Fixation Disparity

A Critical Clinical Measurement

I. Definition

A. A binocular condition in which the visual axes fail to intersect the target of regard by a small amount (minutes of arc)

B. Assumptions

1. Normal correspondence
2. Within a Panum's fusional area

II. Forced Vvergence Curves

A. The graph

1. The “Y”- intercept
   a. Measuring fixation disparity in min of arc
2. The “X”- intercept
   a. Neutralization of fixation disparity in prism diopters
3. Slope of the fixation disparity curve
   a. Between 3pd BO and 3pd BI

B. Ogle curve types

1. Ogle Type I
   a. Key features
   b. Unique features
2. Ogle Type II
   a. Breakdown of binocularity on the BO side
   b. Type II eso and exo
3. Ogle Type III
   a. Breakdown of binocularity on the BI side
   b. Type III eso and exo
4. Ogle Type IV
   a. poor binocularity

B. Experimental Method

1. Find the fovea
   a. Sheedy Disparometer
   b. Saladin card
2. Diplopia Test
   a. Wesson Card

III. Clinical Presentation

A. Presentation of symptoms

1. Asthenopia
2. Intermittent blur
3. Intermittent double vision
4. Difficulty reading
5. Poor concentration
6. Computer Vision Syndrome

B. Flow chart for clinical examination

1. Fully correct refractive error
2. Test phorias, vergences, stereopsis, suppression, accommodation
3. Measure the fixation disparity
4. Generate a forced vergence curve

C. Strategies for data interpretation

1. Typing the forced vergence curve
2. Correlating the fixation disparity with the symptoms
3. Analyze the components of the curve
4. Determine treatment options
   a. glasses
   b. prisms
   c. vision training
D. Basic Guidelines
1. Prisms tend to shift the curve left and right along the “X” axis
2. Lenses tend to move the curve up and down the “Y” axis
3. Orthoptics tend to flatten the forced vergence curve from 3BI to 3BO

IV. Case Studies
A. Case 1 – 43 yr old with difficulty with the computer
B. Case 2 – First year law student can’t read
C. Case 3 – Truck driver with diplopia in the distance

V. Integration of fixation disparity testing into your clinical practice
A. Which (?) patients should be tested
B. When (?) in your exam routine
C. Explanation of results to the patient
### Fixation Disparity - It's Definition and Rational For Testing

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<td>1.</td>
<td>Fixation disparity is readily confused with strabismus.</td>
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<td>2.</td>
<td>Fixation disparity analysis assumes the patients has normal correspondence.</td>
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<td>3.</td>
<td>Fixation disparity at near can occur in the presence of constant esotropia at near.</td>
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<td>4.</td>
<td>Ogle used minus lenses to generate the forced vergence curves.</td>
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<td>5.</td>
<td>Measurement of fixation disparity is in min of arc, while neutralization of fixation disparity is in prism diopters.</td>
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<td>6.</td>
<td>The Sheedy Disparometer provides for measurement of fixation disparity using a continuous scale.</td>
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<td>7.</td>
<td>The Wesson Card can only measure fixation disparity at near.</td>
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<td>8.</td>
<td>Suppression is a common symptom associated with fixation disparity.</td>
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<td>9.</td>
<td>Vision training is effective in eliminating symptoms associated with fixation disparity.</td>
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<td>10.</td>
<td>Prism glasses will not neutralized a fixation disparity if its is at distance, only if it is at near.</td>
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