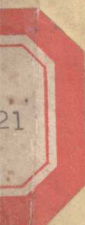


Comprehensive Surgical Atlases in Otolaryngology and Head and Neck Surgery

Editor-in-Chief
K. J. Lee, M.D., F.A.C.S.



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The Surgical Atlas of Otology and Neuro-otology

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The Surgical Atlas of Otology and Neuro-otology

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The Surgical Atlas of Airway and Facial Trauma

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The Atlas of Cleft Lip and Cleft Palate Surgery

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Foreword

In the five volumes in this series, the editors, contributors, and I have attempted to illustrate succinctly the current acceptable techniques in otolaryngology and head and neck surgery. When possible and appropriate, we have included alternative techniques for comparison.

I am greatly indebted to the editorial staff of Grune & Stratton, Inc., for their support and patience. I also thank the volume editors, contributors, and illustrators for enduring my numerous phone calls and letters. As usual, my wife and family have been most supportive.

In recognition of our teachers, the volume editors have dedicated these texts to their mentors.

K. J. Lee, M.D., F.A.C.S.
Editor-in-Chief

Preface to Part I

I strongly believe in the importance of documenting otologic surgery for teaching and better patient care. Hence I have included a brief description of the various methods of photographic documentation in Chapter I.

I have made it a habit to sketch practically all of the otologic procedures I perform. Most of the illustrations used in my chapters have been redrawn by my medical illustrator from the rough sketches I made in my charts immediately following surgery.

At the end of most chapters I have described problems that are encountered both during and following surgery and their solutions. Most of these are based on observation. I have made during the past 25 years of teaching otologic surgery. Many previously unpublished cases from my own clinical experience are included, particularly in Chapter 6 on ossicular reconstruction and Chapter 14 on surgery for congenital anomalies of the ear.

I would like to express my sincere gratitude to Dr. K. J. Lee for inviting me to edit Part I of this volume. I would also like to thank the contributors for the excellent job they did. My special appreciation goes to David M. Bolinsky, my medical illustrator and a member of the Department of Medical Illustration and Photography at Yale University School of Medicine, for his excellent, high-quality illustrations. He spent countless midnight and weekend hours with me, going over the illustrations and drawing them many times until we both were satisfied. Without his skill, dedication, patience, and understanding of ear surgery, this volume would never have materialized.

Special thanks also go to Dr. Myles J. Pensak, who not only coordinated several

This book intends to show residents and practicing otolaryngologists the basic surgical techniques used in commonly performed otologic and neuro-otologic procedures. Part I, edited by Dr. Eiji Yanagisawa, covers otology, and Part II, by Dr. Gale Gardner, covers neuro-otology. As in the other volumes in this series, the authors describe in each chapter the generally accepted technique or the technique of choice and illustrate it step-by-step. They follow the description with a discussion of various alternative techniques, some generally accepted and some controversial.

Preface to Part I

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Special thanks also go to Dr. Myles L. Pensak, who not only coauthored several chapters but also spent many hours assisting me in preparing and correcting the manuscript, and to Drs. Kveton and Lee for their valuable contributions to this text.

Finally, I would like to acknowledge the support and encouragement of my family, office staff, and typists, particularly Karen Durr, without whom this volume would still remain unfinished.

Eiji Yanagisawa, M.D., F.A.C.S.

Preface to Part II

Although the emphasis of this text is on surgical technique, I have made an effort to stress its conceptual and fundamental elements, rather than those details that can be learned only in the dissection laboratory and in the operating room. For the sake of simplicity, all illustrations in this section are of the right temporal bone.

Although this material should be quite useful to the surgeon who is entering neuro-otologic surgery, no surgical atlas can substitute for actual surgical experience gained through a disciplined training program. Implicit in the presentation of a surgical atlas is the expectation that the reader must obtain basic surgical information from sources such as this and then proceed to acquire more advanced information from others and through personal surgical experience.

I would like to extend special thanks to David Weyermann, who illustrated the section on neuro-otology. He did so with great dedication and persistence, as well as artistic skill.

Gale Gardner, M.D., F.A.C.S.

