The Pediatric Eye Exam

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Financial disclosure

I have no financial interest with the manufacturer or the provider of any product or service that will be discussed, nor with the manufacturer or provider of any competing service.

Outline

- Tips/tricks for examining pediatric patients and eliciting history
- Visual acuity testing
- Difficult patients
- Difficult family members

“Children are not simply little adults.”

~Sean Donahue, MD

In Taylor, David and Creig S. Hoyt *Pediatric Ophthalmology and Strabismus*. Philadelphia: Elsevier 2005. p62.

"People of all ages may be especially sensitive about their eyes. In our feeding experiences right from birth, as infants we actively use our eyes to search the face of the person who is feeding us, reading that face like a road map to gather information about the world. At that time in our lives, our eyes help us find answers to the most basic question, "Is the world a good and trustworthy place?" As we grow, we continue to rely on our eyes as an important source of our sense of self, independence, and knowledge of what's going on around us."

Jane M. Breck, Fred M. Rogers, Hedda B. Sharapan, and Albert W. Biglan, "Chapter 80, Physical and Psychological Preparation of Children for Anesthesia and Surgery, Part 2: Psychological Preparation for Anesthesia." Duane's Ophthalmology on CD-ROM, 2006 Edition. Lippincott Williams & Wilkins.

Who Sees Pediatric Patients*?

- Pediatric Ophthalmologists
- Practices in rural/remote areas
  - Can always refer after initial exam
- "You could get us in soonest."
- On-Call Physicians; may f/u in your office

- *Can also include non-verbal, less than cooperative, developmentally-delayed adult patients; patients with dementia

#1 Establish Rapport

- Especially important for this patient population
  - Includes parents, grandparents, other caregivers
- Gain their trust
- A few seconds explaining something can save minutes
  - Patient more cooperative
  - Caregivers more cooperative, not stopping to ask/answer questions.

#1 Establish Rapport

- Technicians are very important in the process!
  - Often the person who escorts the child and family to the exam room
  - First person to lay eyes on the patient and family
  - Sets the tone for the physician
  - (But sometimes you’re the bad guy; giver of eye drops)

Creature Comforts

- Depending on age of child give the option of “sitting in the big chair all by yourself” or sitting on someone’s lap
- Parent(s) may need to hold the child for certain parts of the exam.

Look and Listen

- May have to play detective
- While getting the story actively but casually observe the child play, interact, reach for items
- May notice things the doctor doesn't see
- Some behaviors (blinking) may be only situational
  - When talked about
  - When child knows (s)he's being watched!

Maintaining Order?

- May have go out of your set exam sequence
  - May be on borrowed time
    - Impending meltdown
    - Scheduled exam during nap time
    - Shorter attention spans
  - Get vital information first
- Can't always do it all on one visit!

