Optometry

Make your exams child-friendly with minor changes in tools, techniques

Primary Care Optometry News, February 2014

A yearly comprehensive eye exam for children through the age of 18 years by either an optometrist or an ophthalmologist is now one of the 10 essential health benefits covered by the Affordable Care Act. Many believe that this benefit, which was strongly supported by the American Optometric Association, will dramatically increase the number of infants and children coming into optometrists' practices.

"This is a huge win for optometry — as significant as Medicare inclusion in previous generations," **Kathleen Foster Elliott, OD, Dipl ABO,** who practices at a pediatric ophthalmology comanagement center in Tulsa, Okla., told *Primary Care Optometry News*. "Therefore, everyone in our profession needs to be comfortable doing pediatrics. Optometrists do not need to be vision therapy specialists or pediatric specialists to administer excellent exams to infants and toddlers. We already have the skill set and resources."

Over the past 30 years, a shift toward adult disease diagnosis and management has been necessary for the advancement of the profession, according to **Glen T. Steele, OD, FCOVD, FAAO,** a professor of pediatric optometry at Southern College of Optometry in Memphis and chair of the AOA's InfantSee Committee. Steele advises optometrists to raise public awareness within their own community about the pediatric vision benefit as part of the Affordable Care Act.

Lynn F. Hellerstein, OD, FCOVD, FAAO, shows how the use of toys can make the exam fun for the patient.

Image: Hellerstein LF

"We all know that just because someone has a benefit does not mean that they are going to take advantage of it," he told PCON. "The AOA has quite a number of promotional materials for pediatric services."

The optometric community can also capture more children by informing school nurses and pediatricians of the difference between a comprehensive eye exam and a screening, he said.

Recommended equipment

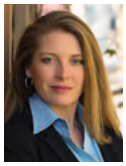
To conduct exams on infants and children, Elliott recommends the following equipment: lens bars, a retinoscope, a binocular indirect ophthalmoscope and an entertaining fixation object (e.g., a toy that lights up or makes noises) for extraocular muscle function and cover testing.

For charting visual acuity on an infant, the acronym CSM (central, steady, maintained) can be used instead of

Glen T. Steele20/20, and for eyes that do not track, CSUM (central, steady, unmaintained), she said.

There are many variables in prescribing for the pediatric population, Elliott said.

“Some clinical guidelines we use in our practice are: if the cover test is normal, use the cycloplegic refraction minus 1.00 D for hyperopia,” she said. “For example, if the child is +5.00 D cyclopleged, we prescribe +4.00 D as a baseline in the glasses. For myopia, use the cycloplegic refraction plus 0.50 D. So, if the child is -2.00 D cyclopleged, prescribe -2.50 D for the final glasses prescription. For more prescribing guidelines see the AOA and COVD websites.


Kathleen Foster Elliott

“It is important, though, that optometrists hone their retinoscopy skills with loose lenses or a retinoscope bar,” she added.

Lynn F. Hellerstein, OD, FCOVD, FAAO, who practices in Denver and is past president of the College of Optometrists in Vision Development (COVD), says it is all about having fun with infants and toddlers and using age-appropriate toys for exams.

“For infants under 6 months old, you can use large rattles and squeaky toys to help keep their attention,” she told PCON, while toddlers between the ages of 2 and 5 years can watch videos and movies while in the exam room.

“It makes it very easy to conduct the exam if the child is interested in the targets you use,” Hellerstein said.

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Testing in infants and children

The five specific test areas are ocular motility, binocular function, refractive state, visual acuity and ocular health, Steele said.

“With an infant, you administer very simplistic tests, like determining how well they can follow a target,” he said. “A pen light with a finger puppet on the end is a great target.”

Similarly, binocular function entails basic gross depth perception testing or stereopsis testing, Steele said.

“You can point both eyes at the same place, but that does not necessarily mean the two eyes are being used together,” he said.

To measure refractive state, Steele prefers using a retinoscope over an automated instrument.

“A retinoscope provides awareness, regardless of where the child is looking, and it lets you know the quality of their gaze at the target you use,” he said.

Hellerstein performs retinoscopy on her granddaughter.

Image: Hellerstein LF

Steele engages the patient by using small cards with stickers as targets, while measuring visual acuity encompasses various ranges of sophistication.

“If the child can simply look and fix and follow and maintain on the target, that is one low level of visual acuity,” he said.

More sophisticated testing might involve forced choice preferential viewing, generally stripes vs. grays.

“Those stripes become smaller and smaller and smaller, until the child no longer chooses to look at the stripes on either side of the paddles,” Steele said.

With a toddler, an increased level of testing may involve pictures or even some letters.

“If you do not increase the sophistication of your testing as the child matures, you are really not doing them a good service,” Steele said.

