

## Surgery on the lateral nasal wall with the operation microscope

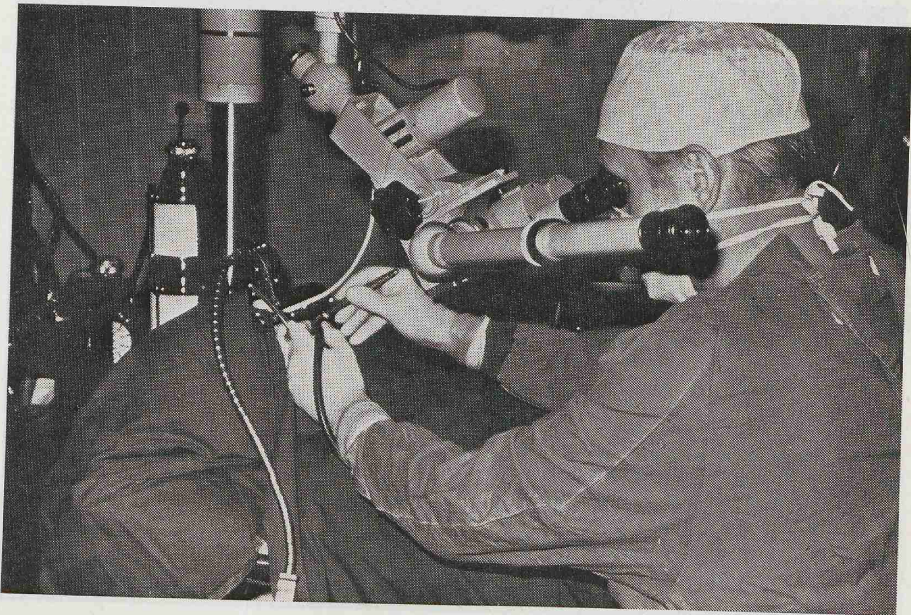
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### SUMMARY

*Experiences with operations on the lateral nasal wall and the ethmoid with the operating microscope are reported. 18 suitable cases were operated on according to this technique. For the optimal distance optics with a focal distance of 250 mm are most suitable. Prerequisites for the operations are a self-supporting speculum and special instruments developed for this purpose.*

IN recent years the use of the operating microscope has been extended to operations on the nose since it was placed on an entirely new basis in ear surgery. In 1973 we were able for the first time to demonstrate useful film of a septum correction in the area of the vomer under the operating microscope.

Figure 1. Microsurgery of the nose by means of a self-supporting speculum.

