CARE FOR KIDS
Early & Periodic Screening, Diagnosis & Treatment
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Health Care for Preteens Age 9-12

Gretchen Vigil, MD
Department of Pediatrics, University of Iowa Children's Hospital

For a child, the preteen years are a time of great change, physical and mental. These years are also a time of great change for the parents of a previously dependent child who is now developing into a far more independent teenager.

Nutrition

Girls and boys at this age are beginning to enter puberty, with its great muscle and bone growth. Assess calcium intake, and encourage 4 servings of dairy foods each day. Foods that are rich in protein and iron are also important. Recommend multivitamins for girls, to supply needed iron and folic acid. Reinforce the importance of a heart healthy diet and avoidance of junk food. Encourage fitness. Preteens often compare themselves to their peers -- those they see around them and those

they encounter through the media. This may lead to concerns that preteens are hesitant to voice, and it can be helpful to discuss body image as you review growth charts with parent and patient.

School performance

It is assumed that basic skills in reading and writing are now present, and that students will be using these to develop more advanced skills. Children with learning disabilities may need more assistance. Some children may be newly diagnosed with learning disabilities when previous coping strategies cannot keep up with increasing demands.

Peers

Peers begin to have a stronger influence. Children with poor social skills may find it harder to make and keep friends. Bullying used to be a problem found most often on the school grounds, but may now occur away from school through instant messaging, chat rooms, and email.

Physical exam

Respect the preteen's privacy by using appropriate draping during the physical exam. Assess blood pressure, height, weight, body mass index (BMI), and scoliosis at each health maintenance visit, and screen vision as well.

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BMI = wt (kg) / height (m)²

Status	*Percentile*
Underweight	< 5th
Healthy weight	5th – 85th
Overweight	85th – 95th
Obese	> 95th
Severely obese	> 5 percentiles above 95th

Puberty

The exam to assess pubertal status demonstrates the health care provider's comfort level in talking about pubertal development, and shows the child that sexual maturation is not off limits for discussion.

Females typically begin puberty with breast budding at a mean age of 10.9 years. Menarche follows about 2 years later, usually at Tanner 4 for pubic hair, and at a mean age of 12.7 years. For girls, peak growth occurs before menses begins.

Males typically begin testicular development at a mean age of 11.5 years. Axillary and facial hair appears about 2 years after pubic hair. Boys experience their growth spurt later, usually at about Tanner 3-4.

Immunizations

At the 11-12 year exam, review the child's immunization history and provide new as well as catch-up immunizations. New immunizations for preteens include:

Tetanus, diphtheria and pertussis (Tdap) vaccine has replaced the Td previously given to children age 11-12 years. The addition of pertussis immunization should provide improved resistance to this disease for preteens, as well as the "herd immunity" so important to infant health.

Meningococcal conjugate (MCV4) vaccine has replaced the meningococcal polysaccharide vaccine (MPSV4) for the 11-55 year age group. A single-dose immunization, MCV4 is expected to give better, longer lasting protection.

Human papilloma virus (HPV) vaccine protects against 70% of virus-caused cervical cancers and 90% of virus-caused genital warts. It is recommended for the 11-12 age group, but may be given to women 9-26 years old. It is given as a 3-dose series:

Dose 1: At the 11-12 year exam
Dose 2: 2 months after first dose
Dose 3: 6 months after first dose

Screening

Routine screening for preteens should include annual assessment of:

Anemia
If risk factors are present, screen for anemia.

Cholesterol
Screen with a total serum cholesterol if either parent has high cholesterol.

Screen with a full fasting lipid panel if, before age 55, parents or grandparents had a history of:

- Myocardial infarction
- Peripheral vascular disease
- Stroke
- Angina

Consider screening any child at risk due to:

- Diabetes
- Excessive saturated fat intake
- Hypertension
- Obesity
- Physical inactivity
- Smoking

Diabetes – Screen for Type II diabetes mellitus with a fasting plasma glucose in children 10 years old, or at onset of puberty if the child is overweight and has any two of the risk factors below:

- Type 2 diabetes in first or second degree relatives
- Race, ethnicity: American Indian, African-American, Hispanic, Asian, Pacific Islander
- Signs of insulin resistance, such as acanthosis nigricans, hypertension, dyslipidemia, or polycystic ovary syndrome
- A level of 110-126 mg/dL indicates impairment; >126 mg/dL indicates diabetes. Retest impaired levels in 3 months, and repeat screening every 2 years.

Anticipatory guidance

Discuss dental hygiene: Brushing twice a day, flossing once a day, and dental visits twice a year.

