PHYSIOLOGICAL Notesale. 1. To act as powerful refracting lens.

- 2. To protect the intraocular contents.
- 3. Cornea plays important role in absorption of topically applied drugs.
- 4. Wound healing after anterior segment surgery or trauma.

BIOCHEMICAL COMPOSITION: STROMA Collagen Motesale Mot

- hydroxyproline content.
- \succ It is dissolved by the proteolytic enzymes such as collagenase----corneal ulceration
- In boiling water or acids collagen is converted to gelatin(acids burns are less serious than alkali burns).



ENZYME PUMP SYSTEM

- Na+/K+ATPase Pump System (endothelium more active than epithelium)) ✓ Enzymer a+/K+ ABTED ATPase mediates the extrusion
- of Na+ from tissue
- \checkmark Oubain, a specific ATPase inhibitor, when applied topically to eye blocks endothelial fluid transport & results in corneal overhydration

Bicarbonate Dependent ATPase (endothelium)

 Depletion of bicarbonate from incubation/perfusion induces swelling



4. DRUG PERMEABILITY ACROSS CORNEA

Factors affecting drugopenetration:

- 1. Lipid & water solubility of drug
- 2. Molecular size, weight & concentration of drug
- 3. Ionic form of the drug
- 4. PH of the solution
- 5. Tonicity of solution
- 6. Surface active agents
- 7. Pro-drug form

FACTORS AFFECTING DRUG PERMEABILITY AGROSS CORNEA PH OF THE SOLUTION A1 of 52

- It may affect penetration of solutes as it will effect the electrical charges of the solutions
- Varies from 4-10 without affecting the permeability of the epithelium, but solution outside this range increases the permeability

5. TONICITY OF THE SOLUTION

Hypotonicity of solution (below 0.9% of NaCl)increases the permeability of epithelium

WOUND HEALING

- During epithelial defect either due to infection/trauma/inflammation 52 there are extended poliferation and differentiation of basal cells
- If Bowman's layer is intact the epithelium is regenerated in 7-14 days





- Constantly under stress by Notesale.
 Constantly under stress by Notesale.
 The pressure pure stress of the pressure pure stress of the pressure pure stress.
- The pressure pushing outward is contained by sclere providing a stable viscoelastic structure for the globe

FUNCTIONS OF VISCOELASTIC SYSTEM

- Enable the sclera to \checkmark strecth proportionately with elevations of IOP
- Called as scleral distensibility

