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American Academy of Pediatrics – California Chapter 2

DEDICATED TO
THE HEALTH OF
ALL CHILDREN™

Pediatric

2014 – 2016 AAP-CA2 New Board of Directors

Summary of article

President's Letter

This is a test for text

In this issue

Dolor	Duis sagittis, turpis id tempor sollicitudin, velit neque condimentum.
Lorem	Ornare ut, elementum sit amet, vehicula elementum, magna.
Ipsum	Vestibulum ut nisl quis erat placerat faucibus. Nunc aliquet.

2014 – 2016 Executive Officers

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More text from President letter

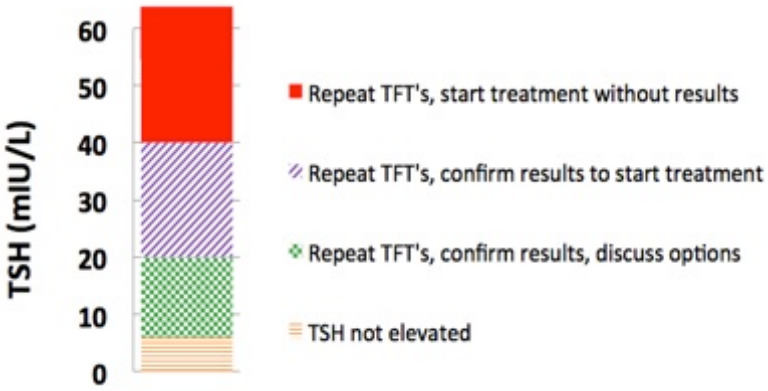
Congenital Hypothyroidism: Pitfalls and Pointers

Nearly universal screening for congenital hypothyroidism has dramatically decreased the incidence of consequent catastrophic mental retardation. Skin punctures readily provide dried blood spot samples for simple screening tests. Most newborn screening tests in the United States, Canada, Mexico, Europe, and Japan use TSH to screen for primary hypothyroidism, which occurs in 1:3000-1:4000 births. Ideally, this screen should occur at 48-72 hours of life, as collections performed at less than 24 hours of life may fail to capture the transient neonatal TSH surge that normally occurs to increase brown adipose tissue thermogenesis in a physiologic response to neonatal cooling (1). Conversely, screens performed at 24-48 hours of life may result in false positive screens, with a ratio of 2-3 falsely abnormal values for every true positive. Such limitations in newborn screening have become more prevalent with increasing economic pressures for early neonatal discharge.

Harvey K. Chiu, MD
Associate Professor of Pediatric Endocrinology
Thyroid Program, David Geffen School of Medicine
UCLA Mattel Children's Hospital

Typically screening programs will report a significantly abnormal TSH at a threshold of 20-25 mU/L. An anomalous newborn screen should trigger a repeat venous draw for a TSH and Free T4. If the newborn screening TSH is over 40 mU/L, treatment with Levothyroxine should be initiated without awaiting the results, as the likelihood of severe congenital hypothyroidism and an inadequately compensated thyroxine level is high (Figure 1) (2).

Figure 1. Treatment intervention thresholds.



If the TSH screen is < 40 mU/L, then treatment may be withheld pending the results of the confirmatory tests, initiating therapy if the repeat TSH is > 20 mU/L even in the context of a normal Free T4. For more mild TSH elevations between 6-20 mU/L and a normal Free T4, treatment initiation is more open to question, though given the potential for neurocognitive impairment consequent of a suboptimal thyroid axis during the critical developmental window in the first 3 years of life, treatment would be reasonable even with these less severe results.

Congenital Hypothyroidism, (Continued)

The diagnosis of congenital hypothyroidism should prompt a through physical exam for potential syndromic comorbidities that may implicate other congenital anomalies, especially cardiac defects such as great vessel malformations or a patent ductus arteriosus (3). Conditions such as Williams syndrome and CHARGE syndrome elicit immediate concerns for cardiac repercussions, and Pendred syndrome eventually manifests with sensorineural hearing defects that require timely attention. No specific initial additional screening tests are indicated other than a complete examination, but early identification will help direct a prompt appropriate intervention.

Even normal newborn thyroid screens may not be reassuring, as potential false negatives in the suggestive clinical context of the child are important to recognize. As described, normal term infants demonstrate an expected neonatal surge of TSH. Increasing degrees of prematurity (4), especially in infants less than 37 weeks of gestational age or of low birth-weight, may blunt this normal TRH-TSH surge, given the correlate immaturity of the hypothalamic-pituitary-thyroid axis. A screening specimen collection within 24 hours of life may thus miss the normal TSH surge that would be expected to exaggerate with a primary hypothyroid state. Ill and preterm infants may receive medications, such as corticosteroids or dopamine, which directly suppress TSH. Same-sex twins suggest the potential for crossing of fetal blood and consequent early masking of an endogenous hypothyroid state in one twin by the normal twin. In all such cases, repeat thyroid function tests are reasonable after 2 weeks to minimize the risk of a false negative initial screen.