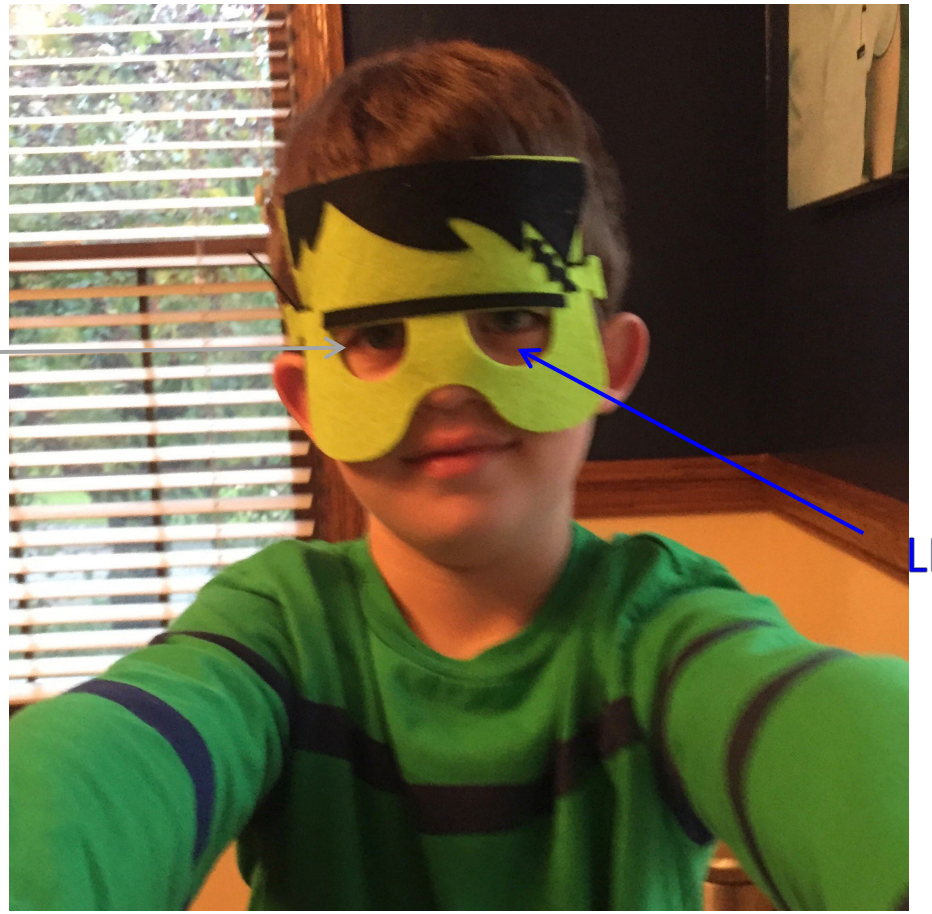
Jill Greenberg

History

- Good history is tantamount
- May need to elicit from someone other than the patient
- Person giving history may not know all the correct terms; may not know how to verbalize

History

- Left vs. Right



History

- When all else fails ophthalmology is very visual—can often get clues from the exam and go back for clarification!

History

- Depending on age, chief complaint and presentation
  - Pregnancy and birth history
    - Potential exposure to infectious or toxic agents
      - “ToRCH” (Toxoplasmosis, Rubella, Cytomegalovirus, Herpes simplex)
    - Maternal immunization(s)
    - Maternal medications/drug use while pregnant/nursing
    - Premature birth—how early, birth weight
    - Birth trauma
    - Hospitalizations

History

- Wording and tone are important!
- Parents may already blame themselves
  - Don't make them feel worse
- More willing to surrender helpful information if not on the defensive

History

"Are there any concerns that you or your child's pediatrician have?"

Photodocumentation

- Ask to see photos or videos
  - Especially helpful if patient is asymptomatic in the office
  - Also helpful for older kids and adults to gage chronicity of certain conditions
    - Strabismus
    - Anomalous head posture
    - Red reflex
    - Ptosis

