



Wolfgang Seeger

**The Microsurgical
Approaches to the
Target Areas
of the Brain**

**In Collaboration with
H.-R. Eggert, R. Scheremet, and
Vera van Velthoven**

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With 143 Figures

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Preface

Drawings and scripts were selected from those which were produced by the author in the last three years to help educate young neurosurgeons in Freiburg and in other clinics.

This program for education may be managed in 2 steps:

- Learning techniques for performing of trepanations from opening of the skin onto dura incision (step 1)

- Learning of techniques for routine operations (e. g., for extirpation of gliomas of cerebral lobes) (step 2)

- Learning of techniques for operative approaches in problematic areas of the cranial and cerebral base and of the midline, especially for the often performed operations, e. g. for basal meningiomas, acoustic neurinomas, craniopharyngeomas, tumoral and vascular lesions of Fissura transversa, Velum interpositum, and the third ventricle (step 3).

Theoretically, especially neuroanatomical and neurophysiological facts have to be learned intensively at step 1 and step 3 of the program of education. For learning in step 2, the assistance of an experienced neurosurgeon is mostly necessary. Before operations, discussion of the planning strategies of each case is important. The main problem in the education of young neurosurgeons is learning the theoretical neuroanatomical and neurophysiological facts, as is necessary especially at step one and three of this training. So the description of step one and three may be especially taken in consideration in this textbook. In sharp contrast to other illustrated textbooks of the author, this work contains much more verbal text. This may help the experienced neurosurgeon to educate his assistants and to illustrate his lecture more and more by using natural skull and brain dissections for training spatial imagination.

The techniques for elimination of tumors and vascular malformations are described in detail especially by Yaşargil, Sugita, Sundt, Fox, Youmans and Pots (eds.), Ito, Apuzzo and others, the anatomical viewpoints by Rhoton and his coworkers and the author himself. But there exists no textbook with descrip-

tion of the operative routes and their alternatives for well-defined anatomical target areas alone. This viewpoint becomes more and more important, because today there is no anatomical structure of the brain which cannot be approached with a minimal risk for surviving the operation. But more and more the risk for neurological or psychological postoperative complications will rise if the anatomical and neurophysiological knowledge is insufficient. These viewpoints are most important in operations at the cranial base and operations transcrossing midline structures of the brain. An intensive anatomical training helps to understand MRI before operation. Often the modern MRI demonstrates more anatomical details than the unexperienced neurosurgeon has understood. So selected anatomical details are demonstrated in the chapter for description of MRI in this book. The basics are described in the textbooks by the author in 1988 and 1990.

For MRI findings I have to thank Professor Langer, Professor Schumacher, and their coworkers of the Institute of Radiology and the Section of Neuroradiology, Freiburg. CT's were made in the Stereotactic Department (Director: Professor Ostertag) of our clinic. Many ideas and didactic methods are the result of a cooperation with my coworkers Dr. R. Scheremet and Dr. Vera van Velthoven, and over a period of many years the cooperation with coworkers, who have been chairmen of other clinics for several years, especially Professor Eggert (Kassel), Professor Gilsbach (Aachen), Professor Harders (Bochum – Langendrehr), and Professor Hassler (Duisburg). Mrs. Kathleen Weigand (Giessen) I thank for her help in translation. The German manuscript was typed by Mrs. Hannelore Jung, the list of literature was typed by Mr. H. G. Foerster. Springer-Verlag Wien New York has again produced this work with the usual excellent arrangement. Especially Mrs. Ingrid Stickler I have to thank for the invariable excellent layout of all the authors textbooks published since 1978.

Freiburg, December, 1992

Wolfgang Seeger

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