objective Vision Screening Guidelines will assist in evaluating results (Refer to Section 3, Table #1). In general, the following vision screens are conducted according to Maryland standards:

<table>
<thead>
<tr>
<th>Screening Test</th>
<th>Age at Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acuity</td>
<td>4 through 20 years</td>
</tr>
<tr>
<td>Muscle Balance</td>
<td>4 through 20 years</td>
</tr>
<tr>
<td>Visual Fusion</td>
<td>4 through 6 years</td>
</tr>
<tr>
<td>Hyperopia</td>
<td>7 through 20 years</td>
</tr>
</tbody>
</table>

Referral and Follow-up

For assistance in locating community-based services for children with suspect or positive vision problems, contact the appropriate MCO network or the Division of Children’s Services at 410-767-1903.

Blood Pressure Measurements

Blood pressure (BP) measurement is a standard procedure of physical examination for all children 3 through 20 years of age. Correct measurement of BP in children requires use of a cuff that is appropriate to the size of the child’s upper right arm. The right arm is preferred for consistency and comparison to the standard tables. Ideally, BP should be recorded at least twice on each occasion, and the average of each of the systolic and diastolic BP measurements should be used to estimate BP level. Automated blood pressure devices can be used if properly maintained and calibrated yearly.
The definition of normal BP is a systolic and diastolic BP below the 90\textsuperscript{th} percentile for age, sex, and height. High-normal BP is defined as average systolic or diastolic BP greater than or equal to the 90\textsuperscript{th} percentile but less than the 95\textsuperscript{th} percentile. The definition of hypertension is an average systolic or diastolic blood pressure greater than or equal to the 95\textsuperscript{th} percentile for age and sex measured on at least three separate occasions (Refer to Section 3, Table #1a : Girls SBP by Age and Height & Table #1b, Boys SBP by Age and Height).

Introduce non-pharmacological therapy including weight reduction, exercise, and dietary intervention in the care of patients with hypertension, as well as in children with high-normal BP. Employ these strategies for non-pharmacological therapy as initial treatment maneuvers for children with BP above the 90\textsuperscript{th} percentile for age, gender, and height. Additionally, ethnic groups with a higher prevalence of hypertension or individuals with a family history of high BP need to have more intense education regarding a healthy diet, exercise and weight control.

It is appropriate to consult with a physician experienced in the field of childhood hypertension for those children where further testing for underlying causes of hypertension is indicated to determine the type and extent of diagnostic testing necessary. According to the National Institute of Health, if recommendations for follow-up of the child’s diastolic and systolic blood pressure differ, follow the shortest recommended time for recheck and referral.


**Physical Growth Measurements**

Growth parameters are important indicators of appropriate nutrition and normal physical development. Therefore, measure each child/adolescent’s height and weight at all Healthy Kids visits and plot on growth charts from birth through 20 years of age. Use the CDC Growth Charts to monitor growth for infants and children and adolescents ages 0 to 20 years of age (Refer to Section 7, Appendix I).

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Guidelines for Obtaining Measurements

**Head circumference** is required on each visit from birth to 2 years of age. Measurement of head circumference may continue past 2 years of age for children with suspected abnormal growth patterns. Measure the occipital prominence to the brow using a non-stretchable flexible tape; measure to the nearest eighth-inch or millimeter.

**Weight** is required at each visit for all ages. Weigh infants and small children on a table model beam scale. Weigh older children who can stand without support on a floor model beam scale. Balance scales prior to weighing and check and adjust for accuracy according to the manufacturer's specifications.

**Height** is required at each visit for all ages. Use a firm surface with, when possible, a fixed headboard and footboard, for supine measurement of infants and children up to 2 years of age and those who cannot stand. Older children, who are able to stand without support, use a non-stretchable measuring tape, or ruler, fixed to a true vertical flat surface.

**Body Mass Index (BMI)**

Plotting weight and height for age allows comparison with all children the same age and is the best initial indicator of growth problems. The use of Body Mass Index (BMI) is required to monitor changes in body weight and to consistently assess risk of underweight and overweight in children and adolescents from 2 to 20 years of age. Calculate BMI using the English or metric formula, or by using [BMI Percentile Calculator for Child and Teen](http://nccd.cdc.gov/dnpabmi/) (Refer to Section 7, Appendix I).

Once BMI is calculated, plot the result on gender specific BMI-for-age growth charts, available from the CDC, to determine the BMI-for-age percentile. It is important to review and interpret the results of the automatic BMI calculations provided by electronic medical records (EMR) or electronic health records (EHR) used in many practices today. Provider interpretation of results is paramount in identifying underweight, overweight, and obese children and those at risk for obesity related complications.

