

---

# Contents

---

- 1 History of strabismus surgery, 1**
- 2 Surgical anatomy, 27**
  - The palpebral fissure, 28
  - The conjunctiva, 36
  - Tenon's capsule, 40
  - The rectus muscles, 44
  - Motor physiology, 48
  - The inferior oblique, 52
  - Lockwood's ligament, 52
  - The superior oblique, 54
  - The blood supply, 64
  - Newer imaging studies of the extraocular muscles, 66
  - Growth of the eye from birth through childhood, 68
  - The sclera, 70
- 3 Instrumentation, anesthesia, preparation of the patient for surgery, and postoperative care, 73**
  - Instruments used in strabismus surgery, 74
  - Anesthesia for strabismus surgery, 76
  - Preparation of the patient in the operating room, 78
  - Layout of the operating room and anesthetic apparatus, 80
  - Patient monitoring, 82
  - Magnification in strabismus surgery, 84
  - Outpatient surgery, 86
  - Postoperative care of the patient, 88

- 4 Suture, needles, sleeves, implants, and adhesives, 89**
- Suture for extraocular muscle surgery, 89
  - Needles, 93
  - Plastic sleeves, implants, and adhesives, 98
- 5 Techniques of exposure, 99**
- The conjunctival incision, 99
  - Exposing the rectus muscles, 102
  - The Swan transconjunctival incision, 104
  - The Parks cul-de-sac incision, 108
  - The limbal incision, 112
  - Oblique surgery incisions, 116
  - Obtaining improved exposure, 118
- 6 Recession technique of a rectus muscle, 121**
- Medial rectus recession, 122
  - Lateral rectus recession, 124
  - Superior rectus recession, 126
  - Inferior rectus recession, 128
  - Rectus muscle recession technique, 130
  - Vertical displacement of the horizontal rectus, 136
  - Resection effect of posterior suture placement, 138
- 7 Resection technique of a rectus muscle, 141**
- Horizontal rectus resection (medial and lateral rectus muscles), 142
  - Management of the check ligaments and intermuscular membrane in horizontal rectus resection, 144
  - Resection clamp technique for rectus muscle resection, 146
  - Double arm suture technique for rectus muscle resection, 152
  - Resection of the superior rectus, 154
  - Inferior rectus resection technique, 156
  - Displacement of the horizontal rectus muscles with resection for A and V patterns, 158
  - Vertical effect from horizontal rectus recession, 160
- 8 Surgery of the obliques, 163**
- Weakening the inferior oblique, 164
  - Strengthening the inferior oblique, 174
  - Weakening the superior oblique, 176
  - Superior oblique tenotomy after a temporal approach, 180
  - Recession of the superior oblique, 182
  - Sagittalization of the superior oblique, 184
  - Strengthening the superior oblique, 188

- 9 Marginal myotomy: technique and indications, 197**  
Marginal myotomy: historical review, 198  
Quantifying the marginal myotomy, 200  
Marginal myotomy, 204  
Indications for a marginal myotomy, 206
- 10 The Faden operation (posterior fixation suture), 209**
- 11 Diagnostic and surgical techniques for strabismus with restrictions, 217**  
Strabismus with restricted motility, 217  
Saccadic analysis, 220  
Forced (passive) ductions, 222  
Generated muscle force, 224  
Differential intraocular pressure test, 226  
Adjustable suture technique, 228  
Surgical techniques, 234
- 12 Muscle transposition procedures, 241**  
Jensen procedure, 246  
Knapp procedure, 250  
Scleral augmented muscle-tendon transfer, 252  
Superior oblique tendon transfer, 254  
“Super maximum” recession-resection, 258
- 13 Complications in strabismus surgery, 261**  
Acute, allergic suture reaction, 261  
Chronic suture granuloma, 262  
Conjunctival cysts, 264  
Prolapse of Tenon’s capsule, 264  
Suture abscess, 266  
Dellen, 266  
Lid fissure anomalies, 268  
Ptosis, 270  
Scleral perforation, 270  
Slipped or lost muscle, 271  
Anterior segment ischemia, 274  
Superior rectus denervation, 274  
Persistent overaction of the inferior oblique, 275  
Inferior oblique adherence syndrome, 275  
Inclusion of the inferior oblique in lateral rectus resection, 276  
Operation on the wrong eye, 278  
Operation on the wrong patient, 278  
Orbital cellulitis, 278  
Panophthalmitis, 279

- Brown's superior oblique tendon sheath syndrome, 279  
Symblepharon, 280  
Orbital hemorrhage, 280  
Undesirable overcorrections and undercorrections, 284
- 14 Botulinum A toxin injection for treatment of strabismus, 285**
- 15 A logical scheme for the planning of strabismus surgery, 293**
- Design of the surgical procedure, 293  
Options in the treatment of congenital-infantile esotropia, 319  
Case reports, 324  
Diagnosis of isolated cyclovertical muscle palsy, 360  
Superior oblique palsy, 362  
Nystagmus, 366  
Other strabismus entities requiring special surgical techniques, 368

**Bibliography, 371**