Subject Index

Acanthamoeba keratitis, see Infective keratitis
Acute allergic conjunctivitis
  management 16
  overview 15
AKC, see Atopic keratoconjunctivitis
Allergy
  acute allergic conjunctivitis 15
  atopic keratoconjunctivitis 15
  giant papillary conjunctivitis 15
  perennial allergic conjunctivitis 15
  reaction classification 15
  seasonal allergic conjunctivitis 15
  vernal keratoconjunctivitis 15
Anterior lamellar keratoplasty, see Femtosecond laser-assisted keratoplasty
Atopic keratoconjunctivitis (AKC)
  management 16
  overview 15

Bengal rose, corneal collagen crosslinking 60
Big bubble technique, see Deep anterior lamellar keratoplasty

Collagen crosslinking, see Corneal collagen crosslinking
Compression suture, see Post-keratoplasty astigmatism
 Conjunctiva, functional anatomy 2
Cornea
  biomechanics 55, 56
  histology 103
  infection, see Infective keratitis
  innervation 3, 4
  transplantation, see Keratoplasty
Corneal collagen crosslinking (CXL)
  Bengal rose/irradiation technique 60
  conventional crosslinking
    adverse effects 57, 58
    biochemical principles 56
    Dresden's protocol 56, 57
    efficiency 57
    cornea biomechanics 55, 56
    genipin crosslinking 60
    glutaraldehyde crosslinking 60
    indications
      keratoconus 60, 61
      LASIK-associated ectasia 61
      infective keratitis 61
      overview 54, 55
    refractive surgery combination 61, 62
    riboflavin techniques 58, 59
    ultraviolet A therapy 59, 60
Corneal epithelial stem cell
  limbal stem cell deficiency 3
  maintenance 2, 3
CXL, see Corneal collagen crosslinking
Cyclophosphamide
  ocular cicatricial pemphigoid management 18
Cyclosporin A, dry eye management 7
DALK, see Deep anterior lamellar keratoplasty
Dapsone, ocular cicatricial pemphigoid management 18
Deep anterior lamellar keratoplasty (DALK) complications
  Descemet membrane
    disinsertion 95
  puncture in big bubble technique with needle 94
  rupture 92, 93
  postoperative complications
    astigmatism 99
Descemet membrane wrinkles 98
double anterior chamber 97, 98
infection recurrence 98, 99
interface haze 99
overview 95
rejection 97, 99
recipient bed total circular cut 93, 94, 96
trephination excess 94, 97
donor preparation 87
femtosecond laser trephination 89
historical perspective 82, 83
indications 89–91
outcomes
endothelial cell density 92
graft survival 92
visual acuity 91, 92
overview 81, 82
stromal dissection
air-viscous technique 86
big bubble technique
cannula technique 85, 86
needle technique 84, 85
hydrodissection 83
layer-by-layer manual dissection 83
viscodissection 83, 84
suturing technique 88
Descemet membrane endothelial keratoplasty, see Endothelial keratoplasty
Descemet membrane stripping automatic endothelial keratoplasty, see Femtosecond laser-assisted keratoplasty
Dry eye
clinical features 5
terminology 5
management 5–7
Dysfunctional tear syndrome, see Dry eye
Ectasia, see Laser in situ keratomileusis
EK, see Endothelial keratoplasty
Endothelial keratoplasty (EK)
advantages 105
Descemet membrane endothelial keratoplasty advanced technique 116
complications 118, 120, 121
donor preparation 109–113
endoillumination probe 117, 120
endothelium-Descemet membrane insertion and positioning 113–115
Fuch's endothelial corneal dystrophy 117
outcomes 115–117
postoperative management 114
prospects 120, 121
recipient preparation 113
donor preparation 108, 109
historical perspective 105–108
outcomes 114
techniques 109
Erythema multiforme major, see Stevens-Johnson syndrome

FECD, see Fuch's endothelial corneal dystrophy
Femtosecond laser-assisted keratoplasty
applications 40
astigmatism prevention 28, 29
deep anterior lamellar keratoplasty 89
instrumentation 39, 40
lamellar keratoplasty
advantages 48–50, 52
anterior lamellar keratoplasty 48–51
Descemet membrane stripping automatic endothelial keratoplasty 48–52
disadvantages 49
penetrating keratoplasty
histological findings of cut quality 46–48
overview 42
trephination profiles
complex en-face trephination profiles 44, 45
complex sagittal trephination profiles 42–44
simple angled trephination profiles 45, 46
stromal dissection principles 40–42
Ferrara ring segment, see Post-keratoplasty astigmatism
Fuch's endothelial corneal dystrophy (FECD)
clinical features 103
Descemet membrane endothelial keratoplasty 117
Fungal keratitis, see Infective keratitis
Genipin, corneal collagen crosslinking 60
Giant papillary conjunctivitis
management 16
overview 15
Glutaraldehyde, corneal collagen crosslinking 60
Gunderson flap, infective keratitis management 13
Herpes simplex virus (HSV)
high-risk keratoplasty 77
infective keratitis 10, 11
HSV, see Herpes simplex virus
Human leukocyte antigens 75

