



Keys to Solve Park- 3 Step Test

Partha Haradhan Chowdhury^{1*} and Brinda Haren Shah²

¹M. Optom, Department of Optometry, Shree Satchandi Jankalyan Samiti Netra Prasikshan Sansthan, Pauri Affiliated to Uttarakhand State Medical Faculty, Dehradun, India.
²B. Optom, Department of Optometry, Gujarat, India.

Authors' contributions

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

Article Information

DOI: 10.9734/OR/2018/38770

Editor(s):

- (1) Ahmad M. Mansour, Professor, Department of Ophthalmology, American University of Beirut, Lebanon.
(2) Stephen G. Schwartz, Department of Clinical Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, USA.

Reviewers:

- (1) Sake Eletu Sadiat, Nigeria.
(2) Anirudh Singh, Command Hospital AF, India.
(3) Asaad Ahmed Ghanem, Mansoura University, Egypt.
Complete Peer review History: <http://www.sciencedomain.org/review-history/22722>

Short Communication

Received 12th October 2017
Accepted 6th January 2018
Published 13th January 2018

ABSTRACT

This paper aims for simplification of the technique of Park 3 step test. The 3 steps include following hyperdeviation, gaze and head tilt of the eye.

Keywords: Hyperdeviation; gaze; head tilt.

1. INTRODUCTION

Park's 3 step test is quite essential in diagnosing cyclovertical palsies. Here, the following procedure shows how this test is diagnosed with ease in a simple manner [1-2]. This test consists of 3 steps. They are:

Step 1 - Hyperdeviation

Here each patient is asked to look at the primary gaze and examiner will notice which eye is hyper deviated [3].

*Corresponding author: E-mail: partha.chowdhury85@gmail.com;

Step 2 – Gaze

Here, the examiner has to focus on gaze and examiner will notice that in which gaze hyperdeviation is highest. Gaze will be considered concerning which eye is affected [3].

- In oblique muscles, gaze will be on opposite side with respect to which eye is affected [4-6].
- In rectus muscles, gaze will be on the same side with respect to which eye is affected.

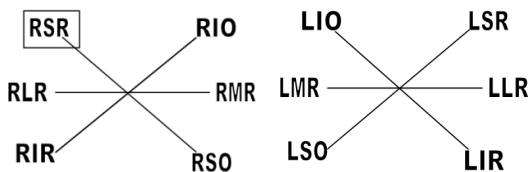
Step 3 – Head Tilt

Here, each patient is instructed to tilt his/her head to both right and left side respectively, and the examiner will notice in which head tilt, hypertropia is highest. Head tilt should always be considered in respect of hypertropia [7-11].

- In oblique muscles, hypertropia is on the same side with respect to which eye is hypertropic.
- In rectus muscles, hypertropia is on the opposite side with respect to which eye is hypertropic.

EXAMPLES:

1. Right eye Superior Rectus Palsy

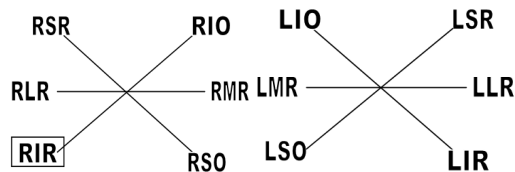


STEP 1 – Hypertropia in left side.

STEP 2 – Right gaze (Gaze is always respect to which eye is affected, according to above formula that's why right gaze is present here).

STEP 3 – Right head tilt (Head tilt is always respect to hypertropia, according to above formula that's why right head tilt is present here).

2. Right eye Inferior Rectus Palsy

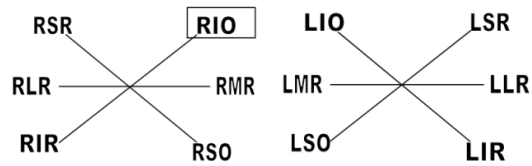


STEP 1 – Hypertropia in right side.

STEP 2 – Right gaze (gaze is always respect to which eye is affected, according to above formula that's why right gaze is present here).

STEP 3 – Left head tilt (head tilt is always respect to hypertropia, according to above formula that's why left head tilt is present here).

3. Right eye Inferior Oblique Palsy

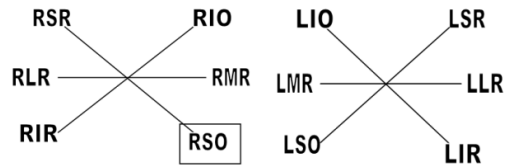


STEP 1 – Hypertropia in left side.