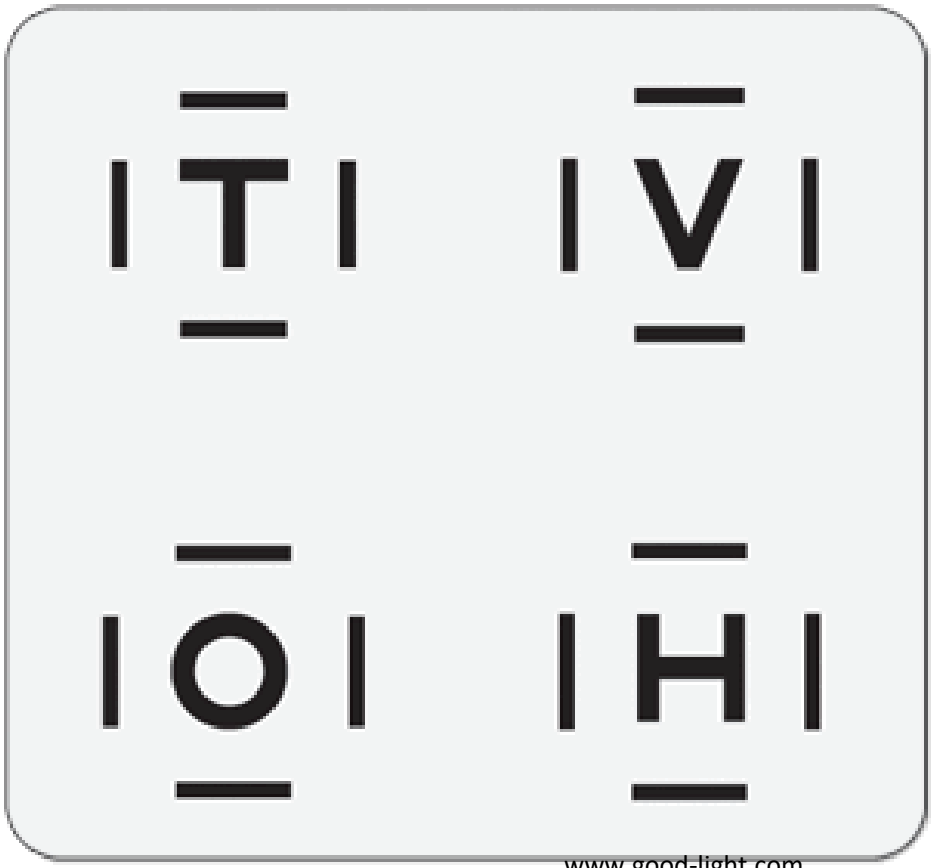
Visual Acuity

- Can use Snellen/ETDRS
- May need to use alterative modalities to check acuity

HOTV

- Limits the letters to…
  - H O T V
- Easier for kids who don’t know their letters well
- Option to match

