

**Short Communication****ALL ABOUT STATIC RETINOSCOPY****Partha Haradhan Chowdhury<sup>1\*</sup> and Brinda Haren Shah<sup>2</sup>**<sup>1</sup>*Department of Optometry, Shree Satchandi Jankalyan Samiti Netra Prasikshan Sansthan, Pauri, Affiliated to Uttarakhand State Medical Faculty, Dehradun, India.*<sup>2</sup>*Department of Optometry, Gujarat University Gujarat, India.***Authors' contributions**

*This work was carried out in collaboration between both authors. Author PHC had wrote the Introduction and Conclusion part of this article. Author BHS had managed the abstract and literature review along with the formatting of the article. Both authors had read and approved the final manuscript.*

**5 ABSTRACT:**

6 This paper explains about introduction, procedures and optics of streak  
7 Retinoscopy.

8

**9 INTRODUCTION:****10 STATIC STREAK RETINOSCOPE:**

11 It objectively determines the refractive status of the eye " Relative to the point of  
12 fixation." It is an objective method and by this method, " Starting point of the  
13 subjective refraction" is being assessed. Eg. During Retinoscopy, if the  
14 neutralization is achieved by +4.00 Dsph, on that time, the patient is instructed to look  
15 at 6/60 target with +4.00 Dsph and then consequently reduce the power to achieve  
16 the ultimate vision.

17 This procedure is called CYCLODEMIA. It should be remembered that this  
18 method is applicable for MINUS refractive error purpose. Eg. If neutralization is  
19 achieved by -4.00 Dsph, on that time patient is instructed to look at 6/60 target  
20 with -4.00 Dsph, then remove the -4.00 Dsph at first and then again place -4.25  
21 Dsph lens. Continue this process until good visual acuity is achieved.

22 Working distance must be added with the retinoscopic value. The definition of  
23 working distance is " Negative Reciprocal". Eg. If neutralized point is achieved  
24 with +5.00 Dsph lens , then it will be  $+5.00 + (-2.00 \text{ Dsph})$ . If working distance is  
25 50 cm, then it will be  $(-1/50) = -2.00 \text{ D}$

**26 BRACKETING TECHNIQUE**

It is a technique by which we can achieve about the working distance lens perfectly. Eg. If during neutralization, we get with movement with +4.00 Dsph and against movement with +4.50 Dsph, then working distance lens will be  $(+4.00 \text{ Dsph} + 4.50 \text{ Dsph})/2$ . i.e. +4.25 Dsph. This technique is also known as straddling technique.[1]

## **STREAK RETINOSCOPE: INSTRUMENT**

It consist of a plane surface. This plane surface is perforated centrally. Here originating light is situated at below and slight behind. From here the light is originated and reflected from the reflecting surface to the eye. Most of the time, by this Streak Retinoscope, diverging rays are reflected to the pupil. It is a modern instrument by which vergence can be changed by changing sleeve up and down. It means vergence may be from divergence to convergence. But actual basic optical design do not change.[3]

## **PROCEDURE:**

Spot Retinoscope create circular point and Streak Retinoscope creates Streak light. So, clinical Significance of Streak Retinoscope is more as compared to Spot Retinoscope. The distance from spectacle lens to far point is always considered in meter and its reciprocal is "Refractive Ametropia in Diopter." Far point is the point which is in contact to the fovea when accommodation is relaxed.

In case of Myopia, far point is located in front of the Retina and in Hyperopia, far point is located behind the Retina. In Astigmatism, two far points are present.

Streak Retinoscopy is a binocular procedure. The eye level of the patient and clinician should be same. When performing Retinoscopy of Right Eye, patient will be asked to look 6/60 letter with his/her Left eye and vice versa for Left eye. When performing Retinoscopy of Right eye, Right hand should be used and Left hand for Left eye.[4]

## **NEUTRALIZATION:**

It is a particular point actually when fastest movement is achieved by the clinician, as if clinician is thinking that, there is no movement. For neutralization, far point position is very essential. In case of high refractive error, far point distance is high

57 as compared to Low Refractive error. In case of Neutralization, Far point is present  
58 on the peephole of the Retinoscopy. Towards Neutrality, brightness and speed of  
59 reflex will be highest, because far point will be towards the Neutrality.

#### 60 **DISADVANTAGES:**

61 VARIATION OF THE WORKING DISTANCE

62 ACCOMMODATIVE STATUS OF THE PATIENT

63 HIGH AGAINST THE RULE ASTIGMATISM

64 ANGLE BETWEEN PATIENT'S EYE TO CLINICIAN'S EYE.

#### **CONCLUSION :**

By this technique, we can conclude that during Static Retinoscopy, patient is always asked to look at 6/60 letter, otherwise whatever result is obtained will be a misnomer. Working distance must be "added" not "deducted" as the definition of working distance is Negative Reciprocal". Without Static Retinoscopy, fogging technique is impossible because neutralizing point of Retinoscopy is the starting point of Fogging Technique. This technique is applied in both the cases of Myopia as well as Hyperopia.[2]

#### **CONSENT :**

66 Written consent was obtained from patient as well as from tertiary eye care  
67 centers.

#### **ETHICAL APPROVAL:**

69 It is not applicable.

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