



جامعة المستقبل  
AL MUSTAQBAL UNIVERSITY

Al Mustaqbal University  
College of Health and Medical Technologies  
Department of Optical Technologies

Prepared by  
Alaa Mohammad  
MSc Optometry

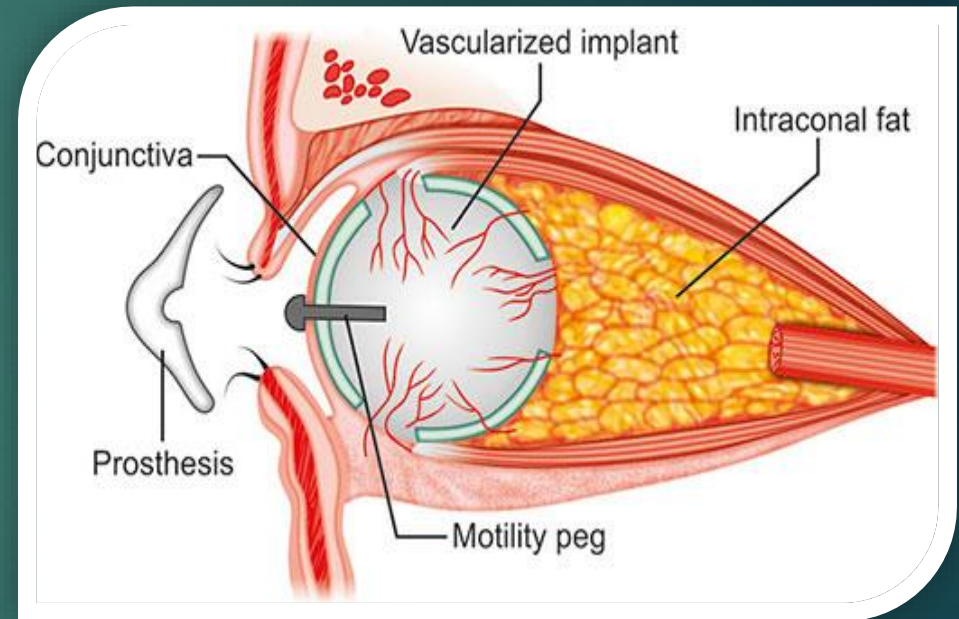
Subjective  
Prosthesis eye

Lecture three : Anatomy of the face

# Orbital implant

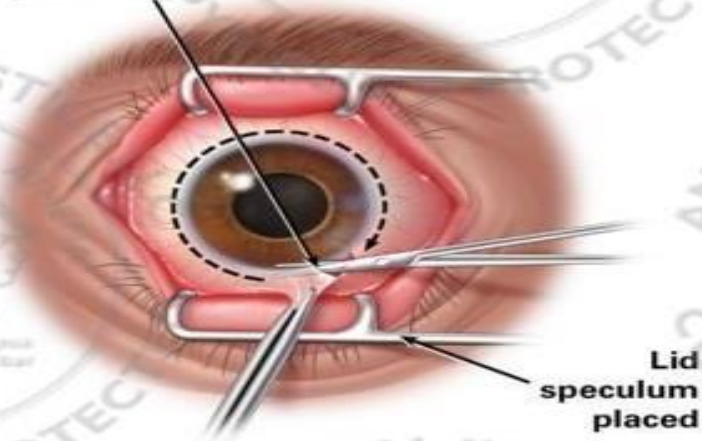
- When an eye is removed, an orbital implant is used to replace the area in the orbit.
- Orbital implants are medical prosthetics used to replace the volume and allow some amount of realistic movement of a prosthetic eye following eye removal.
- different types of implants, classification ranging from shape (Spherical vs egg (oval) shaped), porous vs nonporous and the presence of a peg.
- can be to divide implant types into two main groups: nonintegrated (non-porous) and integrated (porous).