Review injury prevention; remind preteens that it is important to:

- Wear seat belts
- Sit in the back seat of the car until 13 years old (front seats expose preteens to risk of air bag injury)
- Wear helmet and other protective gear as appropriate for biking, skateboards, sports

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- Understand the family fire safety plan

Talk about stranger safety, as preteens, particularly those who arrive home after school before their parents are home from work, may now spend more time on their own.

Discuss screen and media safety: Parents should monitor TV, video games, and Internet use, and limit screen time to 2 hours a day.

Talk with parents about gun safety at home and in homes their child visits.

Finally, encourage parents to listen to their preteens and to respect their opinions; to show interest in their activities, and to be familiar with their friends. Parents should talk with preteens about their personal values, sexual activity, alcohol, drugs, and inhalants.

Household chores allow the child to contribute as a member of the family team while teaching important life skills.

Although peers play an increasingly important role for preteens, parents also have significant input. Regular family activities, times when the child has the parent's undivided attention, and family meals will continue to be vital components of family life.

Resources

Bright Futures – Prevention and health promotion for infants, children, adolescents, and their families: http://brightfutures.aap.org/web/healthCareProfessionals-toolsAndResources.asp

Caring for Your School-Age Child Ages 5 to 12, Edward Schor, MD, FAAP (Bantam, 1995)

Early Hearing Detection and Intervention

Best Practice for Primary Care Providers

Amy Wallin, MD
Iowa Chapter of the American Academy of Pediatrics
EHDI Advisory Council

Hearing loss is a major public health concern:

- Each year in the US, more than 12,000 babies are born with a hearing loss, making this the most common congenital condition.
- Only 50% of these children have a risk factor for hearing loss.
- 90% of all babies born with a hearing loss have two hearing parents.
- Early intervention improves communication outcomes, especially if started during a child's first 6 months.

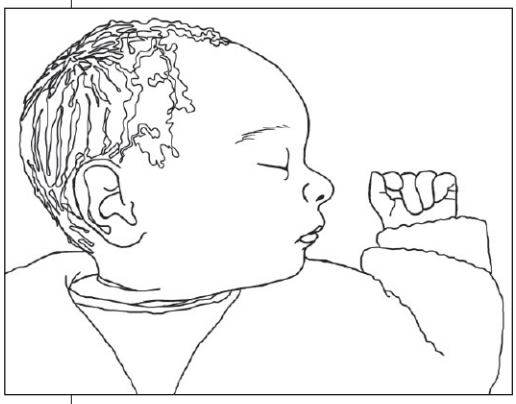
1-3-6 goals

Early Hearing Detection and Intervention (EHDI), a nationwide program of the Centers for Disease Control and Prevention, promotes "the best possible communication skills from birth for all children." The CDC worked with national organizations and with every state and territory in the US to develop these EHDI 1-3-6 goals:

Before age	All infants will be
1 month	Screened for hearing loss
3 months	Given diagnostic audiologic and medical evaluation if initial screen raises concerns
6 months	Enrolled in early intervention services if hearing loss is found

EHDI and you

Iowa law requires a newborn hearing screen for every child born in Iowa, whether the child is born at home or in the hospital. Legislation also calls for mandatory reporting of data, including missed hearing screens, pass or refer results, primary care provider for child, and parent or guardian contact information. Hospitals are also encouraged to report known risk factors for the infant.



Primary care providers are responsible for ensuring their newborn patients have been screened before they are one month old. Infants not screened at birth should also be screened within this time frame. If the initial newborn hearing screen raises concerns, a re-screen should be scheduled promptly, within one to two weeks.

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Screening techniques

Evoked otoacoustic emissions (OAE) or automated auditory brainstem response (A-ABR) are the recommended screening techniques in Iowa.

OAE screening measures sound waves or emissions made by the outer hair cells in the cochlea.

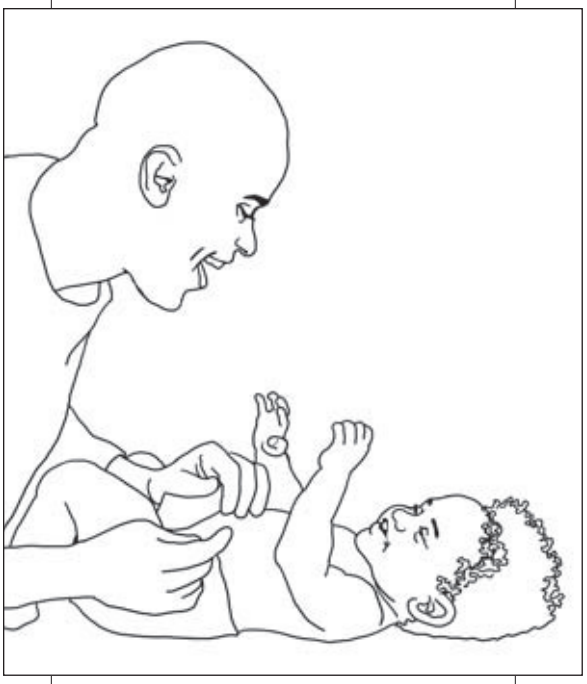
A-ABR screening uses electrodes placed on the infant's head to record the brain's response to sound.

