VISUAL SCREENING OF CHILDREN IN WESTERN AUSTRALIA

Beverley Balfour

Visual screening of children by orthoptists has been sponsored in Western Australia as in other States, by the Lion's Save Sight Foundation.

The response has not always been good, and is possibly better in the country areas. We conducted screenings in various metropolitan areas up to November 1974 - since then the Lions seem to be engaged in other Save Sight projects. Some of us have had trips to country areas, mainly by plane, covering the South as far as Esperance, the East to Meekatharra, and the northern mining areas and on to the far North, Wyndham and Kununurra.

Those of us who were fortunate enough to go on the trips have gained much greater insight into Community Welfare problems, and a healthy admiration for the welfare workers and others who try to help the people in their areas, often under the most trying conditions, day in, day out. The Health Department allows children requiring medical treatment to travel free to Perth if they live north of the 26th parallel, and others can get assistance according to circumstances.

It seems to me a pity that this is stereotyped, as there could be obvious advantages in seeing them in their own environment, and sending those who need it south for further examination and treatment. Various groups of people do go, or are sent, north but I feel that a co-ordinated approach involving, say, both an orthoptist and an ophthalmologist would be of more benefit. Children of white, particularly of British parentage, appear to suffer from divergent squints.

The aborigines appear to be the most disadvantaged. They are not accustomed to our signs and symbols, and I feel that they need a special chart. The tribal ones are the most delightful children, well disciplined, and their elders stand by. They make no fuss if they don't understand, merely becoming silently shy, with lovely liquid brown eyes, charming smiles, and clouds of flies around their eyes and runny noses. All the full bloods I tested had excellent visual acuity. I tested some in camps in the open, hanging my E chart on the nearest gum tree.

The semi-civilized ones suffered from malnutrition, and their eyesight seemed to be less of a problem than their general health.

Tests for trachoma are done by the Welfare officers as a routine now. Even though the percentage screened was not always high, often due to public apathy, I feel that the number we have "saved" from amblyopia and refractive errors was worth it; news of grateful parents filters through to me.

My main country practice involves approximately 700 miles and four country towns in four days once every three months. The contacts there, particularly if patients or parents keep in touch by phone or mail between times, can speed the treatment of amblyopia in particular, and encourages them to keep at it. Results in the end are often just as good as those of town patients.

ORTHOPTICS AND CEREBRAL PALSY

V.C. Elliot

Presented in Sydney, April, 1974

To quote a widely accepted definition: "Cerebral palsy is a persistent but not unchanging disorder of movement and posture appearing in the early years of life and due to a non-progressive disorder of the brain, the result of interference during its development."

There are four main types of cerebral palsy, all of which refer to the types of muscle abnormality found in the child. More than one type may be present in a particular case with the degree of involvement and distribution varying from child to child. The types are:-

1. SPASTIC

This is the most well known of the groups, having been the first to be described and made known to the public. These cases show increased muscle tone which may involve one or all of the limbs, trunk muscles, and/or the muscles of respiration, of the head or of the neck. In mild spasticity there may be only a disturbance of co-ordination and balance.

2. ATHETOID

In this type, the muscle tone fluctuates between hypertonus and hypotonus resulting in involuntary movements due to fluctuations in tone in the opposing muscles.

3. ATAXIC

This involves a loss of balance. Equilibrium reactions are well developed but are abnormal and unco-ordinated.

4. HYPOTONIC

This is a low muscle tone. These children usually become either athetoid or spastic and some develop normal muscle tone.

The associated defects of cerebral palsy include respiratory problems, epilepsy, deafness, speech defects, behaviour disorders and learning disabilities. Mental retardation (i.e. an IQ less than 90) is found in many cerebral palsy cases. The Spastic Centre of NSW has found that 25% have an IQ below 50; 25% between 50 and 70; 25% between 70 and 90; and 25% over 90.

The Spastic Centre School at Mosman caters for cerebral palsy children from nursery to 6th Form High School, with the classes grouped mainly in academic potential and degree of handicap. Included in these groups are: one Junior O/D(opportunity deaf); one Senior O/D O/L (opportunity deaf and language); three O/F classes (IQ 35 to 55 i.e. moderately retarded); and two O/A classes (IQ 55 to 70 i.e. mildly retarded).

The children are in school for the normal school hours but one half of the day may be interrupted by treatment in Physiotherapy, Occupational Therapy, Speech Therapy or Orthoptics.

Over a period of twelve months working as an orthoptist at the Spastic Centre of NSW, it became obvious that the ocular defects found there were much greater than those found amongst normal children. The 154 cerebral palsied children at the Mosman Spastic Centre School were screened and compared with 100 children from a suburban public school with the following results:-

	CEREBRAL PALSY 154 CASES	NORMAL 100 CASES
	%	%
Squint	58	7
Nystagmus	21	1
Vision below normal	43	11
Convergence Insufficiency	29	7

Surveys under ophthalmologists have revealed significant refractive errors in between 42% (Graham 1968) and 54% (Schachat 1957) of cerebral palsied children.

Overall 81% of the cerebral palsied children were found to have an ocular defect as opposed to 18% in the normal cross section.

Valium and Serepax are used in selected cases for muscle relaxation and a proportion of the children take anti-convulsants regularly. These tend to accentuate convergence insufficiencies and to reduce the control of heterophorias and squints.

Orthoptic treatments are those carried out in a normal clinic. There is occlusion for amblyopia, elimination of suppression and teaching of diplopia, convergence exercises, treatment for accommodative squints and so on, though treatment may be modified and unfortunately often has to be minimised.

A test is often done with the help of the teacher, speech therapist or psychologist to obtain the maximum response and this is especially valuable in visual acuity assessment. Comments on the visual acuity, the effect of a particular defect and, when necessary, the position or direction of greatest ocular comfort and best vision are made in reports available to the doctors, the school and the various therapies.

Over the past eighteen months, I have become increasingly aware of the part orthoptics can play in the assessment of potential and in the management of the cerebral palsied child and to say that the work there is rewarding would be quite an understatement.

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THE ORTHOPTIST'S CONTRIBUTION TO THE MULTI-DISCIPLINARY GROUP CONCERNED WITH LEARNING DIFFICULTIES

Patricia Dunlop

Presented in Sydney, April 1975

The term "learning difficulty" includes a wide range of conditions varying from obvious brain damage to classical dyslexia where intelligence is normal or even supernormal.

Until recently, the world of ophthalmology was curiously unable to offer any substantial help to those who sought to elucidate dyslexia, literally "difficult reading" which must, so obviously have an important visual element. There seemed to be no relation between eye functions and the tendency to reverse letters or small groups of letters, with omissions and multiple errors of sequencing.

However the recent discovery of a central pool of neurones in the visual cortex which respond only weakly or not at all to monocular stimuli, but respond vigorously to binocular input (Joshua and Bishop 1970), emphasised the need for detailed binocular investigations in place of the former emphasis on exclusively monocular visual acuity tests, simple muscle balance tests and monocular tests of ocular dominance.