

ACTAS DEL SECUNDUM FORUM
OPHTHALMOLOGICUM

USE OF THE MICROSCOPE IN RETINAL DETACHMENT
AND VITREOUS SURGERY*

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Since more than 25 years examination of a retinal detachment by means of a slit lamp microscope using GOLDMAN's 3-mirror lens is precondition for surgery. Why was the microscope not in general use for the actual surgery itself? Maybe this was due to the lack of appropriate instruments.

We all know that in detachment and vitreous surgery perfect optical control is even more important than in anterior segment surgery. Special requirements due to anatomical conditions in the posterior segment need special technical solutions. Only a small angle between observation and illumination can be used to enter with the 2 beams through the pupil. The normal slit lamp illumination is not sufficient (Fig. 1).

The microsurgical microscope provides a rapid change between oblique and coaxial illumination. (Figs. 2 y 3).

Viewing through GOLDMAN's 3 mirror lens is easily possible, also rotation and scanning of the slit (Fig. 4).

Going on with external procedures, buckling, encircling drainage or coagulation one easily can switch back to a more appropriate illumination (Fig. 5).

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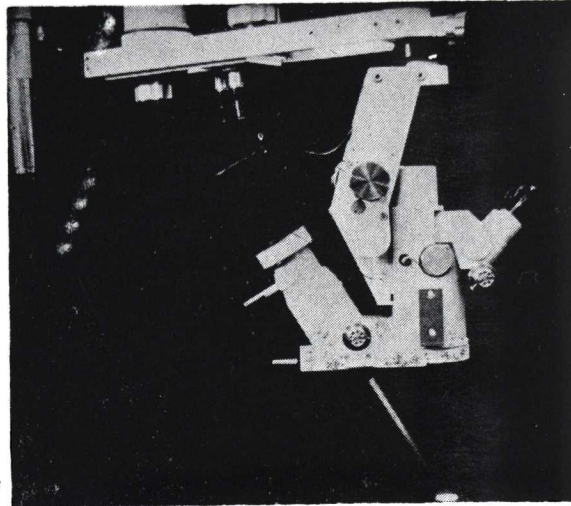


FIGURE 1
*Microsurgical microscope,
oblique illumination.*

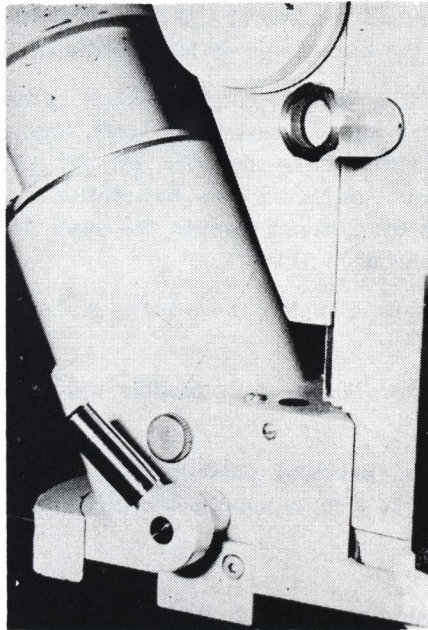


FIGURE 2
*Microsurgical microscope,
switch for coaxial illumination.*

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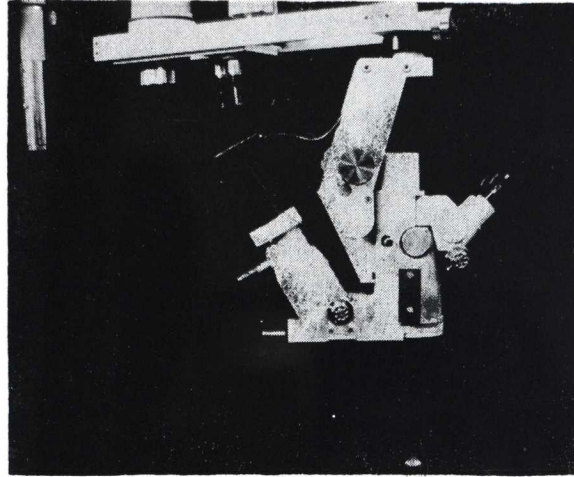


FIGURE 3

Microsurgical microscope, coaxial illumination.

