

A new surgical head rest

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SUMMARY A surgical head rest is described that gives good wrist support, provides space to place instruments, and allows drainage of irrigation fluid.

Modern ophthalmic surgical technique demands a high level of micromanipulative skill. The operating microscope permits this precise surgery, and the parallel development of microsurgical instruments, sutures, and techniques makes increasing demand on the manual dexterity of the surgeon. For example, in extracapsular cataract surgery the posterior capsule is only about 6 μm in thickness.

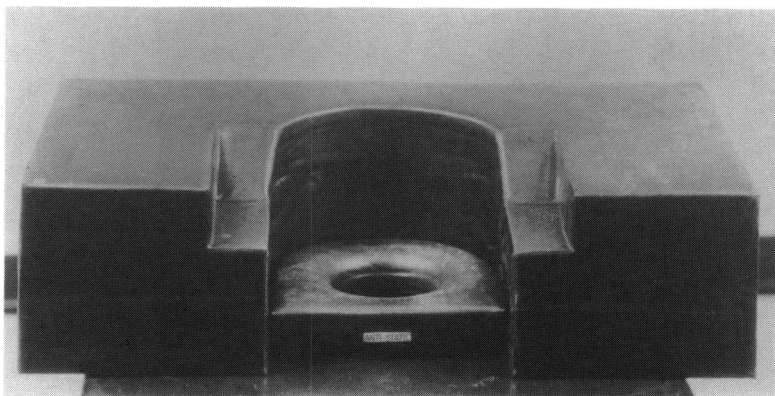
Unfortunately involuntary muscle tremor is always present even in a relaxed surgeon, and increased tremor tends to occur at the most technically demanding parts of the operation, especially if problems occur when there may be raised sympathetic tone in the surgeon.

There are two ways to overcome the limitation of human manual skills. Firstly, technically advanced instruments may provide a mechanical way of performing difficult manoeuvres. For example, the electrically operated scissors used in vitrectomies

allow the operator to concentrate on what to cut and free him from making hand movements that merely perform the cutting action. The second way involves providing optimal arm support to the surgeon, and it is the support to the forearm and wrist that is most crucial, providing a steady base for fine finger control of the surgical instruments. Currently used head rests do not always succeed in providing support both to the patient and to the surgeon. The Reuben pillow is widely used and gives good support for the patient's head but no support for the surgeon's wrists. The Lamtec head rest is attached to the end of the operating table, and a variable height pad can be clamped to allow for optimal head position. Independently adjustable rests are then arranged to prevent lateral movement of the head and also provide wrist support precisely where needed. Unfortunately this head rest is cumbersome to use, requiring skilled adjustment for each patient. If the head rest clamp is not tight, there is a danger of sudden extension of the patient's neck. In addition this rest provides no place to leave instruments in frequent use.

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Fig. 1 *The head rest is in two parts so the height of the patient's head can be adjusted, by using extra rings, to suit the position of the surgeon's hands.*



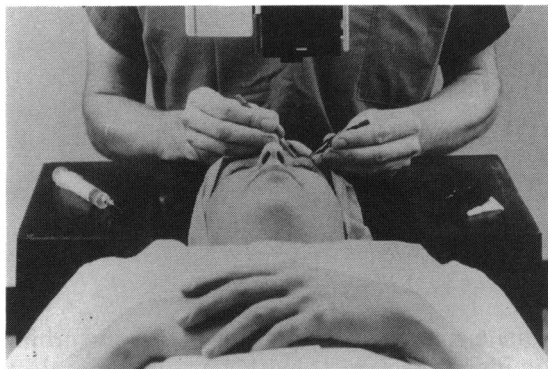


Fig. 2 The head rest in use showing the wide area for instruments and the drainage channels either side of the patient's head where a towel may be placed to mop up irrigating fluid.

The head rest

The head rest described here was developed to maximise wrist support for the surgeon at an appropriate position in relation to the patient's eye. A wide wrist rest is needed so that at different stages of the operation—for example, suturing each end of a cataract section—the support falls naturally to hand. It is desirable to be able to adjust the height of the support in relation to the position of the patient's eye. It is also helpful to have a place to put surgical instruments for both the assistant and the surgeon and also to make some arrangement for the volumes of extracapsular irrigating fluid that uncollected could form large pools.

Fig. 1 shows the final design of the head rest and Fig. 2 shows it in use with a 'patient' and a 'surgeon'.

It consists of two parts, a ring for the patient's head to rest on, and the main body of the pillow, which is constructed with a solid base and a very firm foam upper part covered with standard waterproof anti-static material. The pillow is as wide as the operating table and the whole of this width is available for wrist support. Using extra rings for the patient's head as required enables the height of the head and thus of the eye in relation to the surgeon's wrist to be adjusted; this adjustment is made with the help of the anaesthetist. For patients with neck problems, in whom flexion and extension are limited, the anaesthetist may adjust the number of rings used to suit him rather than the surgeon. Flat areas either side of the head are suitable for placing instruments in frequent use, and cut-outs directly adjacent to each eye allow space for a rolled up towel to absorb irrigation fluid. The area for instruments may also be used as a wrist rest when the surgeon's arm is round the side of the eye, as when placing difficult sutures in graft surgery.

In practice most surgeons who have tried this head rest find that it is almost immediately comfortable, providing support in an unobtrusive way. It also appears to be comfortable for patients under a local anaesthetic. The lack of moving parts such as are found in some other head rests make it popular with theatre staff, as it is quick and easy to set up for each patient.

This head rest is available from Dixey Instruments Ltd, 19 Wigmore Street, London W1A 4DU. The author has no connection with Dixey Instruments and has no financial interest in this head rest.

Accepted for publication 26 February 1987.