In California, the newborn thyroid screen consists of a TSH, a sensitive screen for primary hypothyroidism, which has an incidence of 1:4000 births. This initial TSH screen is used by most newborn programs in the United States, Canada, Mexico, Europe, and Japan. However, this screening approach is limited in the diagnosis of hypothyroidism secondary to hypothalamic or pituitary pathology, a much more rare cause with an incidence of 1:50,000 births. Clinical clues such as the presence of a cleft lip or palate, nystagmus suggestive of septo-optic dysplasia, or a traumatic birth especially with asphyxia all portend a risk of pituitary insufficiency and potential secondary central hypothyroidism. In such clinical scenarios, more comprehensive testing inclusive of a Free T4 and a TSH, using age-appropriate reference ranges, is diagnostic.

Initiating Treatment

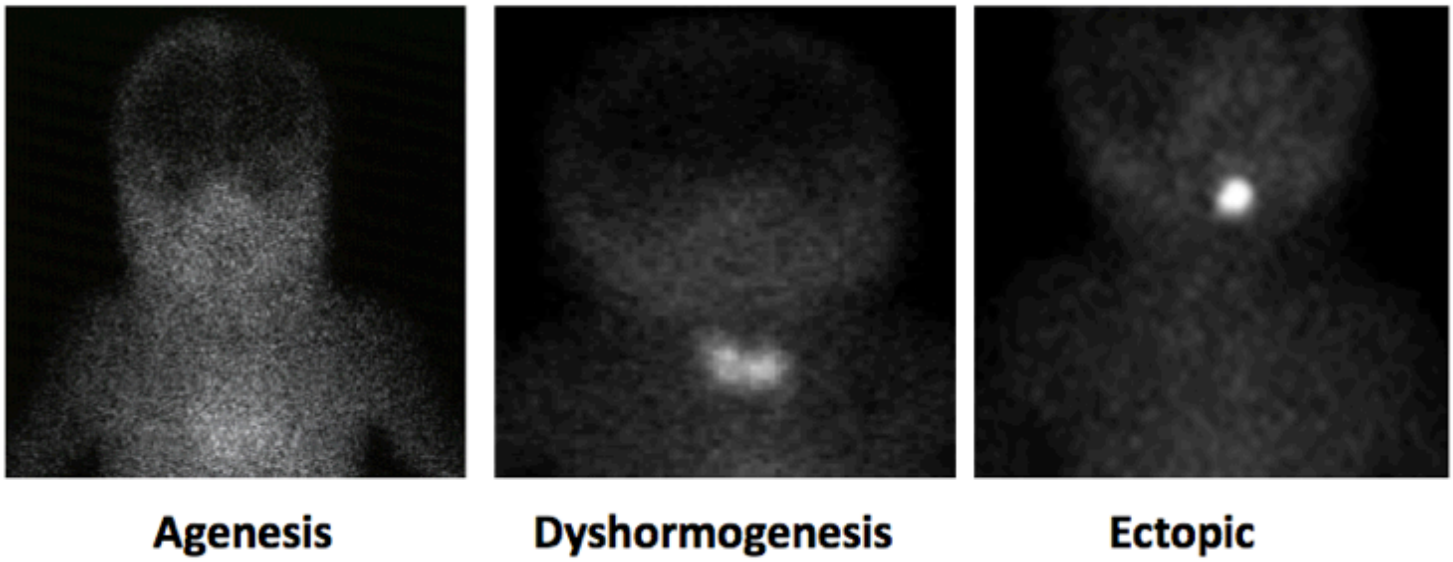
Once the decision to initiate treatment is made, levothyroxine at a dose of 10-15 µg/kg/day should be initiated. Brand levothyroxine has been demonstrated to be superior to generic levothyroxine in the treatment of congenital hypothyroidism (5). Ideally levothyroxine should be provided as crushed tablets in a spoon, administered with a small amount of water or breast milk before feeding. Liquid formulations of levothyroxine suspended locally by pharmacists may be prone to solubility concerns and risk unpredictable dosing, unless pharmaceutically produced in a licensed liquid form, and thus crushed tablets are preferred if tolerated.

Congenital Hypothyroidism, (Continued)

