

Contents

Part I Surgical Management of Strabismus

1	Surgically Important Anatomy	3
1.1	The Ocular Adnexa	3
1.1.1	Surgical Access	3
1.1.2	Eyelid Fissure Orientation	4
1.1.3	Facial Asymmetry	4
1.1.4	Pseudostrabismus	5
1.1.5	Strabismus-Induced Eyelid Changes	6
1.1.6	Pseudoptosis	7
1.2	The Conjunctiva	7
1.3	The Sclera	7
1.4	Fascial System	9
1.4.1	Tenon's Fascia	9
1.4.2	Function of Tenon's Capsule and Orbital Connective Tissues	9
1.5	The Rectus Muscle Pulley System	10
1.6	Gross Anatomy of the Extraocular Muscles	12
1.6.1	Rectus Muscles	12
1.7	Innervation of the Extraocular Muscles	15
1.8	Blood Supply to Extraocular Muscles	15
1.9	Surgically Important Anatomy of Individual Extraocular Muscles	16
1.9.1	Medial Rectus Muscle	16
1.9.2	Lateral Rectus Muscle	16
1.9.3	Inferior Rectus Muscle	17
1.9.4	Superior Rectus Muscle	17
1.9.5	Superior Oblique Muscle/Tendon	18
1.9.6	Inferior Oblique Muscle	18
	References	19
2	Physiology of Eye Movements	21
2.1	Axes of Ocular Rotation and Listing's Plane	21
2.2	Duction Movements	22
2.3	Version Movements	22
2.4	Vergence Movements	22
2.5	Basic Laws Governing Eye Movements	22
2.6	Sherrington's Law of Reciprocal Innervation	23
2.7	Herring's Law of Equal Innervation	23
2.8	Donders' Law	23
2.9	Cardinal and Diagnostic Positions of Gaze	23
2.10	Actions of Individual Muscles	24
2.10.1	Horizontal Rectus Muscles	24
2.10.2	Vertical Rectus Muscles	24

2.10.3	The Oblique Muscles	25
	References	26
3	Indications for Strabismus Surgery	27
3.1	Restoration of Binocular Vision	27
3.2	Diplopia	28
3.3	Incomitant Strabismus	28
3.4	Asthenopia	28
3.5	Asymptomatic Patients	29
3.6	Compensatory Head Posture	29
3.7	Miscellaneous Surgical Indications	30
3.8	Nystagmus	30
3.9	Expansion of the Field of Vision in Patients with Esotropia	30
3.10	Psychosocial and Vocational Indications ..	31
	References	32
4	Surgical Decision Making	35
4.1	Preoperative Evaluation	35
4.1.1	Strabismus History	35
4.1.2	Ocular Motor and Sensory Examination ..	35
4.2	Devising the Surgical Plan	36
4.2.1	Which Eye to Operate?	36
4.2.2	How Many Muscles to Operate?	36
4.2.3	Surgical “Dose”	37
4.3	Special Considerations	39
4.3.1	Torsion	39
4.3.2	Incomitant Strabismus	39
4.4	Adjustable Suture Surgery	39
	References	39
5	Preoperative and Postoperative Care	41
5.1	Scheduling Surgery	41
5.2	Preparation for Surgery	41
5.3	Arrival in the Operating Room	42
5.4	Care of the Patient Following Surgery	43
5.5	Timing of the First Postsurgical Visit	43
5.6	Preoperative and Postoperative Drops	43
	References	46
6	Anesthesia Considerations	47
6.1	Preoperative Preparation	47
6.1.1	Laboratory Testing	47
6.1.2	Fasting Recommendations	47
6.1.3	Preoperative Medications	48

