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## BRIEF EXPLANATION OF SENSORY TEST

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## **INTRODUCTION:**

Sensory tests are of two types:

- I. Diplopia Test
- II. Haploscopic Test

There is a major difference between Diplopia Test and Haploscopic Test. In case of Diplopia Test, there is one fixation target and in case of Haploscopic Test, there are two fixation targets.

**I. DIPLOPIA TEST :** Many diplopia test can disrupt fusion and eliminate peripheral fusional clues also. In dark condition, Worth Four Dot Test and Red filter Test becomes more dissociating compared to in light condition. The meaning of Dissociation is Point image is converted into Light image. Light off condition is more dissociating because peripheral clues are eliminated and patient is able to see the objects clearly.

Worth Four Dot Test (WFDT) is classified into two types:

- Distance WFDT
- Near WFDT

**DISTANCE WFDT:** Here, 6 m distance is used and 1.25 angle is created. That's why, in Distance WFDT small angle scotoma is diagnosed

**NEAR WFDT:** Here, 1/3rdmeter distance is used and 6 degree angle is created. That's why small angle scotoma is not diagnosed in this type of WFDT.

### **Classification of diplopia test according to dissociation:**

#### **A. Most dissociating**

- Maddox rod
- Dark red filter
- Wfdt –light off condition
- Wfdt –light on condition

#### **B. Least dissociating**

- Bagolini striated lenses

### **Maddox rod test**

This is the most dissociating test. Here, point image is converted into linear streak image. So, this test is not able to differentiate between phoria and tropia. Maddox Rod is used for identifying Horizontal and Vertical Deviation and Double Maddox Rod is used for identifying Torsional Deviation. Maddox Rod is made up of multiple cylindrical high plus lenses. When this rod is placed horizontally then line image is created vertically and vice versa. In case of single Maddox Rod test, Maddox rod is placed over one eye and patient is instructed to look at pen light. In case of Double Maddox Rod Test, Maddox Rod is placed over both the eyes and patient is instructed to look at pen light. If the rod is placed horizontally in front of both eyes, and if vertical line persist is completely vertical, then no ocular deviation is present.

### **Red filter test**

It is one of the simplest Test. Here, Red filter is placed in front of one eye and patient is instructed to look at the light source or Accommodative fixation target. In case of normal eye, pinkish red colour appears because images of an object fall on the foveal area. In case of phoria, red filter stimulates more, it means it dissociates more and creates double vision. This test is useful in identifying NRC, ARC and Suppression

### **WORTH FOUR DOT TEST: Lights off /Lights on condition**

Here, patient is instructed to wear red green goggles. In Worth Four Dot Test, 2 Red, 1 Green light and 1 white light is present. Light off condition is more dissociated compared to light on condition.

### **Bagolini lenses:**

It is a clear lens and associated with linear scratch. One lens is placed on one eye at 45 degree and other one at 135 degree. It is a clear lens that's why not dissociating. In case of straight eye, NRC and Harmonious ARC patient will report a "normal cross" when asked to look into bright light. In case of large regional suppression one eye will be disappeared.

## **II. HAPLOSCOPIC TEST:**

In Haploscopic Test, there will be two fixation targets and patient's both eyes are utilized. The target will be moveable and the images are aligned with each fovea. A Haploscopic presentation means each eye receives its own visual stimulation

### **Amblyoscope:**

Here, mirror method is followed. Mirror is placed at an angle because here, Right eye sees the Right Temporal side and Left eye sees the Left Temporal side.

**Lancaster method:**

Here, patient is asked to wear Red and Green goggles. Red lens is placed at Right Eye and Green Lens is placed at Left eye. Specifically, Green lens should be placed on the sound eye. Here, targets will be moveable and Red/ Green targets are presented at the white background. The eye with Red filter sees only the Red target and the eye with Green filter sees only the Green target. Thus, separate visual stimulation are presented to each eye. This test is used to measure the angle of deviation.

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