# Modified Trial to Prove That There Is Right Eyedness\& Left Eyedness As There Is Right Handness and Left Handness 

Dr/ Mohsen Mohamed Mansour<br>Ophthalmology department - Mashtol El souq Hospital - Mashtol El Souq City - Egypt


#### Abstract

Introduction It was willknown that vision is bilaterally represented which means that the right and left eye in the normal person are equal and of the same abilities. In my trail I want to prove that there is right and left eyedness as there is right handness and left handness

\section*{Methods :}

1- First test : To examine 1000 person including 250 moype patients, 250 hypermytrope patients, 250 squint patients and 250 emmetrope person for the dominant eye and then asking for the dominant hand, then making a relation between the dominant eye and the dominant hand. 2- $\quad$ Second test : test using old camera manufactured at 1980, 1000 person will undergo this test every person will be ordered to take 9 photos for me first 3 photos by his right eye second 3 photos by his left eye the last 3 photos by the eye he prefer then he will be asked about his handness either right or left and we will record the results. 3- $\quad$ Third test : test using old microscope manufactured at 1980 works with one focus. 1000 persons will undergo this test , I will show 10 slides for every person explain what is present in every slide then this slide will be put under the lenses of 10 microscopes every person will be ordered to use his right eye in identification of the first 3 slides, his left eye in the second 3 slides then the eye he prefer in the last 4 slides then he will be asked about his handness.

\section*{Results.}

Inbetween 3000 patients were examined 2915 patients had chosen the right eye as dominant eye they were right handed the remaining 85 patient had chosen the left eye they were left handed. Discussion: In my discussion I will discuss the results of the trail and the recent visual pathway

\section*{Inclusion criteria.}

All the patients which will undergo the trial must see well by their two eyes Exclusion criteria of this study: All patients with retinal detachment will be excluded All patient with one blined eye will be excluded All patient with mature cataract im one or both eyes will be excluded The ethical review of the study: The 3000 patients had been obtained informed consent to participate in the study.


## I. Introduction:

It was willknown that the normal persons whom two eyes visual acuity are $6 / 6$ their two eyes are equal and of the same abilities. In my trail I want to compare between the vision of the right eye and the left eye of the same persons when he seas with each eye separately he will prefer one eye this preferred eye is the dominant eye he will be asked about his handness either right or left then I will make a relation between eyedness and handness
This trail will include 3000 patients in between myopepatients ,hypermetrope patients, squint patients and normal emmetrope persons

## The key for the study

If the majority of the patients chose the right eye as the dominant eye and they were right handed and the minority of the patients chose the left eye as dominant eye and they were a left handed I can establish arelation between eyedness and handness that the right handed is right eyed and left handed is left eyed. This trail will be done in 3 ways
The first way in 1000 patients using a squared paper with a central hole
Second way : using an old camera manufactured at 1980
Third way : using 10 old microscopes manufactured at 1980
All what I will do I search in every patient for his dominant eye then I ask him about his handness either right or left then I make a releation between handness and eyedness
What is meant by the preferred eye or the dominant eye ?the preferred eye or the dominant eye in the person is the intelligent eye in his two eyes not only the intelligent eye but also the powerful eye in his two eyes although this individual right eye visual acuity is $6 / 6$ and his left eye visual acuity is $6 / 6$ but one eye is more intelligent and more powerful

## II. Methods:

This study was done in ophthalmology department mashtol el souq hospital mashtoul el souq city Egypt.
This study had included 3000 patients in between myopepatients, hypermytrope patients, squint patients and normal emmetrope persons the 3000 patients had obtained informed consent to participate in the study.

## First group in the study :

In the first group which include 1000 patients 250 myope patients, 250 hypermytrope patients, 250 squint patients and 250 emmetrope persons I had examined every patient with a squared paper measures $5 \times 5 \mathrm{Cm}$ with a central hole the patient is ordered to close his right eye and see through the hole with his left and then is ordered to close his left eye and see through the hole with his right eye then is orderd to chose his preferred eye or the eye he prefer to see with it this eye will be the dominant eye then the patient will be asked about his handness either right or left.

## Second group of the study

This group incloud 1000 patient with the whole varieties myope patients, hypermytrope patients, squint patients and normal emmtrope persons all what I done I brought an old camera manifactored at 1980.
This camera allows the person to use one eye only when he takes a photo by it.
The 1000 persons, every one is ordered to take photos for me by his right eye first then by his left eye then the eye he prefer in the last photos.
Then he was asked about his handness either right or left.

