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Jackson Cross Cylinder

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Short Communication

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Abstract

This paper describes about Jackson Cross Cylinder, its technique and JND technique.

Keywords: Jackson Cross Cylinder; JND technique

Introduction

Jackson cross cylinder is an instrument by which we can be able to know:

- ❖ Axis Refinement
- ❖ Power of the cylindrical correction
- ❖ Used for near point testing

The procedure of Jackson Cross Cylinder should be followed without fogging. It is a sphero cylinder lens in which plus cylinder is incorporated at the front surface and it is indicated with green sign. Minus cylinder is incorporated at the posterior surface and it is indicated with the red sign [1-3].

So, according to the JCC power, we should know:

A. If, JCC : +/- 0.25
 i. +0.25/-0.50
 ii. -0.25/+0.50

B. If, JCC: +/- 0.50
 i. 0.50/-1.00
 ii. -0.50/+1.00

C. If, JCC : +/- 0.75
 i. +0.75/-1.50
 ii. -0.75/+1.50

D. If, JCC: +/-1.00
 i. +1.00/-2.00
 ii. -1.00/+2.00

E. If, JCC : +/-1.25
 i. +1.25/-2.50
 ii. -1.25/+2.50

Technique

By the JCC, we can do axis refinement and power of the cylinder.

I. Axis Refinement

Here, JCC handle is parallel with the correcting lens axis.
Eg, RE: -0.50Dcyl *180
LE: -0.50 Dcyl*180

During, Axis Refinement, JCC handle will be placed parallel to the axis of the correcting lens. It means, in this time automatically, JCC axis will be positioned 45 degree and 135 degree compared to the correcting lens axis.

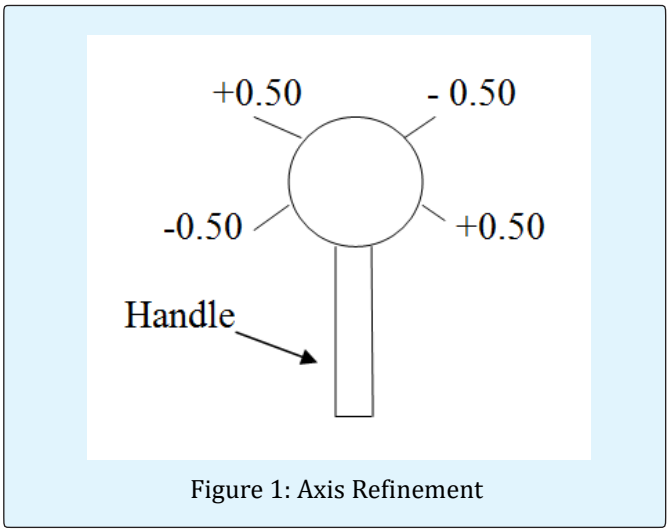

Figure 1: Axis Refinement

II. Power of the Cylinder Correction

JCC axis is parallel with the axis of the correcting lens.1st time minus axis is parallel and then flip the JCC, plus axis will be parallel.

Just Noticeable Difference

By this technique, we can be able to know which JCC should be used according to high refractive error.
JND technique with e.g.

Eg. 1

If patient's visual acuity is 20/200
In this technique, always 10 is divided by 100, i.e. 10/100
After that, if 200 is divided by 100
So, 200/100 = +/- 2.00 D
In this case, +/- 2.00 D JCC is used.

Eg. 2

If visual acuity of patient is 20/400,
At first, 10 is divided by 100
So, 10/100
After that, 400 will be divided by 100
So, 400/100 = +/- 4.00 D
In this case, +/- 4.00 D JCC will be used as per the case.

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