6.2	General Anesthesia	48
6.2.1	Induction of Anesthesia	48
6.3	Retrobulbar and Peribulbar Anesthesia ...	49
6.4	Sub-Tenon's Anesthesia	49
6.5	Topical Anesthesia	49
6.5.1	Modification of Surgical Technique for Topical Anesthesia	50
6.6	Postoperative Nausea and Vomiting	51
6.7	The Oculocardiac Reflex	52
6.8	The Ocular Respiratory Reflex	53
6.9	Postoperative Pain	53
	References	54
7	Equipment, Operating Room Supplies, and Patient Preparation	57
7.1	Preoperative Patient Preparation	57
7.2	Draping the Patient	57
7.3	Arrangement of the Operating Room Space	58
7.4	Surgical Instruments	58
7.4.1	Curved Locking 0.5-mm Forceps	61
7.4.2	Gass Muscle Hook	61
7.4.3	Scobee Muscle Hook	62
7.5	Surgical Needles	62
7.5.1	Choosing a Surgical Needle	62
7.5.2	Use of a Surgical Needle	63
7.6	Sutures	63
7.6.1	Absorbable Sutures	63
7.6.1.1	Collagen Sutures	63
7.6.1.2	Synthetic Sutures	64
7.7	Nonabsorbable Sutures	64
7.8	Surgical Gloves	64
7.9	Magnification	64
	References	65
8	Techniques of Exposure and Closure and Preliminary Steps of Surgery	67
8.1	What to do Prior to Making a Conjunctival Incision for Strabismus Surgery	67
8.1.1	Visual Inspection of the Patient's Conjunctival Anatomical Landmarks	67
8.1.2	Visual and Tactile Identification of the Rectus Muscles	67
8.1.3	Rectus Muscle Forced Traction Testing ...	67
8.1.3.1	Technique for Rectus Muscle Traction Testing	69
8.1.4	Oblique Muscle/Tendon Forced Traction Testing	69
8.1.4.1	Technique for Forced Traction Testing of the Superior Oblique Muscle/Tendon ..	69
8.1.4.2	Technique for Forced Traction Testing of the Inferior Oblique Muscle	71
8.1.5	Spring Back Test for Slipped or Lost Muscle	71
8.2	Conjunctival Incisions for Rectus Muscle Surgery	72
8.2.1	Fornix (Cul-de-Sac) Incision	73

8.2.1.1	Fornix Incision Technique	73
8.2.1.1.1	Initial Incision	74
8.2.1.1.2	Isolation of a Rectus Muscle	75
8.2.1.1.3	Heel or Toe Maneuver	76
8.2.1.1.4	Exposure of the Muscle Insertion	76
8.2.1.1.5	The Pole Test	76
8.2.1.1.6	Dissection of the Muscle Fascia	76
8.2.1.1.7	Closure of a Fornix Incision	79
8.2.2	Limbal Incision	79
8.2.2.1	Limbal Incision Technique	80
8.2.2.1.1	Initial Incision	80
8.2.2.1.2	Isolation of the Muscle and Dissection of the Muscle Fascia	80
8.2.2.1.3	Closure of a Limbal Incision	81
8.2.2.1.4	Modified Limbal Incision	82
8.2.2.1.5	Conjunctival Recession	82
8.2.3	Converting a Fornix Incision into a Limbal Incision	83
8.2.3.1	Technique	83
8.2.4	Swan "Over the Muscle" Incision	84
8.2.4.1	Technique	84
8.3	Conjunctival Incisions for Oblique Surgery References	86
9	Recession of the Rectus Muscles and Other Weakening Procedures	87
9.1	General Principles for Recession of the Rectus Muscles	87
9.2	Measurement of Recession	88
9.2.1	Muscle Insertion Artifacts	88
9.3	Specific Considerations for Surgery on Individual Rectus Muscles	88
9.3.1	Medial Rectus Muscle	88
9.3.2	Inferior Rectus Muscle	88
9.3.3	Lateral Rectus Muscle	89
9.3.4	Superior Rectus Muscle	89
9.4	Rectus Muscle Recession Techniques	89
9.4.1	Standard Rectus Muscle Recession Technique	90
9.4.1.1	Placing Suture Near the Muscle Insertion	90
9.4.1.2	Detachment of the Muscle from the Globe	90
9.4.1.3	Securing the Muscle to the Sclera at its New Location	92
9.4.2	Hang-Back Recession Techniques	92
9.4.2.1	Introduction	92
9.4.2.2	Securing the Muscle to the Sclera	94
9.4.2.3	Measuring the Recession	94
9.4.2.4	Hemi Hang-Back Modifications	95
9.5	Modified Recession Procedures	96
9.5.1	A- and V-Patterns	96
9.5.2	Recession Following Scleral Buckling Procedures	96
9.5.3	Recessions in Patients with Thin Sclera ...	96
9.5.4	Free Tenotomy of a Rectus Muscle	96
9.5.5	Recession with Fixation to the Adjacent Orbital Wall	97
9.5.6	Y Splitting of the Lateral Rectus	97
	References	97

