

ABSTRACTS OF STUDENT PAPERS

N.S.W.

The following are abstracts of research papers by third year orthoptic students at Cumberland College of Health Sciences, N.S.W. Copies of particular papers of interest may be obtained by writing to:

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DOES MUSCULAR IMBALANCE INFLUENCE THE CONVERGENCE NEAR POINT— Susan Moore

Ocular movements and convergence near point standards were investigated in forty subjects, 20 of whom had convergence near points of 5 cm or better from the eyes (Group 1), with the remaining 20 subjects having near points more remote than 5 cm (Group 2).

It was hypothesised that superior rectus and inferior rectus underactions caused a loss of adduction and resulted in a reduced convergence near point. It was found that there was an increased frequency of inferior rectus underactions in the group with the reduced near points. When statistically correlated, no significant relationship was found to exist between the muscle imbalance and convergence ability. However, a statistically significant difference was found between the deviations in elevation of each group — with greater exo deviations in those subjects with reduced near points.

A NEW TECHNIQUE FOR ASSESSING MICROSCADIC EYE MOVEMENTS— Mary Haddad

This study set out to establish a set of normal responses that can be given to the new testing procedure, the "yellow block" test, that is said to assess micro-saccadic eye movements, and whether these responses vary in any way with regard to the age of the subject.

The research involved the participation of 39 children, ranging from 8 to 14 years of age. A preliminary assessment was performed on each child to establish whether there were any eye defects present. The children were then tested with the new apparatus. Once the required viewing time of the block (60 seconds) had elapsed, the child was asked a series of questions regarding as to what they had observed during that time. The responses to these questions were then categorized into four groups, ranging from those who saw no changes taking place during testing time, to those who observed definite changes. It was then

determined whether there was a relationship between the age of the child and each of the groups. It was found that a subtle relationship existed between these two factors, that is, the older children tended to see little or no change taking place in the block. It would be of great interest to test dyslexic children with this new procedure, to determine whether these children have defective microsaccade movements.

PUPILLARY ABNORMALITIES IN AMBLYOPIA—Hetty Cremers

Two groups of patients, an amblyopic group and a normal group were tested to see if there was any connection between afferent pupillary defects and amblyopia. The pupil defect observed was one of a delay in constriction to a repeated direct light stimulus of the amblyopic eye.

The pupillary defect was found more frequently in the amblyopic group of patients when compared to the normal group of patients. Within the amblyopic group, a correlation between the level of vision of the amblyopic eye and the presence of a pupillary defect was shown to be significant. It was noted that of the amblyopia group (whose visual acuity ranged from 6/6-2 to 1.5/60), of those with acuities of 6/6 to 6/12, 75% showed a pupillary defect.

REDUCED CONTRAST SENSITIVITY IN MULTIPLE SCLEROSIS: AN EVALUATION OF MODIFIED SNELLENS CHARTS USING REDUCED CONTRAST— Christine Maple

Reduced contrast sensitivity in multiple sclerosis has been demonstrated previously by previous researchers using special gratings and various forms of electrophysiological tests. The main objective of this research was to evaluate the use of standard Snellens visual acuity charts of varying contrast, as a method for distinguishing between normals and those individuals with multiple sclerosis.

All three visual acuity charts used showed statistically significant difference between the two groups. Twenty one of the thirty four multiple sclerosis eyes tested, which presented with normal vision for their age on 100% contrast charts, showed significant reductions in contrast sensitivity.

A VISUAL MOTILITY ASSESSMENT OF STUTTERERS—Terri Leverty

Twenty six stuttering and twenty six non stuttering subjects were assessed, to determine whether visual and motility standards between the two groups differed.

Eye movements, particularly saccades, were investigated because of the close association of speech and saccadic controlling centres. The assessment included saccades, smooth pursuit, muscle balance, V.A for near and distance, the presence of a latent or manifest deviation, stereo-acuity and responses of pupils to light and accommodation.

Results demonstrated that the only statistically significant difference between the two groups was stereo-activity, where non stutterers demonstrated a higher level. Throughout the study however, the non stutterers demonstrated a consistent and higher standard of visual and motility function, suggesting that further study in this area is warranted.

EFFECT OF OCULAR PROBLEMS AS SEEN THROUGH CHILDREN'S DRAWINGS—

Amparo Herrera

Fifty patients between the ages of 3 to 14 years, were selected for this study, in order to determine the incidence of children who, by means of drawings of themselves, expressed ocular problems such as strabismus or glasses.

