LASER LANCASTER and HESS TESTS

Lancaster Test

**Purpose:** Used to evaluate the alignment of the eyes and their movements both individually and in tandem. Provides measure of horizontal, vertical and cyclo-deviation simultaneously for pediatric and adult patients. Also useful for spatial awareness assessment and mapping out a patient’s field of single binocular vision (SBV).

**Procedure:** Test is conducted in low light at one meter. The patient is positioned with chin on the chin rest and wears red/green Anaglyph glasses to insure separation of each eye. The patient uses one line generator and the examiner uses the other. The patient is then asked to superimpose their line upon the projected line from the examiner. Any difference or deviation indicates the deviation direction and magnitude of the measured eye from the normal axis. By swapping the line generators, between the patient and examiner, the other eye may be examined.

**Set includes:**
- **5010R Lancaster Test kit** includes roll-up screen, both red and green line generators, both adult and pediatric red/green glasses, Heavy Duty Chin Rest, instructions and score sheets
- **5011R Lancaster Line Generators** project red and green lines 4-6 inch in length at 1 meter and permit comparison of eye motility in three dimensions. Adult and Fun Frame Pediatric Red or Green glasses, 50 score sheets and instructions. Uses AAA batteries.
- **5067R Lancaster Roll-up Screen** is made of heavy fabric reinforced vinyl. Target is printed in Red ink and is invisible with red/green glasses. Screen is approximately 60 inches square (150 x 150 cm) and rolls up for storage. Mounting hardware included.
- **5019R Lancaster Score Sheet** permits scoring of both eyes in side by side format. Includes notation spaces for various key factors. Pad of 50.
- **4629R Clamp-on Chin Rest** recommended to avoid head movement during the test. See Chin Rest listing for dimensions.

Also Available
- **Lancaster Un-mounted Folding screen** is made of heavy fabric. Target is printed in Red ink and is invisible with green glasses. Screen Grid area is approximately 60 inches square (150 x 150 cm) and comes folded for ease of shipment. Can be mounted to a tack board or hung like a carpet for display.

**Lancaster vs Hess Tests**

The main difference between the Hess and Lancaster tests is that the Lancaster projects a line whereas the Hess pointers project a simple dot. Lancaster line generators permit determination of the orientation of the patient’s vision. Orientation is important in understanding any cyclo-deviation resulting from the ocular muscle imbalance.

The Hess Test may be more useful in understanding full visual field and any Aniseikonic affects. Further, the Hess Test may be more simple for children to understand thus yielding more reliable results in pediatric situations.

<table>
<thead>
<tr>
<th>Modality</th>
<th>Laser Lancaster</th>
<th>Laser Hess</th>
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</thead>
<tbody>
<tr>
<td>Classifying Strabismus</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Heterophoria - Distance</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Dynamic Aniseikonia</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cyclodeviation</td>
<td></td>
<td></td>
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<tr>
<td>Training Ocular Motility</td>
<td>X</td>
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</tr>
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</table>
**Hess Test**

The Hess screen is parabolic in shape compared to the square grid provided by the Lancaster Screen. This "curved plot is used to correct for tangential error introduced by recording eye rotations on a flat surface....." (Pickwell's Binocular Anomalies).

**Hess Pointer Kit** include one red and one green and project a single dot of each color plus specially adapted adult red/green glasses to insure good cancellation, pack of 50 Score Sheets and instructions. Hess Pointers can be used with Lancaster Screen and score sheet or with our parabolic Hess screens.

**Hess Screen- Roll-up** is made of heavy fabric reinforced vinyl. Target is printed in Red ink and is invisible with red or green glasses. Screen Grid area is approximately 60 inches square (150 x 150 cm) and rolls up for storage. Mounting hardware included. Roll-up ships as 68 x 4 x 4 inch (173 x 10 x 10 cm) box (6 lbs).

**Hess Un-mounted Folding Screen** is made of heavy fabric. Target is printed in Red ink and is invisible with red or green glasses. Screen Grid area is approximately 60 inches square (150 x 150 cm) and comes folded for ease of shipment. Folding screen can be mounted to a tack board or hung like a carpet for display.

**Clamp-on Chin Rest** recommended to avoid head movement during the test. See Chin Rest listing for dimensions.

**4815R** Set of Hess Lasers  
**5692R** Hess Screen Roll-up type  
**5774** Hess Screen- Un-mounted Folding type  
**5820R** Hess Score Sheets - pack of 50  
**4629R** Heavy Duty Chin Rest
Cyclo-deviation or Torsional Displacement can result from imbalances of the eye muscles. The detection and calibration of this condition is important in ocular motility exams. Failure to detect this condition can seriously affect binocular vision and can cause a variety of symptoms, from double vision to loss of depth perception, discomfort and pain (called Asthenopia). The Awaya test for Cyclo-deviation provides an easily administered and repeatable method to test for near vision affects of this condition.

The Awaya test for Cyclo-deviation was developed by Dr Awaya of Japan, is very easy to administer and interpret. The test uses a very clever direct comparative approach with the patient viewing pairs of adjacent calibrated half-moon targets - one red and one green. Red/Green Anaglyph technology separates the right and left eye images for comparison. Targets are presented in one degree increments from 0 to 15°. A second set of targets is then presented for verification. Tilting the head does not invalidate the test, although it may alter the degree of cyclo-deviation.

**Awaya Cyclo-deviation Near Test** - For near Ocular Motility Testing

**Red/Green Anaglyph Glasses**

**Red/Green Fun Frame Glasses**

<table>
<thead>
<tr>
<th>Frame</th>
<th>Anaglyph (Red/Green)</th>
</tr>
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<tbody>
<tr>
<td>Butterfly</td>
<td>4612R</td>
</tr>
<tr>
<td>Horse</td>
<td>4613R</td>
</tr>
<tr>
<td>Parrot</td>
<td>4614R</td>
</tr>
<tr>
<td>Tiger</td>
<td>4615R</td>
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**Metal Frame Red/green Glasses**
P/N 955R Red/Green Anaglyph glasses are durable metal frames with spring loaded temples and come with a soft storage case. Intended for Adults. These are not the thin breakable plastic frames furnished with most Anaglyph products.

**Red/green Diplopia Goggles**
4956R Red/Green goggles work with Worth 4 Dot and other Anaglyph tests. Adjustable strap. Cannot be used with existing prescription eyewear. Provides total coverage of visual field. CE .

**Stereo Flippers - Both Polarized And Red/Green for efficiency!**
An idea so simple we’re only sorry we didn’t think of it! A customer asked if we could combine polarized and red/green stereo lenses into one flipper. We did and the convenience is obvious. Use the Red/Green for the Worth 4 Dot or other anaglyph test then flip to Polarized lenses for Stereo Fly.

**Slip-in Filters - Red/green**
Slip-in filters with red on one side, green on the other. Sold in a package of six.

**15318 Slip-In Filter six pack**