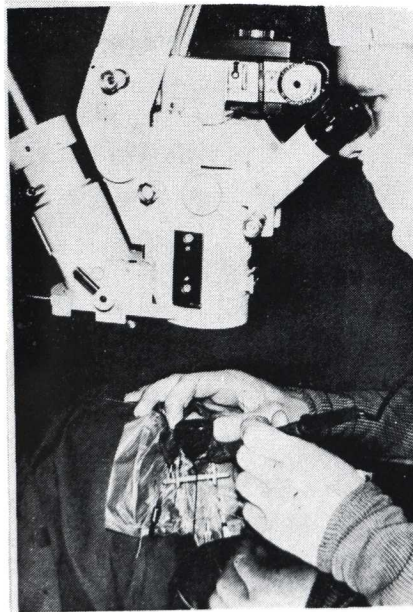


FIGURE 4

*Microscopical view through
Goldmann-3-mirror-lens.*

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FIGURE 5
Goldman-3-mirror-lens, close up.

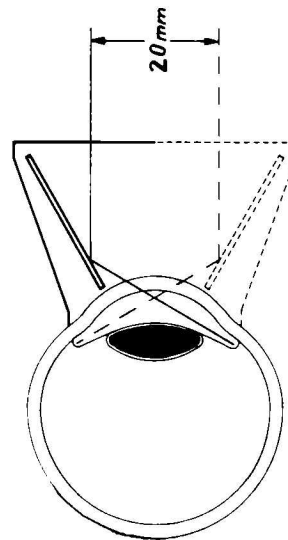


FIGURE 6
Lateral movement required when rotating the lens.

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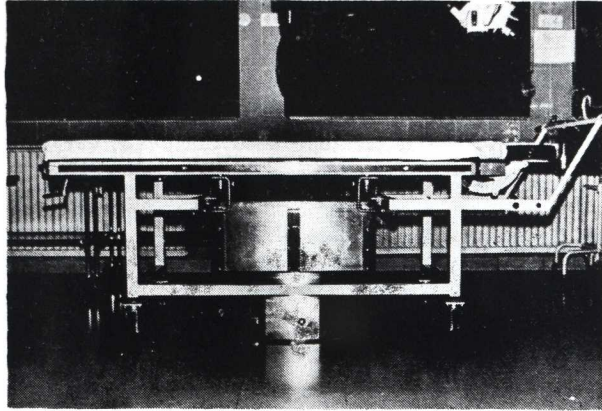


FIGURE 7
Microsurgical table, carriage, base and plate.

Of course the microscope also can be tilted (Fig. 6).

This figure shows the extent of lateral movement needed, when rotating the lens. When tilting of the lens is necessary, this can mean even more than 40 mm lateral shifting.

The microsurgical table easily can follow in any desired direction (Fig. 7).

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SUMMARY:

For more than 25 years, examination of a retinal detachment with the slit lamp and Goldman's 3 mirror lens has been a condition previous to surgery. Why was not the microscope used during surgery? Perhaps this was due to a lack of appropriate instruments.

It is well known that in vitreous and retinal detachment surgeries a perfect optical control is more important even than in anterior segment surgery. The special conditions and anatomical situation of the posterior segment requires also special solutions.

There should only be a small angle between illumination and observation, to enter into the posterior chamber through the pupil. In many cases the slit lamp is not sufficient.

The microsurgery unit microscope allows a quick change between oblique and coaxial illumination. Through Goldman's 3 mirror lens observation is made easy during procedures such as buckling, drainage and coagulation, and the surgeon may return quickly to the appropriate type of illumination. The microscope itself may also be displaced laterally more than 40 mm. when it is necessary to rotate the lens. The surgical table may also be displaced in different directions according to existing needs.

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