

# **Keratoprosthesis: a short review**

**Dr S S Bhatti**

- **Though the concept of an artificial cornea seems attractive (on the analogy of the intraocular lens), it is important to understand the limitations of this treatment mode, before we attempt a critique**

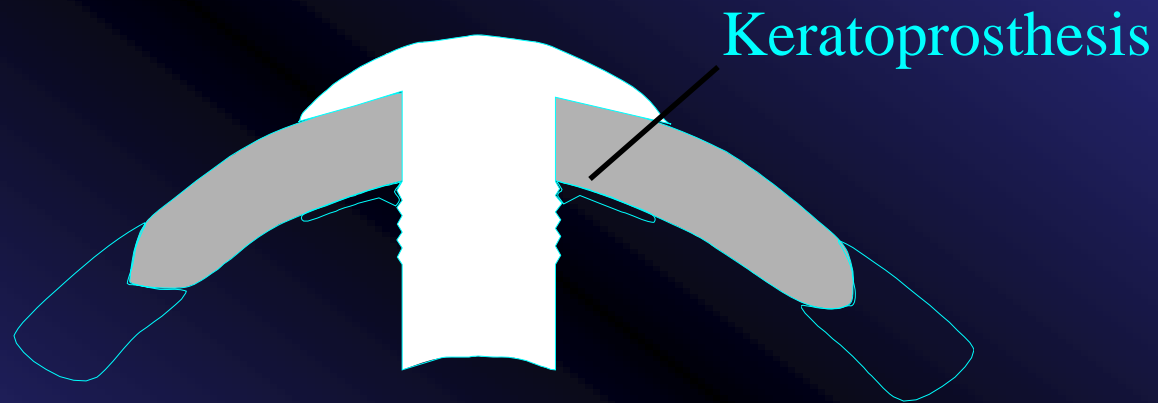
## **Limitations of any keratoprosthesis**

- **Possibility of extrusion**
- **Possibility of infection**
- **Impossible to monitor glaucoma**
- **Fundus view poor so retinal treatment difficult (if required)**
- **Complications like retroprosthesis membrane occur frequently**
- **All keratoprostheses do not work in pemphigoid**

## **Possibility of extrusion**

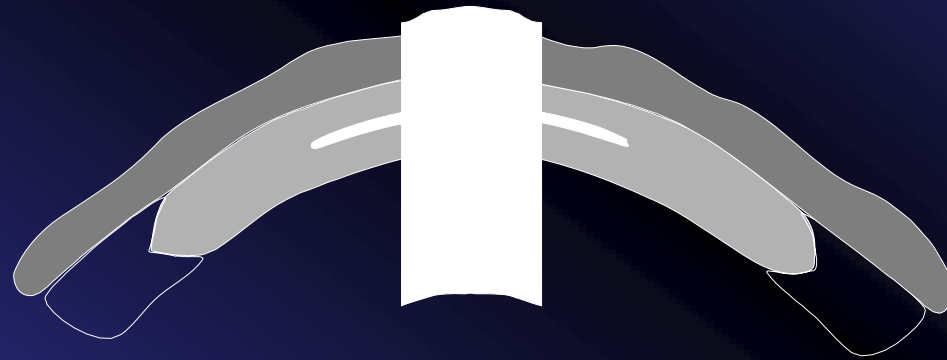
- **Maximum with Cardona nut and bolt type**
- **Less with Worst Singh type and with Fydorov Zhukov types**
- **Osteo-odontokeratoprosthesis (Strampelli) also has lesser extrusion rates**

# Nut and bolt keratoprosthesis



Cardona Nut and Bolt type keratoprosthesis

# Intrastrurally supported keratoprostheses



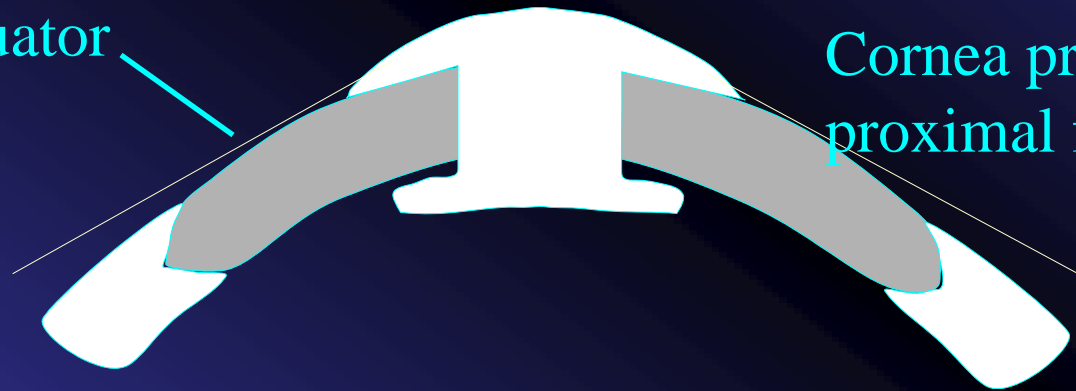
Keratoprosthesis with intrastromal fixation