10	Resection of the Rectus Muscles and other “Strengthening” Procedures	99
10.1	Technique of Rectus Muscle Resection	99
10.1.1	Preparation of the Muscle for Resection	99
10.1.2	Resection of the Muscle	99
10.1.3	Reattaching the Muscle to the Sclera	101
10.1.4	Dual Suture Modification	101
10.2	Resection Clamp Technique	102
10.3	Rectus Muscle Tuck (Plication) Technique	102
	References	103
11	Surgery on the Inferior Oblique Muscle	105
11.1	Identification and Isolation of the Inferior Oblique Muscle	105
11.1.1	Technique	106
11.1.1.1	Exposure of the Surgical Site	106
11.1.1.2	Isolating the Muscle on a Muscle Hook	107
11.1.1.3	Dissection of the Capsule of the Inferior Oblique Muscle	107
11.2	Weakening Procedures on the Inferior Oblique Muscle	108
11.2.1	Technique of Inferior Oblique Muscle Recession	109
11.2.1.1	Graded Inferior Oblique Recession	109
11.2.2	Technique of Inferior Oblique Muscle Disinsertion	111
11.2.3	Technique of Inferior Oblique Myectomy	111
11.2.4	Technique of Inferior Oblique Myotomy	112
11.2.5	Technique of Denervation and Extirpation	113
11.2.6	Technique of Inferior Oblique Anterior Transposition	113
11.2.7	Technique for Nasal Myotomy of the Inferior Oblique Muscle	115
11.2.8	Technique for Anterior and Nasal Transposition of the Inferior Oblique Muscle	115
11.3	Strengthening Procedures on the Inferior Oblique Muscle	116
11.3.1	Technique for Advancement of the Inferior Oblique Muscle With and Without Resection	116
11.3.2	Technique for Tucking Procedure on the Inferior Oblique Muscle	116
	References	117
12	Surgery on the Superior Oblique Tendon	119
12.1	Forced Traction Testing of the Superior Oblique Tendon	119
12.2	Superior-Oblique-Strengthening Procedures	119
12.2.1	Technique of Superior Oblique Tucking Procedure	119
12.2.1.1	Identifying the Superior Oblique Tendon	120
12.2.1.2	Isolation of the Superior Oblique Tendon	120
12.2.1.3	Tucking of the Superior Oblique Tendon	121
12.2.2	Technique for the Fells Modification of the Harada-Ito Procedure	122
12.2.2.1	Using Adjustable Sutures	123