Crowding Bars



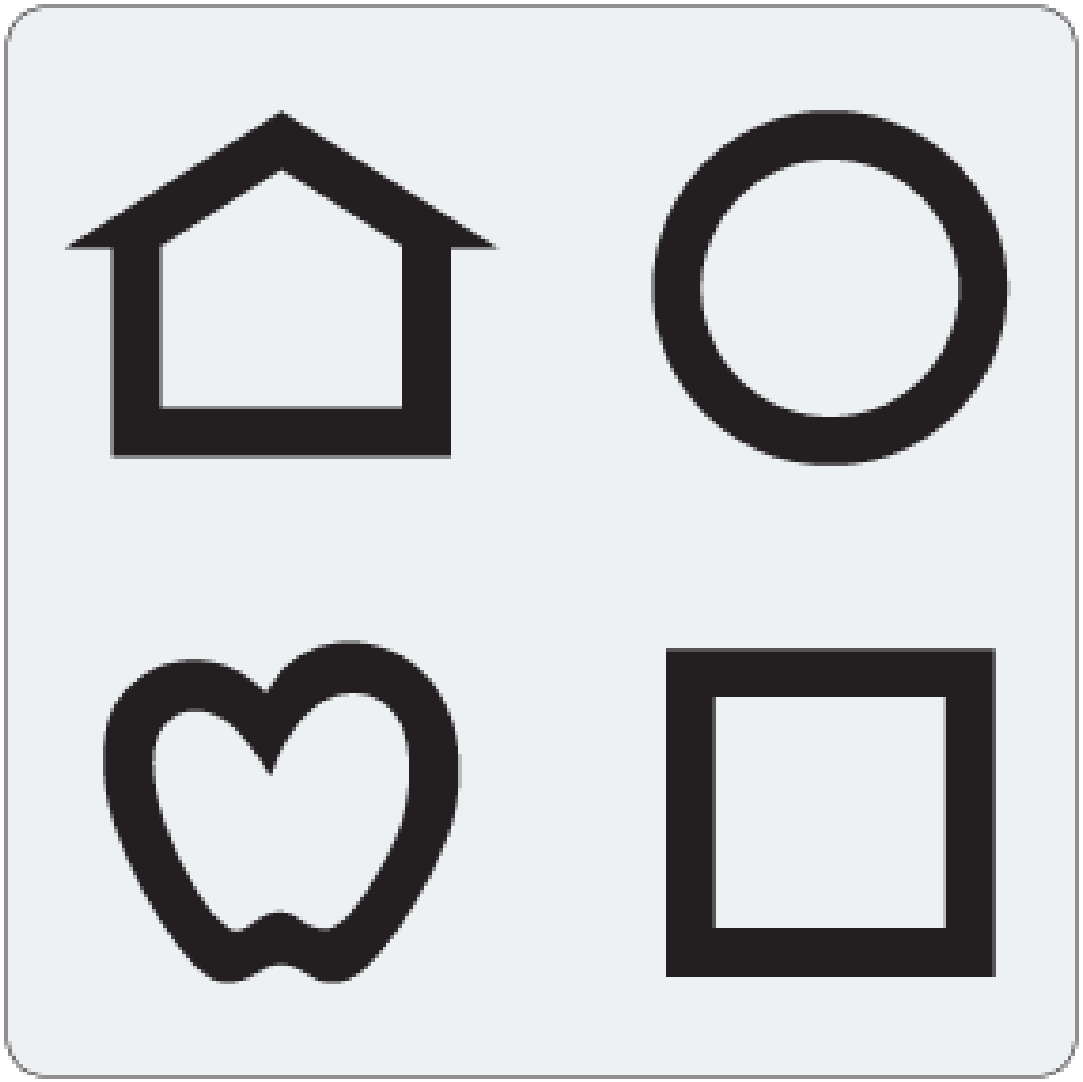
www.good-light.com

- Single letters may not be as overwhelming as a full line
- Single letters can overestimate visual acuity in an amblyopic eye

Lea Figures

- Developed by Lea Hyvärinen MD, PhD
- Same idea as HOTV
- Choice of four figures
- Also gives matching option

Lea Figures



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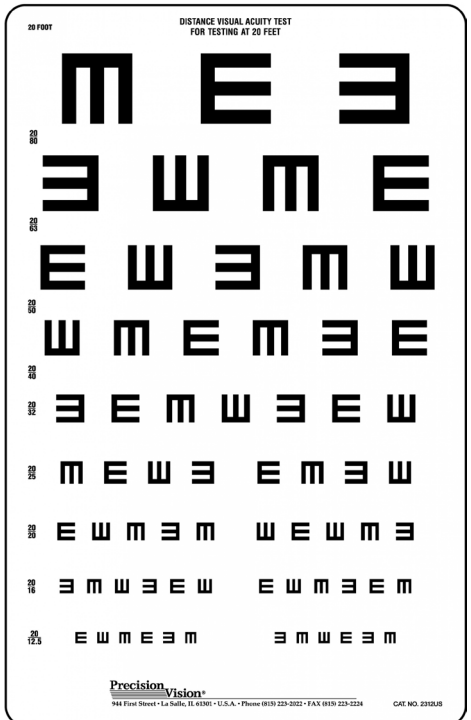
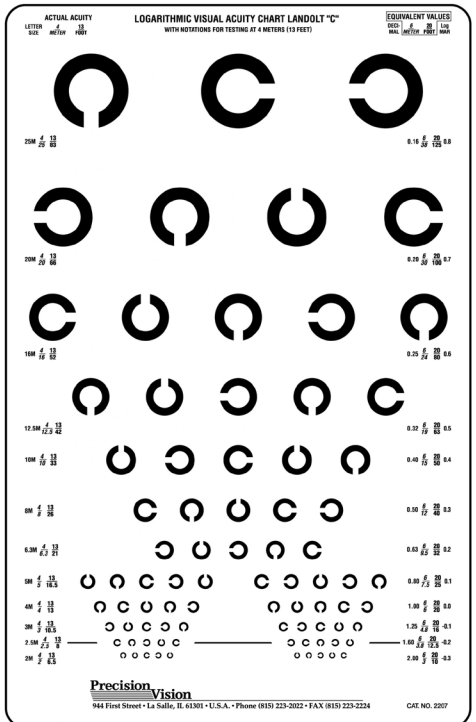
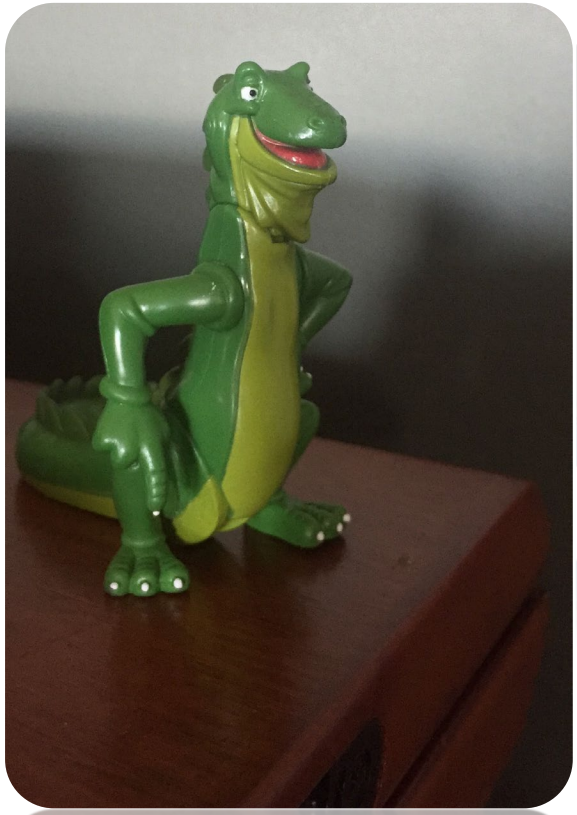
Tumbling E's and Landoldt C