## Third group of the study

Include 1000 patients with the whole variants myope patients, hypermytrope patients, squint patients and emmtropepeersons all what I done I brought 10 old microsocops manufactured at 1980 this microsocops works with one focus it is not bifocal and allow person to use one eye only when he uses it , I had show 10 slides for every 10 patients and then put this slides under the lenses of the 10 microscopes, then ask the 10 patients to use their right eye in identification of the first slides then their left eye then the eye they prefer, then the patients is asked about their handness

## III. Results

## First group :

- Inbetween 250 myope patients were examined 240 patients had chosen the right eye as a dominant eye they were right handed 10 myope patients had chosen the left eye as a dominant eye they were left handed
- Inbetween 250 hypermetrope patients were examined 240 patients had chosen the right eye as a dominant eye the were right handed and 10 patients had chosen the left eye as admoninat eye the were left handed
- Inbetween 250 squint patients were examined, 240 squint patients had chosen the right eye as a dominant eye they were right handed and 10 squint patients had chosen the left eye as adominant eye they were left handed
- Inbetween 250 emmtrope person were examined 240 emmtrope person had chosn the right eye as a dominant eye they were right handed and 10 emmtrope person had chosen the left eye as adominant eye they were left handed.


## Second Group

Inbetween 1000 patients were examined to use the camera by their right eye and left separately 970 patients had chosen the right eye as a preferred eye or a dominant eye they were right handed and 30 patients had chosen the left eye as a preferred eye or a dominant eye they were left handed.

## Third group

Inbetween 1000 patients had been examined to use one eye only in using one focal microscope 985 patients had chosen the right eye as a preferred or dominant eye they were right handed the remaining 15 patients had chosen the left eye as a dominant eye they were left handed

## The Net Result:

3000 patients were subjected to use one eye only in situation they will use one eye or the prefered eye or the dominant eye 2915 patient had chosen the right eye as the dominant eye they were right handed the remaining 85 patient had chosen the left eye they were left handed so there is a relation between right handness and right eyedness that the right handed is right eyed and the left handed is left eyed so there is right eyedness and left eyedness as there is right handness and left handness

## Discussion

3000 patients were examined for the dominant eye 2915 patients had chosen the right eye they were right handed the remixing 85 patients had chosen the left eye as a dominant eye they were left handed so there is a relation between right handness and right eyedness that the right handed is right eyed and the left handed is left eyed so there is right eyedness and left eyedness as there is right handness and left handness I will mention the recent visual pathway in my discussion because itls of help in proving my trial.

## The visual pathway: OPTIC NERVE

In the optic nerve head In the optic nerve head the arrangement of the nerve fibers is exactly as in the retina.
In the optic nerve just behind the eyeball Here the nerve fibers are distributed like in the retina.the upper temporal and lower temporal fibers which are situated on the temporal half of the optic nerve and are separated from each other by a wedge-shaped area occupied by the papillomacular bundle .the upper and lower nasal fibers are situated on the nasal side.
In the optic nerve the chiasma here the macular fibers are centrally placed.

## OPTIC CHIASMA

## The Nasal fibers

The nasal peripheral fibers constitute about three-quarter of all the fibers and cross over to enter the medial part of the 0pposite optic tract in the following manner.
The lower nasal fibers in the optic nerve traverse the chiasma low and anteriorly so they are first affected in the tumors of the pituitary body producing upper temporal quadrantic field defects. These fibers form convex loops called wilbrand's knee in the terminal part of the opposite optic nerve there for ipsilateral blindness due to lesions of the proximal most part of the optic nerve is associated with contralateral field defects.they then cross to the opposite tract and occupy its lower quadrant.
The upper nasal fibers of the optic nerve traverse the chiasma high and posteriorly there for , they are involved first by lesions coming from above the chiasma, e.g. craniopharynioma. After crossing they occupy the upper nasal quadrant of the opposite optic tract .some of these fibers make a loop in the ipsilateral optic tract before crossing.

## The temporal fibers

The temporal fibers from the retina which occupy the temporal half of the optic nervas, remain uncrossed and run backwards in the lateral part of the optic chiasma to reach the dorsolateral part of the optic tract .

## The Macular fibers

The macular fibers, which occupy the central part at the proximal end of the optic nerve, keep this position in the anterior part of the chiasma . then the crossing (nasal) macular fibers get separated from the uncrossed fibers and pass as a bundle obliquely backwards and up wards to decussate in the posterior most part of the chiasma , which is related to the supraopticrecess.lesions here may produce central temporal hemianopicscotoma.

## OPTIC TRACT

In the chiasma,crossed and uncrossed fibers are intermingled and when they reach the optic tract they rearranged to correspond with their position in the LGB. the macular fibers occupy area of the lateral and those from the upper are medial.

## LATERAL GENICULATE BODY

The fibers from the upper part of the retina go to the medial part of the LGB and those from below to the lateral part.the macular area is somewhat cuneiform and is confined to the posterior two /third of the nucleus, broadening towards the caudal pole.
The neurons of the LGB go to the visual cortex. The axons of the ganglion cells synapse with the dendrites of the neurons of the LGB. There is a regular point-to-point localization of the retina in the LGB nucleus, which is also carried from the latter to the visual cortex . the LGB has 6 lamina (1-6) . the crossed fibers end in the
laminae 1 ,4and6 while the uncorred fibers end in the laminae 2,3 and 5 , in such away that those from the corresponding parts of the two retinae end in neighboring part of the adjacent laminae.therefore, the smallest lesion of the retina results in degeneration of three laminae of the LGB in which the retinal fibers end. Hence, the conducting unit in optic nerve fibers is a 3-laminae. Since the optic radiations commence from all the six laminae (6-laminae unit), so a lesion in the visual cortex results in degeneration of all the six laminae of the LGB.