# Worst-Singh Keratoprosthesis

ss suture provides  
distal fixation  
to equator

collar-button keratoprosthesis

Cornea provides  
proximal fixation



# Fyodorov-Zhukov Keratoprosthesis





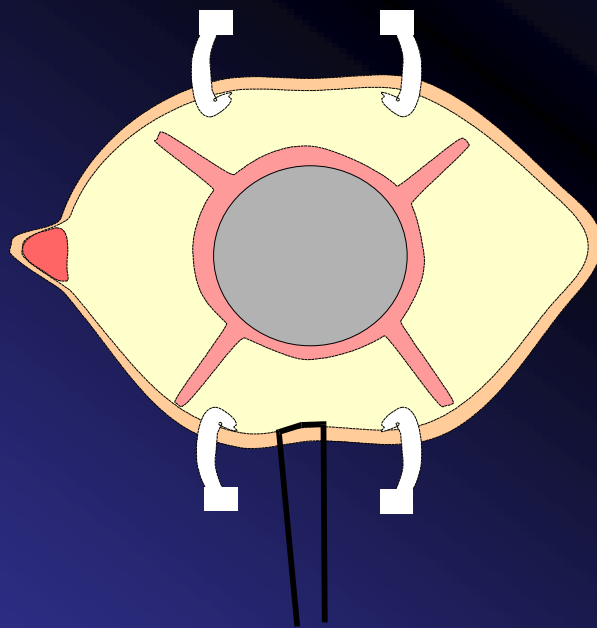
## **Possibility of infection**

- **Omnipresent in all types of keratoprosthesis irrespective of design as there is a potential space between the plastic cornea and the tissues which can allow infection to track into the eye.**

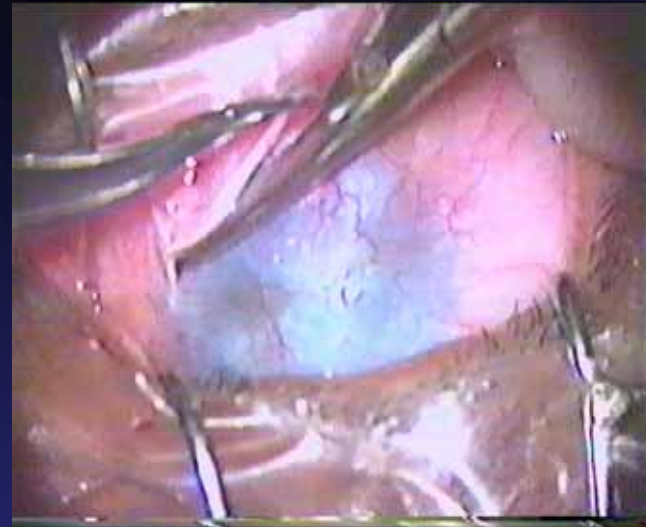
# Worst-Singh type of keratoprosthesis



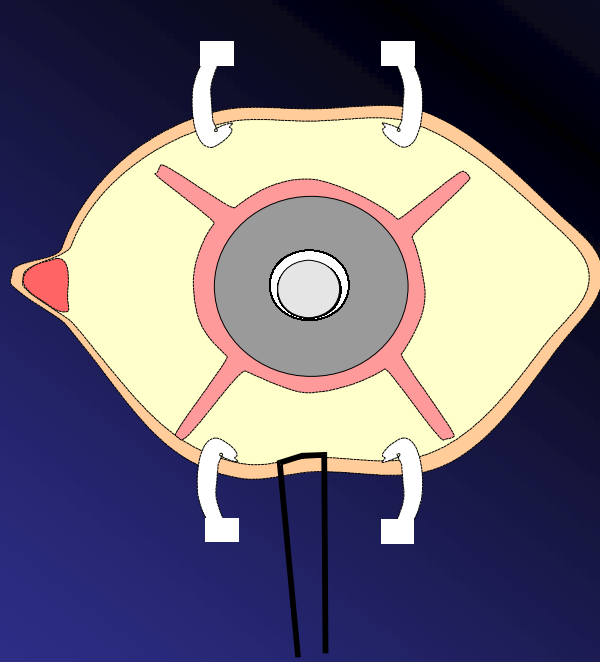
# Steps in Worst-Singh keratoprosthesis implantation-1