Nearpoint visual findings (16 to 18 inches) are also crucial, not only for reading but for computers and texting, said **Joel N. Zaba, OD, MA,** whose Virginia Beach, Va. practice specializes in learning and performance-related visual problems in children and adults.

“Kids today are doing more close-up work than any child in the history of the world, and this will only increase,” he said.

Nearpoint visual skills involve the binocular system, the accommodative system, the motility system, and the visual processing and reception of the visual stimuli, Zaba said.

Joel N. Zaba

With some children, he will perform nearpoint evaluations and retest certain findings, if applicable.

"If you get the same number, or around the same number, twice, you know the child is giving you a good answer," he said. "You also want to conduct as many nearpoint visual tests for focusing as necessary to understand the accommodative system. When you measure the first noticeable blur or a complete blur-out, you may want to recheck the findings. This will depend upon your professional judgment and if the child is guessing or not on a particular test."

Nearpoint testing for more sophisticated visual skills other than measuring Snellen visual acuity is similar to a computer vision syndrome evaluation, Zaba said.

Importance of dilation

In addition to vision, clinicians have the opportunity to save lives.

By dilating, "you can detect life-threatening conditions, such as retinoblastoma (which has about a 3% incidence nationwide, according to the National Cancer Institute) and papilledema," Elliott said. "In fact, the only way retinoblastoma can be detected is by dilating the eye."

She recommends using a cyclopentolate 1% drop for dilation in the pediatric population. For a follow-up exam, the patient can be scheduled early in the morning, so the parent can instill the drop 1 hour before, while the child is still asleep, she said.

To better integrate children into the overall patient flow for an initial exam, Elliott's office first performs a 10- to 15-minute external exam before dilation with cyclopentolate, followed by the patient being in the waiting room for 30 to 45 minutes before returning for the remaining 10-minute internal portion of the exam.

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“The patient time ranges from 1 hour and 15 minutes to 1 hour and a half, but the actual doctor time is less than 30 minutes, so you can mix your pediatric patients within your general schedule,” Elliott said. “While the child is in the waiting room dilating, you can do another full exam on your schedule.”

Steele agrees with Elliott on the importance of a dilated fundus exam to find potential vision- or life-threatening conditions.

Hellerstein said she performs dilation during an initial vision assessment in patients 6 months to 1 year old. If no problems are detected, the next dilation occurs at age 3 years.

“Many pediatricians believe that a vision screening is adequate, but we are finding that is not the case,” she said. “A full vision assessment is appropriate.”

Making children comfortable

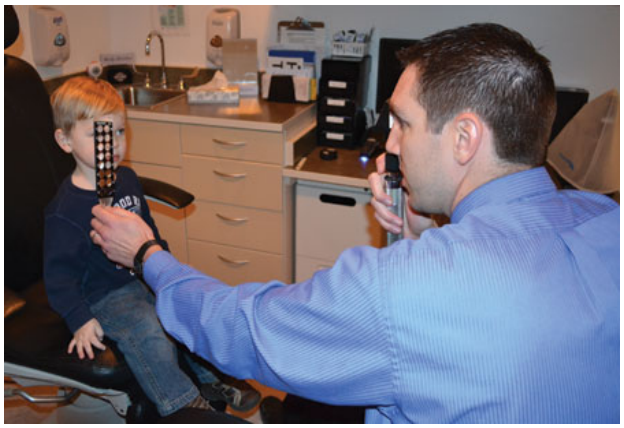
In general, Steele said clinicians should have fun interacting with children.

“Kids are fun, and they will perceive it if you are uncomfortable,” he said. “Enter the room pretending that the child is your son or daughter, or grandson or granddaughter. But watch what they are doing while you are having fun. Having fun becomes part of the examination process.”

Steele also encourages optometrists to offer a free InfantSee assessment for early diagnosis and early management/intervention.

Another practitioner offered tips on interacting with pediatric patients.

“Especially during a child’s first eye exam, the doctor has to be calm and relaxed, so that the child feels the same way,” Zaba said. “If the child appears to be an actively verbal patient, I talk in a lower voice.”



He recommends that an assistant lightly touch the child on his or her shoulders if the child is physically active, to facilitate a calming process.

“Keep smiling, too,” he said, “and remember that this is work. Your role is to have the child like you so he can cooperate during the entire evaluation.”

Not wearing a white coat may soothe a child as well; otherwise, the child may equate a white coat with a doctor giving a shot or administering some other unpleasant intervention, he added.

“I wear a very professional shirt and tie instead of a

Ryan Fensca, OD, uses retinoscopy bars to obtain a refraction on his son.

Image: Elliott KF

white coat," Zaba said. "I find it more comfortable and more relaxing for the child. For children who may have other types of learning disabilities, you want to provide them with a feeling of comfort and ease."