## OPTIC RADIATIONS

In the optic radiations, there occurs a temporal rotation of the fibers .so , the upper retinal fibers occupy the upper part of the optic radiations and the lower retinal fibers occupy the lower part of the optic radiations separating the upper retinal fibers form the lower retinal fibers.

## The Visual Cortex :

The visual cortex is also called the cortical retina since a true copy of the retinal image is formed here.it is only in the visual cortex that the impluses originating from the two retinae meet. There is a point - to - point representation of the retina in the visual cortex. The right visual cortex is concerned with perception of objects situated to the left of vertical medin line in the visual fields and the left visual cortex with the objects situated to right half in other words the right visual cortex receives impulses arising from the temporal half of the right retina and nasal half of the left retina. The left visual cortex receives impulses arising from the temporal half of the left retina and nasal half of the right retina .
The visual fibers contained in the optic radiations are relayed in the visual cortex in the following manner. Fibers from the macular area relay in an extensive area placed posteriory in the visual cortex. Fibers from the periphal retina end anterior to the maculare fibers. Those from the upper retina go above the calcarinesulcs.

## Explanation of right eyedness

When you try to prove right handness and left handness you compare between the right and left hand abilities separately in the same person and look for the higher centers which control both hands.
In my trail I compare between vision of the right and left eye in thesame person separately and I looked for the higher centers which receive vision.
My explanation : in right handed person the right visual cortex is concerned with perception of the left visual field and the left visual cortex is concerned with the right visual field when right handed person uses his right eye only the photo projects to the left visual cortex of the brain and when right handed person uses his left eye only the photo projects to the right visual cortex of the brain and provided that the left visual cortex is the more powerful and the more intelligent so the right eye in the right handed is the more powerful and more intelligent so the right handed is right eyed and the left handed is left eyed.
Conclusion
In all right handed people their right eye is the dominant eye and in all left handed people their left eye is a dominant eye so the right handed is right eyed and the left handed is left eyed so there is right eyedness and left eyedness as there is right handness and left handness

## Interests of this discovery :

1) When the eye surgeons know that the right handed is right eyed and this means that the right eye the more precious eye they will take this fact in consedration when they deal with the patient two eyes for example when an eye surgeon face a patient with bilateral cataract and when he is obliged to treat one eye only according to my papers he will choose the more precious eye to treat which is the right eye in right handed patient and the left eye in left handed patient.
2) In any situation the eye surgeon will mange the two eyes of the patient in which he will choose one eye only to be cured he must choose the right eye in right handed people and the left eye in the left handed
3) There may be a lot of interests for this paper in the coming days.

## Disputes or objection which well be sayed about the discovery :

The objection the discovery had established that the right handed is right eyed and the left eye is the rececive many authors will claime that the left eye will undergo disuse atrophy.

## The replay from DrMohsen : -

Firstly : The right eyedness in the right handed people is a physiological fact.
Secondly : the two eyes are always open spontansouly during wake up together no eye of the two close they works together so long as the human being is waking up.
Thirdly : the photo send from the right eye to the brain is the same as the photo send from the left eye in size , shape and all the characters' so the brian will put the photo sent from the right eye with the photo sent from the left eye witout refusing any one of the two photos so there will be no disuse atrophy of the left eye.

## References

[1]. American Academy of ophthalmology 2019-2020.
[2]. Ashok Garg MS PHD FIAO(Bel) \& Emanuel Rosen MD : INSTANT CLINICAL DIAGNOSIS IN OPHTHALMOLOGY NEURO-OPHTHALMOLOGY - PAGE 16-20.
[3]. Dickinson , chvisine , low vision prinicples and practice oxford
[4]. Harleys Pediatric, ophthalmology editor leonardbnelsonscottleolitsry 2014.
[5]. Jogi, Rena Basic ophthalmology, Jogi New Delhi.
[6]. Kanasike , textbook of ophthalmology ,2021 .
[7]. Kritzinger ,Ernet , KritzingerBewryelirirght 1984.
[8]. Macnaughton, fine low vision assessment.
[9]. Oxford handbook of ophthalmology 2018 ,Murry.
[10]. Parson disease of the eye 2015 ,Ramangt.
[11]. Will's Eye textbook of ophthalmology , 2020.
[12]. Wong ophthalmology , 2020.
[13]. Yan off textbook of ophthalmology 2019, Prof Dryanoff
Dedication : I will be so happy to dedicate this work for man kind all over the world