Imaging

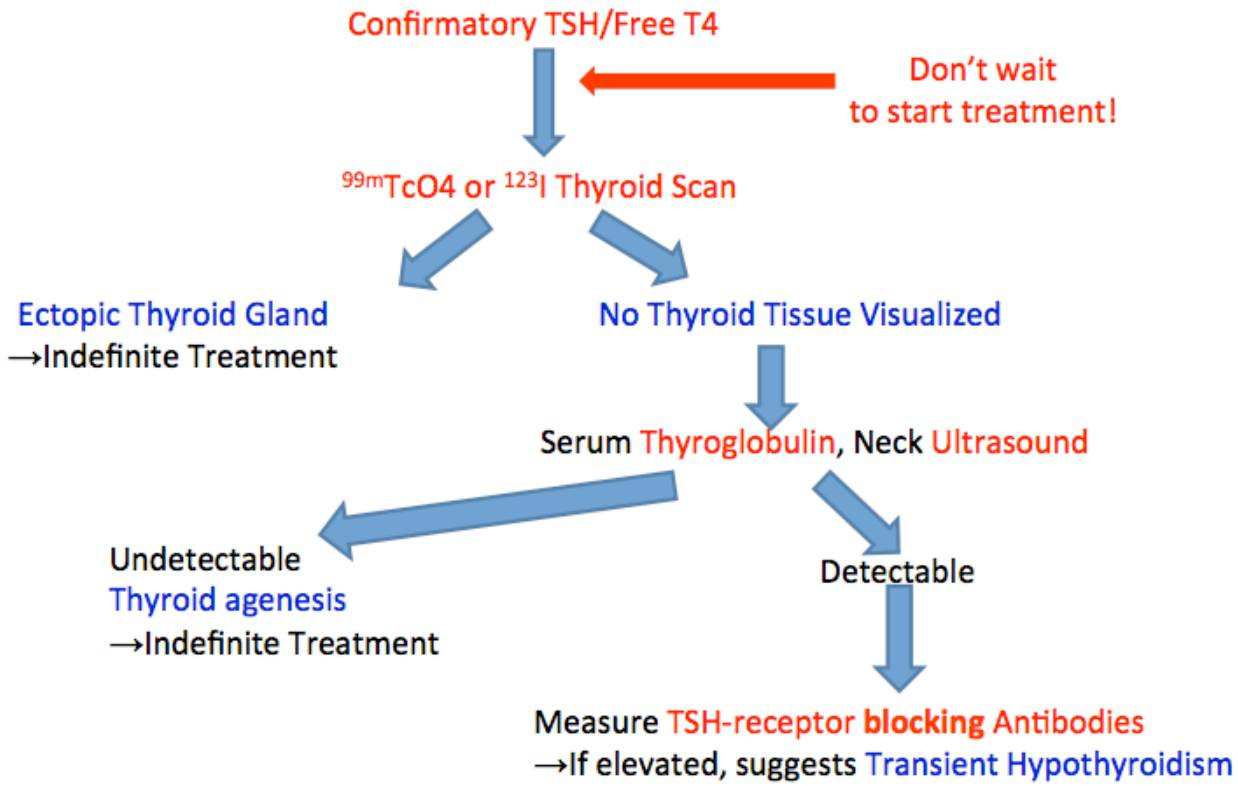
Diagnosing the etiology of congenital hypothyroidism may be achieved by imaging. Scintigraphy with either technetium-99m 10-20 MBq or iodine-123 1-2 MBq can be useful to ascertain an ectopic thyroid gland, a eutopic but dysfunctional thyroid gland suggestive of dyshormogenesis, or potentially athyreosis, typified by the lack of uptake (**Figure 2**).

Figure 2. Thyroid scintigraphy with technetium-99m images representing potential etiologies of congenital hypothyroidism.



Scintigraphy should not delay the initiation of Levothyroxine, as it is imperative to optimize neurocognitive development with early and appropriately aggressive treatment. If a complete lack of uptake is noted on scintigraphy, the differential diagnosis includes the aforementioned athyreosis, or alternatively a more transient primary hypothyroidism secondary to the transplacental passage of maternal TSH-receptor blocking antibodies. The latter should be suspected as a potential pathology if there is an antecedent maternal history of autoimmune thyroid disease, especially Graves' disease and more rarely Hashimoto's thyroiditis (6). Further investigations that may be helpful to differentiate the differential diagnoses include serum thyroglobulin and TSH-receptor antibody titers as well as a neck ultrasound (**Figure 3**).

Figure 3. Evaluation of congenital hypothyroidism.



Patients should be followed closely, within 1-2 weeks after initiation of treatment, at least every 1 to 3 months for the first 12 months (perhaps inclining towards a more close follow-up every 1 to 2 months for the first 6 months), and every 2 to 4 months between the ages of 12 and 36 months of age. Serum assessments for a TSH and either a Total or Free T4 should be drawn at least 4 hours subsequent to the most recent levothyroxine dosing, with a therapeutic goal of a Total or Free T4 in the upper half of an age-appropriate reference range and a normal TSH, though some patients demonstrate hypothalamic-pituitary resistance that may complicate TSH-suppression (7). After the age of 3 years, if the patient's potential pathology suggests a transient course, a wean of Levothyroxine can be considered. Neuronal myelination completes by 36 to 40 months (8), and hence a transiently hypothyroid state after point should not compromise neurologic development. More subtle neurocognitive consequences may present, and testing for speech delays may identify helpful interventions.

Screening programs have proven to be critical in the elimination of the scourge of overt mental retardation secondary to congenital hypothyroidism (9). Recognizing the potential inherent limitations of newborn screening is paramount in assuring patients are not misdiagnosed. Early and aggressive intervention is the key to an excellent prognosis.

Congenital Hypothyroidism, (Continued)

Take Home Pointers!