STEP 2 – Left gaze (gaze is always respect to which eye is affected, according to above formula that's why left gaze is present here).

STEP 3 – Left head tilt (head tilt is always respect to hypertropia, according to above formula that's why left head tilt is present here).

4. Right eye Superior Oblique Palsy

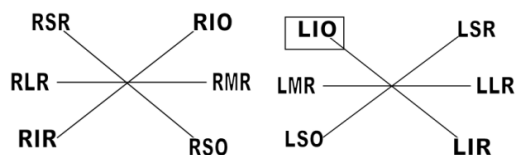


STEP 1 – Hypertropia in right side.

STEP 2 – Left gaze (gaze is always respect to which eye is affected, according to above formula that's why left gaze is present here).

STEP 3 – Right head tilt (head tilt is always respect to hypertropia, according to above formula that's why right head tilt is present here).

5. Left eye Inferior oblique palsy

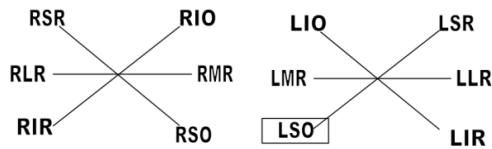


STEP 1 – Hypertropia in right side.

STEP 2 – Right gaze (gaze is always respect to which eye is affected, according to above formula that's why right gaze is present here).

STEP 3 – Right head tilt (head tilt is always respect to hypertropia, according to above formula that's why right head tilt is present here).

6. Left eye Superior Oblique Palsy

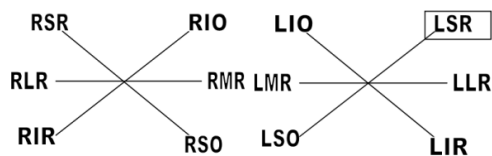


STEP 1 – Hypertropia in left side.

STEP 2 – Right gaze (gaze is always respect to which eye is affected, according to above formula that's why right gaze is present here).

STEP 3 – Left head tilt (head tilt is always respect to hypertropia, according to above formula that's why left head tilt is present here).

7. Left eye Superior rectus palsy

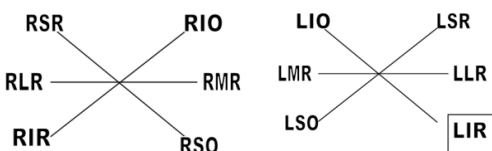


STEP 1 – Hypertropia in right side.

STEP 2 – Left gaze (gaze is always respect to which eye is affected, according to above formula that's why left gaze is present here).

STEP 3 – Left head tilt (head tilt is always respect to hypertropia, according to above formula that's why left head tilt is present here).

8. Left Eye Inferior Rectus Palsy



STEP 1 – Hypertropia in the left side.

STEP 2 – Left gaze (gaze is always respect to which eye is affected, according to above formula that's why right gaze is present here).

STEP 3 – Right head tilt (head tilt is always respect to hypertropia, according to above formula that's why right head tilt is present here).

2. CONCLUSION

This test is more useful in the diagnosis of palsies of trochlear, abducent and also oculomotor nerves.

This paper shows about simplified techniques in solving muscle palsies in routine practice.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Paul L. Pease. Borish's clinical refraction. William J. Benjamin Second Ed.; 2006.
2. Kenneth W. Wright. Handbook of Pediatric Strabismus and Amblyopia; 2006.
3. Khurana AK. Theory and Practice of Squint and Orthoptics; 2007.
4. Kenneth W. Wright. Color Atlas of Strabismus Surgery; 2007.
5. Nema HV, Nitin Nema. Diagnostic Procedures in Ophthalmology, Third Ed.; 2014.
6. Alec M. Ansons, Helen Davis. Diagnosis and Management of Ocular Motility Disorder, Third Ed.; 2006.
7. David B. Elliott., Clinical Procedures in Primary Eye Care, Fourth Ed.; 2013.
8. Nancy B. Carlson. Clinical Procedures for Ocular Examination, Fourth Ed.; 2015.
9. David Pickwell. Binocular Vision Anomalies; 1997.

10. Alfred A. Rosenbloom. Principles and Practice of Pediatric Optometry; 1990.
11. Michael H. Heiberger, Richard J. Madonna, Leon Nehmad. Emergency Care in Optometric Setting; 2004.

© 2018 Chowdhury and Shah; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<http://www.sciencedomain.org/review-history/22722>