

## Vision: A Journey

Kavita Malhotra, O.D., F.C.O.V.D.  
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### History

- 4 yo AA girl
- Frequently looks out of the corner of her eyes. Loses her place when trying to read.
- Last eye exam 2 months ago.
- Rx OD: +3.25 - 0.50 x 92      OS: +2.00
- VA: OD 20/50    OS 20/40

### Exam Findings

- **Ret:** OD +3.25    OS: +0.75
- **Subj:** OD: +1.50 20/40-2/+2    OS: +1.00 20/20
- **Stereo:** +RDS 250 sec, circles 400 sec of arc
- **Worth 4 dot:** Fusion to 10 feet. W/o RX suppression beyond 2.5 feet
- **DCT:** ortho      **NCT:** 8^ XP
- **NPC:** 5"/8"/+dip/OD out

### 4 years later - 2010

- 8 yo
- Head turn to the right. Looks out of corner of her eyes to left.
- Not worn Rx for past few months. Feels sees better without. Loses her place when trying to read. Doing well in school.
- Patching OS 1 hour 3 to 4 days/week.
- OD: +2.00 20/25-2/+2    OS: +0.25 20/20

### 2010 Exam Findings

- **Ret:** OD +4.50 OS: +0.75
- **Subj:** OD: +2.00 20/25+2 OS: plano 20/20
- **Stereo:** +RDS 250 sec, circles 50 sec of arc
- **Worth 4 dot:** Fusion to 10 feet. Without Rx suppression beyond 2.5 feet
- **DCT:** 2XP **NCT:** 20<sup>^</sup> XP
- **NPC:** 7"/10"/+dip/OD out, w/ Rx 5"/8"

### 2010 Exam cont.

- **Dist:** LP 7 exo  
BI: x/18/12 BO: x/12/0
- **Near:** LP 18 exo  
BI: x/28/22 BO: x/6/-8
- **Amps:** OD 8.5D OS 11D
- **Ret post dilation:**  
OD +5.50 OS +1.50-0.50 x 180

### 2 years later - 2012

- 10 yo
- Diplopia at times far > near. Head turn to right
- Loses her place when trying to read. Doing well in school
- OD: +2.00 20/25-2/+2
- OS: +0.25 20/20

### 2012 Exam Findings

- **Subj:** OD: +2.25-0.50 x180 20/25+3  
OS: plano 20/20
- **Stereo:** +RDS 250 sec, circles 30 sec of arc
- **Worth 4 dot:** Fusion at near, at far blurry.
- **DCT:** 4XP **NCT:** 14<sup>^</sup> XP
- **NPC:** 6"/8"/+dip/OD out, w/ rep 7"/10"

### 2012 Exam cont.

- **Dist:** LP 5 exo  
BI: x/20/6      BO: 10/18/0
- **Near:** LP 11 exo    w/+1.00 LP 13 exo  
BI: 12/30/19      BO: x/18/0  
NRA +1.25      PRA -0.50
- **Amps:** OD 8D      OS 12.50D
- **Modified Thorington:** 18 exo

### Treatment Plan

- Contact lens OD +2.00
- VT recommended

### 2 years later - 2014

- 12 yo entering 7<sup>th</sup> grade
- Vision is clear, but sees double at home. Especially when looking at door. Head turn less frequent.
- OD: +2.00 20/25-3
- OS: plano 20/20

### 2014 Exam Findings

- **Subj:** OD: +2.25-0.50 x180 20/20-3  
OS: plano-0.25 x 180 20/20
- **Stereo:** +RDS 250 sec, circles 70 sec of arc
- **DCT:** 10<sup>^</sup> RXT deviated 80%
- **NCT:** 18<sup>^</sup> Alt XT deviated 80%
- **NPC:** 8"/10"/+dip/OD out, w/ rep 9"/11"

**2014 Exam cont.**

- **Dist:** LP 15 exo VP 3<sup>^</sup> R hyper  
BO: 10/18/-6      BI: x/22/8
- **Near:** LP 18 exo w/+1.00 LP 20 exo  
BO: x/14/12      BI: 18/28/20  
NRA +1.25      PRA -1.00
- **Amps:** OD 8D      OS 11D
- **Modified Thorington:** 18 exo

**2015**

- 13 yo entering 8<sup>th</sup> grade
- Seeing double, right image is higher.
- OD: +2.00 20/20-3
- OS: plano 20/20

**2015 Exam Findings**

- **Subj:** OD: +2.25-0.25 x105 20/20-2  
OS: -0.25 20/20
- **Stereo:** +RDS 250 sec, circles 40 sec of arc
- **DCT:** 8<sup>^</sup> constant XT 4<sup>^</sup> R hyper
- **NCT:** 18<sup>^</sup> Alt XT 4<sup>^</sup> R hyper deviated 80%
- **NPC:** 7"/10"/+dip/OD out, w/ rep 9"/16"

**2015 Exam cont.**

- **Dist:** LP 12 exo VP 4<sup>^</sup> R hyper  
BO: 10/16/8      BI: 10/14/6
- **Near:** LP 12 exo w/+1.00 LP 20 exo  
BO: x/20/18      BI: x/16/-8  
NRA +1.25      PRA -1.50
- **Amps:** OD 8.75D      OS 11.50D
- **Modified Thorington:** 25 exo, 5 R hyper

### 2015 Exam cont.

- MEM: OD +1.50 OS: +0.25
- DEM: Vertical 65 to 70 percentile  
Horizontal 49 percentile  
Ratio (overall speed) 15 percentile  
Accuracy 35 to 55 percentile

