

6-Month and 3-Year Old Visual Evaluations for Primary Care Optometry

Paul Harris, OD

College of Optometrists in Vision Development, Fellow
Australasian College of Behavioral Optometry, Fellow
American Academy of Optometry, Fellow

The Problem

In general, we do not currently see children under the age of 6 or 7. Only 14% of those under 6 have had any kind of visual evaluation. If they have eye/vision problems either the pediatrician deals with them or they are referred to a pediatric ophthalmologist. This establishes the fraternity of MD's as THE health care practitioners for children and affords the MD's the ability to establish strong bonds with the children and their families.

The Problem

Primary care optometrists may not feel comfortable with working with infants and preschoolers. Much of what we learned to do clinically works well with cooperative patients who will sit quietly in the chair and will respond to our probes in the manner we expect. Infants tend to work on their own schedules and react in their own manner. We must adapt to them.

The Problem

Thus, the lack of clinical training combined with the lack of experience with this population has led some optometrists to draw back from actively seeking to work with this population.

The Problem: prevalence/incidence

- Amblyopia
 - Affects 6,000,000 Americans
 - 75,000 new cases a year found in 3-year-olds
 - Causes more vision loss in under 45-year-olds than all other ocular diseases and trauma!
- Strabismus
 - Pseudotropia
 - Infantile: 1-2% of the population
 - Accommodative Esotropia: 2-2.5% of the population can be diagnosed by ages 2-4

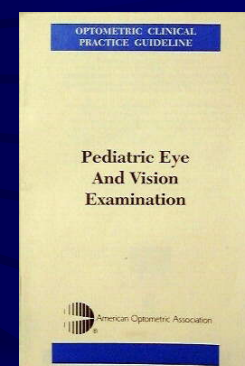
Changes are in the air!

- Operation Bright Start
- AOA Clinical Practice Guidelines
- PTA Resolution
- Kansas Optometric Association Program -- See to Learn

AOA Resolution 1992

Resolved, that the American Optometric Association inform the public of the need to have infants' eyes examined by six months of age by their family optometrist.

AOA Clinical Practice Guidelines



The end result:

Whether you are ready or not, over the next few years you will be getting calls from parents that have learned that they should be seeking out the care of a primary care optometrist for their newborn and their preschoolers.

Today's Goal

To help you feel more comfortable with the evaluation of the 6-month and the 3-year old when they come into your office.

Topics to be addressed

- What am I looking for?
- What tests should I be doing?
- What can I treat and how?
- What do I do with the other things I find?
- What new equipment do I need to get?

Where does this information come from?

- 20 years clinical experience
- AOA Optometric Clinical Practice Guideline
- Operation Bright Start
- Conference on Clinical Vision Care - 4

Why 6-months and 3-years?

“Clinical experience and research have shown that at 6 months the average child has reached a number of critical developmental milestones making this an appropriate age for the first eye and vision examination. At this age the average child can sit up with support and cognitively is concerned with immediate sensory experiences. Accommodation and stereopsis develop rapidly, reaching adult levels by 6 months.” AOA

Why 6-months and 3-years?

“At about 3 years of age children have achieved adequate receptive and expressive language skills to begin to cooperate for some of the traditional subjective eye and vision test. By 6 years of age, most adult tests can be used with children with minor procedural modifications. Appropriate test procedures need to be based on the child’s developmental age and specific capability.” AOA

Steps of the exam

- History
- Ocular Health
- Ocular Alignment and Motility
- Visual Acuity and Refractive Status

The Optometrist’s Responsibility

“The optometrist’s responsibility is not to do specific tests - it is to assume responsibility for all aspects of eye and vision care for all patients presenting to the office.” Glen Steele, OEP President

What should I look for?

- Asymmetry
- Asymmetry
- Asymmetry

Asymmetries are clues to maladaptation

- Retinoscopy
 - Dioptrics
 - Brightness
 - Color
- Fixation
- Visual acuity
- Eye alignment

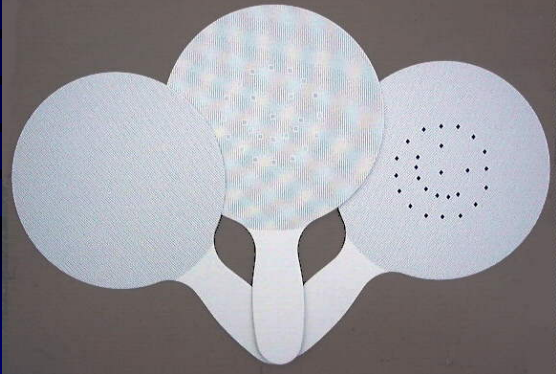
Test for the 6-month-old

- Pre-examination questionnaire
- Comprehensive case history
- Retinoscopy - dimly lit room - no lenses
- Penlight motility and CNP/NPC
- OKN
- Face Dot Test
- VOR
- Hirschberg & Cover Test & Prism challenge
- Ophthalmoscopy & Pupils

The Opticokinetic Nystagmus Drum.