- **Early and aggressive treatment eliminates mental retardation.**
- **Be aware of the limitations of newborn screening.**
- **Brand levothyroxine is superior to generic levothyroxine.**
- **Congenital hypothyroidism may be a harbinger of other comorbid conditions.**

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Congratulations to our newly elected board for the 2014-2016 cycle!

I am very excited to begin my term as the incoming president! My term as vice president ended on a high note, having written the number one resolution as voted on by the leaders from the other chapters, sections, and committees at the AAP Annual Leadership Forum. Our chapter's winning resolution sent a message to the national AAP that advocating for a ban on marijuana advertising that could be perceived as directed towards children should be one of their top priorities. Under my chairmanship, our chapter's Committee on Pediatric Emergency Medicine developed into the Los Angeles County Department of Health Services Emergency Medical Services (EMS) Agency Pediatric Advisory Committee (Peds AC). I am pleased to report that during my term as the inaugural chair for the Peds AC, we were able to update the EDAP standards.

Paula Whiteman, MD, FACEP, FAAP

Dr. Whiteman has been actively involved with AAP California Chapter 2 in various positions, most recently as vice president, three terms as member-at-large, and over 15 years as an active participant on the Committee on Pediatric Emergency Medicine. (COPEM).

Please join me in welcoming our new executive board:

- Vice President Ed Curry, MD, FAAP
- Treasurer Alice Kuo, MD, PhD, Med, FAAP
- Secretary Chris Landon, MD, FAAP

Thank you to Helen DuPlessis, MD, MPH, FAAP for her contributions as she now transitions to past-president.

Welcome to our new and returning members-at-large:

- Cindy Baker, MD, FAAP
- Grant Christman, MD, FAAP
- Mona Patel, MD, FAAP
- Susan Wu, MD, FAAP
- Daniel Bruckner, MD, FAAP
- Corinn Cross, MD, FAAP
- Ken Saul, MD, FAAP

Welcome to our new Ventura County area representative:

- Teresa Scalise Sheahan, DO, FAAP

We welcome back and appreciate our existing area representatives:

- John Digges, MD, FAAP
- Damodara Rajasekhar, MD, FAAP

Congratulations to Dr. Janet Arnold – Clark, MD, FAAP in her new role as Chair of the Committee on Foster Care.

We are excited to have a new Executive Director, Tomás Torices, MD.

We thank you for your continued membership. Please follow us on Facebook and watch for new developments on our website, **http://aapca2.org/**

Sincerely,
Paula Whiteman, MD, FAAP, FACEP

The FAAP designation following a pediatrician's name stands for Fellow of the American Academy of Pediatrics. Pediatricians with a FAAP designation have obtained board certification in pediatrics and made an ongoing commitment to continuing learning and advocacy for children.

Implementing the 2014 Acute Otitis Media Guidelines

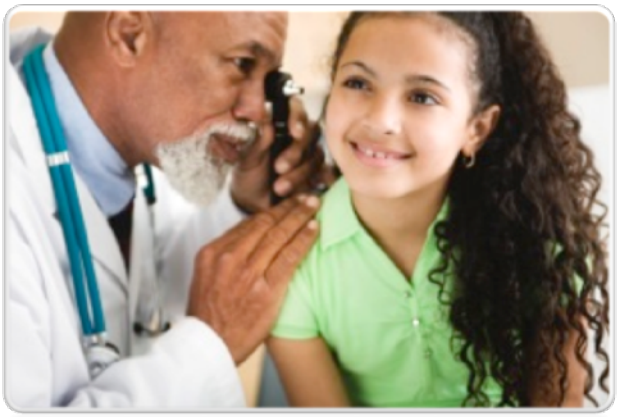
Allan Lieberthal, MD, FAAP

The key to the 2014 AOM guidelines published in Pediatrics (2013; 131; e964) is accurate diagnosis of AOM. If you make an accurate diagnosis, the rest of the guideline is straightforward.

Bulging of the TM is the key diagnostic feature of AOM. Acute purulent drainage also is definitive for AOM. Erythema without bulging is not an indicator of AOM. A TM that appears abnormal but is not bulging is OME, although other pathologic diagnoses such as cholesteatoma must be considered.

The problem is that many, if not most clinicians, over-diagnose AOM. The TM in a young child may be difficult to examine. The baby is squirming, possibly crying. The TM is obstructed by cerumen and only part of the TM can be seen. Finally, relatively few pediatricians regularly use the pneumatic bulb and correct speculum. First the child must be restrained properly, whether in the parent's lap or with the help of an aide. Cerumen must be cleared using controlled suction, a curette, or by irrigation. Next the correct speculum must be chosen. It should be large enough to go in no further than the first third of the external auditory canal but keep a seal against the canal wall. Disposable specula have relatively sharp edges that may cause the child pain. Reusable specula have smoother tips and are more comfortable. They also come in more sizes. Finally pneumatic otoscopy is essential for the diagnosis of AOM or otitis media with effusion (OME). The presence of normal mobility usually rules out either diagnosis.

