Glassy Striae: Wrinkling of Descemet’s

- Signs: Fine, thin, or dense white hair-like lines in central posterior stroma usually vertically oriented, double-walled pipestem configuration
- Etiology: Contact lens wear, keratoconus, diabetes, pressure patching, elderly, ocular hypotony, Fuchs’ dystrophy, advanced corneal infection
- Folds of Descemet’s can occur adjacent to striae
Tears or Ruptures of Descemet’s

- **Signs:** Appear as double refractile linear streaks, parallel and separated by a dark interval; each relucent line represents the torn edges
- **Etiology:** Birth forceps injury, trauma, keratoconus, buphthalmos, surgery
- Maybe confused with posterior polymorphous dystrophy

Hydrops

- An acute and painful edema of cornea due to rupture of endothelium and Descemet is seen in keratoconus
- Occurs in approximately 5% of patients, Down’s syndrome, younger males with history of eye rubbing & severe allergic eye disease
- Edema can thicken the cornea 2 to 3 fold, usually resolve in 2-3 mos., leaving an apical scar, often requiring penetrating keratoplasty

Opacities (Scars)

- Leukoma: grayish-white or pure white dense opacity
- Macula: translucent, dense, circumscribed opacity
- Nebula: mild loss of transparency, need magnification
- Coat’s ring: a white circular opacity with clear center which forms where an iron FB had been removed
Subepithelial / Anterior stromal Infiltrates

- Results of an active inflammatory response of the cornea to any infection, inflammation, or trauma
- A stimulus has caused direct infiltration of leukocytes plus cellular debris into the cornea
- Cells must be derived from the limbal microvasculature or tear film
- Usually associated with limbal or conjunctival hyperemia
- Associated with light sensitivity and may have decrease vision
- Grey/white focal, granular opacities, round (nummular), multiple, irregular, dendritic shaped, as large as 2mm, may scar, location can be central, peripheral or diffuse

Infilttrates

- Non-infectious antigen sensitivity: ie: CL wear/marginal keratitis
- Infectious: bacterial, viral, fungi, & protozoa
  - Contact Lens related infiltrates: “PEDAL”= Pain, Epithelial defect, Discharge, A-C reaction & central Location
Ring Infiltrates
(Wessely ring)

- Partial or complete ring shaped stromal infiltrates can be seen in a number of conditions
- Result from antigen-antibody complex formation and PMN leukocytes
- Viral (herpes), bacterial (Psuedomonas), Acanthamoeba, fungal infections & severe burns
**Pigmentations**

- **Blood staining:** Occurs when blood pigment, hemosiderin, is deposited in tissue: yellow-brown-red color
- **Persistent hyphema plus elevated IOPs**
- **Local deposits of hemosiderin in stroma due to:**
  - Subconjunctival hemorrhage
  - Intracorneal hemorrhage secondary to corneal neovascularization