12.2.3	Technique for the Classic Harada-Ito Procedure	124
12.3	Superior-Oblique-Weakening Procedures	124
12.3.1	Technique of Superior Oblique Tenotomy and Tenectomy	126
12.3.2	Technique for Guarded Superior Oblique Tenotomy	126
12.3.3	Technique for Superior Oblique Tendon Expander	127
12.3.4	Technique for Superior Oblique Recession	128
12.3.5	Technique for Superior Oblique Posterior Tenotomy/Tenectomy	128
	References	129
13	Transposition Procedures	131
13.1	Surgical Exposure for Transposition Procedures	132
13.2	Transposition Surgery Techniques	133
13.2.1	Technique for Full Tendon Transposition	133
13.2.2	Technique for Full Tendon Transposition with Posterior Fixation Suture Augmentation (Foster Procedure)	133
13.2.3	Technique for Full Tendon Transposition with Lateral Rectus Muscle Fixation	134
13.2.4	Techniques for Vessel-Sparing Full Tendon or Near Full Tendon Transposition	134
13.2.5	Technique for Hummelsheim-Type Transposition	135
13.2.5.1	Augmentation of a Hummelsheim-Type Procedure	135
13.2.6	Technique for the Knapp Transposition Procedure	136
13.2.7	Technique for the Jensen Procedure	136
13.2.7.1	Vessel-Sparing Modification of the Jensen Procedure	137
13.2.8	Technique for Superior Oblique Tendon Transposition	138
	References	139
14	Adjustable Suture Techniques	141
14.1	Modifications of the Surgical Site for Adjustable Sutures	141
14.1.1	Surgical Site Modifications for Adjustable Sutures Through a Limbal Incision	142
14.1.2	Surgical Site Modifications for Adjustable Sutures Through a Fornix Incision	142
14.1.3	Bucket Handle Globe Manipulation Suture	142
14.2	Adjustable Suture Techniques	145
14.2.1	Technique for Bow-Type Adjustable Sutures	145
14.2.2	Technique for Cinch Knot Adjustable Sutures	145
14.2.3	Technique for Traction Knot Adjustable Sutures	145
14.2.4	Technique for Ripcord Adjustable Sutures	145
14.2.4.1	Recession Technique	148
14.2.4.2	Resection Technique	148
	References	150

15	Special Procedures	151
15.1	Periosteal Flap Fixation of the Globe	151
15.2	Recession and Periosteal Fixation of a Rectus Muscle	151
15.3	Postoperative Traction Sutures	153
15.4	Marginal Tenotomy/Myotomy	153
15.5	Treatment of Esotropia and Hypotropia Associated with High Axial Myopia	154
15.6	Horizontal Transposition of the Vertical Rectus Muscles to Treat Isolated Ocular Torticollis/Torsion	156
15.7	Posterior Fixation Suture (Retroequatorial Myopexy, Fadenoperation)	156
	References	158
16	The Use of Botulinum Neurotoxin in the Treatment of Strabismus	159
16.1	Mechanism of Action	159
16.2	Effect on the Neuromuscular Junction ...	159
16.3	Other Actions of Botulinum Neurotoxin	159
16.4	History of Botulinum Neurotoxin in the Treatment of Strabismus	159
16.5	Injection Techniques	160
16.6	Treatment of Strabismus with Botulinum Toxin	161
16.7	Botulinum Toxin in the Treatment of Nystagmus	162
16.8	Complications	163
	References	163
17	Nonsurgical Treatment of Strabismus ..	165
17.1	Spectacles	165
17.1.1	Accommodative Esotropia	165
17.1.2	Poor Uncorrected Visual Acuity	165
17.1.3	Over Minus Lens Therapy	166
17.1.4	Bifocal Lenses	166
17.2	Occlusion Therapy	166
17.2.1	Part-Time Occlusion	166
17.2.2	Full-Time Occlusion	167
17.3	Orthoptic Therapy	167
17.4	Prism Correction	168
	References	169

Part II Complications of Strabismus Surgery

18	Preoperative Management Errors	173
18.1	Errors in Preoperative Decision-Making	173
18.1.1	Field of Single Vision	173
18.1.2	Monocular Diplopia	173
18.1.3	Nystagmus and Strabismus in Patients with a Compensatory Head Posture	174
18.1.4	Restrictive Strabismus	174
18.1.5	Paralytic Strabismus	174
18.1.6	Torsional Strabismus	175
18.1.7	Misdiagnosis of Apparent Duction Abnormalities	176
18.1.7.1	Apparent Duction Deficits	176
18.1.7.2	Pseudo Oblique Overaction	176