The diagnosis problem begins in residency. Few programs, even today have a curriculum for teaching ear examination and diagnosis. The best tool for teaching examination of the TM uses a video-otoscope. One person looks at the TM and all can see and discuss the findings. This is far better than using a double headed otoscope or the resident looking at the ear and a senior doctor then looking to verify diagnosis.



Videos, available at http://www2.aap.org/sections/infectdis/video.cfm, and through a Web-based program, ePROM: Enhancing Proficiency in Otitis Media. (Available at: http://pedsed.pitt.edu) can also be effective learning tools.

Implementing the 2014 Acute Otitis Media Guidelines, (continued)

TREATMENT

After an accurate diagnosis of AOM is made, the next step is to determine appropriate treatment. Children ≥ 2 Y/O without severe symptoms (severe otalgia at the time of the visit or temperature >39°C (>102.2°F)) may be observed. Observation is not a passive treatment. The child must be observed for worsening symptoms or no improvement after 48-72 hours. In such cases antibiotics may be prescribed. Children <2 Y/O with bulging TM's should be treated in most cases with antibiotics. A child with erythema of a mildly bulging TM may be observed as above.

Amoxicillin (80-90 mg/kg/day in 2 divided doses) is the preferred 1st line therapy for uncomplicated AOM. This is based on the safety and efficacy of high dose amoxicillin. If the child has received Amoxicillin (or penicillin) within the past 30 days or if the AOM is accompanied by conjunctivitis., amoxicillin-clavulanate (90 mg/kg/day amoxicillin with 6.4 mg/kg/day of clavulanate [amoxicillin-clavulanate ratio 14:1]) in 2 divided doses. This will treat *H.influenzae* AOM more effectively than amoxicillin alone. Should the patient fail amoxicillin treatment and/or amoxicillin-clavulanate, and the TM is still bulging, parenteral ceftriaxone (50 mg IV or IM for 3 days is the most effective treatment.

Third generation cephalosporins (cefdinir, cefuroxime, and cefpodoxime) are much less effective against *S.pneumoniae* than high dose amoxicillin and should only be considered in the penicillin allergic patient. Azithromycin, erythromycin-sulfisoxzole and trimethoprim-sulfamethoxazole have poor activity for AOM organisms and should not be used.

Pneumococcal conjugate vaccine and influenza vaccine should be given according to the ACIP/AAP schedule as both may decrease the incidence of AOM. Also breastfeeding for at least 6 months has been shown to decrease the risk of AOM. Tobacco smoke exposure should be avoided as it alters the ciliary function of the respiratory tract including the lower respiratory tract, sinuses and Eustachian tubes increasing the risk of infection.

Save The Date!

Please join us for the following Chapter 2 upcoming events during the month of July:

A night at the Hollywood Bowl

July 13

7:30 PM

Tickets are $13 each
Section W (Center)
If you would like to reserve your tickets, please email **Chapter2@aap-ca.org**
Tickets are limited.

Town Hall Meeting

July 23

Wednesday, July 23, 2014
6:30 – 9:30 PM
Herzog Wine Cellars in Oxnard
Speaker: Norman Lavin MD
Topic: Precocious Puberty
RSVP by contacting Teresa Scalise Sheahan, DO, FAAP at Teresa.Sheahan@ventura.org
(Separate invitation to follow)

July 31

HPV YOU ARE THE KEY TO CANCER PREVENTION

Webinar

Thursday, July 31, 2014

Webinar registration information to follow
CME Application Pending

Presenter

Sharon G. Humiston, MD, MPH, FAAP
Professor of Pediatrics
Children's Mercy Hospitals and Clinics in Kansas City, Missouri
AAP CDC HPV Grant PI

Webinar Objectives

1. Describe the burden of HPV infection and related disease.
2. Provide information about HPV vaccination, including recommendations, safety, and impact.
3. Share and employ best practices for HPV vaccine communication and strong recommendations.

Kindergarten Is Not What It Used To Be

E. Richard Stiehm, MD
Distinguished Research Professor of Pediatrics

My grade school, Randall, in Madison Wisconsin recently celebrated its 100th birthday. It's a two-story red brick Gothic building in a middle class neighborhood near the University, now recognized as a national landmark.

I spent more years there-- -seven---than in any other school during my seemingly endless education ending at age 33. My early school days were, however, the antithesis of today's elementary school education---no preschool, no yearly achievement tests, no tests; no one-size-fits-all curriculum, no class standings, no homework. Just a place to get a nice start for the rest of one's life. Indeed unlike many kids nowadays that are held back a year so they will excel in kindergarten, my parents sent me to kindergarten at age 4. I think they just wanted me out of the house; they said later that it would give me a head start on a long medical education.

I went to Randall because it was one block away. Now 75 years later, I realize how lucky I was and how much I loved Randall school.

I loved Randall because I loved kindergarten. I learned to skip, color, use scissors, paint on an easel, rest, sit still during a story, raise my hand if I wanted to say something and wash my hands after a trip to the bathroom. And I didn't have to know how to read if I didn't want to. That could wait for first or second grade, which promised to be just as much fun as kindergarten.