- Not really used much in U.S.; perhaps for screening
- Thought to be too abstract for very young patients





Toys
Tools of the Trade



Retinoscopy

- Invaluable tool for young/ non-verbal/ uncooperative patients.
- Objective refraction
- Clarity of visual axis
- Loose lenses or with trial frames work best.
- Kids tend to be too fidgety at a phoropter

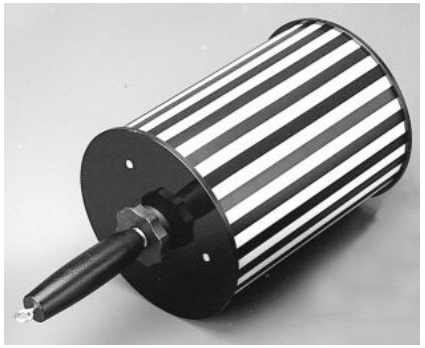
Is your vision really that bad?

- CHECK THE PUPILS!!
- Fog and refract.

Is your vision really that bad?

- Optokinetic (OKN) tape
- At least finger-counting

- OKN drum

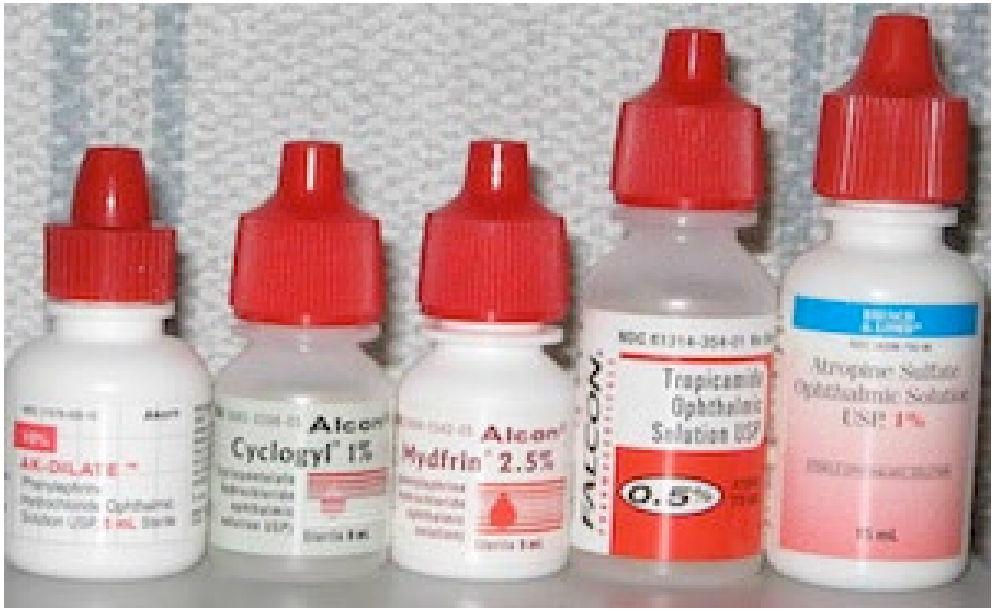


Is your vision really that bad?

- Large mirror
  - If patient follows the mirror, Va is at least hand motion

Is your vision really that bad?

- “Strong eye drops” make the vision better



Is your vision really that bad?

Is your vision really that bad?

- Failed eye exams
- Sixth sense for detecting the “fakers”
- “Do any of your friends wear glasses?”
- Start at 20/8 and work your way up
- Plano lenses

How well does my baby see?