18.2	Errors in Measurements of Strabismus ..	176
18.2.1	Primary Position Measurement Errors ..	176
18.2.2	Krimsky and Hirschberg Tests	177
18.2.3	Prism Measurement Errors	177
18.2.3.1	Improper Prism Position	177
18.2.3.2	Addition of Stacked Prisms	178
18.2.3.3	Addition of Prisms Held in Front of Both Eyes	178
18.2.4	Spectacle-Induced Measurement Errors ..	178
18.2.4.1	Large Refractive Errors	178
18.2.4.2	Unrecognized Prism	180
18.2.5	Duction Limitation Errors	180
18.2.6	Poor Fixation	181
18.2.7	Poor Cooperation	181
18.3	Incomplete Diagnosis	182
18.4	Management Errors at the Time of Surgery	182
18.4.1	Marking the Surgical Site	182
	References	183
19	Anterior Segment and Ocular Surface Complications of Strabismus Surgery ..	185
19.1	Corneal Complications	185
19.1.1	Dellen	185
19.1.2	Corneal Abrasions	186
19.1.3	Corneal Ulcer	186
19.1.4	Filamentary Keratitis	188
19.1.5	Reduced Endothelial Cell Count	188
19.1.6	Corneal Toxicity	188
19.2	Conjunctival Complications	188
19.2.1	Inadvertent Advancement of the Plica Semilunaris Conjunctivae ..	188
19.2.1.1	Limbal Incision Closure Tips	190
19.2.2	Retraction and Coiling	191
19.2.3	Chemosis	191
19.2.3.1	Technique for Correction of Prolapsed Inferior Conjunctiva	192
19.2.4	Pyogenic Granuloma	193
19.2.5	Prolapse of Tenon's Fascia	193
19.2.6	Epithelial Inclusion Cyst	194
19.2.7	Sudoriferous Cyst	196
19.2.8	Subconjunctival Abscess	197
19.2.9	Conjunctival Adhesions	197
19.2.10	Primary Amyloidosis	198
19.2.11	Subconjunctival Foreign Bodies	198
19.2.12	Conjunctival Buttonholes	198
19.3	Scleral Complications	198
19.3.1	Grey Spot	198
19.3.2	Scleral Ridge	199
19.3.3	Scleral Dellen	200
19.3.4	Scleritis	200
19.3.5	Agyrosis	200
19.4	Anterior Segment/Intraocular Complications	200
	References	200
20	Anterior Segment Ischemia	203
20.1	Blood Supply of the Anterior Segment ...	203
20.2	Incidence	204