I loved Randall because it loved me. There was a patrol boy (a sixth grader in a white belt with a badge) to help me cross Chadbourne Avenue, a street I had negotiated lots of times alone, even in my preschool days. I was measured, weighed, hearing and eyesight tested (twice a year), given midmorning milk, a weekly iodine pill and a yearly TB test. I never felt neglected.

And if I got measles or chicken pox there was a Quarantine sign on my front door to make sure my fellow students didn't visit. And when I came back to school, the school nurse would check me out before letting me go back to class.

I loved Randall because it taught me that women are important. They ran the school; they were the principal, the office workers, all the teachers, the librarian and the nurse. And since my dad died when I was 8, women were the only ones that looked out for me.

Kindergarten… (continued)

I loved Randall because it showed me the importance of art, music---and recess. The kids that won the spelling bees might be smart, but other kids were good at drawing, singing and soccer football---so no one should be stuck up about themselves.-we were all in this together. And recess gave me my first lesson in medicine. The playground was gravel, the game was soccer, and the falls and scrapes were numerous. The nurse was available with green soap, iodine and a nice bandage, but while I liked the bandage, I hated the soap and the iodine. So most of the time I ignored my wounds, and they seemed to heal without the advantage of modern medicine.

I loved Randall because our classroom had clocks with roman numerals, the auditorium had a large mural with fairy tale characters, and the music room had a poster of all the musical instruments including the kettledrums.

I loved Randall because it taught me to love my country .Yes we recited the Pledge of Allegiance and sang the National Anthem. But much more important was our shared role in the war against Germany and Japan, We collected tin cans, bundled old newspapers and saved 10 cents to buy a war stamp every Friday. Along with blackouts, meat rationing, and stars in the window of families with soldiers and sailors fighting the war, we felt united in our resolve.

I loved Randall because the library had Popular Mechanics magazine, magic trick books, John Tunis sports books, and a manual on how to make an electric motor or a crystal radio. But I worried that the librarian would leave if the penny-a-day fines were not enough for her subsistence. So I kept my books a few days overdue so my pennies would help with her salary.

I loved Randall because it emphasized citizenship over scholarship. Indeed the top 10 items on our report card (for which we received satisfactory, needs improvement, or unsatisfactory) were items such as promptness, respects the rights of others, completes work on time etc. Mom paid more attention to those than my arithmetic, spelling, and writing marks.

And I loved Randall in the summertime. I played football on the grass of the front yard, flew kites on the playground and banged a tennis ball against the wall in the parking lot. When my ball went through the open window into the bathroom, I could retrieve it by entering an unlocked window in the back of the deserted school. Not once did I deface of steal anything. After all, it was *my* school.

So happy birthday Randall School---you are indeed a national treasure.

CEASE California

FREE TRAINING OPPORTUNITY!

CEASE (Clinical Effort Against Secondhand Smoke Exposure) California teaches pediatric providers (through their hospitals and clinics) to reduce secondhand smoke exposure by providing nicotine replacement therapy prescriptions and referrals to the CA Smoker's Helpline to families where parents smoke. The training is funded by First 5 California, so is FREE for your clinic, and takes about an hour. As a bonus, CEASE California will pay the fee for pediatricians in participating practices who want to enroll in the AAP's online tobacco control MOC 4 module!

If you would like to learn more about how your clinic can participate in this free, 1 hour training, please email Dr. Marbin at aapcease@gmail.com<mailto:aapcease@gmail.com> or go to the website by clicking on to the link below.

http://www.ceasecalifornia.org

UCLA

Pediatric Grand Rounds

UCLA Pediatrics Grand Rounds are held every Friday morning from 8am to 9am. Live video conferencing is available at Santa Monica UCLA Hospital, Olive View Hospital, and Cedars Sinai Hospital. Past episodes are available on line.

Click below to watch past Pediatrics Grand Rounds videos

http://www.uclahealth.org/body_mattel.cfm?id=2976

FTPL INFO??

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Amblyopia

Monica Ralli Khitri, MD
Associate Physician Diplomate
Jules Stein Eye Institute
UCLA School of Medicine

Amblyopia, commonly referred to as “lazy eye,” is one of the most common and significant pediatric visual ailments, accounting for more vision loss in children than all other causes combined. Present in 1-4% children, amblyopia refers to the decreased vision that can occur from abnormal visual development in early childhood. When the brain does not receive good visual input from one or both eyes, the visual processing centers do not develop normally. For this reason, it is essential for pediatricians to recognize the signs of amblyopia because early treatment and referral translate to better visual outcomes for the patient.

The 3 Causes of Amblyopia

1. **Strabismus**: In an effort to avoid diplopia, the brain will often choose to “ignore” the deviating eye.

2. **Deprivation**: In conditions such as ptosis or congenital cataracts, the eye and retina are “deprived” of good vision. Deprivation amblyopia, if not promptly treated, often can result in the most profound vision loss, both unilateral and

3. **Refractive**: Patients with large amounts of refractive error (needing thick lenses in their eyeglasses) can have blurred retinal images. In addition, if the refractive error is much larger in one eye compared to the other (anisometropia), the brain will often “turn off” the eye with the higher refractive error, preferring the fellow eye with the clearer retinal image.