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I

Otology

Edited by

Eiji Yanagisawa

I

Documentation of Otologic Surgery

Figure 1-1

PHOTOGRAPHY WITH
A PHOTOADAPTER

Once the single-lens reflex (SLR) camera is focused to the Zeiss operating microscope by means of the Zeiss photoadapter, the camera is ready for use. The Zeiss photoadapter is a device that is attached to the Zeiss operating microscope and the SLR camera. It allows the camera to be focused on the microscope's eyepiece, thus providing a clear view of the surgical field. The photoadapter is made of a clear plastic material and is designed to fit snugly around the microscope's eyepiece. The SLR camera is then attached to the photoadapter, and the camera is ready to take a photograph. The photoadapter is a simple and effective device that makes it possible to take high-quality photographs of otologic surgery.

The following equipment is required: (1) Zeiss operating microscope, (2) Zeiss beam splitter (50:50), (3) Zeiss photoadapter, (4) SLR camera, and (5) SLR camera with autofocus. The Zeiss operating microscope is the primary piece of equipment used in otologic surgery. The beam splitter is used to split the light from the microscope's eyepiece into two paths. One path goes to the camera, and the other path goes to the eyepiece. The photoadapter is used to attach the camera to the microscope. The SLR camera is used to take the photograph. The SLR camera with autofocus is used to take the photograph automatically.

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STILL PHOTOGRAPHY

Still photography of ear surgery can be accomplished by utilizing the optical system of the Zeiss operating microscope. Since the microscope and the camera equipment can be easily covered with a sterile transparent plastic drape, microscopic photography is a preferred method of photography during microscopic ear surgery. Microscopic photography can be done with or without the use of a photoadapter.

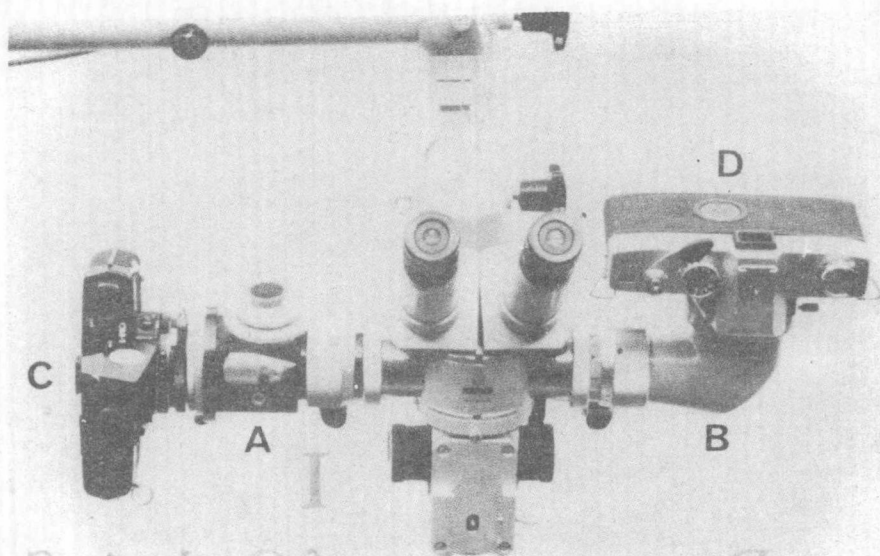


Figure 1-1

PHOTOGRAPHY WITH A PHOTOADAPTER

Once the single-lens reflex (SLR) camera is interfaced to the Zeiss operating microscope by means of a photoadapter and a beam splitter, the system is immediately available for photography at any time during otologic surgery (Figure 1-1).

Figure 1-1 shows two different photoadapters attached to the beam splitter of the Zeiss operating microscope: (A) Telestill photoadapter by Design for Vision, (B) Zeiss photoadapter, (C) Olympus OM2 SLR camera with autowinder, and (D) Minolta SLR camera.

The following equipment is required: (1) Zeiss operating microscope, (2) Zeiss beam splitter (50:50 is preferred to 70:30 because the latter gives a poorer light for the surgeon), (3) photoadapter (Design for Vision, Zeiss, or Zeiss-Urbain dual adapter), (4) adapter ring for SLR camera, and (5) automatic 35-mm SLR camera such as the Olympus OM2 or the Contax RTS.

STILL PHOTOGRAPHY

Still photography of ear surgery can be accomplished by utilizing the optical system of the Zeiss operating microscope. Since the microscope and the camera equipment can be easily covered with a sterile transparent plastic drape, microscopic photography is a preferred method of photography during microscopic ear surgery. Microscopic photography can be done with or without the use of a photoadapter.