### Treatment Plan

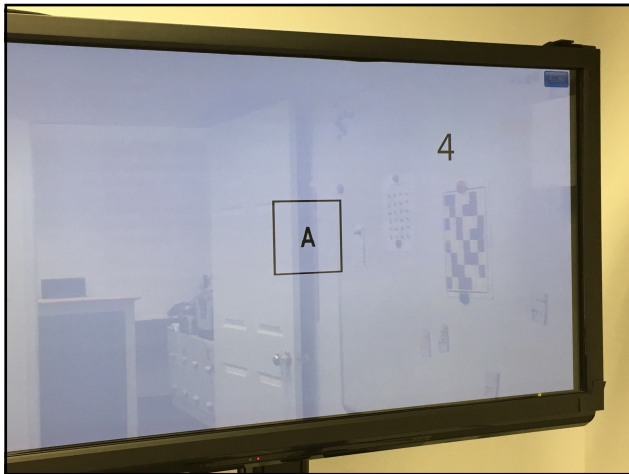
- Contact lens OD +2.25
- Start therapy sessions

### Bilateral Integration

Standing Angels  
Chalkboard Circles  
Standing Balance  
Finger touching

### Oculomotor Procedures

Kraskin Eye Movements  
Eye stretches  
Wach's Eye Control  
Large angle saccades and pursuits  
Hart Chart  
Marsden ball looping



### Fusion Procedures

Wheatstone Stereoscope  
Vectograms Clown to Quaits  
Binasals  
Brock String, Eccentric Circles  
VTS4

### Home Reinforcement Procedures

#### Oculomotor

Eye stretches  
Scanning (wall, cards)  
Kraskin eye movements

#### Bilateral Integration

Standing angels  
Chalkboard circles

### Home Reinforcement Procedures

- Pointer in straw (in all gazes)
- Eccentric Circles
- Wach's eye control
- Mirror superimposition (red/yellow felt)
- Lens rock

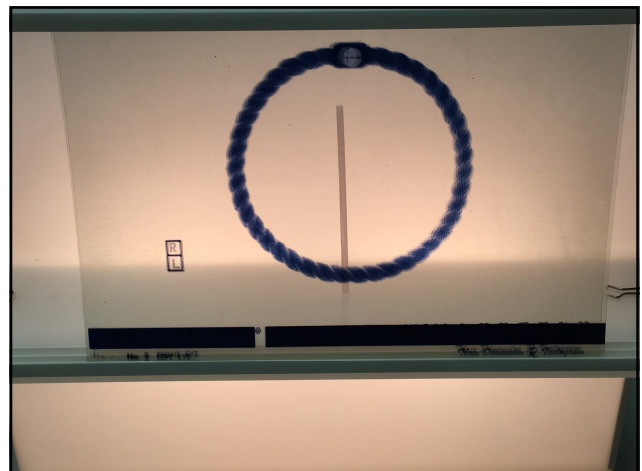
### Eccentric Circles

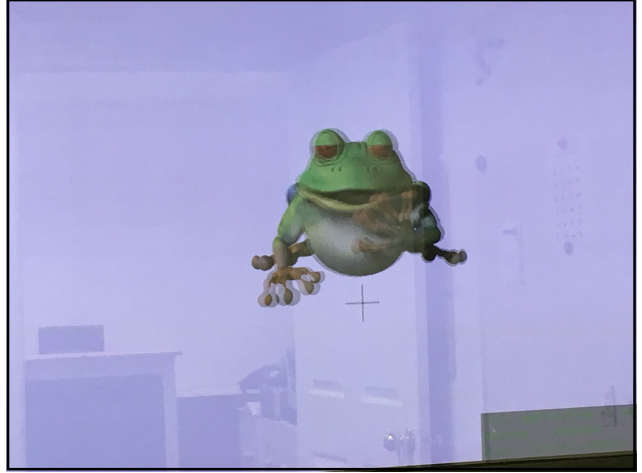
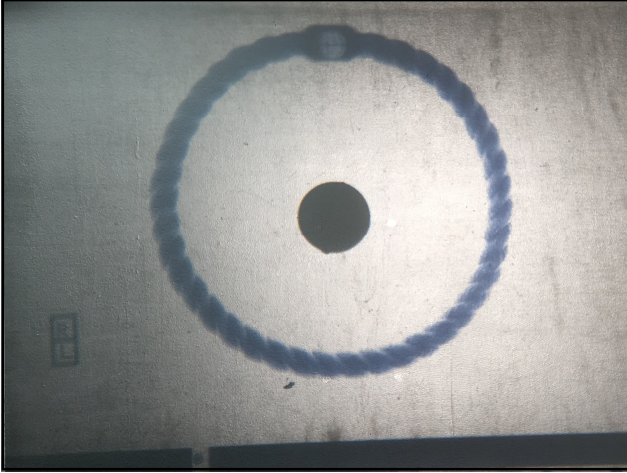


Stickers

### Building appreciation of stereopsis

- Near vectograms
- Wach's Light Birthday Cake
- Variable prism stereoscope
- Projected vectograms & tranaglyphs
- VTS 4









## Progress

### 3 months into therapy

Less diplopia, able to read faster

Continue with in office therapy session and home reinforcement procedures

### 4 months later

"I can see it floating towards me."

## Take Home Messages



**Don't give up!**

**The path to success can have many twists and turns.**

## Thank you!



**Kavita Malhotra, O.D., F.C.O.V.D.  
501 Church St. NE, Suite 215  
Vienna, VA 22180  
(703) 242-0737  
drmalhotra@cox.net**