

conventional prisms were rejected. Fresnel prisms have proved an exciting and illuminating adjunct to our orthoptic diagnosis and treatment.

### Acknowledgements

I would like to thank the ophthalmologists in charge of the above cases for allowing me to present them here, and I would like also to pay tribute to my colleagues at the Sydney Eye Hospital Orthoptic Clinic for their advice and encouragement in the treatment of the cases and the writing of this paper.

## TRANSPARENCIES

Jess Kirby

The eye that fails in convergence, that has a slow heterophoria recovery, that is partially amblyopic, that produces symptoms because it cannot carry its load; or that intermittently diverges or converges, or is closed for near or distance or in glare - this eye needs encouragement. It needs encouragement more constantly than orthoptics or home exercises can be given, and without the dissociation that part time opaque occlusion causes.

I commend transparencies because they give this support. They are tolerated without trouble, with no cosmetic impairment, and can be adapted to the requirements of each individual case. They have filled a longfelt want in my practice.

"Press-On" transparencies are graded in levels of visual acuity. They replace in a more refined and scientific way, clear lacquer which did not flow evenly, and cello-tape which did not mould to the glass and which moisture caused to swell and distort.

For some years I have used a clear "Con-tact" paper which reduces visual acuity to 6/24, moulds to the glass, withstands water and is almost undetectable. Through it, patients can do simple binocular exercises such as appreciating physiological diplopia, and distant muscle balance control exercises. I also used this method on both adults and children post-operatively, and still prefer it, for some cases, to the use of the "Press-On" transparency. Some adult patients with a history of longstanding asthenopia react more favourably to the 6/24 clear "Con-tact" transparency, whereas those with lesser symptoms wear a "Press-On" transparency which only slightly favours the weaker eye.

However, "Press-On" transparencies have a wider application and are easier to use, especially for adults, since the transparency can be removed quickly and replaced as required. Many adult patients with symptoms cannot attend more than two or three times, and some of these responded slowly to the usual orthoptic methods. Previously with this group, part time opaque occlusion would be suggested. This occlusion was tolerated only by the very strong minded or the desperate. Transparencies are well tolerated, and the result is a dramatic relief of symptoms. Patients can feel the defective eye fail when the transparency is removed, and as the eye improves, they can reduce the time the transparency is worn according to their needs.

The selection of the appropriate type and grading is time consuming. With the correct grading the patient must be able to appreciate physiological diplopia with confidence.

When wearing a transparency, the child adapts to making the defective eye the "thinking" eye. The reaction from parents is good because an intermittent squint is controlled cosmetically. The transparency can be left in place and an opaque occluder can be attached to the other side of the glass, if the defective eye needs this extra boost. But also more importantly the parent can see through it, and if a deviation of the partially occluded stronger eye occurs it can then be removed until the weaker eye again indicates

that it needs assistance.

To demonstrate the use of transparencies, two case histories, both of adults, have been selected, one having longstanding asthenopia, the second unable to use a binocular instrument efficiently.

### Case I

Miss J.R.H. aet 27 was referred with exophoria for near and distance, and convergence insufficiency of long standing. Her symptoms were headaches for years, and closing of the left eye for all near work. Examination showed:

exophoria with poor recovery

convergence near point 30 cms. with left eye failure

Maddox wing exophoria 18<sup>Δ</sup>

Maddox rod exophoria 14<sup>Δ</sup>

Worth lights : heteronymous diplopia, controlled voluntarily

Synoptophore angle : -12°, L/R 3<sup>Δ</sup> with fusional convergence to 0,0/0

Graded transparencies were tried. Physiological diplopia was appreciated with one which reduced her right visual acuity to 6/24. This was worn almost constantly and home exercises were carried out.

After two weeks Miss J.R.H. was symptom free; there was no need to close the left eye when not wearing the transparency.

Cover test : orthophoria

convergence near point : nose tip.

Maddox wing : exophoria 2<sup>Δ</sup> to 10<sup>Δ</sup>

Worth lights : 4 spontaneously

Synoptophore convergence to 20°

She is now able to do home exercises without the transparency, and has remained symptom free.

### Case II

Mr. J.A. was first seen in 1956 aet 23 with fully controlled exophoria. There were no symptoms and he did not require orthoptics.

In 1972 he found he could not use a binocular instrument efficiently.

Maddox rod : exophoria 18 Maddox wing : exophoria 6 ..16

Convergence : left eye failed Titmus fly not appreciated

Synoptophore : angle -8°, fusional range -15° to +10°,  
low grade stereopsis appreciated under stimulation.

A "Press-On" transparency which reduced the right visual acuity to 6/9 was used whenever glasses were worn. This enabled him to appreciate physiological diplopia and to use home exercises.

After five weeks, fusional convergence had increased to an easy 40° and full stereopsis was obtained on the synoptophore at 0°. The Titmus pictures and circles were appreciated spontaneously, and stereograms could be used efficiently.

### Conclusion

I have used graded "Press-On" transparencies for 12 months, and 6/24 "Con-Tact" for at least 4 years. Transparencies have been especially of value in all adult work, and when used post-operatively. By encouraging the failing eye, a transparency gives the patient comfort with good appearance, and a firm hold on binocular vision which he retains when use of the transparency is reduced and finally abandoned.

For allowing me to use these cases and for their advice and interest, my thanks go to Dr. Graeme Reedshaw and Dr. John Apel.

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## REVERSAL AMBLYOPIA

D. Croker

*Presented in Sydney, 1971*

This paper was prompted by six cases of reversal amblyopia seen in the past year. In each of these, fixation of the originally fixing eye became eccentric after a period of occlusion.

This condition was first described as occlusion amblyopia by Costenbader (1958) and later by Von Noorden (1964, 1966, and 1970) and Burian (1966). H.M. Goodier (1966) reported twenty one cases of reversed amblyopia, all over the age of 3 years. The average age of patients at the time of reversal was  $4\frac{1}{2}$  years.

G. Roper-Hall (1970) saw eight children, all under the age of 2 years and 8 months, the average age of change in amblyopia being 2 years 4 months. Children of this age are perhaps too young for accurate assessment of visual acuity although not too young for visuscope examination.

The six children here reported four girls and two boys were all between the ages of 3 years 3 months and 4 years 7 months. Onset of squint was at birth or during the first year. Binocular vision was not present in any one of these cases. Five of the six patients were right handed and had a left convergent squint, the sixth case was left handed and had a right convergent squint.

All children were fairly co-operative and we were able to obtain accurate visual results. The average age at the time of reversal of amblyopia was 4 years 3 months. The length of time for which fixing eye occlusion was ordered is not necessarily significant. One child had 8 months of fixing eye occlusion, but this was not worn constantly. The average amount of constant fixing eye occlusion given before reversal took place was  $2\frac{1}{2}$  months. (See Table)

There was no indication that there would be any change in the state of fixation; on all visits prior to the change in fixation, visuscope observations of the originally fixing eye were central and steady. There was rapid change over to eccentric fixation with loss of vision. All patients were seen at intervals of 2 months or less.