

Contents

Title	Page
List of abbreviations.....	i
List of figures.....	iii
Aim of the work.....	V
Definition and etiology of astigmatism.....	1-4
Diagnosis of astigmatism	5-18
Surgical correction of astigmatism.....	19-46
Laser photoablation techniques for correction of astigmatism.....	47-60
Toric intraocular lens implantation	61-74
Surgical correction of irregular astigmatism.....	75-94
Summary.....	95-97
References.....	98-112

List of abbreviations

AK: Astigmatic keratotomy.

BSCVA: Best Spectacle-corrected Visual Acuity.

BSS: Balanced salt solution.

CRIs: Corneal relaxing incisions.

DALK: Deep anterior lamellar keratoplasty.

Epi-LASIK: Epithelial laser assisted in situ keratomileusis.

EZ: Edge zone.

FALK: Femtosecond laser anterior lamellar keratoplasty.

HEMA: Hydroxyethyl methacrylate.

ICRS: Intracorneal ring segments.

IOLs: Intraocular lenses.

IOP: Intraocular pressure.

LA-DALK: Laser with deep anterior lamellar keratoplasty.

LASEK: Laser assisted in subepithelial keratomileusis.

LASIK: Laser assisted in situ keratomileusis.

LRI: Limbal relaxing incisions.

Nd:Yag laser: Neodymium yttrium aluminum garnet laser.

NSAID: Nonsteroidal anti-inflammatory drug.

OCT: Ocular coherence tomography.

OZ: Optical zone.

PARK: Photoastigmatic refractive keratectomy.

PK: Penetrating keratoplasty.

PMMA: Polymethyl methacrylate.

PRK: Photorefractive keratectomy.

PTK: Phototherapeutic keratectomy.

RGPCl: Rigid gas-permeable contact lens.

RK: Radial keratotomy.

SALK: Superficial anterior lamellar keratoplasty.

TICl: Toric implantable collamer lens.

UCVA: Uncorrected visual acuity.

US FDA: United States Food and Drug Administration.

UV: Ultra violet

List of Figures

No of Figure	Page
Fig 1: Refraction by an astigmatic surface.....,,,	3
Fig 2: Astigmatic dials.....	8
Fig 3: Keratograph of regular astigmatism.....	10
Fig 4: Distorted rings seen in keratoconus.....	10
Fig 5: Corneal topogram.....	11
Fig 6: Corneal topography of normal spherical cornea.....	13
Fig 7: Corneal topography of regular astigmatism	13
Fig 8: Corneal topography of irregular astigmatism	14
Fig 9: Corneal topography for keratoconus.....	15
Fig 10: The Oculus Pentacam.....	17
Fig 11: Wedge resection technique.....;	21
Fig 12: Sutures of wedge resection.....	22
Fig 13: Straight transverse keratotomy.....	25
Fig 14: Seven & six-millimeter keratotomy.....	26
Fig 15: Astigmatic keratotomy with diamond knife.....	27
Fig 16: Astigmatic keratotomy with fluorescein.....	30
Fig 17: Thoronton astigmatic keratotomy ruler.....	34
Fig 18: Limbal relaxing incision technique.....	40
Fig 19: Cylinder ablation of myopic & hyperopic astigmatism..	48
Fig 20: Steps of laser in situ keratomileusis.....	55
Fig 21: Anterior chamber (iris claw) toric phakic IOLs.....	61
Fig 22: Anterior chamber (iris claw) toric phakic IOL.....	62

Fig 23: The toric implantable collamer lens (TICL).....	63
Fig 24: TICL under the iris placement.....	65
Fig 25: Piggybacked toric IOLs in perpendicular position.....	72
Fig 26: Acrysof toric IOL.....	73
Fig 27: Intacs microthin inserts.....	78
Fig 28: Intracorneal ring segments in keratoconus.....	79
Fig 29: Full thickness penetrating keratoplasty with running suture.....	84
Fig 30: Deep anterior lamellar keratoplasty	86