

# **CATARACT SURGERY**

## **Current Options and Problems**

**Edited by  
Joel M. Engelstein**

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# CATARACT SURGERY

*Current Options and Problems*

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## Preface

We are currently in the midst of a continuing revolution in cataract surgery. The techniques of cataract extraction, the correction of aphakia, and the management of complications have all benefited from recent technologic improvements.

Microsurgery is the foundation on which each of the subsequent advances has been built. Intracapsular cataract extraction, which had predominated for so long, was first seriously challenged by phacoemulsification. Since then alternative machines have been developed, and more efficient methods of manual extracapsular extraction have also become popular. The introduction of posterior chamber intraocular lenses as well as the possibility of a decreased incidence of cystoid macular edema have attracted more surgeons to extracapsular techniques. However, the intracapsular procedure, which has been proven by time, still remains extremely successful. Convincing data to justify the wholesale abandonment of this technique are still lacking.

Although ophthalmic surgeons have long been able to perform technically successful cataract extractions, the patients were often less successful in dealing with the problems of aphakic spectacles or monocular aphakia. Accordingly, attention recently has focused on methods of correcting aphakia that result in vision more nearly approaching the normal phakic experience. These methods are contact lenses, intraocular lens implants, and refractive corneal surgery.

The availability of soft contact lenses in the early 1970s dramatically increased the incidence of successful aphakic contact lens use and improved the prognosis for achieving binocularity in patients with monocular cataracts. There are available today extended-wear lenses that can be worn for weeks or months without being removed. These allow many patients who cannot manage daily insertion and removal to become successful users of aphakic contact lenses.

At the same time, we have seen the development and popularization of the intraocular lens implant, an entirely new method of aphakic visual correction. Although practiced by a few revolutionaries for about 30 years, it is only in the past five years that intraocular lens implantation has found general acceptance by both the ophthalmic surgeon and the public. While there is an increased incidence of complications with intraocular lens implantation as compared to standard cataract extraction (just as there are complications from the use of extended-wear contact



lenses), this increased risk is relatively small while the visual and practical advantages of IOLs are great.

A third development, which is just now beginning to get serious consideration as an alternative method for aphakic correction, is the surgical modification of the corneal curvature (lamellar refractive keratoplasty), to yield corrected aphakic vision without the need for spectacles, contact lenses, or intraocular implants. Recently these procedures have been modified and simplified to make them more practical and place them within the competence of many more ophthalmologists.

These choices for the optical correction of aphakia should not be seen as being in competition with each other. Instead, the various options make it possible for the surgeon and patient to choose together the method of cataract surgery and aphakic correction that will provide the optimum balance of safety and function for the patient's eye and personal needs.

In addition, improvements in the management (and the avoidance) of the inevitable complications of cataract surgery have allowed eyes that previously would have been functionally useless to be salvaged.

The future will undoubtedly bring improvements, now unforeseen, that will more safely and completely restore the function of the cataractous eye. YAG laser dissections are already part of modern management. Several investigators are currently studying flexible IOLs that can be implanted through small incisions. Some dreamers even talk of removing cataracts through an opening in the lens capsule so small that the capsule could then be refilled with a material possessing both the appropriate optical properties and the flexibility to allow accommodation. The continuing study of the refractive properties of the cornea and lamellar keratoplasty may provide dividends not only for the control of astigmatism and the optical correction of aphakia but also for the improved management of congenital cataracts.

These quickly changing aspects of cataract surgery require ophthalmologists who want to offer their patients state-of-the-art care to constantly reeducate themselves. They must be open-minded and willing to change and add to their surgical armamentaria. At the same time, they must not be too quick to accept those changes that either contradict long established principles or are unsupported by hard data. Controlled studies presented and published in scientific forums by responsible investigators result in improved patient care. The medical marketplace is not an appropriate testing ground for new methods.

For this volume an attempt has been made to choose subjects that are of particular interest to the practicing ophthalmologist, including methods of aphakic correction (IOLs, contact lenses, spectacles, lamellar refractive keratoplasty), modern surgical techniques (extracapsular extraction, astigmatism control, corneal transplantation, specular microscopy, YAG lasers, use of Healon, infantile cataract management, evaluation of macular function), and the recognition and management of complications.

The reader may find that some opinions and techniques described in one chapter are contradicted in another. This is natural and unavoidable in an evolving field and in a multi-authored book. Every attempt has been made to distinguish established facts from opinions and clinical impressions.

It is my hope, and that of all of the contributors to this book, that the material presented here will help keep us all well-informed, and contribute to improved patient care.

## Editor's Note

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There is an old Talmudic story about a disciple who asked a famous rabbi, "How does one become wise?" The rabbi responded, "One studies and works hard." "But many study and work hard and are not wise," said the disciple. "Then one studies, works hard, and has experience." "Yes, but many study, work hard, and have experience, and still are not wise." "Then one needs good judgment." "How does one get good judgment?" asked the disciple. "By having bad experiences," responded the rabbi.

I hope the information in this book will contribute to good judgment and help us avoid repeating the bad experiences of others.

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COMPLICATIONS

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