Zaba also recommends that the optometrist be present in the room when the technician is performing some of the screening. He also feels you should work with the child during the visual acuities.

For example, if an isolated letter is correctly identified by the child, "You want to be there to give a lot of positive feedback," he said. "You or your technician should say: 'That's great. Let's try the next letter.' Soon, you can begin to show all the letters on the screen."

The goal, Zaba said, is for the children to like you, your staff and your whole office.

"Whatever they do is right, so to speak," he said. "You do not want to say: 'No, that's wrong.' When performing a binocular evaluation, you may have to repeat yourself and say: 'That's good. Let's try it like this again.' Using your hands, say to the child: 'Tell me when my hands are on top of each other or when they are next to each other.' After you do this, then say to the child: 'Let's do this again, but with letters.' Then tell the child to 'look through the magic eye machine (which is your phoropter) and we'll do this again, except using lines instead of my hands.' You want to give the child a positive self-concept during the visual evaluation. How can I, as a doctor, make this child like me? Examining a child is work, but it is a great experience."

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Because 80% of a child's learning comes from vision, it is crucial that these patients embrace their new glasses, Elliott said. She tells patients after the exam that she "saw their brain, and they have a very smart brain. And when you wear your glasses, your brain will be even smarter."

Tips for the exam

The patient history is critical, Steele said. A child may have a problem that the parents do not realize is linked to vision, such as attention deficit disorder or attention deficit hyperactivity disorder.

"It is important to talk to and listen to the parent as part of the history," Steele said. "It is paramount that you engage the parent, because you are dealing with their child. It sets the stage for a lifetime of healthy vision for that child."

Typically, a comprehensive eye exam takes about 25 minutes, "but every child is unique and different," Zaba said. "If you have a child who responds quickly, it is much easier. A very gifted child, though, may become frustrated, as well as an average child. The key factor is to never show that the patient is giving you difficulty. Just keep that smile and try to change your perspective when you are presented with challenges."

In many cases, before the exam, time should be allocated to talk privately with the parent, guardian or grandparent, away from the child, before the exam, he said.

"You may learn that the child has some social difficulties and may be seeing a counselor or psychologist," Zaba said. "The history of the child may also reveal family dynamics that are causing strife. We don't want certain words said in front of a child that he can fixate on at a later time."

Glen T. Steele, OD, FCOVD, FAAO, performs a stereopsis test on an infant.

"The better rapport and attention you have with a child, the more accurate the findings," Hellerstein said. "Even with little babies, you can get a pretty good estimate of their refractive error by using a retinoscope and lens racks."

Having a movie running in the background or an assistant or a parent playing with toys behind the clinician can also assist in accurate refraction, she said. Incorporating fun toys with pen lights for fixation and placing a hand on the child's head can help in assessing eye alignment and eye-movement skills as well.

Hellerstein schedules at least 30 minutes for a pediatric visit, with the history portion often taking

Images: Steele GT

When a child looks at a fixation target, it allows the optometrist to evaluate eye movement and alignment.

Lynn F. Hellerstein

more time than the actual exam.

"It may be only 5 to 10 minutes of actual testing," she says.

Unlike a yearly adult examination, Hellerstein has an information form that parents complete about their children's physical, cognitive and social development.

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“We are interested in the child’s developmental history,” she said. “Parents may note that their 6-month-old does not look at them or won’t track, or that the child’s eyes are crossing or drifting after 4 to 6 months of age. Lack of crawling, late walking or poor eye-hand coordination is also essential information, because we are not just evaluating eyeballs. We care concerned with the child’s development.”

Hellerstein said it takes a shift in an office mindset to cater to the pediatric population.

“The reception area needs to be kid-friendly, such as having a small corner with kid’s books and toys,” she said. “We have a whole separate room for kids with videos, toys and books. It is like walking into a pediatrician’s office, yet still preserving space for our adult patients.”

By creating a kid-friendly environment, “I think it makes both the child and parent more comfortable,” she said. “It conveys that this is a place that understands children.”

For more information:

Kathleen Foster Elliott, OD, Dipl ABO, can be reached at PO Box 914, Broken Arrow, OK 74013; (918) 691-9586; drelliott1111@yahoo.com.

Lynn F. Hellerstein, OD, FCOVD, FAAO, can be reached at 7400 E. Orchard Road, Suite 175-S, Greenwood Village, CO 80111; (303) 850-9499; DrH@lynnhellerstein.com.

Glen T. Steele, OD, FCOVD, FAAO, can be reached at Southern College of Optometry, 1245 Madison Ave., Memphis, TN 38104; (901) 722-3284; gsteele@sco.edu.

Joel N. Zaba, OD, MA, can be reached at Pembroke One, Suite 105, 281 Independence Blvd., Virginia Beach, VA 23462; (757) 497-9575;joelzaba@cox.net.

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