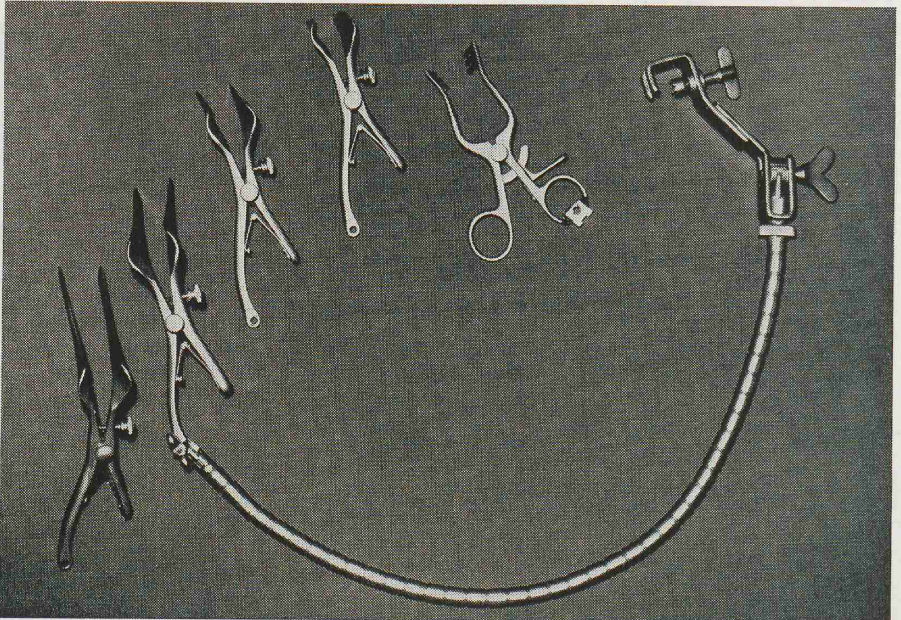




The situation in the nose is of course different from that in the ear. The field of operation is considerably deeper in its dimensions. Therefore optics with a longer focal distance are required. With us optics with a focal distance of 250 mm have proved most suitable. This gives the right distance for unimpeded instrumentation in the nose and the nasal sinuses (Figure 1). One operates with a magnification of  $\times 6$  or  $\times 10$ , according to the size of the field of operation. However, microsurgery of the nose is unthinkable without a self-supporting and well-fitting nasal speculum. As in aural operations, the operator must be able to guide the irrigation sucker with one hand and the instrument with the other. In collaboration with Messrs. E. Stümer, Würzburg, we have developed a self-supporting speculum which can be firmly mounted on the operating table by an articulated pulley. The speculum is available in various sizes, of which the 70 mm branch speculum is most commonly used (Figure 2). But the instruments, too, have to be lengthened and refined for microsurgery of the nose. We now have a complete set of instruments at our disposal.

Microsurgery seems to us to be especially suitable for the lateral nasal wall. Messerklinger (1972) had already performed diagnostic and therapeutic operations on the lateral nasal wall with the endoscope. Only under the microscope is it possible to assess the lateral nasal cleft accurately after lifting of the middle turbinate. Not uncommonly polyps are found here, especially on the back of the turbinate, which do not originate in the sinus ostia. In

Figure 2. Self-supporting nasal speculum in different sizes. A double prong retractor is also available for special situations.



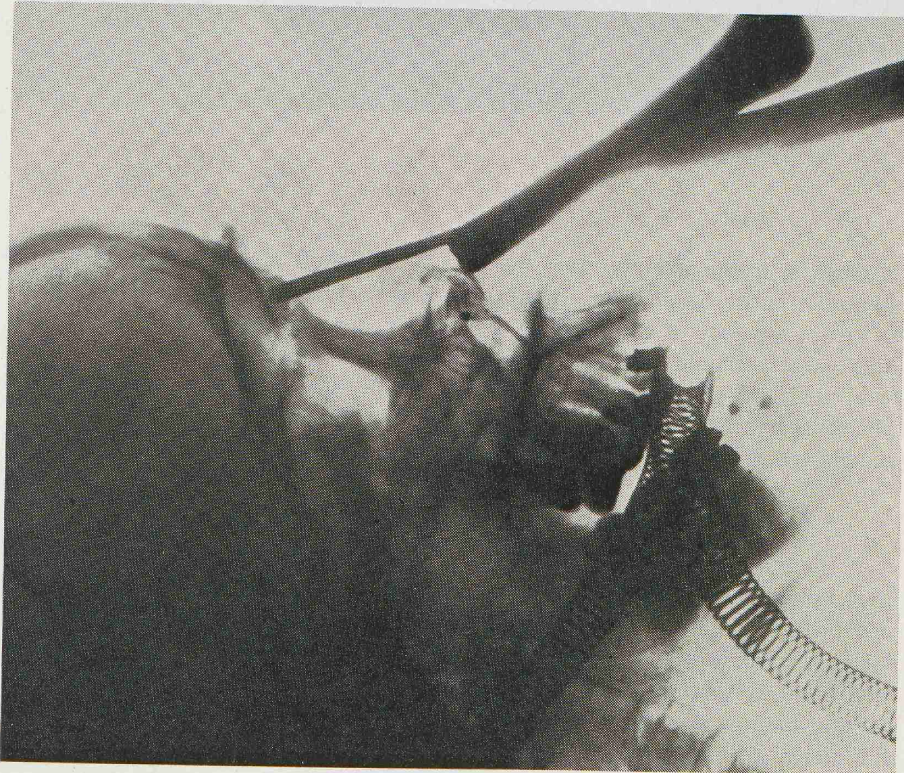


the past 6 months we have performed 18 microsurgical operations on the ethmoid, mostly for polyposis of the ethmoid labyrinth. In 3 cases the ethmoid was opened for suspected polypi in the radiograph but nothing pathological was found.

