

# Disability Associated with so-called Hysterical Amblyopia

R. F. GORMAN MB.BS FRACO \*

## **Abstract:**

**Objective:** To elucidate the clinical condition which is associated with non specific visual field loss in children: so called, Hysterical Amblyopia.

**Materials and Method:** 25 children with visual field defect were assessed by means of a proforma questionnaire which scored their disability. The results obtained from these children were compared with the results of the questionnaire being applied to 95 school children, ages 10 - 12 years, from the local primary school

**Results:** In nearly all the symptoms elucidated by the questionnaire, the children with the visual field loss were much more affected than the control group. Statistical analysis rated the findings as highly significant.

**Conclusion:** The presence of concentric narrowing of the visual fields indicates that the visually affected children are likely to be beset by many other ailments: such as headaches, blurred vision, photophobia, light headedness, poor concentration, personality defect, restlessness and growing pains.

## **INTRODUCTION**

In the majority of cases, concentric narrowing of the visual fields in children is diagnosed as 'Hysterical Amblyopia'(1), meaning that the phenomenon does not dignify a physical, organic abnormality of vision, but rather a psychoneurotic condition.

A minor group of patients will have concrete ocular defects: such as retinitis pigmentosa or retinopathy of prematurity, to explain the visual loss. For the purpose of this account, no further reference is made to this latter group.

The term: hysterical blindness, is used because the field loss, in classic examples, does not conform to the

principles of optics. Normally the visual field widens with distance from the target, but in this condition, testing may reveal no change in the size of the field with increasing distance. This phenomenon is called 'Tunnel Vision' (see figure 1). The generally accepted theory accounts for the visual loss as a subconscious process in response to environmental stress of a psychological nature. Where the child actively manipulating the visual field deficiency, the diagnosis of malingering would apply.

Sometimes the clinical picture is confused in that the field of vision decreases in size with repeated testing: producing 'spiral fields' (see figure 1).

Further, the patient may exhibit a visual acuity defect in addition. Sometimes the patient can be jollied in to better vision, thus apparently confirming the psychological nature of the condition.

\* OPHTHALMOLOGIST  
SYDNEY, AUSTRALIA.  
THIS PAPER FIRST APPEARED AS A POSTER PRESENTATION AT  
THE 25TH ANNUAL CONGRESS OF THE ROYAL AUSTRALIAN  
COLLEGE OF OPHTHALMOLOGISTS, 1993.

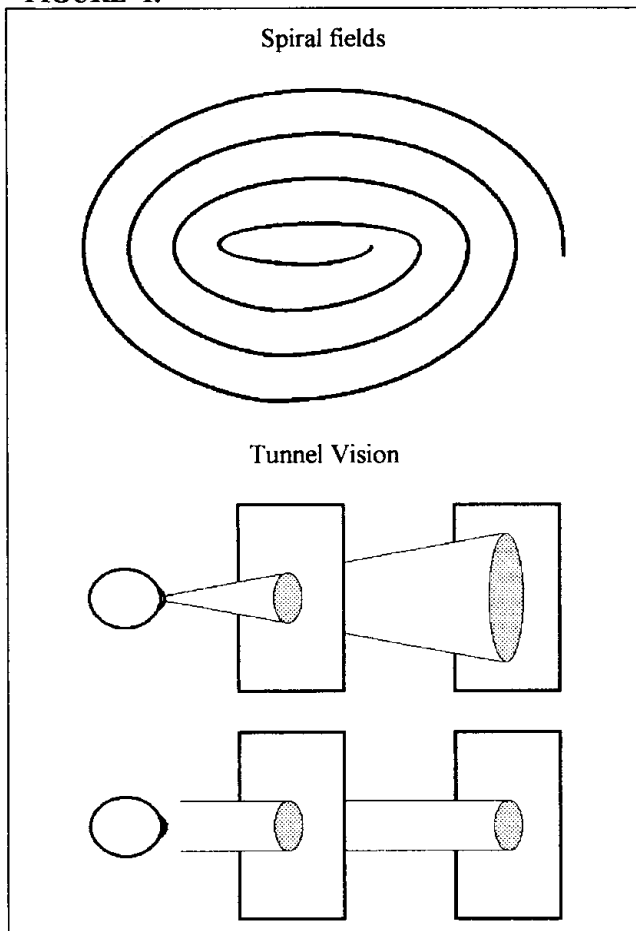
Hysterical amblyopia is a common occurrence in ophthalmic practice dealing with children (2).