Two-stage screening is recommended for infants at higher risk of hearing loss, such as those in neonatal intensive care units. This approach uses OAE testing first, and then A-ABR testing second. Two-stage screening identifies mild cases of congenital hearing loss as well as auditory neuropathy, a disorder characterized by normal outer hair cell function but abnormal auditory nerve function.

Infants who do not pass the initial hearing screen or re-screen need a diagnostic pediatric audiologic evaluation before three months of age. This testing determines the presence, type, and degree of the baby's hearing loss.

If the diagnosis of hearing loss is confirmed, the child's health care provider should:

- Promptly refer the child and family to early intervention services (Early ACCESS in Iowa, or Part C), so parents can learn about intervention options and make timely and well-informed choices for their baby
- Schedule ENT and ophthalmology evaluations
- Offer a referral for genetic counseling even if the child's hearing loss has a known etiology, such as CMV, because a genetic cause may also exist
- Provide other medical referrals as indicated, such as developmental pediatrics, neurology, or an EKG if you suspect long QT syndrome



An infant may need medical clearance for hearing aids, cochlear implants, or other therapies chosen by the family.

Primary care providers are important sources of information for families and can offer support and guidance during this difficult time.

Early intervention

Because hearing plays a crucial role in the development of cognition, language, and social skills, a child's first 6 months are a critical period. For this reason, infants with hearing loss should be enrolled in early intervention services by 6 months of age.

In Iowa, Early ACCESS facilitates early intervention services for infants and children with hearing loss (contact information is provided in "Resources," below). Early ACCESS can provide information about options available to families, and will work with the family to develop a comprehensive program to support their decisions about these options. Early ACCESS can also link families with support groups throughout Iowa.

Late onset hearing loss

Late onset or progressive hearing loss can develop at any time in a child's life. Primary care providers need to review each child's risk factors and discuss hearing monitoring with families. Infants should have periodic hearing evaluations, especially during the first three years of life, if they have such risk factors as:

- Family history of permanent childhood hearing loss
- *In utero* infections such as cytomegalovirus, herpes, rubella, syphilis, toxoplasmosis
- Craniofacial anomalies involving the pinna, ear canal, ear