ICRS, see Intracorneal ring segments

Infective keratitis
- acanthamoeba keratitis 8, 10
- antibiotic therapy 8, 9
- corneal collagen crosslinking therapy 61
- fungal infection 11–13
- overview 7, 8
- scraping 8, 9
- surgical management
  - amniotic membrane and conjunctival flaps 13
  - corneal gluing 13
  - grafts 13
  - keratoplasty 13, 14
  - paracentesis 13
- viral infection 10, 11

Intracorneal ring segments (ICRS)
- indications 66, 67
- keratoconus
  - case studies 69–72
  - implantation
    - combination with other surgical procedures 71
    - complications 71
    - femtosecond laser surgery 68
    - manual technique 67, 68
- nomograms 68, 70
- indications in keratoconus 67
- mechanism of action 68
- types 67

Intraocular lens (IOL), post-keratoplasty astigmatism correction
- combined cataract surgery 35
- iris-fixated lens 33, 34
- posterior chamber lens 34, 35

IOL, see Intraocular lens

Keratoconus
- corneal collagen crosslinking therapy 60, 61
- intracorneal ring segments
  - case studies 69–72
  - implantation
    - combination with other surgical procedures 71
    - complications 71
    - femtosecond laser surgery 68
    - manual technique 67, 68
- nomograms 68, 70
- indications in keratoconus 67
- mechanism of action 68
- types 67

Keratoplasty, see also Deep anterior lamellar keratoplasty; Endothelial keratoplasty; Femtosecond laser-assisted keratoplasty
- astigmatism association, see Post-keratoplasty astigmatism
- frequency 74
- high-risk settings
  - lamellar keratoplasty
    - anterior 79
    - posterior 78, 79
  - overview 74
  - postoperative management 77, 78
- risk factors
  - age 77
  - anterior segment inflammation 76, 77
  - combination with intraocular surgery 76, 77
  - graft size 76
  - herpes simplex virus infection 77
  - neovascularization 75, 76
  - ocular surface pathologies 76
  - re-keratoplasty 76
- histocompatibility antigens 75
- historical perspective 74, 75
- infective keratitis management 13, 14

Lamellar keratoplasty, see Deep anterior lamellar keratoplasty; Femtosecond laser-assisted keratoplasty; Keratoplasty
- Laser-assisted subepithelial keratectomy
- Laser in situ keratomileusis (LASIK)
  - corneal collagen crosslinking therapy for ectasia 61
  - post-keratoplasty astigmatism correction 31–33

Laser-assisted subepithelial keratectomy (LASEK), post-keratoplasty astigmatism correction 31
- LASIK, see Laser in situ keratomileusis

Limbal stem cell deficiency (LSCD)
- limbus transplant surgery 20–22
- overview 3
- Stevens-Johnson syndrome 19
- treatment algorithm for chemical burns 21–23

Limbus, functional anatomy 2, 3
- LSCD, see Limbal stem cell deficiency
Major histocompatibility complex (MHC), antigens 85
MHC, see Major histocompatibility complex

Nonsteroidal anti-inflammatory drugs (NSAIDs), dry eye management 7
NSAIDs, see Nonsteroidal anti-inflammatory drugs

OCP, see Ocular cicatricial pemphigoid
Ocular cicatrical pemphigoid (OCP)
  clinical features 16–18
  pathogenesis 16, 17
  treatment 18

Ocular surface (OS)
  components 1
  conjunctiva 2
  corneal innervation 3, 4
diseases, see specific diseases
limbus 2, 3
tear film 2
OS, see Ocular surface

PBK, see Pseudophakic bullous keratopathy
Perennial allergic conjunctivitis
  management 16
  overview 15
Persistent corneal epithelial defect
  definition 14
  medical management 14, 15
Photorefractive keratectomy (PRK), post-keratoplasty astigmatism correction 30, 31
Post-keratoplasty astigmatism
  correction
  Ferrara ring segment implantation 29
  intraocular lens combined cataract surgery 35
  iris-fixated 33, 34

posterior chamber 34, 35
laser ablative techniques
  laser in situ keratomileusis 31–33
  laser-assisted subepithelial keratectomy 31
  overview 29, 30
  photorefractive keratectomy 30, 31
etiology 27
impact
  compression sutures 27, 28
  relaxing incisions 27, 28
  wedge excision 28, 29
incidence 26
PRK, see Photorefractive keratectomy
Pseudophakic bullous keratopathy (PBK), clinical features 103, 104
Relaxing incision, see Post-keratoplasty astigmatism
Riboflavin, corneal collagen crosslinking
techniques 58, 59
SAC, see Seasonal allergic conjunctivitis
Seasonal allergic conjunctivitis (SAC)
  management 16
  overview 15
SJS, see Stevens-Johnson syndrome
Stevens-Johnson syndrome (SJS)
  management 19
  ocular surface involvement 18
Tacrolimus, dry eye management 7
Tear film, overview 2
Vernal keratoconjunctivitis (VKC)
  management 16
  overview 15
VKC, see Vernal keratoconjunctivitis