This article proposes an alternative explanation for this visual phenomenon. The author believes that the condition is physical rather than mental; and, that it represents a much wider illness state than merely a disturbance of vision.

### BACKGROUND

The author, a medical ophthalmologist, became interested in concentric narrowing of the visual fields when made aware that the visual defect was linked to migraine. While working in Mt. Isa, Queensland, a colleague, Dr. Eric Milne, demonstrated that the vision improved when the spine was manipulated (3,4,5,6,7); and, by the late 1970's, it was appreciated that the improvement in vision was immediate to the manipulation.

**FIGURE 1.**



They noted vision loss of the hysterical type is almost invariably associated with headaches. When children suffering from headaches were checked for vision loss, reduction in the size of the visual fields was a common

occurrence in this group. So, alternatively, rather than merely waiting for patients with constricted fields to appear spontaneously in the course of eye consulting practice, large numbers of these patients could be accumulated if searched for among patients with headaches.

Further investigation revealed that there also appeared to be a link with hyperkinesia, poor peer relationships, respiratory difficulties and growing pains.

By the mid 1970's, a list of associations had been developed by clinical observation; this was called the Milne Score (See Figure 2.) in deference to Dr. Eric Milne who had made the initial discovery.

The next step was to compare these patients with children of a similar age as regards the disability associated with the visual field loss.

### RESEARCH

**Aim:** To compare the disability suffered by children with so-called hysterical amblyopia with children of a similar age.

**Method:** Using the proforma questionnaire: the Milne Score referred to, the disabilities of 25 children, whose visual fields improved when their spines were manipulated, were compared with those 95 unselected school children in the senior classes of St. Mary's Primary School, Darwin.

The 25 children: 9 male and 16 female, aged between 7 and 15 years, were discovered, in the course of routine ophthalmological and general consulting practice, to have visual field loss of the functional type. The majority showed concentric narrowing of the visual fields, but 2 demonstrated less classical signs: namely, inferior altitudinal hemianopia and upper quadrantic homonymous hemianopia respectively. One child exemplified the tunnel vision phenomenon, wherein the field of vision did not increase with distance from the tangent screen. For permanent objective record, the field testing was recorded on videotape. To facilitate this end, and to avoid confusion by the subject, an everyday torch was used to project the stimulus which was 100 mm in diameter. The walls of a room were used as a circumferential screen.

Each child in the series and the attending parent were quizzed by the surgeon, using the proforma sheet of questions. Some questions were directed to the child, but most were answered by the parent. The interpretation of the answers as positive or negative was the responsibility of the doctor. Explanation of the questions and elaboration were freely given, if necessary.

**DISABILITY AND HYSTERICAL AMBLYOPIA**  
**GORMAN**

The control group was obtained by distributing the proforma sheets to Year 7 school children with instructions to have them filled out at home. No guidance was offered and the interpretation of the

answers as positive or negative was the task of the parent.

Results: The results obtained are demonstrated on Figure 3.

**FIGURE 2.** MILNE SCORE  
 SCHOOL - AGE CHILDREN

INSTRUCTIONS: Please complete this Questionnaire.  
 1. EVERY QUESTION MUST BE ANSWERED in the SQUARE.

Child's name in full: ..... Age: .....  
 Address: ..... Sex: .....  
 Parent's name in full: ..... Phone: .....

IS YOUR CHILD TROUBLED BY:

- |  |  |
|--|--|
| <input type="checkbox"/> Severe Headaches or Migraine.   | <input type="checkbox"/> Minor Headaches.                                  |
| <input type="checkbox"/> Headaches occurring more than once per week.                                  | <input type="checkbox"/> Inability to sit still. Restlessness or Fidgeting |
| <input type="checkbox"/> Poor concentration.   | <input type="checkbox"/> Not being happy - whining and whinging.           |
| <input type="checkbox"/> Irritability and Tantrums.  | <input type="checkbox"/> Blurred Vision or difficulty seeing.              |
| <input type="checkbox"/> Squint, Truned Eye or Facial Twitching.                                       | <input type="checkbox"/> Sore or Red Eyes.                                 |
| <input type="checkbox"/> Glare or Bright Sunlight.   | <input type="checkbox"/> Deafness or inability to hear when called.        |
| <input type="checkbox"/> Recurring Nose Bleeds.  | <input type="checkbox"/> Recurring Abdominal Pains.                        |
| <input type="checkbox"/> General inability to learn or slow progress at School.                        |  |
| <input type="checkbox"/> A special learning problem e.g. poor reading ability.                         |  |
| <input type="checkbox"/> Clumisness - poor co-ordination - bumping into things.                        |  |
| <input type="checkbox"/> Tendency to get on badly with or torment other children.                      |  |
| <input type="checkbox"/> Tiredness - Lethargy - the need to lie down on occasions.                     |  |
| <input type="checkbox"/> Lightheadedness, Giddiness or unsteady sensation.                             |  |
| <input type="checkbox"/> Bedwetting, Head banging or restlessness at night.                            |  |
| <input type="checkbox"/> Recurring Sore Throats.   |  |
| <input type="checkbox"/> Recurring Bronchitis, Hay Fever, Nasal Congestion or Asthma.                  |  |
| <input type="checkbox"/> Recurring Pains in Legs.  |  |
| <input type="checkbox"/> The need to take Asprin, Tranquillisers or any similar Preparation regularly. |  |

Comments .....

It can be seen that children with hysterical amblyopia were more disabled than the normal population; and, that the disability is not confined to the visual system. Statistical analysis revealed that the differences were highly significant with visual field abnormality suffered from headaches. More than 75% of the children were noted to be whingers and were affected by poor

concentration, blurred vision, sore eyes and poor mental concentration. Half of the children had specific learning deficit, tantrums, hyperkinesia, chronic tiredness, lightheadedness, facial mannerism, photophobia, and growing pains.

On the contrary, in the group representing the general run of children, headache was noted in approximately one third of the children; poor concentration, restlessness and leg pains in one fifth, while the other symptoms were noted in lesser frequency.

In summary, the results show that children with so called hysterical amblyopia are much more disabled than their peers, both mentally and physically.

**DISCUSSION**

This paper describes a reverse order of seeking out visual perception deficit in children. Once the constitutional disability, which is associated with hysterical amblyopia, is known, it is a small matter to discover many more patients with visual loss than are apparent in usual ophthalmic practice.

The association of a generalised constitutional illness with so-called hysterical amblyopia casts doubt on the psychoneurotic basis of the illness.

Concentric narrowing of the visual fields in the absence of ocular abnormality occurs in states of cerebral anoxia: eg., migraine, negative G forces, exsanguination, low oxygen tension and abnormalities of the cerebral vasculature, particularly of the vertebro-basilar system.

The alternative diagnosis: functional visual loss, is presently made in those cases where the cerebral ischaemia cannot be proven.

In children, cerebral ischaemia seems an unlikely proposition, except in association with migraine, which is relatively common in children; and, which is now known to produce permanent hypertonicity in the cerebral vasculature (8).

As all the children in this series all had headaches, the diagnosis of migraine seems the most reasonable explanation: this conjecture would be in accord with recent discoveries in regard to interictal migraine (9).

Considering the intense research being applied to interictal migraine over the last decade, this change in direction is a welcome event for children diagnosed as being hysterical: not only has a derogatory stigma of psychiatric illness been exchanged for the much more socially acceptable label of migraine, but the prospect of cure is immeasurably increased. Studies by Kathol (10) and Sletteberg (11) and their associates, demonstrated that natural resolution of hysterical amblyopia had only occurred in approximately 50% of patients on long term review, but it is generally acknowledged that the condition is much more intractable in adults than it is in children.

More importantly, the improvement of the vision element with spinal manipulation suggest that the associated complaints may respond in the same way; which, in fact, they do! (12).

Concern is often expressed about the dangers of spinal manipulation. With reference to his personal series of 6000 aggressive spinal manipulations done under anaesthetic, the author is convinced that the procedure is very safe. Considering the general constitutional disability which has been exposed in this study, the risk/benefit ratio of spinal treatment is overwhelmingly appropriate.