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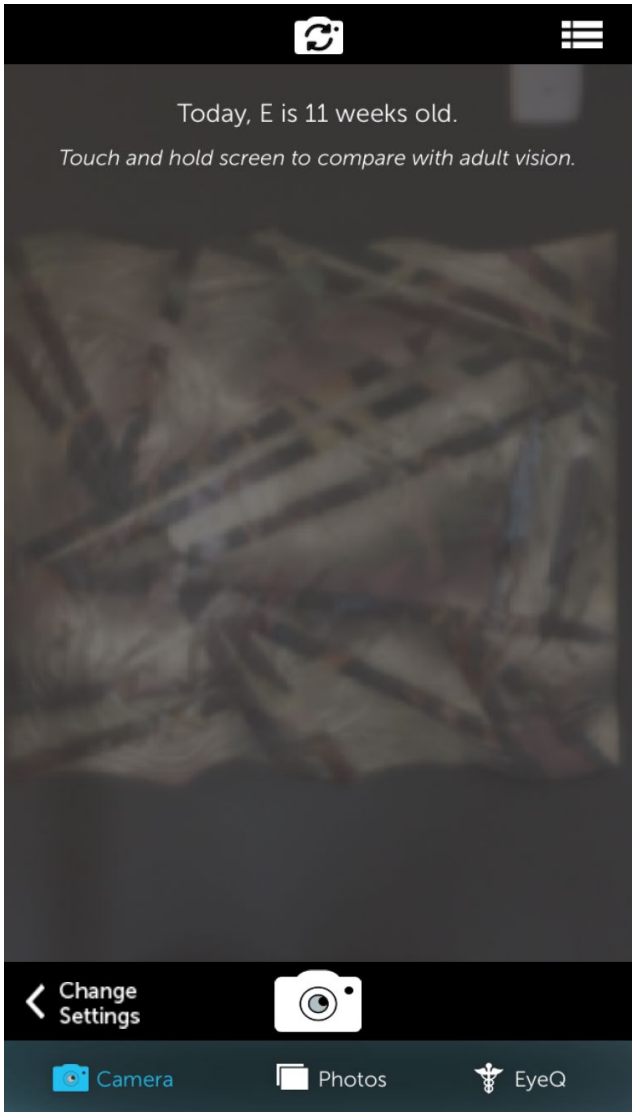
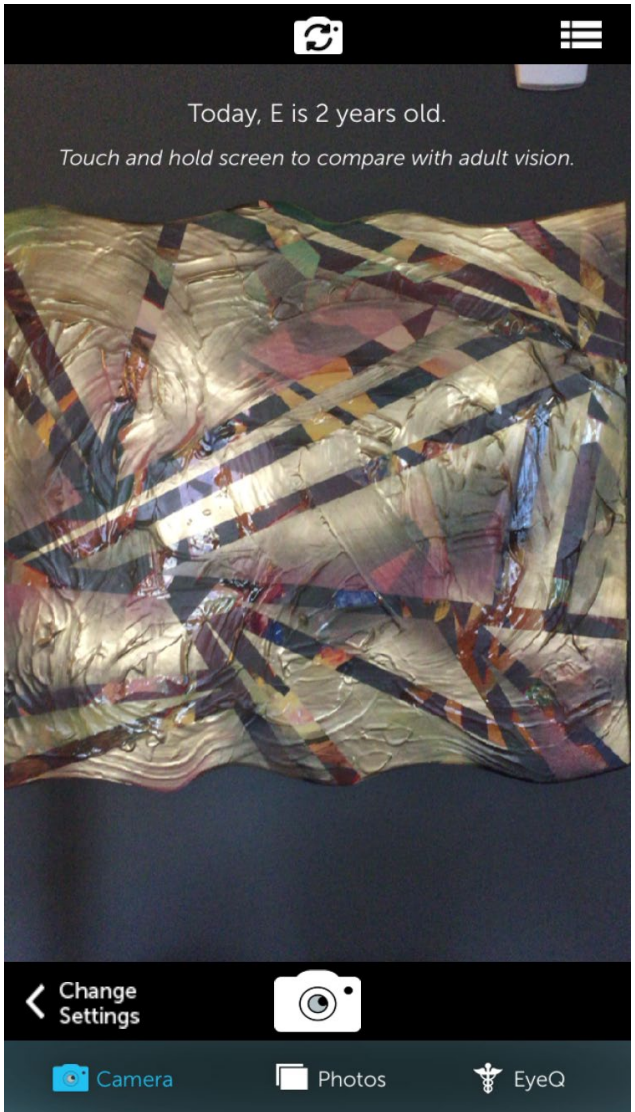


How well does my baby see?