A peritomy is done  
and 4 incisions extended  
towards the equator

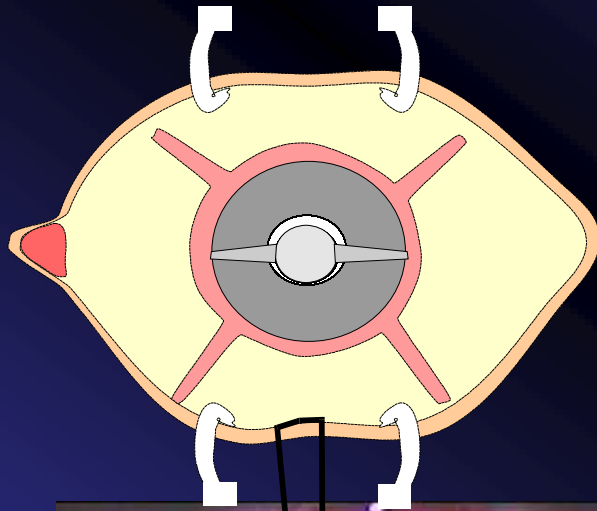


# Steps in Worst-Singh keratoprosthesis implantation-2

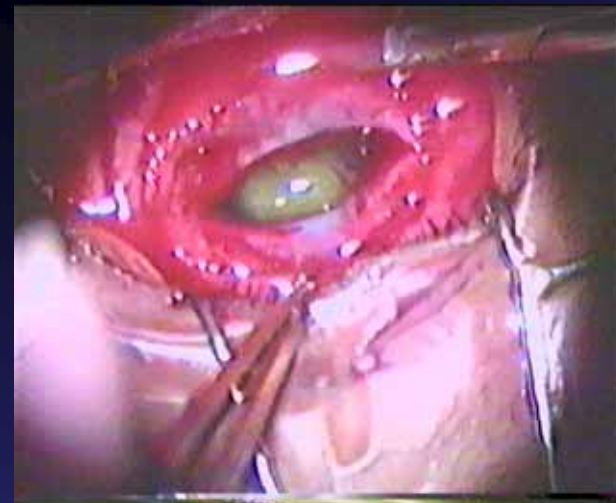
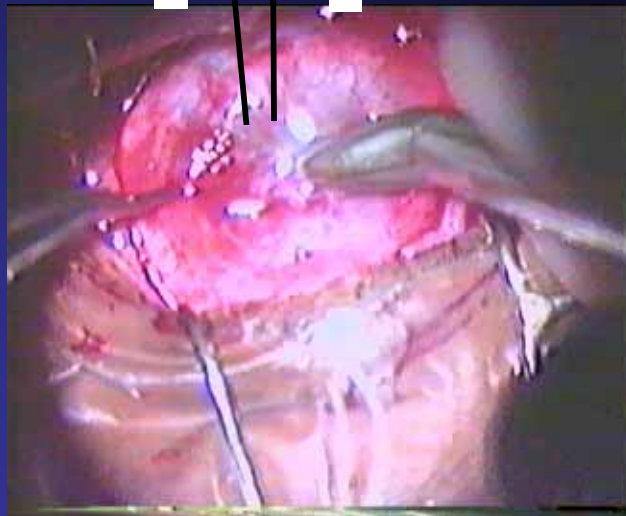


A small central  
trephination is done

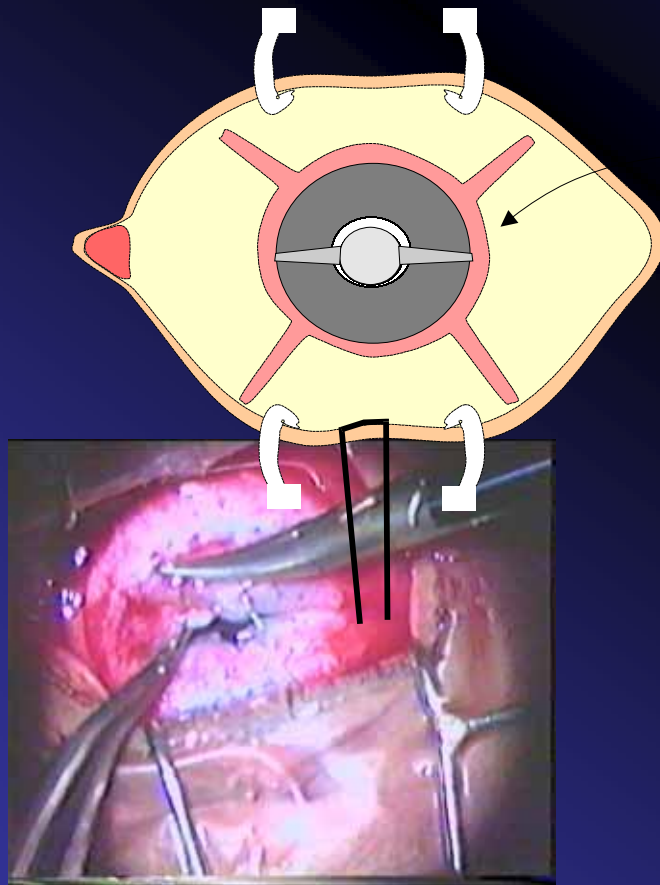
# Steps in Worst-Singh keratoprosthesis implantation-3