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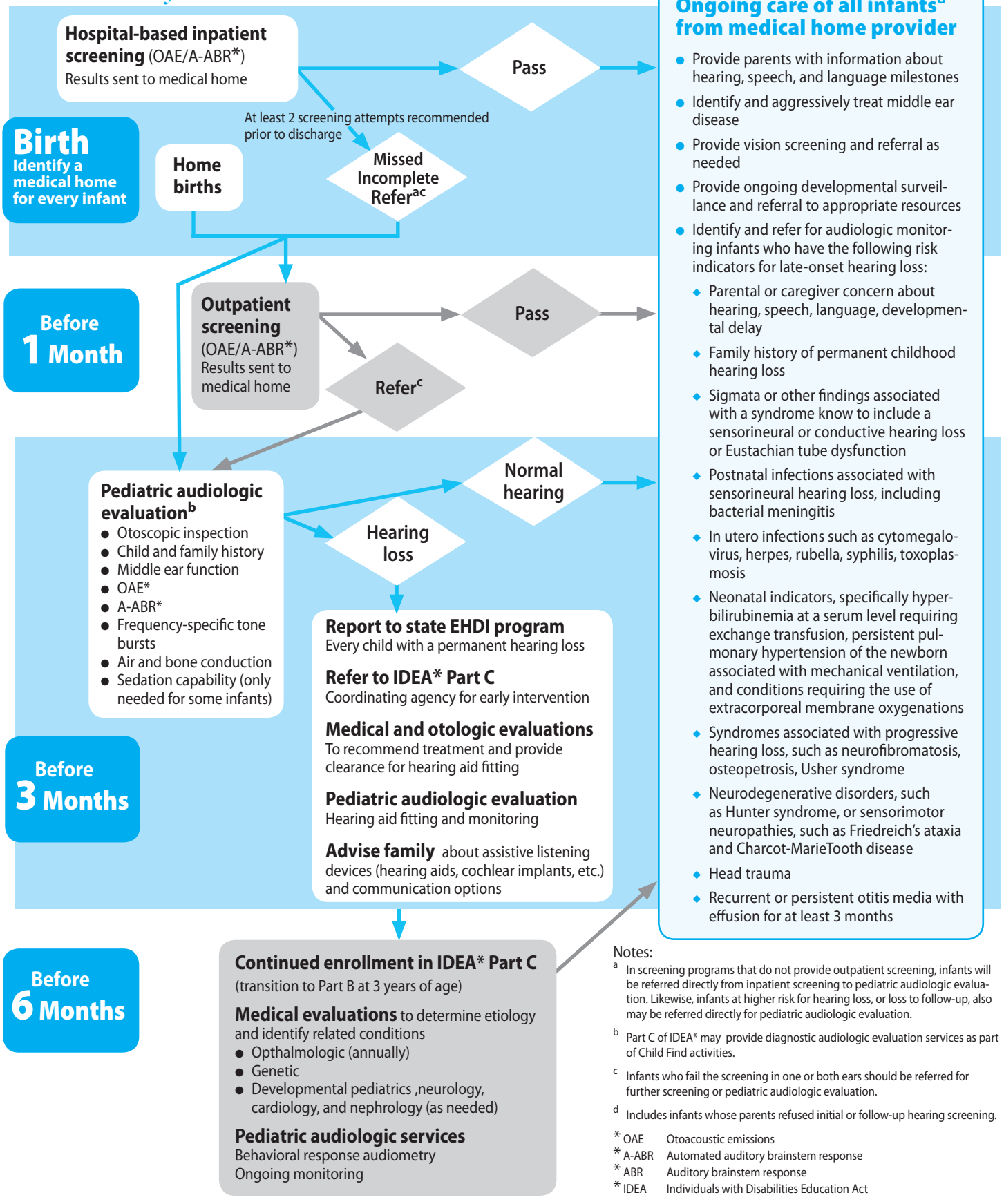
Universal Newborn Hearing Screening, Diagnosis, and Intervention

Guidelines for Pediatric Medical Home Providers



Notes:

[a] In screening programs that do not provide outpatient screening, infants will be referred directly from inpatient screening to pediatric audiologic evaluation. Likewise, infants at higher risk for hearing loss, or loss to follow-up, also may be referred directly for pediatric audiologic evaluation.

[b] Part C of IDEA* may provide diagnostic audiologic evaluation services as part of Child Find activities.

[c] Infants who fail the screening in one or both ears should be referred for further screening or pediatric audiologic evaluation.

[d] Includes infants whose parents refused initial or follow-up hearing screening.

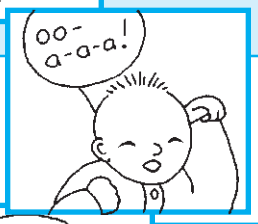
* OAE Otoacoustic emissions
* A-ABR Automated auditory brainstem response
* ABR Auditory brainstem response
* IDEA Individuals with Disabilities Education Act

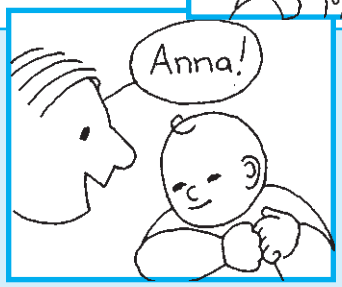
Provided by the
American Academy of Pediatrics
and the National Center for Hearing Assessment and Management (NCHAM).

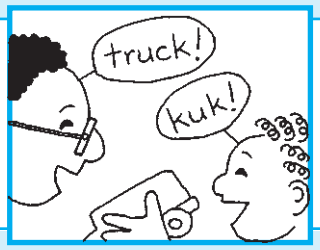
Hearing Checklist

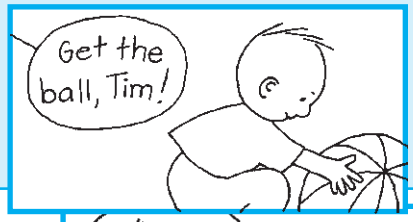
Here are some behaviors that will tell you how well your baby can hear.