Vision Screening

The pediatrician plays a vital role in initially diagnosing amblyopia in a child. History-taking should focus on the risk factors for amblyopia, which include strabismus, prematurity, presence of ocular disease (cataracts, ptosis, glaucoma), family history of ocular disease, and craniosynostosis. During the physical examination, the presence of leukocoria, nystagmus, ptosis, facial hemangiomas, tearing, and strabismus should all alert the pediatrician to possible ocular pathology.

With the cooperative and verbal child, amblyopia detection can be simply performed by checking the child’s visual acuity using a vision chart in the office. Standard ophthalmology referral recommendations are listed in Table 1. However, successful visual acuity testing is highly dependent on patient age and cooperation as well as screener experience. As a result, instrument-based vision screening has become increasingly popular.

Vision Screening, (continued)

Currently, there are two main types of instrument-based vision screeners available: photoscreeners and autorefractors. Photoscreening analyzes the optical images of the eyes' red reflexes to estimate refractive error, media opacity, ocular alignment, and more. Both of the child's eyes are assessed simultaneously.

The output is then interpreted by operators, a central reading center, or a computer. Autorefraction involves using automated retinoscopy or wavefront technology to estimate the refractive error of each eye. Because autorefractors usually measure one eye at a time, their sole use is in detecting refractive error as they are unable to detect strabismus or cataracts unless a coexisting refractive error is present.

The advantages of instrument-based vision screening are substantial: it is quick, requires minimal cooperation from the child, and is very effective. Particularly in the under-5 year age group, vision screening has been found to be more sensitive than visual acuity testing in detecting amblyogenic risk factors. However, an often-prohibitive barrier to its implementation is the cost. Not only can the photoscreeners and autorefractors cost thousands of dollars, but there are indirect costs as well such as space for the instrument and exam, office staff utilization, and physician time for interpretation. As a result, despite the efficacy and efficiency of these instruments, it has been difficult for many primary care offices to adopt them in their practice.

Treatment:

The first and most crucial step in treating amblyopia is to correct the underlying condition. For instance, in deprivation amblyopia, the ophthalmologist would first perform ptosis surgery or cataract removal to remove the amblyogenic risk factor. Accordingly, in bilateral refractive or anisometropic amblyopia, the patient would first receive eyeglasses. *The one exception to this rule of first correcting the underlying condition is in strabismic amblyopia. Here, instead of treating the patient's strabismus with surgery at the outset, the amblyopia is first treated. The rationale for this is that strabismus often improves once the patient's visual acuity improves with amblyopia management, which can affect surgical planning.*

The two methods to treat amblyopia are occlusion and penalization. In occlusion therapy, a patch is placed over the "good" or preferred eye a few hours daily to give the brain dedicated time using the amblyopic eye. These patches have adhesive on them, akin to large band-aids. "Pirate" patches on elastic bands are avoided because children can peek around these patches quite adeptly.

Treatment, (continued)

In penalization therapy, the "good" eye is blurred instead of occluded. This method can only be used in relatively mild amblyopia and is often resorted to if a patient cannot tolerate patching therapy. Most commonly, atropine eyedrops are used to dilate the preferred eye. Alternatively, bangerter foils, or semi-transparent stickers, can be applied to the back of children's eyeglass lenses to blur the preferred eye.

How effective amblyopia treatment is depends largely on the age at which it is first recognized as well as how successful parents are at implementing the therapy. Recent studies have demonstrated that the sensitive period for amblyopia reversal is up to 14 years of age. However, treatment responses are more robust the younger they are initiated. The amount of effort and hours going into amblyopia treatment, especially on the part of the parent, is not trivial and many question why to even pursue treatment if the patient has good vision in their fellow eye and can function well. For one, improving vision in the amblyopic eye improves binocularity and depth perception. Second, amblyopia treatment creates a better-seeing "spare tire" eye in the event of trauma or ocular disease in the future.

Early diagnosis and management of pediatric ocular disease and associated amblyopia help give children not only good vision during their childhood but maximize their adult visual potential as well. For that reason, it so crucial for pediatricians, often the only medical provider the child sees, to recognize the signs and symptoms of amblyopia, strabismus, and other ocular conditions so that appropriate referrals and treatments can be initiated.

Table 1: Ophthalmology referral recommendations based on vision screening

Age	**Referral Recommendations***
Newborn-6 Months	- Poor tracking of objects after 3 mos
6-36 Months	- Failed photoscreening or autorefraction
3-4 Years	- Distance Visual Acuity 20/50 or worse in either eye - Failed photoscreening or autorefraction
4-5 Years	- Distance Visual Acuity 20/40 or worse in either eye - Failed photoscreening or autorefraction
5 Years and Older	- Distance Visual Acuity 20/30 or worse in either eye - 2-line difference in visual acuity between the eyes - Failed photoscreening or autorefraction

*Patients of all ages should also be referred for the presence of strabismus, nystagmus, poor/absent red reflexes, and other structural ocular abnormalities.