**How to Calculate Body Mass Index (BMI)**

- English Formula:  \[ BMI = \frac{\text{weight (lb)}}{[\text{height (in)}]^2} \times 703 \]
- Metric Formula:  \[ BMI = \frac{\text{weight (kg)}}{[\text{height (cm)}]^2} \times 10,000 \]
What do BMI-for-age and gender percentiles mean?

- >99th percentile……………………………“Morbid” Obesity
- 95th to 98th percentile…………………Obesity
- 85th to 94th percentile…………………Overweight
- 5th to 84th percentile…………………Healthy weight
- <5th percentile…………………………Underweight

An excellent learning module on overweight and obesity in children and adolescents and the use and interpretation of the CDC growth charts can be found on the CDC web site: [http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.htm](http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.htm)

BMI-for-age and gender is an effective screening tool, but it is not a diagnostic tool. Children who fall into the following categories need further assessment:

- If BMI is below fifth percentile, assess for acute or chronic illnesses that can lead to underweight
- If BMI is between 85th and 94th percentiles, child is overweight and needs further screening
- If BMI is at or above 95th percentile for age and sex, the child is obese and needs in-depth medical and dietary assessment according to current guidelines.5

**Medical Management of Overweight and Obesity in Children and Adolescents**

Consequences of overweight and obesity in youth are Type 2 diabetes, high blood pressure, high blood lipids, early maturation, orthopedic problems, and social problems related to stigmatizing and discrimination. Childhood overweight often leads to adult obesity. Obese children have a 50% probability of becoming obese adults; obese adolescents have a 70-80% probability of becoming obese adults. Establishing good eating habits and activity patterns in childhood is the key to preventing future health problems and postponing the health consequences of chronic diseases. Health care and other economic costs are rising with the increasing prevalence of childhood overweight and obesity.6


6 Ibid.
The 2007 *Expert Committee Recommendations Regarding the Assessment, Prevention, and Treatment of Child and Adolescent Overweight and Obesity* provides guidance on management of weight in all children.** Primary Care Providers are urged to implement Step 1, Obesity Prevention at Well Care Visits at least once a year** that includes the following:

- Assess key dietary habits (e.g., consumption of sweetened beverages)
- Assess physical activity habits
- Assess readiness to change lifestyle habits
- Conduct a focused family history of obesity and obesity-related illnesses

Laboratory testing recommendations depend on the degree of obesity and associated risk factors as follows:

- Children with a body mass index between the 85th and 94th percentiles with no obesity-related risk factors should have a fasting lipid profile
- Children ages 10 years and older with body mass index between the 85th and 94th percentiles and obesity-related risk factors should have additional testing for liver function (ALT and AST) and fasting blood glucose
- Children ages 10 years and older with a body mass index above the 95th percentile should have measurement of blood urea nitrogen and creatinine levels added to the above tests

A four-stage approach to treatment of childhood obesity is recommended and includes advising parents and children to:

- Limit consumption of sweetened beverages and fast food
- Limit the amount of screen time (TV and Computers) per day
- Increase physical activity for at least 60 minutes per day
- Eat family meals on most, and preferably all, days of the week

For more details, refer to the *Implementation Guide from the Childhood Obesity Action Network* (Refer to Section 3, Addendum). It combines key aspects of the 2007 Expert Commission Recommendations and 2006 practice tools identified by the *National Institute for Children’s Health Quality.*

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8 See [http://www.nichq.org/](http://www.nichq.org/)
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Additional information on obesity can be found at:

- National Institute for Children’s Health Quality at [www.nichq.org](http://www.nichq.org)

Nutritional Status Assessment

Assessment of eating and physical activity habits should be part of every office visit for all children regardless of current weight. At a minimum, during a preventive care visit, the Healthy Kids Program requires review and documentation of current diet addressing all food groups, preventive dietary counseling and education, and assessment of child’s physical activities. Monitor children/adolescents with nutritional risk factors and refer when appropriate to resources and/or for counseling.

*Age Specific Nutrition Questionnaires* are available from Bright Futures (Refer to Section 7, Appendix II). Additional nutrition and physical activity assessment tools with guidelines for interpreting responses are also available on the Bright Futures web site at [http://www.brightfutures.org/physicalactivity](http://www.brightfutures.org/physicalactivity). Refer children/adolescents enrolled in a MCO to nutrition services within the MCO network. For assistance in locating Medicaid enrolled nutritionists/dieticians who accept referrals for fee-for-service, contact the Division of Children Services at 410-767-1903.

