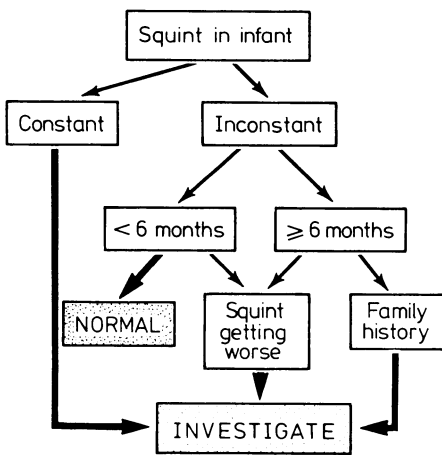


SQUINTS

Looking at different things

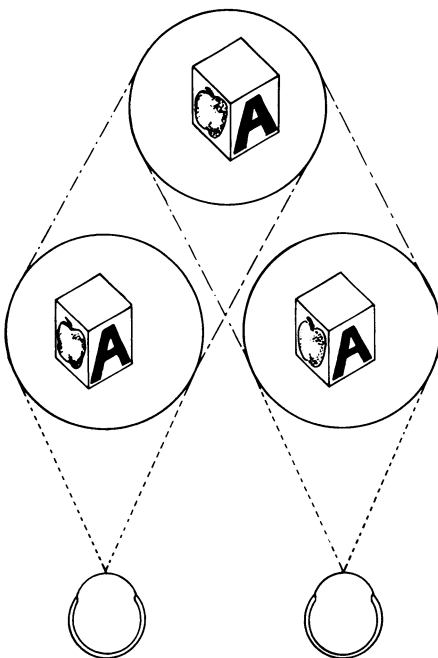


In a squinting child the two eyes do not look at the same thing. Squints first show themselves in the years when eyesight and its use are developing, so they may easily be thought to affect the eyesight in some way. But such is the power of adaptation in children and young infants that if each eye is used alternately visual acuity is not affected.

Squints may be divided into those that are constantly present and those that are present only at times; those that are confined to one eye and those that affect each eye at different times. These distinctions are important. A child who has a constant squint in one eye cannot have normal sight in that eye. If there is a constant squint that affects each eye alternately the vision is usually equal in each eye and often completely normal.

A constant squint, especially in the early weeks of life, demands immediate full investigation to exclude local or general disease. An inconstant squint is another matter. Until a baby has learnt to look at an object inconstant squints are very common. Inconstant squints that persist after the age of 6 months demand ophthalmological assessment if there is a family history of early squinting or if one eye seems to be squinting more frequently than the other or the squint is becoming more common or lasting longer.

Binocular vision

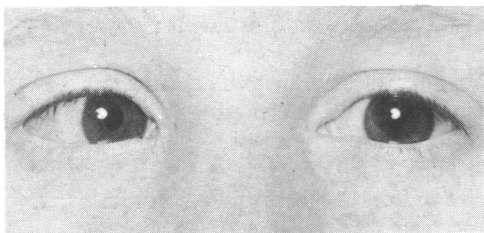


Children who constantly squint cannot develop true binocular vision. This has little importance in daily life because of the infant's ability to adapt. Adults who lose the use of one eye have great difficulty in judging depth and distance, but children adapt quickly and compensate fully. This ability to adapt diminishes progressively after about the age of 7.

Adults who begin to squint also have double vision, whereas most children who squint, especially those with constant squints, tend not to. Those children with inconstant squints who do see double nevertheless adapt very well. Adults who grew up with well-compensated double vision have driven fast cars and assisted at surgical operations with no difficulty.

Unlike the adult, the child is both learning to see objects of importance and learning not to see confusing images. If he has a constant squint in only one eye he will suppress double vision by permanently disregarding the image from this eye—at the cost of losing a great deal of acuity. If the squint is alternating from eye to eye he will disregard the image of each eye temporarily. In the first case only one eye will develop normal eyesight, whereas in the other both will see normally. Common sense seems to indicate that a squint in both eyes must be worse than in only one. This is wrong.

Diagnosing squints: cosmetic judgments misleading



The effects of squints on acuity are hidden because the child is unaware of the peculiarity, so most judgments on squints are cosmetic. These are often misleading. A small-angle squint may go unnoticed but its effect on visual acuity might be just as serious as that of a squint that is offensive to look at. Alternating squints are often misjudged in this way because they are often very obvious, but the visual acuity in each eye may be equal and normal.

The difficulty in noticing small-angle squints, which causes delay in treatment, indicates the need to search actively for them. Treatment should be started as soon as possible, before the child loses his adaptive abilities, and preferably before compensatory mechanisms become established and have to be unlearned. Infant welfare clinics and the community eye services can perform a valuable role in screening children for these defects.

A common source of misdiagnosis is the fold of skin at the inner angle of each eye in infants who have a wide or no bridge to their nose. This epicanthic fold hides some of the nasal portion of the globe, producing the illusion of a squint in perfectly straight eyes.

Squints may be difficult to diagnose, especially in infancy, when the diagnosis is most important. It should be possible to observe the dissimilar positions of light reflected from each eye that occurs in a squint, but only if the infant is co-operative and interested and actually fixing a target. Such infants are rare. First covering one eye and then the other should produce movement in a squinting eye but not in a straight eye. But again the infant's co-operation and interest are essential, and even then it is difficult to be sure that the movements of the eye are produced because of the squint and not spontaneously.

Though horizontal squints are the most common, a vertical element may be present and may show itself by the child tilting his head to compensate. This important diagnostic guide is often overlooked and attributed to abnormal neck muscles.