“Now you’ve done it!”

- Do what you can
  - Get most important info
- May have to assist family member in holding the patient or gently opening the eyelids
- Warn the doctor if (s)he’s about to walk into a storm.

Let’s do this again another day!

Let’s do this again another day!

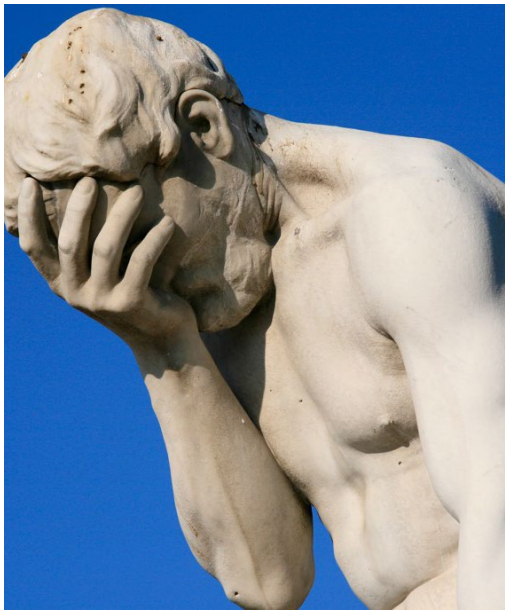
- When all else fails
  - Go on to next patient and return in a few minutes
  - Sometimes behavior improves after dilation
  - Reschedule
  - Exam under anesthesia (EUA)

The Difficult Parent*

- Assure that we're all on the same team
- Ensure that the doctor/proxy has enough time to explain everything
- Good communication
- If things are running behind let waiting parents/patients know!

*Or adult child

The Difficult Parent



- Personalities are not always compatible
  - No one's fault
- Can't make everyone happy
- Occasionally a co-worker may need to work-up the patient

Summary

- Tips/tricks for examining pediatric patients and eliciting history
- Visual acuity testing
- Difficult patients
- Difficult family members

“You were a child once, too. That may be obvious, but knowing that and remembering what it was like being a child can make a significant difference in the relationship between you and your child patient. Some children are fortunate enough to be treated by physicians who recall the feelings of being a powerless vulnerable child.”

Jane M. Breck, Fred M. Rogers, Hedda B. Sharapan, and Albert W. Biglan, “Chapter 80, Physical and Psychological Preparation of Children for Anesthesia and Surgery, Part 2: Psychological Preparation for Anesthesia.” Duane’s Ophthalmology on CD-ROM, 2006 Edition. Lippincott Williams & Wilkins.

Vision Screening
Recommendations

AGE	TESTS	REFERRAL CRITERIA COMMENTS
Newborn to 12 months	• Ocular history • Vision assessment • External inspection of the eyes and lids • Ocular motility assessment • Pupil examination • Red reflex examination	• Refer infants who do not track well after 3 months of age. • Refer infants with an abnormal red reflex or history of retinoblastoma in a parent or sibling.
12 to 36 months	• Ocular history • Vision assessment • External inspection of the eyes and lids • Ocular motility assessment • Pupil examination • Red reflex examination • Visual acuity testing • Objective screening device "photoscreening" • Ophthalmoscopy	• Refer infants with strabismus. • Refer infants with chronic tearing or discharge. • Refer children who fail photoscreening.
36 months to 5 years	• Ocular History • Vision assessment • External inspection of the eyes and lids • Ocular motility assessment • Pupil examination • Red reflex examination • Visual acuity testing (preferred) or photoscreening • Ophthalmoscopy	Visual Acuity Thresholds: • Ages 36-47 months: Must correctly identify the majority of the optotypes on the 20/50 line to pass. • Ages 48-59 months: Must correctly identify the majority of the optotypes on the 20/40 line to pass. • Refer children who fail photoscreening.
5 years and older*	• Ocular history • Vision assessment • External inspection of the eyes and lids • Ocular motility assessment • Pupil examination • Red reflex examination • Visual acuity testing • Ophthalmoscopy	• Refer children who cannot read at least 20/32 with either eye. Must be able to identify the majority of the optotypes on the 20/32 line. • Refer children not reading at grade level.

**Repeat screening every 1-2 years after age 5.*

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