Microincision Vitrectomy Surgery
Emerging Techniques and Technology

Editors
Hideyasu Oh
Yusuke Oshima

Over the last two decades, tremendous progress has been made in vitrectomy surgery, most importantly the significant reduction of the gauge and implementation of microincision vitrectomy surgery (MIVS). At the same time, the introduction of wide-viewing systems and the utilization of vital dyes to better recognize structures like the vitreous and membranes have taken place.

This volume starts with the fundamentals of MIVS, introducing both the mechanics and the physics of the latest generation of vitrectomy devices, followed by a description of the discrete gauge systems (i.e. 23-, 25-, and 27-gauge). Individualized but mandatory settings, techniques, and technology are also discussed in detail. There are also more than ten chapters outlining concrete surgical strategies that give surgeons a thorough overview of the procedures. Encompassing an overview of the recent advances in the field, this publication provides a valuable tool for general ophthalmologists as well as vitreoretinal specialists to easily review and master up-to-date information and surgical pearls.

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The last decade has observed significant progress in both basic and translational research, and in treatment options in the field of ocular oncology. Despite this, we are still seeking the ‘holy grail’ of effective therapeutics in disseminated ocular malignancies. We remain reliant on pre-clinical in vitro and in vivo models for testing drug efficacy.

Today, a range of animal models are available for studying ocular tumors, including uveal melanoma, conjunctival melanoma, retinoblastoma and vitreoretinal lymphoma. These models can also be used to determine how the host responds to tumors immunologically or to find out how certain genes or cytokines contribute to tumor growth.

Experts in the field of ocular oncology have contributed to this publication with a range of comprehensive reviews on the use of animal modeling for ocular tumors, including chick embryos, drosophila, zebrafish, mice, rats, rabbits and others. This volume will represent a useful background resource for researchers in the field.
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Editor

C.H. Meyer

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