Treatment: glasses, patching, and surgery

Eliminate visual defects

Improve appearance

Achieve binocular vision



The aims of treatment are: (1) to eliminate defects of visual acuity; (2) to achieve a satisfactory appearance; and (3) to arrive at good binocular vision. The last is the ultimate aim, but it is seldom achieved; its pursuit is tedious, and failure is not a grave handicap. Parents should be reassured about this.

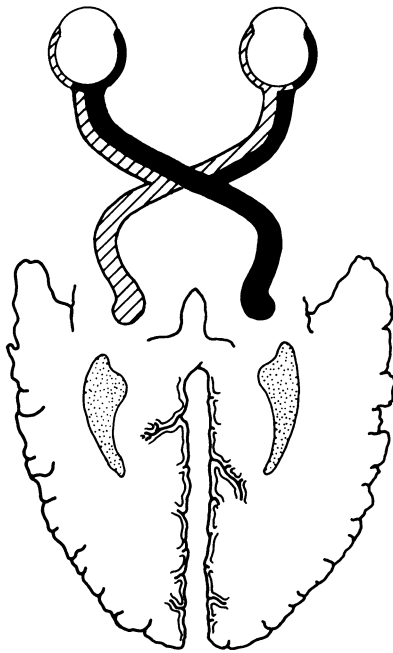
The treatment of the visual defect is the most important element of treatment. Disuse of an eye prevents the development of its vision, and treatment is aimed at making the eye work. This demands spectacles, patching, and surgery.

Glasses not only provide the correct optical situation for normal vision; they also eliminate the effort, subconscious though it may be, of focusing images, which in many young children is the real cause of a squint. Many squints are rectified by the use of glasses alone, even those where visual acuity is good.

Patching compels the defective eye to take up the load that it is normally disinclined to bear, because of either its angle or its optical burden. Acuity in the defective eye may take weeks to match that in the better eye, or it may never happen. Ideally, once the acuity of the defective eye has improved to equal that of its partner surgery should be performed.

In theory the child then begins anew with straight eyes, which are equal in vision. Cosmetically, the eye will usually appear satisfactory, though several operations may be needed. In many cases, however, the originally defective eye will still have less effective vision, or it may relapse in terms of acuity.

Surgery as insurance



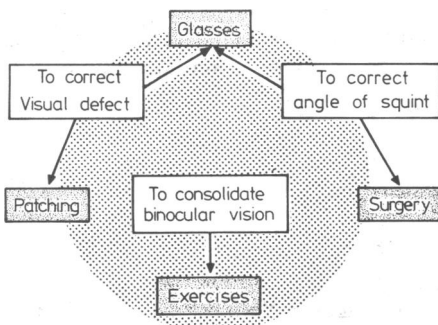
Nevertheless, surgery for squints is technically simple and not a great demand on healthy children, and the cosmetic improvement is of great benefit psychologically.

Also treatment has achieved much as an insurance. Once an eye has been made to see and the cortex has practised interpreting its activities, it is a potentially useful eye, even though it may relapse. Should the other eye fail through injury or disease, the treated eye can take over. If no attempt is made in early childhood to improve acuity in a constantly squinting eye, then its owner is permanently equipped with only one useful eye. This may be a psychological handicap, even though it may not be a visual one.

It is often difficult to explain to parents that an operation for squint may have no effect on vision, yet any delay may cause loss of the opportunity to develop good vision in the squinting eye. The child's reactions to treatment are also important. For example, occluding the good eye may severely handicap a child, producing blurring that may be profoundly disturbing.

Children who are particularly likely to be disturbed by treatment (including surgery) are those with other handicaps. Late walkers, late talkers, and so on may revert to an earlier stage, losing painfully won ground by injudicious treatment for a squint. In such cases close co-operation between all the doctors looking after the child is therefore important.

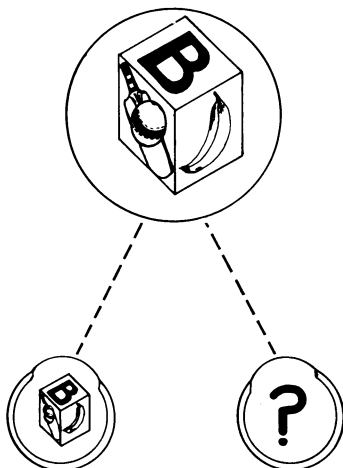
Balancing the benefits and drawbacks



The programme for treatment of squints can therefore be summarised as correction of the visual defect by glasses or patching or both; correction of the angle by surgery or glasses or both; and consolidation of any binocular vision by exercises under an orthoptist. Treatment should be started within weeks of a squint being noticed and should be completed by the age of 7. After this the prospect of any improvement except a cosmetic one becomes less and less likely.

Fewer than half the children treated for squint gain the benefit of having two eyes with really good acuity and good binocular vision. A crippling treatment (and its duration) must be balanced against the ultimate gain. It is seldom of any use to begin patching after the age of 6.

Amblyopia



Amblyopia—sometimes referred to as lazy eye—is most commonly associated with a squint, but it need not be. An amblyopic eye shows a defect of acuity even though it seems to be structurally normal or has been provided with a spectacle lens suitable for compensating for any refractive anomaly. The cause of the condition is ill understood, but one element is disuse of the eye or misuse during the early years of life. Amblyopia in its true sense cannot arise in adults, though it can be used to describe a visual defect that occurs in an eye without any obvious structural changes. Most commonly this is due to the use of strong tobacco or drugs.

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