Analysis of these drawings was performed by two psychologists, experienced in the field of children. Out of 50 drawings, 22 children (Group A), actually had ocular problems, 12 of these (or 54.55%), depicted such "ocular problems" in their drawings, while the remaining 10 (or 45.45%), did not. Twenty eight children (Group B), made up the control group, that is, children who had no past or present history of ocular problems. None of these children demonstrated any particular abnormality in their graphic expressions.

It was found that the presence of ocular problems plays a significant role in the child's perception of him/her self. Because the child's drawing is original and individual, one can determine the specific and different problem which affects the child, especially if the researcher carefully observes the child while he is performing the task.

DISSOCIATED VERTICAL DEVIATION IN CONGENITAL STRABISMUS—

Lisa Oakley

Dissociated vertical deviation (D.V.D.), is a condition often associated with congenital strabismus. A retrospective study of 70 patients with congenital strabismus and D.V.D. was performed, to determine the average age of onset of D.V.D. whether the onset was affected by early surgery, and whether nystagmus, the vertical deviation or abnormal O.K.N. were the first clinical signs noted.

Of these 70 patients, 37 had developed D.V.D. before any surgery was carried out (or who had no surgery at all) and 33 developed D.V.D. post-

operatively. The difference between the average age of onset of D.V.D. in the two groups was found to be insignificant in both groups. A D.V.D. movement of the affected eye was the first characteristic noted in the majority of patients.

LONG TERM EFFECTS OF CONVERGENCE INSUFFICIENCY TREATMENT—

Jennifer Gleeson

A survey was conducted amongst patients who had received and completed a full course of convergence insufficiency treatment three to six years before the time of their study.

The aim was to establish the effect, if any, of the following two variables on the recurrence of symptoms:

1. whether the patient kept a regular self check on convergence after treatment
- and

2. whether the patient can voluntarily converge.

A relationship was established in this study, although it was realized that patients were satisfied with treatment when symptoms returned, which is therefore considered to be an important positive affect of orthoptic treatment.

HEMIANOPIC RESOLUTION IN CEREBRAL VASCULAR ACCIDENTS (CVA)—

Darren Banks

This study was undertaken to assess whether hemianopic defects caused by C.V.A.s will recover spontaneously, as do hemiplegias.

Eight subjects from the C.V.A. unit of Lidcombe Hospital had their visual fields assessed soon after a C.V.A. These subjects were then monitored for six months, to see if the field defect recovered spontaneously.

Results of this study showed that spontaneous recovery was negligible over this six months' period. A suggestion is made for a rehabilitational treatment plan to possibly aid in the resolution of visual field defects.

THE INCIDENCE OF CONGENITAL ABNORMALITIES IN CONGENITAL EXOTROPIA AND ESOTROPIA—

Nadia Nicotra

Twenty five subjects with congenital exotropia and twenty five with congenital esotropia were investigated through data from medical histories.

The incidence of major congenital abnormalities amongst the two groups were compared. Results suggest that major abnormalities, such as cerebral palsy, hydrocephalus, brain damage, meningitis and prematurity, are more common in the exotropic group.

**EFFECTS OF ECCENTRIC VIEWING
TRAINING—Ingrid Ca'ceda**

A study was conducted on the effect of 'Eccentric Viewing Training' on visual acuity, time taken to achieve each visual acuity and activities of daily living.

The sample consisted of four patients, who were examined before and after the completion of training. Three of the four subjects showed an improvement in visual acuity and recognition time with changes in seven different aspects of tasks of daily living. This

was confirmed by the subjects' satisfaction of their improvement. The fourth subject, however, showed adverse results; i.e. both visual acuity and recognition time dropped to lower levels after training, and there were no changes in the performance of activities of daily living. This subject, after training, was confused and became depressed.

It can be seen that factors such as medical health and motivation have great influence on the success of the training.

SIXTH INTERNATIONAL ORTHOPTIC CONGRESS

The Sixth International Orthoptic Congress will be held at the Harrogate Conference Centre, Harrogate, England from 29th June to 2nd July 1987. Further information can be obtained from the Secretary, British Orthoptic Society, Tavistock House North, Tavistock Square, London WC1H 9HX, England.