20.3	Risk Factors and Prevention	204
20.4	Signs and Symptoms	205
20.5	Treatment	205
20.6	Prevention of Anterior Segment Ischemia	206
20.7	Mitigating Risk Through Surgical Planning	206
20.7.1	Conjunctival incision	206
20.7.2	Minimizing Number of Muscles Operated in an Eye	206
20.7.3	Sparing of the Anterior Ciliary Arteries ..	207
20.7.4	Mechanical Fixation of the Globe	208
20.7.5	Staging of Surgery	209
20.8	Summary and Recommendations	209
	References	209
21	Scleral Perforation and Penetration	211
21.1	Risk Factors	214
21.2	Clinical Evidence of Perforation	217
21.3	Potential Sequelae of Scleral and Eye Wall Perforation	218
21.3.1	Retinal Detachment	218
21.4	Vitreous and Anterior Chamber Hemorrhage	218
21.5	Endophthalmitis	219
21.6	Anterior Chamber Perforation	219
21.7	Prevention	219
21.8	Treatment	220
	References	220
22	Postoperative Infection	223
22.1	Risk Factors	223
22.1.1	Glove Perforation	223
22.1.2	Operating Room Equipment and Supplies	223
22.2	Endophthalmitis	224
22.3	Periocular Infection (Orbital and Preseptal Cellulitis)	227
22.4	Scleritis	229
22.5	Subconjunctival Abscess	230
22.6	Corneal Ulcer	230
22.7	Concurrent Systemic Infections	230
22.8	Subacute Bacterial Endocarditis Prophylaxis	231
22.9	Concurrent Surgeries	231
22.10	Special Situations	231
	References	231
23	Slipped and Lost Muscles	233
23.1	The Slipped Muscle	233
23.1.1	Presentation and Diagnosis	233
23.1.2	Treatment	237
23.1.3	Prevention	237
23.2	The Lost Rectus Muscle	238
23.2.1	Clinical Presentation and Diagnosis	238
23.2.1.1	Intraoperative Muscle Loss	239
23.3	The Snapped or Torn Extraocular Muscle	240
23.4	Delayed Loss of an Extraocular Muscle ..	241
23.5	Traumatic Disinsertion of an Extraocular Muscle	242

23.6	Surgical Treatment of the Lost Extraocular Muscle	242
23.6.1	Retrieval and Reattachment	242
23.6.2	Transposition Procedures when Attempted Retrieval and Reattachment is Unsuccessful	243
23.7	Stretched Scar Syndrome	243
	References	246
24	Hemorrhage	247
24.1	Introduction	247
24.2	Risk Factors	247
24.3	Eyelid Hemorrhages	247
24.4	Orbital Hemorrhage	248
24.5	Muscle Hemorrhage	249
24.6	Vortex Vein Hemorrhage	250
24.7	Subconjunctival Hemorrhage	250
24.8	Intraocular Hemorrhage	250
	References	250
25	Adherence and Adhesion Syndromes ...	253
25.1	Fat Adherence Syndrome	253
25.2	Incidence	253
25.3	Prevention	254
25.4	Treatment	255
25.5	Miscellaneous Adhesion Syndromes Due to Strabismus Surgery	255
25.5.1	Adhesion Syndrome Following Superior Oblique Tendon Expander Surgery	255
25.5.2	Inferior Oblique Inclusion Syndrome ...	255
25.5.3	J-Deformity of a Rectus Muscle	256
25.5.4	Scarring of Tenon's Capsule and Conjunctiva	256
	References	256
26	Complications Involving the Ocular Adnexa	259
26.1	Eyelid Retraction and Advancement Following Vertical Rectus Muscle Surgery	259
26.2	Aberrant Regeneration of the Third Cranial Nerve	261
26.3	Eyelid Changes Following Horizontal Rectus Muscle Surgery	262
26.4	Ptoxis and Pseudoptosis	263
26.5	Lid Changes Associated with Inferior Oblique Muscle Anterior Transposition ..	264
26.6	Eyelid Adhesions	264
26.7	Preseptal Cellulitis	265
26.8	Eyelid Ecchymosis and Hematoma	265
26.9	Burns	265
	References	266
27	Unexpected and Atypical Anatomy	267
27.1	Congenital Aplasia of the Extraocular Muscles	267
27.2	Craniofacial Dysostosis Syndromes	267
27.3	Aplasia of the Superior Oblique Muscle and/or Tendon	268
27.4	Aplasia of the Inferior Oblique Muscle ..	269

