<table>
<thead>
<tr>
<th>Morgan's Norms</th>
<th>Phoria (BI or NRV) - BIN</th>
<th>ADDuction (BO or PRV) - BOP</th>
<th>Infra (BU)</th>
<th>Supra (BD)</th>
<th>NRA/PRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 M</td>
<td>0-2 XP</td>
<td>x/5/3</td>
<td>7/15/8</td>
<td>3/1</td>
<td>3/1</td>
</tr>
<tr>
<td>40 cm</td>
<td>0-6 XP</td>
<td>11/19/10</td>
<td>14/18/7</td>
<td>3/1</td>
<td>3/1</td>
</tr>
</tbody>
</table>

NPA: Min = 15 – (age ÷ 4); 2.00D below norm is abnormal

NPC: <6cm (≥ 6cm and/or regression w/ repeat PU might indicate a convergence problem)

Stereocuacity: ≤ 40 sec

Versions (EOM): SAFE (Smooth, Accurate, Full, Extensive)

Pupils: PERRL-A (Pupils Equal, Round, Reactive to Light – and Accommodation)

Calculated AC/A: 5/1 (<3/1 is low, >7/1 is high) -- proximal convergence accounts for calc AC/A to be higher

AC/A = PDcm + (HN – HD)(0.4)

NRA/PRA: If higher than +2.50 HH pt might be overminused or underplused

Reflex Fusion: 5 BO (10 cycles at 40cm) Mean: 21 +/- 4 sec Expected: <25 sec

ONH: Rim width: ISNT (widest → narrow)

Material: Glass 1.523 58.9 2.54 100% UVC 80% UCB 15% UVA

CR-39: 1.498 58 1.32 100% UVC/B 85% UVA

Polycarb: 1.586 30 1.20 100% UVC/B/A

Trivex: 1.53 46 1.11 100% UVC/B/A

Multifocal: Vertical Seg Height (from mid-eyewire): Minimum Seg Height

Bifocals: To lash margin

Trifocals: To half inferior visible iris diameter; if dilated, lower lid intersects globe + 2-3 mm above

PALS: To center of pupil (penlight corneal reflex)

Age: Add (40 cm) 41-42 +0.50 43-44 +0.75 45-46 +1.00 to +1.25 47-48 +1.25 to +1.50 49-50 +1.50 to +1.75 51-53 +1.75 to +2.00 54-56 +2.00 to +2.25 57-59 +2.25 60+ +2.50

Age: Min. AA 10 12.5 15 11.25 20 10 25 8.75 30 7.5 35 6.25 40 5 45 3.75 50 2.5

Refractive Error: Exophthalmometry

Systolic Diastolic Stage Follow-Up

<120 <80 Normal Recheck in 2 years

120-139 80-89 Pre-hypertension Recheck in 1 year

140-159 90-99 Stage 1 Recheck in 2 mos

160-179 100-109 Stage 2 REFER w/in 1 mo

180-209 110-119 Stage 3 REFER w/in 1 week

> 210 > 120 Stage 4 REFER IMMEDIATELY!

Randot sec

1 L 400 2 R 200 3 L 140 4 M 100 5 R 70 6 M 50 7 L 40 8 R 30 9 M 25 10 R 20 A Cat 400 B Rabbit 200 C Monkey 100

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<tr>
<th>Condition</th>
<th>Cover Test</th>
<th>Calc. AC/A</th>
<th>AA</th>
<th>Vergences</th>
<th>NRA/PRA</th>
<th>Flippers</th>
<th>MEM</th>
<th>1° Treatment</th>
<th>2° Tx</th>
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<tbody>
<tr>
<td>Convergence Insufficiency</td>
<td>High exo at near</td>
<td>Low</td>
<td>↓ NPC</td>
<td>↓ BO (PRV)</td>
<td>↓ NRA</td>
<td>Fail (+) BAF</td>
<td>Low lead</td>
<td>VT</td>
<td>BI prism at near</td>
</tr>
<tr>
<td>Divergence Insufficiency</td>
<td>High eso at distance</td>
<td>Low</td>
<td>↓ BI (NRV) at distance</td>
<td>↓ PRA</td>
<td>Fails (-) BAF</td>
<td>Large lag</td>
<td>(+) lenses at near &amp; BO overall if eso at distance</td>
<td>BO prism overall or at distance only</td>
<td>VT</td>
</tr>
<tr>
<td>Convergence Excess</td>
<td>High eso at near</td>
<td>High</td>
<td>↓ BI (NRV)</td>
<td>↓ PRA</td>
<td>Fails (-) BAF</td>
<td>Large lag</td>
<td>(+) lenses at near &amp; BO overall if eso at distance</td>
<td>BO prism VT</td>
<td></td>
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<td>Divergence Excess</td>
<td>High exo at distance</td>
<td>High</td>
<td>↓ BO (PRV) at distance</td>
<td>↓ BI (NRV) at near</td>
<td>VT</td>
<td>(-) lenses at distance BI prism</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Basic Esophoria</td>
<td>Eso similar at near &amp; dist</td>
<td>↓ BI (NRV)</td>
<td>↓ PRA</td>
<td>Fails (-) BAF</td>
<td>Large lag</td>
<td>BO prism overall</td>
<td>(+) lenses VT</td>
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<td>Basic Exophoria</td>
<td>Exo similar at near &amp; dist</td>
<td>↓ BO (PRV)</td>
<td>↓ NRA</td>
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<td>BI prism overall</td>
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<tr>
<td>Vergence Dysfunction</td>
<td></td>
<td>↓ BI &amp; BO</td>
<td>↓ NRA/PRA</td>
<td>Fails (+)/(-) BAF</td>
<td>Large lag</td>
<td>(+) lenses</td>
<td>VT</td>
<td></td>
<td></td>
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<tr>
<td>Accommodative Insufficiency</td>
<td>↓ AA at near (?)</td>
<td>↓ BO (PRV) at near (?)</td>
<td>↓ PRA</td>
<td>Fails (-) B&amp;M</td>
<td>Large lag if fatigued</td>
<td>(+) lenses</td>
<td>VT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ill-Sustained Accommodation</td>
<td>↓ AA with multiple PU</td>
<td>↓ BO (PRV) at near (?)</td>
<td>↓ PRA</td>
<td>Fails (-) B&amp;M over time</td>
<td>Large lag if fatigued</td>
<td>(+) lenses</td>
<td>VT</td>
<td></td>
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</tr>
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<td>Accommodative Infacility</td>
<td>↓ BO &amp; BI at near (?)</td>
<td>↓ NRA/PRA</td>
<td>Fails (+)/(-) B&amp;F</td>
<td>VT</td>
<td>(+) lenses</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Accommodative Spasm</td>
<td>↓ BI (NRV) at near (?)</td>
<td>↓ NRA</td>
<td>Fails (+) B&amp;M</td>
<td>Low lead</td>
<td>VT</td>
<td>(+) lenses Cycloplegic</td>
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