Give special emphasis to referrals for the following groups:

- Children who demonstrate weight loss or no weight gain (according to age) at scheduled pediatric visits
- Overweight and obese children
- Children with other variations from expected growth, such as weight for age and height for age that are below the 5th percentile - adjust for:
  - Prematurity (at least up to 2 years of age)
  - Parental height
  - Ethnic group or race
  - Congenital conditions such as Down Syndrome or cerebral palsy

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- Children with congenital or chronic conditions affecting ability to meet nutrient needs, for example; cleft palate, congenital heart defects, cystic fibrosis, inborn errors of metabolism and physical or mental disabilities
- Children with elevated blood lead levels, iron-deficiency anemia, food allergies or intolerances/sensitivities, high cholesterol and/or drug-nutrient interactions
- Children at risk for sub-optimal nutritional status as a result of environmental influences such as:
  - Inappropriate feeding practices including over-dilution of infant formula
  - Unhealthy feeding relationships (such as consistently using food as a reward for good behavior, etc.)
  - Inadequate financial resources in the family
  - Attitudes or behaviors of the primary caregiver and/or persons with significant influence on the primary caregiver

Nutritional Education

Provide all children or their caregivers with anticipatory guidance on nutrition according to the age and developmental stage of the child. Guidance can include discussion of the following:

- Nutritional needs of infants, children, and adolescents
- Developmental readiness of the infant for complementary foods
- Transition of the older infant to table foods and the development of self-feeding skills
- Normal eating and activity habits of young children
- Development of healthful eating and activity habits in school-age children and adolescents

Use the Dietary Guidelines for Americans\(^\text{10}\) and the My Plate\(^\text{11}\) as guides for children and adolescents to select healthy foods for meals and snacks (Refer to Section 7, Appendix IV). Further nutrition and physical activity education should include the following evidence-based messages for all children regardless of age:

- Limit sugar-sweetened beverages
- Fill half the plate with fruits and vegetables. Grains and proteins should each incorporate less than one quarter of the plate. Dairy should include fat-free or low fat milk or yogurt products.

\(^{10}\) See [http://www.health.gov/dietaryguidelines/](http://www.health.gov/dietaryguidelines/)

\(^{11}\) See [http://www.choosemyplate.gov/](http://www.choosemyplate.gov/)

See [http://phpa.dhmh.maryland.gov/wic/SitePages/Home.aspx](http://phpa.dhmh.maryland.gov/wic/SitePages/Home.aspx)
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- Eat breakfast every day
- Limit eating out, especially fast food
- Have regular family meals
- Limit portion sizes
- Engage in moderate to vigorous physical activity for at least 60 minutes a day
- Limit screen time to no more than 2 hours/day
- Remove television from children’s bedrooms

Nutrition Resources and Referral Information

Children up to 5 years of age may be eligible for the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) Program. This federal program provides nutritious food and nutrition education, including breast-feeding counseling and support. Use the Maryland WIC Medical Documentation Form (Refer to Section 3, Addendum), or contact 1-800-242-4942 to refer patients to a licensed dietitian or licensed nutritionist.

The WIC program provides individual breastfeeding support and assistance. The International Board Certified Lactation Consultants and peer counselors provide breastfeeding education. For more information on WIC breastfeeding support services, contact a Local WIC Agency, or contact 1-800-242-4942.

There is growing interest in childhood obesity prevention. The Maryland Department of Health & Mental Hygiene (DHMH) continues to address the issue of childhood overweight and obesity. For information, contact the DHMH Maternal & Child Health Bureau at 410-767-6713.

13 Refer to http://phpa.dhmh.maryland.gov/mch/SitePages/Home.aspx
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Oral Health

Oral assessment by the PCP is a part of the physical examination and includes an oral examination, medical and dental history and parental counseling. Refer to the tooth eruption schedules (Refer to Section 3, Chart # 1a, Primary Tooth Eruption & Chart # 1b, Permanent Tooth Eruption). An excellent reference tool is the 2014 Bright Future’s Pocket Guide of Oral Health.

