Written by a pioneering leader in the development of vitreoretinal surgical techniques and instruments, Vitreous Microsurgery is a comprehensive how-to guide to all vitreoretinal procedures. This thoroughly updated fifth edition describes many new techniques and refinements of established procedures. More than 170 three-dimensional full-color illustrations—many by the Charles Retina Institute's resident medical artist, Byron Wood—enable surgeons to clearly visualize the techniques.

This edition has new chapters on the Constellation vitrectomy system, uveitis, retinal complications of permanent keratoprosthesis, and anti-VEGF therapy. All illustrations have been updated, the majority to a 25-gauge approach instead of 20-gauge, and many new illustrations have been added. Many techniques and parameters unique to 25-gauge sutureless vitrectomy are discussed in detail. The retinopathy of prematurity chapter was completely rewritten to address new examination procedures, laser guidelines, anti-VEGF therapy, and changing, more conservative indications for surgery. The section on anesthesia for vitreoretinal surgery was completely rewritten in collaboration with Gary Fanning and Jay Mattingly, leading experts on this subject from an anesthesiologist's perspective.

The focus of the text is on the decision making process a surgeon goes through in evaluating the best course of treatment for his/her patient undergoing vitreous surgery. The book describes in detail clinically proven methods of managing the anterior and posterior segment vitreous surgery patient in a systematic manner. The text is organized in a building block approach with general methodology preceding its application to specific disease states. The book stresses algorithms for intra-operative decision making, relying on knowledge of physical principles and performed in the order of ascending risk.