When your child is:	Behavior to watch for:
Younger than 3 months old	● Baby startles to sudden loud sounds ● Baby is soothed by the sound of your voice
Younger than 6 months old	● Baby looks toward a familiar voice ● Baby plays at making noises and sounds
6 to 10 months old	● Baby turns head in response to new sounds ● Baby begins to understand common words like "no" and "bye-bye" ● Baby responds when you say his or her name
10-15 months old	● Baby repeats simple words and sounds that you make ● Baby points to or reaches for familiar objects when asked
1 to 1.5 years old	● Baby follows simple spoken directions ● Baby regularly uses seven or more true words
2 years old	● Baby understands you when you call from another room ● When you name a part of the body – ears, nose, toes – baby points to it ● Baby begins to speak in two-word combinations: "Mommy, more!" or "Go outside?"









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Early Hearing Detection and Intervention: Best Practice for Primary Care Providers
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tags, ear pits; temporal bone anomalies

- Neonatal intensive care of >5 days, which may include:
  - Extracorporeal membrane oxygenation (ECMO) assisted ventilation
  - Hyperbilirubinemia that requires exchange transfusion
  - Exposure to ototoxic medications (gentamycin, tobramycin)
  - Exposure to loop diuretics (Lasix, furosemide)
- Postnatal infection associated with sensorineural hearing loss, including bacterial or viral meningitis, herpes, varicella
- Conditions associated with hearing loss, such as neurofibromatosis, osteopetrosis, Friedreich's ataxia
- Syndromes associated with hearing loss, including Alport, Charcot-Marie-Tooth, Hunter, Jervell and Lange-Nielson, Pendred, Usher, and Waardenburg syndromes
- Head trauma, especially basal skull or temporal bone fracture requiring hospitalization
- Chemotherapy
- Caregiver concern about hearing, speech, language, or developmental delay

Conclusion

EHDI works to benefit children and families through the early identification and treatment of hearing loss. Success relies on the collective efforts of families, primary care providers, and allied health professionals to provide universal newborn hearing screening, early intervention, tracking, and surveillance.

For more information, please contact Amy Wallin, MD, Iowa Chapter of the American Academy of Pediatrics, EHDI Advisory Council, 515-224-4993, wallinal@ihs.org.

Resources

Iowa Early ACCESS, www.iowa.gov/educate/ content/view/633/597/. To find the Early ACCESS coordinator in your area, visit www.iowacompass.org/earlyaccess.htm

Iowa Early Hearing Detection and Intervention Program, www.idph.state.ia.us/iaehdi/

Iowa Hands and Voices (family support network), www.handsandvoices.org/ chapters/iowa.htm

My Baby's Hearing, www.babyhearing.org

Coming Your Way

Healthy Diet and Lifestyles for Children

Thank you to all of you who responded to our recent reader survey. Your comments make it clear that you would like more information about well child visits and preventive health care. Two topics specifically mentioned include healthy diet and weight management. With the current worldwide obesity epidemic, it is important that each of us as health care providers do all that we can to encourage healthy eating and appropriate activity for all children. To that end, our next newsletter will address eating habits in children and adolescents and suggestions for a healthy lifestyle.

We will discuss childhood nutrition, calculation and plotting of BMI, as well as the concept of multi-disciplinary clinics for obese children. These clinics, which may include a dietitian, psychologists, exercise specialists, and physicians, have been successful in managing childhood obesity. Many of their strategies can be used by health care providers during preventive care visits. We hope you find this information helpful in your practice, and appreciate your feedback.

What's in this issue

If you have questions about **billing**
related to EPSDT Care for Kids services, please call
Provider Services: **1-800-338-7909**

If you have questions about **clinical issues**
and EPSDT Care for Kids services, please call
1 -800-383-3826

Please note: Due to budget restraints, the *EPSDT Care for Kids Newsletter* is sent to offices and organizations, rather than to individuals.

The newsletter is also available online at
http://www.iowaepsdt.org/EPSDTNews/

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NEWSLETTER STAFF

Executive Editors

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Editorial Board

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Please send correspondence concerning **content** to:

Ellen Link, MD or Gretchen Vigil, MD
Family Care Center – Pediatrics
University of Iowa Children's Hospital
01212 PFP 200 Hawkins Drive
Iowa City, IA 52242-1083

Please send **change of address** information to:
Brenda Nosbish
University of Iowa Children's Hospital
Center for Disabilities and Development
S263 CDD 100 Hawkins Drive
Iowa City, IA 52242-1011

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Early & Periodic Screening, Diagnosis & Treatment

University of Iowa Children's Hospital
Center for Disabilities and Development
University Center for Excellence on Disabilities
100 Hawkins Drive
Iowa City IA 52242-1011

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