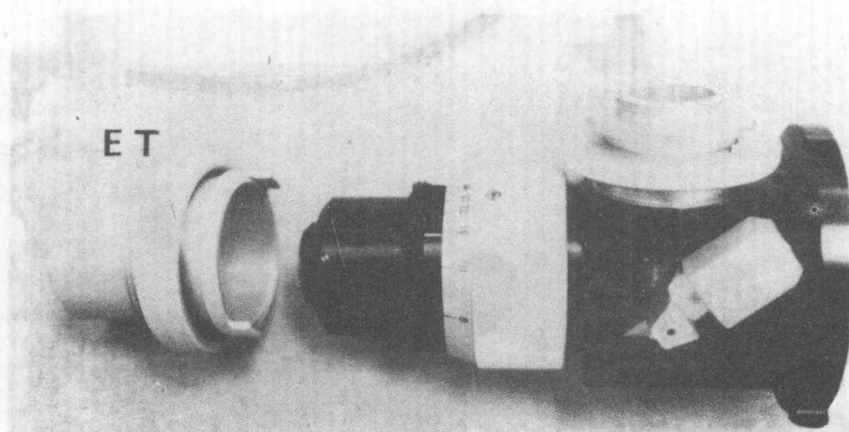


Figure 1-2

The Telestill photoadapter and its extension tube (ET) are shown in Figure 1-2. With the handle of the photoadapter in its 45° position, a focal f length of 137 mm assures proper TV focusing. When the handle is in the horizontal position, it provides a full-frame image for 35-mm cameras. The ET increases the distance between the TV camera and the beam splitter of the microscope, giving the surgeon more head room.

When the Olympus OM2 with autowinder and remote-control cable (1.2 or 5 m) or Contax RTS automatic camera with remote-control "across-the-room" shutter release is used, the camera itself need not be touched at all during photography. Vibrations of the camera are thus eliminated (Figures 1-1 and 1-3).

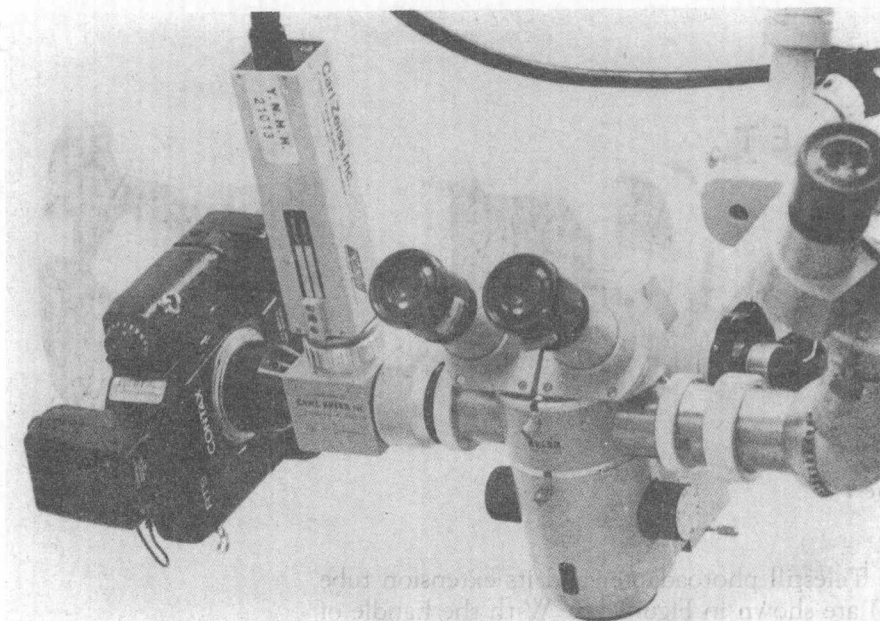


Figure 1-3

A Contax RTS SLR camera with this type of shutter release is shown in Figure 1-3 attached to the Zeiss-Urbach dual photoadapter. Note that a miniature video camera (Carl Zeiss) is also attached to the same photoadapter. Simultaneous still and video photography is possible with this system.

High Speed Ektachrome Tungsten film ASA 160 is used. The ASA dial on the camera is set at 320, and the film is push-processed at ASA 320. If an electronic flash is utilized, High Speed Ektachrome Daylight ASA 200 film is used.