Cataract Surgery in Eyes with Corneal Opacification

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• Surgical options
  – Conventional phacoemulsification
  – ECCE
  – Combined DALK
  – Combined PKP

• Cause of corneal opacity
  – Congenital disease
  – Healed keratitis
  – Trachomatous scarring
  – Ocular surface disorder
  – Fuchs’ dystrophy
  – Post-traumatic

• Illumination
  – To optimize visualization: patient positioning, lighting intensity, lighting direction
  – Retroillumination: if significant opacity exists
  – Supplement illumination: fiber-optic light probe
  – Transconjunctival chandelier illumination
• Capsulorhexis
  – Stain capsule: trypan blue 0.1%, Indocyanine green
  – High magnification
  – Start and end at visible area of cornea
  – Adequately large sized CCC (>5~5.5mm)

• Soft shell technique
  – Dispersive + cohesive OVD
  – To cushion the endothelium
  – Superior endothelial protection compared with Healon alone

• Nuclear emulsification
  – Hard cataract → crater and chop
  – Moderate cataract → trench and chop
  – Always in the visible area
  – Dispersive OVD for endothelial protection
  – Use moderate parameters
  – Ready to convert to ECCE

• Iris sphincterotomy or iridectomy
  – Based on the region of clear cornea
  – Nasal or inferonasal
  – Improve visual outcome, provide ambulatory vision
• Combined with PTK
  – Opacification restricted to anterior 100um
  – Variable refractive change after PTK
  • Subsequent cataract surgery : 6 weeks after PTK

• Simultaneous phacoemulsification with DALK
  – Avoid complications of open sky procedure
  – Donor tissue is sutured over the host bed only after completion of phacoemulsification and IOL implantation