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THE VISUAL ASSESSMENT OF FIFTY-SEVEN MENTALLY RETARDED SCHOOL CHILDREN

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Abstract
Fifty seven children from the OF type class (moderate to severe mental retardation) were screened for visual and/or motility defects. The results show approximately 40% had defects which is a higher incidence than that in the average school population.
Key words: *OF type class, visual/motility defects, visual screening.*

INTRODUCTION

Throughout New South Wales visual screening of mentally retarded children is usually done by the School Medical Service of the Health Commission of N.S.W. Orthoptists are rarely employed by the Health Commission to screen these children. In 1982/83 an orthoptist was employed to assist the school medical service sister in assessing children from Wewak Street Public School, Albury. This was done because of the difficulty experienced in the past, leaving on average 20% of the children untested each year.

Wewak Street School for Specific Purposes is run by the Education Department and is a school for the OF class of children with an average IQ of less than 55, i.e. moderate to severe mental retardation. The ages of the children tested ranged from four to 16 years old and 29 males and 28 females were tested.

METHOD

The testing of the visual acuity of the 57 children was not under ideal conditions. As the examination room was not six metres long and there were difficulties experienced when trying to do the tests in the mirror, the VA tests were usually carried out in the corridor. The acuity tests used were mostly the Sheridan Gardiner linear and single optotypes as well as the Catford drum or the Stykar balls. The Catford drum was used in preference to the Stykar balls where possible, thus providing a written level of VA for teacher assessment. At first the Catford drum was not available, therefore some were tested with Stykar balls only.

Vision was tested with both eyes open (BEO) only if they were not co-operating with monocular vision testing. The cover test and ocular movements were also assessed, usually under more suitable conditions.

RESULTS

The disabilities and causes of retardation were obtained from the school files, hence a large number of unknown aetiologies.

Of the 14 Down's syndrome children tested 3 (21%) presented with a convergent squint.

Overall 23 (40%) children presented with visual and/or strabismic abnormalities including

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TABLE 1
Disabilities

Downs syndrome	14
Cerebral palsy	5
Hydrocephalus and epilepsy	4
Epilepsy	3
Dwarfism/convulsions	2
Microcephaly, congenital myotonia dystonica, brain damaged, malnutrition and neglect in infancy, idiopathic hypercalcemia, psychological disturbance with poor family background	1
Deafness	4
Undiagnosed/unknown	19

17 (30%) children with manifest strabismus; 29 (51%) children were orthophoric with VA of 6/9 or better and five (9%) children were untestable/unco-operative.

TABLE 2
Visual Acuity Tests Used

	No. of children	%
S.G. single optotypes	23	40
S.G. linear	15	26
Catford drum	8	14
Stykar balls	6	11
Untestable/unco-operative	5	9

DISCUSSION

The incidence of visual abnormalities found in this study is comparable to that found by Gardiner.[1] Brown[2] found it possible to visually screen mentally handicapped children when working in "quiet familiar surroundings with a sympathetic and patient examiner". The incidence of visual defects found by Brown is higher (64%) than found in this study but the

TABLE 3
Visual Acuity Assessment

	No. of children	%
Equal vision of 6/9 or better	18	32
1 line or less difference (no less than 6/9 in the weaker eye)	9	16
BEO—6/9 or better	7	12
2 lines or more difference between each eye	11	19
BEO—6/12 or less	7	12
Untestable/unco-operative	5	9

TABLE 4
Eye Movement Disorders

	No. of children		%
Convergent squint	10	30	
Divergent squint	5		
Vertical squint	2		
Nystagmus	1		40
Muscle imbalance without squint	2		
Convergence weakness	3		
Untestable unco-operative	5		9
Orthophoric	29		51

incidence of squint found (28%) is comparable. Banks[3] found 69 out of 175 mentally retarded children to have squints (39%). Of these 69, 53 were convergent and 16 divergent, confirming my findings of convergent squint being more prevalent. Edwards, Price and Weisskopf[4] found the incidence of squints in the retarded child to be 35% with the incidence of eye defects as a whole increasing to 48%. The figures from this study, 30% of children with squints increasing to 40% for those having visual and/or motility defects, are comparable and highlight the need for a full ophthalmological examination to be carried out.

It is interesting to note Erby[5] found a higher incidence of squint (56%) and visual abnormalities presenting in mentally handicapped children whose IQ was generally lower than these children screened. It is also interesting to note that Eissler an Logenecker,[6] and Hiles, Hoyme and McFarlane,[7] Dunlop[8] and others in the past have found a high incidence of convergent squint in Down's syndrome children. In this study three squints, all convergent, were found in 17 Down's children.

CONCLUSION

It has been shown there is a higher incidence of eye problems in mentally handicapped children than that in the normal school population. Banks states "that the earlier and better the visual sense functions then the greater chance the child has of achieving his potential".[3] Therefore it is important for these children to be screened thoroughly. This can be achieved more accurately if the child is in familiar surroundings

with patient and sympathetic examiners, preferably two in number. It is therefore apparent that the orthoptist with his/her specialized knowledge and skills can be an important member of this team.

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