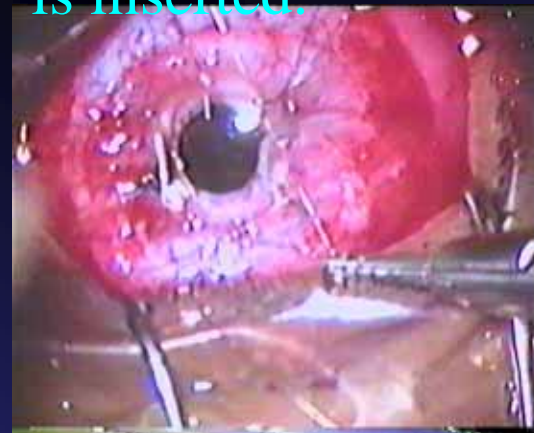
A horizontal extension of the circular opening is made and the lens, if any, extracted.



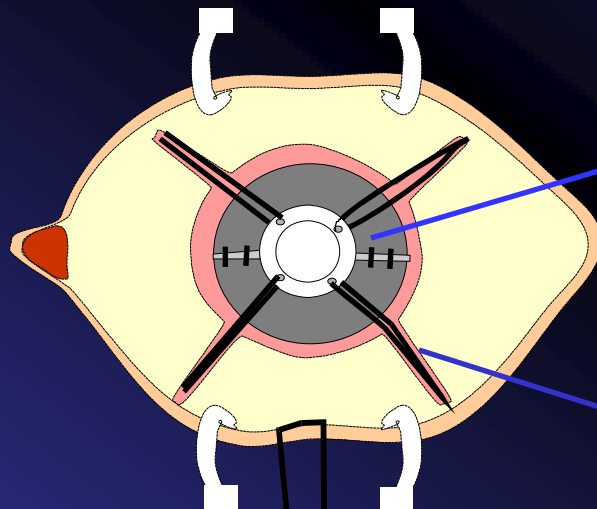
# Steps in Worst-Singh keratoprosthesis implantation-4



The collar-button  
shaped  
keratoprosthesis  
is inserted.

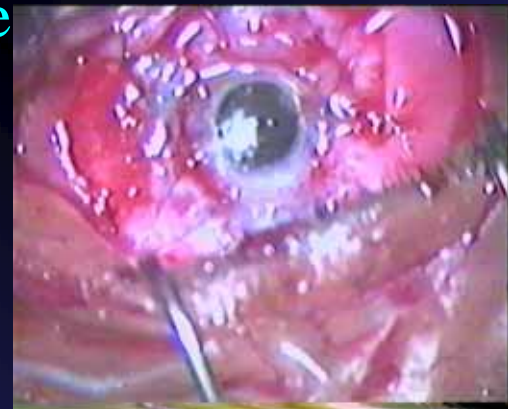
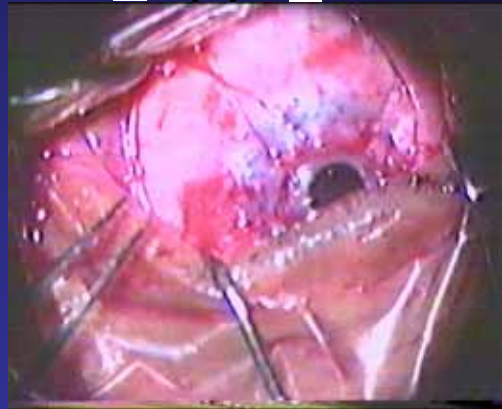


# Steps in Worst-Singh keratoprosthesis implantation-5



proximal fixation by cornea

distal fixation to equator  
by ss suture



Thank You

The image features the words "Thank You" in a bold, sans-serif font. The text is rendered with a vibrant rainbow gradient, starting with pink and red for "Thank" and transitioning through orange, yellow, green, and blue to purple for "You". The letters have a slight 3D effect, with a soft shadow cast beneath them onto the dark blue background. The background itself is a gradient, transitioning from a deep navy blue at the top to a slightly lighter shade at the bottom.