THE USE OF "HALF PATCH" OCCLUSION

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Most orthoptists are familiar with the use of occlusion of part of a lens in cases of paralytic squints, i.e. in occluding the area in which diplopia is experienced, thus allowing binocular vision in other directions of conjugate gaze. Also, in cases where hypertropia is manifest in depression only, suppression of the hypertropic eye is prevented by occluding the lower half of the other lens.

In the treatment of intermittent convergent squints with a refractive error, where the cover test shows unstable esophoria for distance and a convergent squint for near or on depression, I have found the use of half patch occlusion to be helpful in the elimination of suppression and in stabilising binocular function.

The lower section of the lens of the fixing eye is covered, the upper edge of the cover being so placed that binocular single vision can be maintained in the primary position and in all positions of gaze except depression. Thus for activities such as reading or writing during which manifest deviation is likely to occur, the fixing eye is occluded. The material chosen depends on the personal preference of the patient or the orthoptist.

The use of half patch occlusion has particular advantages in the following areas -

(1) to prevent suppression, once it has been overcome by the usual methods, until other treatment is begun, whether it be surgery, orthoptics, or temporary measures such as miotics, bifocals, or Fresnel prisms.

(2) during the course of orthoptic treatment

(3) where there has been no response to the usual methods of eliminating suppression

(4) for the patients who do not respond well to transparencies, and others, particularly older people, who find it difficult to fuse one clear and one blurred image, or are disturbed by continued diplopia for near.

(5) in cases where the maintenance of binocular single vision for distance is considered important because binocular vision is weak.

As with most orthoptic treatment, when contemplating half patch occlusion one must consider the age and co-operation of the patient, and if the patient is a child, the parents' co-operation as well. A simple explanation is usually sufficient. After some problems in adapting to this method in the first couple of weeks, most patients have no complaints. With the younger ones, there is always the problem of "peeping", which is easy for the tempted child.

The following are summaries of three case histories where half patch occlusion was used in conjunction with other treatment.

> Louise aged 12 years wore a low hypermetropic correction. Her intermittent right convergent squint had apparently responded well to orthoptic treatment some five years previously. Now, with increased close work, she noticed her right eye wandering. Progress with part-time left occlusion was slow, so half-lens clear occlusion was suggested. Louise found she could adapt easily. In the initial stages, whenever the right eye felt strained after close work, she could look over the occlusion. She reached a stage at which she could use the right eye comfortably for all near work, with no sign of suppression. After surgery and further orthoptics Louise was able to go without her glasses, and remained symptom-free.

Helen, aged 5, wore a low hypermetropic correction and had a history of left convergent squint and amblyopia. After constant right occlusion to equal visual acuity, part time occlusion was continued until she was able to control the deviation for distance at times. But owing to marked left convergent squint for near, suppression recurred whenever occlusion was stopped. As the deviation was extremely variable and the binocular function unstable, surgery although probably inevitable had been delayed. Clear half-lens occlusion was commenced with explanation to parents and child, and continued until miotics were started. With these treatments, suppression has been prevented and the binocular function stabilised, Helen maintaining control over a moderate esophoria.

Michael, an intelligent and helpful child aged 4, was esophoric for distance when wearing glasses, but after left occlusion which brought the right vision up from 6/12 to 6/6 there was still a right convergent squint with troublesome diplopia for near. With half patch brown paper occlusion, suppression was overcome, the manifest deviation for near became an esophoria, and there was no more double vision. This standard was maintained after all occlusion was abandoned.

From my experience, having used half patch occlusion in most cases where part-time occlusion might be considered, the former really only has value in the treatment of intermittent convergent squints, as here described. More than anyone else, I can appreciate the limitations of such a method, but am convinced it definitely has merits for certain patients. Perhaps the greatest advantage is as a continuous form of management.

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OBJECTIVE ORTHOPTIC TREATMENT

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Introduction

This paper is about a search for more effective methods of orthoptic treatment than are offered in text books. Where guidance from neurology leaves gaps, these have been tentatively filled in the light of orthoptic experience. "Those that go down to the sea in ships ... these see the works of the Lord and his wonders in the deep." The orthoptist deeply involved in the troubles of her patient across the synoptophore, perhaps gains glimpses of the workings of visuo-motor mechanisms that are hidden from others.

The dual control of ocular movements

In 1938 Gordon Holmes described the functions of the two cerebral oculo-motor centres in man, as deduced from study of the eye disabilities occurring when the projection tracts from either centre to the brain stem were injured or diseased. When the frontal projection fibres were affected, the patient's eye moved freely, but not by his intention. They would follow people moving in the room, or an object slowly moved towards or away from him, but by no effort of will could he turn them from one thing to another. When the ocipital cortico-tectal pathways were bilaterally interrupted, voluntary movement was free, but ability to watch moving objects or to maintain clear single vision of near or distant objects was lost.

From the sum of his observations, Holmes concluded that "the frontal oculomotor centre is concerned in those movements and reactions of the eyes which we may call voluntary. Through it we can by an effort of will look or turn our eyes in any direction