**FIGURE 3.**

Percentage occurrence

Symptom	Vision Affected Children	Controls	(p-value)
Headaches	100	35	(>10 <sup>-6</sup> )
Major headaches	76	10	(>10 <sup>-6</sup> )
Minor headaches	92	20	(>10 <sup>-6</sup> )
> 1 Headache /week	60	5	(>10 <sup>-6</sup> )
Restlessness	64	20	(.00002)
Poor concentration	76	23	(>10 <sup>-6</sup> )
Slow progress at school	24	9	(.0507) ns
Specific learning disability	52	13	(.00002)
Clumsiness	36	3	(>10 <sup>-6</sup> )
Whining	80	8	(>10 <sup>-6</sup> )
Tantrums	56	12	(>10 <sup>-6</sup> )
Poor peer relations	44	5	(>10 <sup>-6</sup> )
Lethargy	64	9	(>10 <sup>-6</sup> )
Lightheadedness	68	4	(>10 <sup>-6</sup> )
Blurred vision	84	7	(>10 <sup>-6</sup> )
Facial mannerism	56	3	(>10 <sup>-6</sup> )
Sore eyes	76	5	(>10 <sup>-6</sup> )
Photophobia	64	9	(>10 <sup>-6</sup> )
Deafness	40	5	(.000003)
Sleep disorder	24	6	(.00873)
Recurring sore throat	32	8	(.00203)
Bronchitis - Nasal Congestion - Asthma	36	12	(.00355)
Epistaxis	20	4	(.00765)
Abdominal pains	60	13	(>10 <sup>-6</sup> )
Leg pains	60	19	(.00004)
Medications	24	5	(.00387)

## DISABILITY AND HYSTERICAL AMBLYOPIA GORMAN

### RESERVATIONS

This clinical research was done prior to 1982 and the clinical data was recovered from an unfinished scientific paper. The worksheets are no longer available, but the video tapes of the majority of the patients exist and demonstrate the visual field changes with spinal manipulation.

The test statistics and p-values were calculated using the computer package SPIDA. There may have been some bias introduced into the study though the controls answering the questionnaire without guidance on the interpretation of the questions. Ideally, both vision-affected children and controls should have been treated in the same way.

Since 1988, 8 further children with visual perception deficit were treated by spinal manipulation while under ophthalmic, peer scrutiny; the treatment produced, as before, immediate resolution of the visual field deficit in all cases (13). The Milne Scores of these patients are available and confirm the constitutional illness to which this paper alludes.

### ACKNOWLEDGMENTS

The author acknowledges his appreciation of the patients and their parents and of the assistance of teachers, parents and students of St. Mary's Primary School, Darwin.

Statistical assessments were provided by the Statistical Consulting Service of the University of Sydney.

### REFERENCES

1. Cogan, D.C.; Neurology of the Visual System, Charles C. Thomas, Springfield, Illinois, 1966, 309-312.
2. Walsh F.B. and Hoyt W.F.: Clinical Neuro-Ophthalmology. The Williams and Wilkins Company, Baltimore, 3rd Edit; 1969; 2523.
3. Milne E: Investigation into the mechanism and treatment of chronic headache. Med J. Aust. Jan. 1:36, 1966.
4. Milne E: Paroxysmal positional giddiness. Med. J. Aust. July 29; 232, 1969.
5. Milne E: The effects of rotation of the atlas on the axis. Med. J. Aust. July 6: 59, 1969.
6. Milne E: Who supports items 7060 and 7061? Med. J. Aust. 2:886, 1970.
7. Milne E: Relaxation therapy in migraine and chronic tension headaches. Med. J. Aust. 2:912, 1972.
8. Thomas T.D., Harpold G.J. and Troost B.T.: Cerebrovascular reactivity in migraineurs as measured by transcranial doppler. Cephalgia 1990;10: 95-99.
9. Gorman R.F.: When the patient asks, "Does Migraine affect my health between attacks". Patient Management 22; 9:67-69, 1993.
10. Kathol R.G., Cox T.A., Corbett J.J. and Thompson S.T. Functional visual loss - Follow-up of 42 cases. Arch Ophthalmol 101:729-735; 1983.
11. Sletteberg D., Bertelsen F. and Hovding G.: The prognosis of patients with hysterical visual impairment. ACTA Ophthal 67: 159-163, 1989.
12. Gorman R.F.: An Observer's View of the Treatment of Visual Perception Deficit by Spinal Manipulation - a survey of 16 patients. Unpublished monograph, Sydney, 1992.
13. Gorman R.F.: The Treatment of Visual Perception Deficit by Spinal Manipulation - a prospective peer reviewed study of twelve consecutive patients. Poster presentation, 24 Annual Congress of the Royal Australian College of Ophthalmologists, Sydney, 1992.