The oral screening, provided as part of a Healthy Kids preventive health visit, should include the following:

- Intraoral exam – tonsils, throat, palate, cheeks, tongue and floor of mouth
- Extraoral exam – lips, head and neck region
- Dental ridges (including gums for evidence of infection, bleeding or inflammation and erupting teeth)
- Tooth decay
- Malformation of teeth
- Need for dietary fluoride supplements (if on non-fluoridated water system and fluoride content of water is known and/or has been tested)
- Early predictor of tooth decay (white spot lesions)
- Presence of dental plaque
- Signs of orofacial trauma from accidental injury
- Signs of orofacial trauma from intentional abuse and/or neglect
- Other risk factors for oral diseases
- Tobacco use including smokeless/spit tobacco

The first visit to the dentist should occur within 6 months of the eruption of the first primary tooth and no later than 12 months of age. A child should see the dentist once every six months beginning at 12 months of age. Advise any patient, regardless of age, to seek dental care if problems are identified in the oral assessment. Providers may contact the Maryland Healthy Smiles Program at 1-888-696-9596 for questions about dental services and assistance in locating a dentist.


15 Refer to http://www.mchoralhealth.org/PDFs/BFOHPocketGuide.pdf


17 See http://phpa.dhmh.maryland.gov/oralhealth/SitePages/healthy-smiles.aspx
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Program Handbook may be accessed online\(^\text{18}\). Parents or caregivers can self-refer to a dentist without a referral from the primary care provider (PCP).

An additional benefit for children 9 months – 36 months old at their Healthy Kids preventive health visit is the application of fluoride varnish by an appropriate and trained medical provider. The Maryland Department of Health and Mental Hygiene implemented the Maryland’s Mouths Matter Fluoride Varnish and Oral Health Screening Program for Kids on July 1, 2009\(^\text{19}\). Maryland Medicaid reimburses for the application of fluoride varnish in PCP offices. Reimbursement by Medicaid is limited to EPSDT certified PCPs who:

- Participate in the Maryland Medicaid Program with an active Medicaid provider number, and
- Have successfully completed a state approved oral health screening and fluoride varnish program training program

To register for the fluoride varnish training, contact the DHMH, Office of Oral Health:

- By email at dhmh.fvprogram@maryland.gov
- By phone at 410-767-3081
- Access the Online Training Curriculum at: http://www.mchoralhealth.org/flvarnish

Refer to Section 6 of this Manual for billing information on fluoride varnish application.

Prior to the fluoride varnish application, the EPSDT certified provider must conduct an oral health screening. The provider should record any notable findings in the oral cavity, preventive oral health and dietary counseling, the administration of topical fluoride varnish, and if necessary, a referral to a dentist.

A notation of “negative oral assessment” is an accepted method of documentation in the patient’s record. Record any positive findings. Advise that all children through 20 years of age see a dentist twice yearly for a comprehensive dental examination, regardless of oral health status. This exam includes a treatment plan recording the need for prophylaxis and the prevention and treatment of oral diseases including dental caries, gingival and periodontal diseases, tissue lesions, or other abnormalities. Document education given to seek dental care at each preventive health visit.

Provide oral health education, counseling and disease prevention and the need to make and keep dental appointments, stressing self-responsibility, at each visit to parents/caregivers and children. The content of these oral health education and counseling activities includes but is not limited to the following topics:

\(^{18}\) To view and print a copy of the handbook, follow the link

\(^{19}\) For more information, refer to http://www.mchoralhealth.org/flvarnish/mod1_0.html
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Prevention of Infant and Early Childhood Caries (cavities)

- Assessment of systemic fluoride sources; follow the Dietary Fluoride Supplemental Schedule (Refer to Section 3, Table #3) and the Guidelines on Fluoride Therapy revised and approved by the American Academy of Pediatric Dentistry in 2014.20
  - Home water content
  - Bottled water
  - Community water fluoridation
  - Dietary fluoride supplements
- Assessment of topical fluoride use
  - Monitored use and amount of fluoride dentifrices
  - Professionally applied topical fluoride application including gel and varnish
  - Self or parentally applied topical fluoride rinses
- Use of pit and fissure dental sealants
- Adequate oral hygiene practices
- Proper diet
  - Appropriate bottle and other feeding practices
  - Daily sugar intake
  - Snacking content and frequency
- Recognizing early signs of dental cavities (white spot lesions and plaque)
- Routine visits to a dentist

Prevention of Gingival and Periodontal Diseases (gum diseases)

- Role of plaque
- Plaque removal
- Tooth brushing with fluoridated toothpaste
- Flossing
- Professional prophylaxis
- Routine visits to a dentist

Prevention of Oral Cancers

- Knowledge of risk factors, early signs and symptoms
- Need for age-appropriate annual oral cancer exam

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- Assessment of risk behaviors including tobacco use

Prevention of Oral and Facial Injuries (all ages)
- Use of athletic mouth guards
- Use of playground and other age-appropriate equipment
- Use of seat belts and bicycle helmets
- Knowledge, awareness and management of signs of abuse and neglect