The Face Dot Test



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Prescribing Pearls

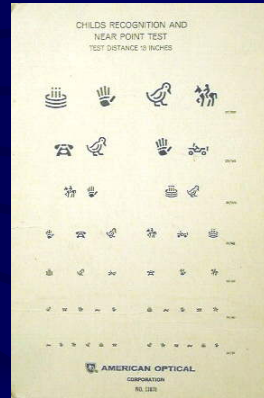
- Allow emmetropization to take place
- Wait on Rx unless esotropia is present
- Wait on Rx if child was a preemie
- Prescribe lenses that positively affect the child's interaction with the environment.
- General guide: be conservative: 1/3rd of what you measure to begin with!

Test for the 3-year-old

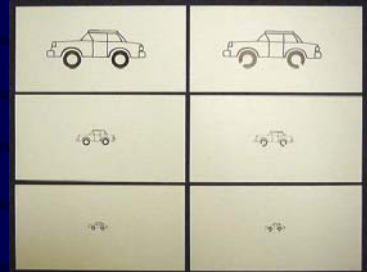
- Pre-examination questionnaire
- Comprehensive case history
- Visual acuity - pictures, tumbling "E", broken wheel test
- Cover testing; cover-uncover, alternate cover
- Motility testing
- CNP/NPC RGR
- Worth 4 dot distance & near
- Randot Stereo Testing

< more >

Picture Chart
for working
with children



The Broken
Wheel Test
from Bernell
Corporation
done by Dr.
Jack Richmond
of NEWENCO



The Worth 4
dot used at
both distance
and near to
assess basic
binocularity.



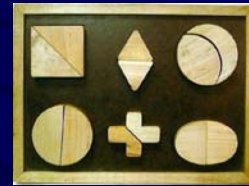
Test for the 3-year-old (cont.)

- Keystone Basic Binocular Test
- Near point retinoscopy
- Far point retinoscopy
- Form board puzzles; 3, 6, & 12 pieces
- Square inch cubes; 3 block bridge, tower
- Stand on one foot and then other
- Jump in place with two feet
- Hop on one foot and then other

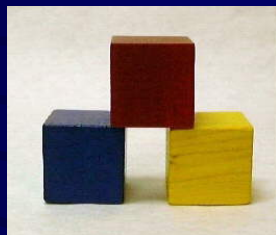
The Keystone Basic Binocular Test, excellent for young children, strabismics, amblyopes and head injured patients.



Form puzzles, 3, 6 & 12 piece puzzles.



The Piaget 3-Block Bridge



What can I treat and how?

- Acute
 - Damaged Infrastructure
 - Significant developmental delay
 - Inconsistencies in data
- Intermediate
 - Developmental counseling
 - Lenses
 - Monitoring
- No concern all looks normal

What can I treat and how?

“If the patient is normal and no risk factors have been identified and the findings are all right, then follow up should be done between 24 and 36 months of age. They should be seen sooner if they enter a formal nursery program or if the parent observes any signs or symptoms of a significant visual problem as discussed by the optometrist. The parents should be educated during the initial assessment.” CCVC

What can I treat and how?

“If a subtle sign of a visual problem is identified then the parents should be educated and counseled. The optometrist should employ all procedures and treatments within the scope of their license, including referral within our profession. Once these are exhausted or if there are indications then multidisciplinary consults should be sought out for the child (OT, PT, neurology, allergy, speech, auditory, etc.)” CCVC

What can I treat and how?

“If there are overt findings of amblyopia, anisometropia, high hyperopia, high myopia, strabismus, ocular pathology, movement problems, auditory problems, etc. and treatment is within the scope of optometry, the optometrist should manage and/or treat based on the optometrist’s comfort level. Any care that is required that goes beyond the comfort level of the optometrist should be referred to a colleague.” CCVC

How do I sign up for OBS?

Kentucky optometrists can sign up right now to be part of Operation Bright Start. You can do this on-line at:

www.operationbrightstart.com

Patient #1 SR 7 months

- History - Parents note no problems
- Ocular health - shows expected normal appearance
- Ocular motility - full EOM with sustained fixation
- Binocularity - alignment on Hirschberg - global stereo on Keystone Basic Binocular Test - good fixation on penlight
- Refraction - +0.50 with -0.75 cylinder axis 180
- Full symmetry on all other measures

Patient #2 TM age 12 months

- Taken from birth parents at age 6 months
- Diagnosed as "Shaken Baby Syndrome"
- Previous diagnosis of subretinal hemorrhage in the macular area of the right eye
- Intermittent right exotropia with increasing frequency reported by foster parent
- Asymmetric visual acuity with the left significantly better than the right
- Visual acuity OD Face Dot 12" OD Face Dot 50"

Patient #3 RG age 9 months

- No problems noted
- Ocular health normal
- Ocular motility: full with head movement, good fixation
- Alignment: ortho at distance and near
- Binocularity: good reaction on Keystone Basic Binocular Test, penlight, and Hirschberg symmetrical
- Retinoscopy: +1.00 -1.00 X 90 OU
- Visual Acuity: symmetrical

Patient #4 RL age 7 months

- Born at 26 weeks
- Released by retina clinic
- Ocular health: normal
- Full EOM
- Alignment - intermittent exotropia at distance and orthophoria at near
- Retinoscopy: OD -11.00 OS -11.00
- Visual Acuity: symmetrical