

Slide 1

Treatment of Diplopia Secondary  
to a Cerebral Vascular Accident

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COVD Annual Meeting 2016  
St. Louis, MO

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Slide 2

**History**

- 39 yo Caucasian male
- Constant H and V diplopia after a CVA about a month earlier
- Uses a patch, alternating eyes every few hours
- Referred by the OT at the hospital rehab clinic
- Patient wants to be able to drive again

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Slide 3

**Exam Findings**

- **DVA:** OD 20/20 OS: 20/20
- **NVA:** OD: 20/30 OS: 20/20
- **Ductions:** OD jerky & fixation losses, OS full
- **Versions:** OD abduction deficit, OS full
- **DCT:** 6° ET with 12° R hypo
- **NCT:** 4° ET with 8° R hypo

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Slide 4

Modified Thorington

Horizontal Deviation: **ESOTROPIA**

6 <sup>^</sup>	8 <sup>^</sup>	7 <sup>^</sup>
12 <sup>^</sup>	12 <sup>^</sup>	14 <sup>^</sup>
12 - 14 <sup>^</sup>	14 <sup>^</sup>	14 <sup>^</sup>

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Slide 5

Modified Thorington

Vertical Deviation: **R HYPO**

8 <sup>^</sup>	12 <sup>^</sup>	12 <sup>^</sup>
12 - 14 <sup>^</sup>	14 <sup>^</sup>	11 - 14 <sup>^</sup>
14 <sup>^</sup>	14 <sup>^</sup>	12 <sup>^</sup>

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Slide 6

- **Subjective**  
OD:  $-0.50 - 0.25 \times 170$  20/20  
OS:  $+0.50 - 0.25 \times 060$  20/20
- **Prism adaptation**  
14<sup>^</sup> BU OD. Increased to 16<sup>^</sup>  
Diplopic after less than 30 min

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Slide 7

**Diagnosis and Treatment Plan**

- ET with R Hypotropia
- Noncomitant
- No Rx -- yet
- Start VT

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Slide 8

**Bilateral Integration**

- Standing Angels
- Chalkboard Circles
- Standing Balance
- Finger touching

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Slide 9

**Oculomotor Procedures**

- Kraskin Eye Movements
- Eye stretches
- Wach's Eye Control
- Large angle saccades and pursuits
- Hart Chart
- Marsden ball looping (BI prism)

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Slide 10

**Fusion Procedures**

Wheatstone Stereoscope  
Vectogram Quoit (~6")  
Binasals  
(more consistent 12^ Rhypo)

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Slide 11

**Home Reinforcement Procedures**

Oculomotor  
Eye stretches  
Scanning (wall, cards)  
Krasnik eye movements  
Bilateral Integration  
Standing angels  
Chalkboard circles  
Fusion  
Peripheral awareness with card

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Slide 12

**Home Reinforcement Procedures with Prism**

OD: 12^ taped on plano glasses (oblique axis)  
Brock String (6" to 20")  
Eccentric Circles (converging and diverging)  
Pointer in straw (in all gazes)  
Mirror superimposition (red/yellow felt)

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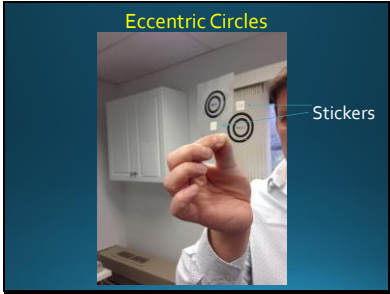
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Slide 13




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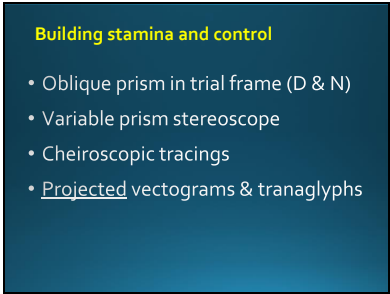


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Slide 14




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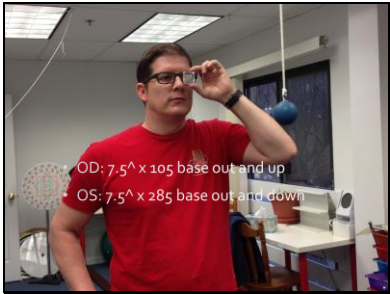


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Slide 15




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Slide 16




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Slide 17

Progress...

4 months into therapy  
 Rx: OD: 7<sup>Δ</sup> x 105 OS: 7<sup>Δ</sup> x 285  
 Continue with in office therapy session and home reinforcement procedures

3 months later  
 Rx: OD: 6.5<sup>Δ</sup> x 105 OS: 6.5<sup>Δ</sup> x 285  
 "I can drive to PA. I don't see double."

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Slide 18

Primary Gaze

 A close-up photograph of a man's face. He is looking directly at the camera with a neutral expression. The background is a plain, light-colored wall.

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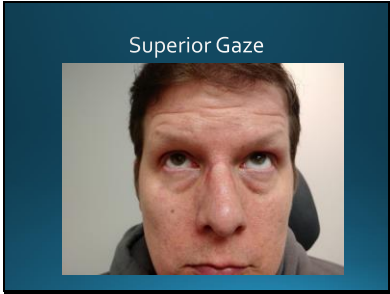


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Slide 19



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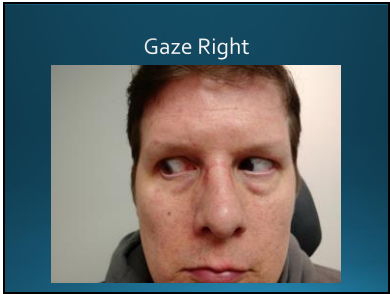
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Slide 20



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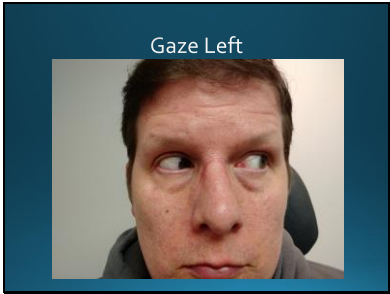
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Slide 21



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Slide 22

**Take Home Messages**  
Oblique prisms can save lives!  
Just trial frame!

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Slide 23

**Thank you!**  
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