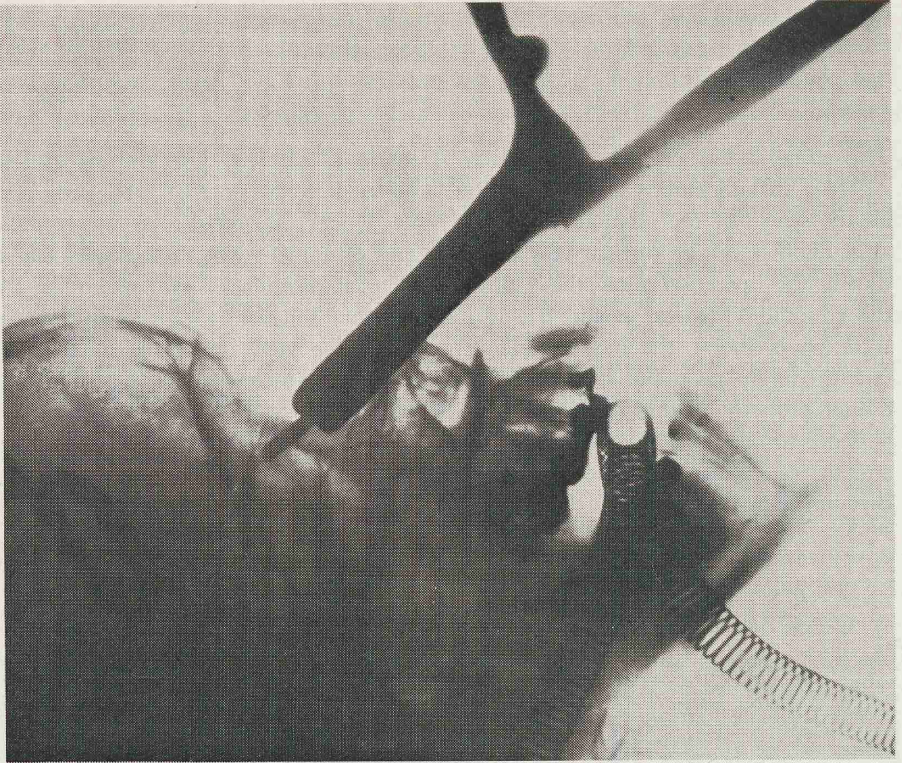
The ethmoid has an oblique lamellar structure as already described by Hajek (1926). Inflammations also follow the lamellar structure so that frequently not all the spaces of the ethmoid cells are visible. Under the microscope one lamella after another can be opened very carefully and examined. The radiographs taken during the operation show the ventral and dorsal position of the instrument in the ethmoid (Figures 3a and b). If inflammatory thickening of the mucosa or secretion is found, the next lamella is opened. The view under the microscope is surprisingly good but there are bays and angles which cannot be seen at all or not properly in the microscope. But in many cases it is sufficient in our experience to open the diseased cells of the ethmoid endonasally, to clean them out and to restore the ventilation in the blocked spaces.

Bleeding is not excessive in the ethmoid system as long as one proceeds carefully.

Figure 3. X-ray diagram showing the extent of the ethmoid surgery  
a) Elevator placed in the anterior cells and







b) in the posterior cells.

It must be mentioned here that the base of the skull is much more accurately assessable under 6-fold magnification. In 2 cases bone dehiscences were demonstrated at the roof of the ethmoid, leaving the dura covered only by periostium. Microsurgery should facilitate operations in the complex system of the lateral nasal wall and afford the operator more certainly in assessing the diseased cells. Microsurgery in the nose allows more tissue-sparing operations, meeting the general trend in surgery of the nose and nasal sinuses.

#### ZUSAMMENFASSUNG

Es wird über die Erfahrungen bei Eingriffen an der lateralen Nasenwand und des Siebbeins mit dem Operationsmikroskop berichtet. 18 einschlägige Fälle konnten nach dieser Technik operiert werden. Für den optimalen Abstand ist eine Optik mit der Brennweite von 250 mm am besten geeignet. Voraussetzung für die Eingriffe sind ein selbsthaltendes Spekulum und Spezialinstrumente, die für diesen Zweck entwickelt wurden.

REFERENCES

1. Hajek, M., 1926: Pathologie und Therapie der entzündlichen Erkrankungen der Nebenhöhlen und der Nase. F. Deuticke, S. 11 ff.
2. Messerklinger, W., 1972: Technik und Möglichkeiten der Nasendoskopie. HNO (Berl.) 20, 133.

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