HEDIS® spotlight - Effective Treatment of ADHD

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One component of the Affordable Care Act that affects all physicians is the commitment to quality measurement and the promotion of evidence-based health care for all. One of the measurement tools that has been in place since 1991 is the Healthcare Information and Data Information Set (HEDIS) measure, which is a tool, used by more than 90 percent of America's health plans to measure performance on important dimensions of care and service. HEDIS makes it possible to compare the performance of health plans on an "apples-to-apples" basis. Health plans also use HEDIS results themselves to see where they need to focus their improvement efforts. Many health plans report HEDIS data to employers or use their results to make improvements in their quality of care and service. Employers, consultants, and consumers use HEDIS data, along with accreditation information, to help them select the best health plan for their needs. To ensure the validity of HEDIS results, all data are rigorously audited by certified auditors using a process designed by National Committee for Quality Assurance (NCQA). HEDIS measures address a broad range of important health issues. The purpose of this article is to provide an overview of Attention Deficit/Hyperactivity Disorder and current AAP guidelines and to share what the HEDIS measures are for ADHD.

Attention-Deficit/Hyperactivity Disorder (ADHD) is one of the most commonly diagnosed childhood behavioral health disorders with prevalence estimates ranging from three to up to nine percent of school-age children[1]. These children exhibit inattentiveness and may also appear hyperactive and impulsive. Many children exhibit these common behaviors periodically, but a child with ADHD exhibits these behaviors persistently, intensely, and in a variety of settings. Boys are diagnosed with ADHD between two and three times as often as girls.

Symptoms are usually first noticed in preschool or early elementary school years. The effects of this disorder frequently persist into adolescence and adulthood. ADHD is often associated with other conditions, such as Mood and Anxiety Disorders, Conduct Disorder, Substance-related Disorders, and Personality Disorders, such as Antisocial Personality Disorder.

In late October of 2011, the American Academy of Pediatrics (AAP) released new guidelines for the diagnosis and treatment of ADHD. The biggest change is that now guidelines are expanded to include recommendations for children and adolescents ages 4-18. The previous guidelines only included children ages 6-12. The diagnosis of ADHD requires a comprehensive medical evaluation for other conditions that may be causing similar symptoms. The reliability of diagnosing ADHD improves when appropriate guidelines are used, and when additional history is collected from both parents and teachers.

Effective Treatment of ADHD, (continued)

Treatment works best with a team approach when behavioral health clinicians, doctors, parents, teachers, and other healthcare professionals, along with the family and child, all work together. The treatment plan usually includes behavioral therapy (recommended for preschool aged children ages 4-5) and adding medication if necessary. For older children, the guidelines recommend a combination of medication and behavior therapy. Psychoeducation (parent training, behavior modification techniques and education) are also recommended. These combinations aid the child to focus his or her attention and to control any behavior issues. It is important to monitor the child's progress. Visits with a behavioral health clinician and/or the treating medical doctor are recommended at least monthly until optimal results are achieved.

For participating health plans, the National Committee for Quality Assurance (NCQA) reports performance on the following HEDIS[1] measures for children with ADHD:

- The percentage with a new prescription dispensed for ADHD medication that had one follow-up visit with a practitioner with prescriptive authority within 30 days of the initiation of treatment (Initiation Phase)
- The percentage with a prescription dispensed for ADHD medication that remained on the medication for at least 210 days and had at least two additional follow-up visits with a practitioner within nine months, one of which may be by telephone, after the Initiation Phase ends. (Continuation and Maintenance Phase)

Resources

Best Practice Guidelines area available (from the American Academy of Pediatrics) located here: http://pediatrics.aappublications.org/content/128/5/1007.full.pdf+html?sid=bea6a3e3-7bda-42a3-8b53-cba3240e750a

Access the ADHD Toolkit for Clinicians created conjointly by the National Initiative for Children's Healthcare Quality (NICHQ), North Carolina's Center for Child Health Improvement and the American Academy of Pediatrics here:

http://nichq.org

While the toolkit is created for practitioners, the resources and information can be useful to parents as well. (Note: The NICHQ website above requires you to log in in order to view and download the FREE toolkit ***Caring for Children with ADHD: A Resources Toolkit for Clinicians (1st Edition)***. The toolkit is in a PDF format so you will need the Adobe Acrobat Reader to download, view and print your own copies).

National Committee for Quality Assurance (NCQA) is a private, non-profit organization dedicated to improving health care quality. www.ncqa.org
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[1] Centers for Disease Control and Prevention: http://www.cdc.gov/ncbddd/adhd/data.html; Accessed 8-8-2013.

[2] The Healthcare Effectiveness Data and Information Set (HEDIS®) is a set of standardized performance measures designed to provide purchasers and consumers with the information they need to reliably compare the performance of health care plans.

Closing Chapter 2 announcement

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