27.5	Aplasia of the Inferior Rectus Muscle	270
27.6	Aplasia of the Superior Rectus Muscle . . .	271
27.7	Aplasia of the Horizontal Rectus Muscle .	271
27.8	Abnormal Muscle Paths and Heterotopic Rectus Muscle Pulleys . .	272
27.9	Abnormal Extraocular Muscle Insertions	272
27.9.1	Inferior Oblique Muscle	272
27.9.2	Superior Oblique Muscle/Tendon	272
27.9.3	Bifid Rectus Muscles	273
27.9.4	Abnormal Rectus Muscle Insertions	273
27.10	Accessory Muscle	273
27.11	Atypical Restrictive Strabismus	274
27.11.1	Thyroid-Related Ophthalmopathy	274
27.11.1.1	Oblique Muscle Involvement	274
27.11.2	Superior Rectus Muscle Involvement	275
27.11.2.1	Exotropia in Thyroid-Related Ophthalmopathy	276
27.12	Strabismus Following Scleral Buckling Surgery	277
27.13	Hydrogel Explants	279
27.14	Occult Orbital Fractures	279
27.15	Strabismus Associated with Glaucoma Setons	279
27.16	High Myopia Related Strabismus	280
27.17	Brown Syndrome	280
27.18	Congenital Extraocular Muscle Fibrosis . .	281
27.19	Miscellaneous Muscle Abnormalities	282
27.20	Abnormalities of the Sclera	282
27.20.1	Thin Sclera	282
	References	282
28	Anesthesia-Related Complications	285
28.1	General Anesthesia	285
28.2	Malignant Hyperthermia	285
28.3	Postoperative Nausea and Vomiting	286
28.4	Unintended Intraoperative Awareness . . .	287
28.5	Local Anesthesia	287
28.6	Retrobulbar and Peribulbar Injection	287
28.7	Sub-Tenon's Anesthesia	288
28.8	Topical Anesthesia	288
	References	288
29	Unexpected Postoperative Alignment . .	291
29.1	Prism Problems	291
29.2	Unsuspected Myasthenia Gravis	291
29.3	Postoperative Duction Limitation	291
29.4	Concurrent Neurological Disease	292
29.5	Diplopia Associated with the Chiari Malformation	292
29.6	Spectacle-Induced Prism and Refractive Issues	292
29.6.1	Undetected Prism	292

29.6.2	Anisometropia	293
29.7	Unsuspected Torsion, Aniseikonia, and Central Disruption of Fusion	293
29.7.1	Torsion	293
29.7.2	Aniseikonia	293
29.7.3	Central Disruption of Fusion	293
29.7.4	Under- and Overcorrections	293
	References	294
30	Altered Postoperative Vision	295
30.1	Anterior Segment Ischemia	295
30.2	Cystoid Macular Edema	295
30.3	Unrecognized Diplopia	296
30.4	Change in Refractive Error	296
	References	297
31	Persistent Diplopia Following Surgery ..	299
31.1	The Double Vision Seeking Patient	299
31.2	Diplopia Due to Incomitant Strabismus ..	300
31.3	Central Disruption of Fusion (Horror Fusionis)	300
31.4	Dragged-Fovea Diplopia Syndrome	300
31.5	Aniseikonia	301
31.6	Spectacle-Induced Diplopia	301
31.7	Unrecognized Torsional Diplopia	301
31.8	Anomalous Retinal Correspondence	302
31.9	Identifying the Patient at High Risk for Intractable Diplopia	304
31.9.1	Closed Head Injury	304
31.9.2	Prolonged Monocular Visual Deprivation	304
31.9.3	Markedly Incomitant Strabismus	304
31.9.4	History of Anti-Suppression Therapy	305
31.10	Procedures Which May Induce Permanent Diplopia	305
31.11	Managing the Patient with Intractable Diplopia	305
	References	306
32	Medicolegal Aspects of Strabismus	
	Surgery	307
32.1	Informed Consent	307
32.2	Written Consent	307
32.3	Medical Malpractice	308
32.4	Intentional Torts	308
32.4.1	Battery	308
32.5	Unintentional Torts	308
32.5.1	Elements of Negligence	309
32.6	The Medical Record	309
32.7	The Unhappy Patient	309
	References	309
Subject Index		311