

*Editorial***RICHARD W. BOLLING MEMORIAL MEDICAL LIBRARY****The living contact lens**

There are now a considerable number of ways of correcting visual defects due to errors of refraction. Most methods use glass or plastic outside the eye in the form of spectacles or contact lenses of various types. Like many things in life these have become so complicated of late, especially contact lenses, that the average ophthalmologist is hard put to it to keep up with the advances. In my own professional lifetime I have seen contact lenses change from large glass haptics to the present array of micro hard, daily wear soft, extended wear, gas permeable, disposable, varying water content types, and even bifocals, and no doubt, such is the speed of advance, I have probably missed out several others. Most optical appliances are supplied for errors of refraction of a non-pathological origin, moderate degrees of myopia, hypermetropia, astigmatism, and so on; but obviously some refractive errors are due to pathology, aphakia being the most obvious example.

In most developed countries some sort of insurance based system of health care exists, underwritten either by the state or by private insurers or a combination of the two. In all such systems there clearly has to be a distinction between what is allowable for benefit and what is not. In the UK system, for example, there has recently been a shift away from regarding spectacles for ordinary refractive errors as eligible for benefit (except for special categories of citizens), and contact lenses have never been regarded as eligible except in cases of definite pathology. The details may be different, but there must be some sort of similar regulations in all other countries with insurance based systems.

One could say therefore that optical appliances tend to occupy a sort of marginal status in the medical field. They are often prescribed by doctors and others for the relief of pathologically induced errors of refraction but far more often given for non-pathological errors. One could summarise the position by saying it may sometimes be borderline but nevertheless is reasonably well understood by all and sundry.

How does this compare with the correction of errors of refraction by surgical means, a recent innovation? Once again the methods can be applied to both pathological and non-pathological refractive errors. Not working in this field myself I have no idea how the insurance agencies overseeing health care in various countries support this form of surgery, but one would certainly expect it to be underwritten fully for pathological conditions, notably aphakia, though it has to be pointed out that the difference in cost between an operation and a contact lens or a pair of spectacles is certainly not negligible. But these are the problems of the health care underwriters, and I am not so sure that it is the responsibility of the medical profession to pontificate on this. One feels that

the primary job of the doctor is to advise what ought to be done and if possible do it. The provision and allocation of funds is a political decision.

I was stimulated into these random thoughts about the correction of refractive errors by reading the paper by Halliday in this issue about the relatively new operation of epikeratophakia. Although the name implies correction of aphakia alone, the present paper reminds us that other refractive errors can respond to this technique also. The method has evolved from Barraquer's original operation of keratomileusis in which the patient's own cornea was partially removed, refashioned on a lathe, and then replaced. Derek Ainslie visited Barraquer in Bogota, brought the apparatus to Moorfields, and actually managed to carry out a number of the operations in the early 1970s. The results were quite encouraging, but the complexities of the procedure and the formidable nature of the hardware together with perhaps an unvoiced fear of the possibility of disaster in the event of something going wrong with the machinery, when a large portion of the patient's cornea was out of the eye, conspired to allow the method eventually to be given up, in this country at least.

Refractive surgery now comprises radial keratotomy (and variations), excimer laser refashioning and epikeratophakia, and doubtless in the not too distant future other methods. As in the case of optical appliances, some of the operations are going to be done for pathological refractive errors (particularly aphakia and high myopia) but many inevitably for non-pathological cases. This will tend to raise the sort of questions as have in the past been raised about the various methods of funding optical appliances and to what degree they should be considered 'medical' in any case, but with the extra dimension of ethical implications as well.

How far is it justified to cut tissues, particularly the tissues of the eye, where no disease is present but an improvement on what nature has provided is sought? Should we make a distinction between refractive surgery for pathological as opposed to non-pathological reasons, rather like the distinction between plastic surgery, with its long training and rigorous standards, and cosmetic surgery, which may have less exacting standards and a somewhat commercial background? Or should we mind our own business and leave the refractive surgeons to sort out their own arrangements? Probably the latter. I would hasten to point out that the article on epikeratophakia in no way comes into the 'cosmetic' category but is an honest and serious attempt to present the results of a single surgeon embarking on a novel surgical technique on almost exclusively pathological cases.

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