## Ocular prosthesis and orbital implant

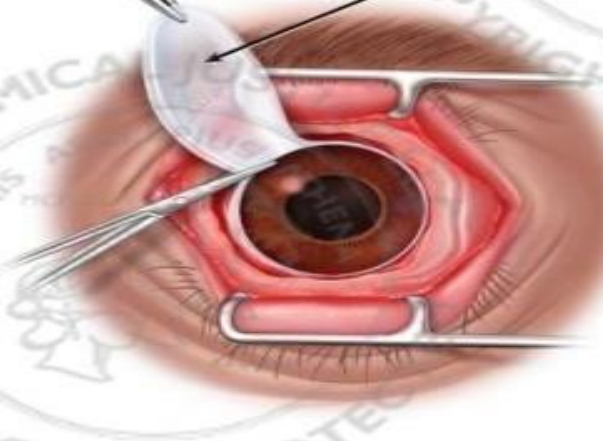


# Orbital implant

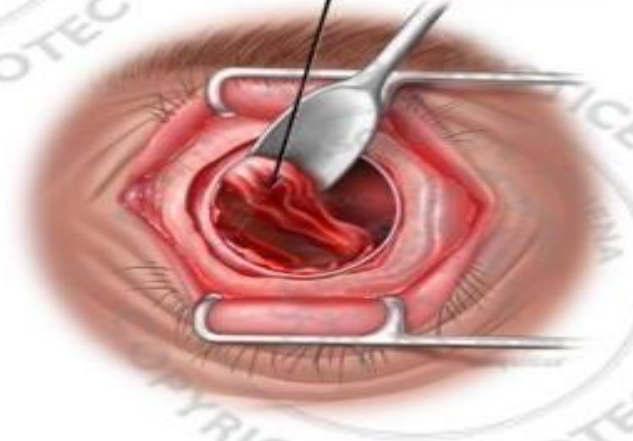
**Step 1: 360° peritomy performed**



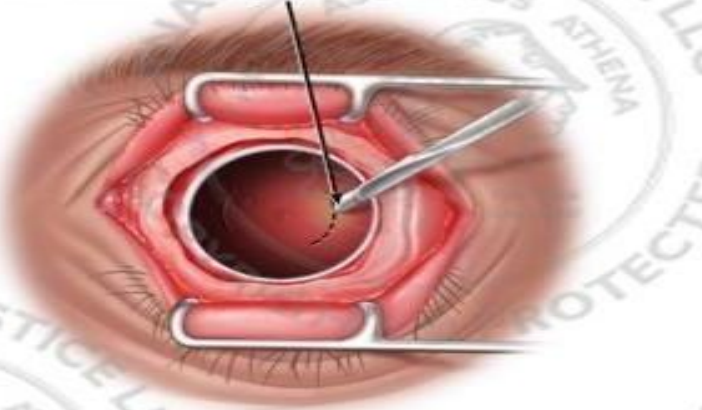
**Step 2: Removal of the cornea**



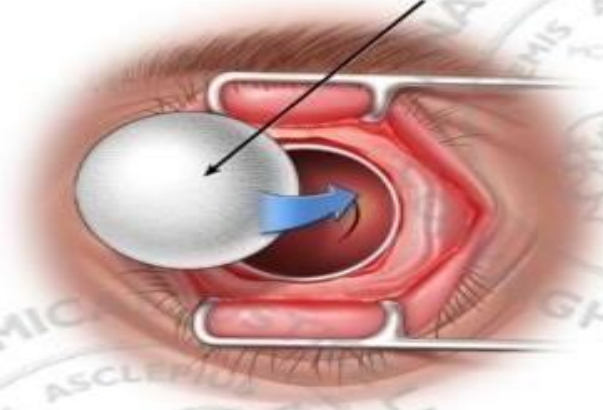
**Step 3: Removal of ocular contents**



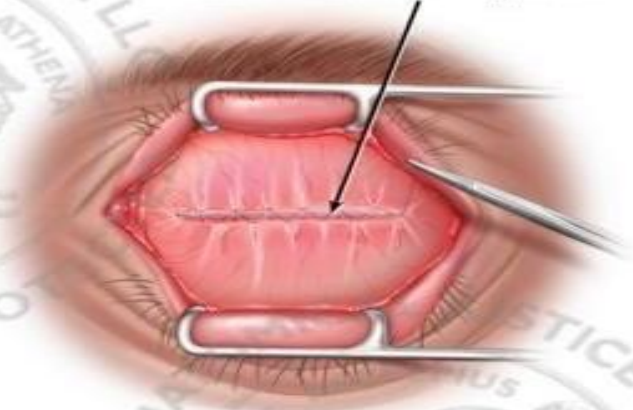
**Step 4: Incisions made in sclera for implant**



**Step 5: Orbital implant inserted**



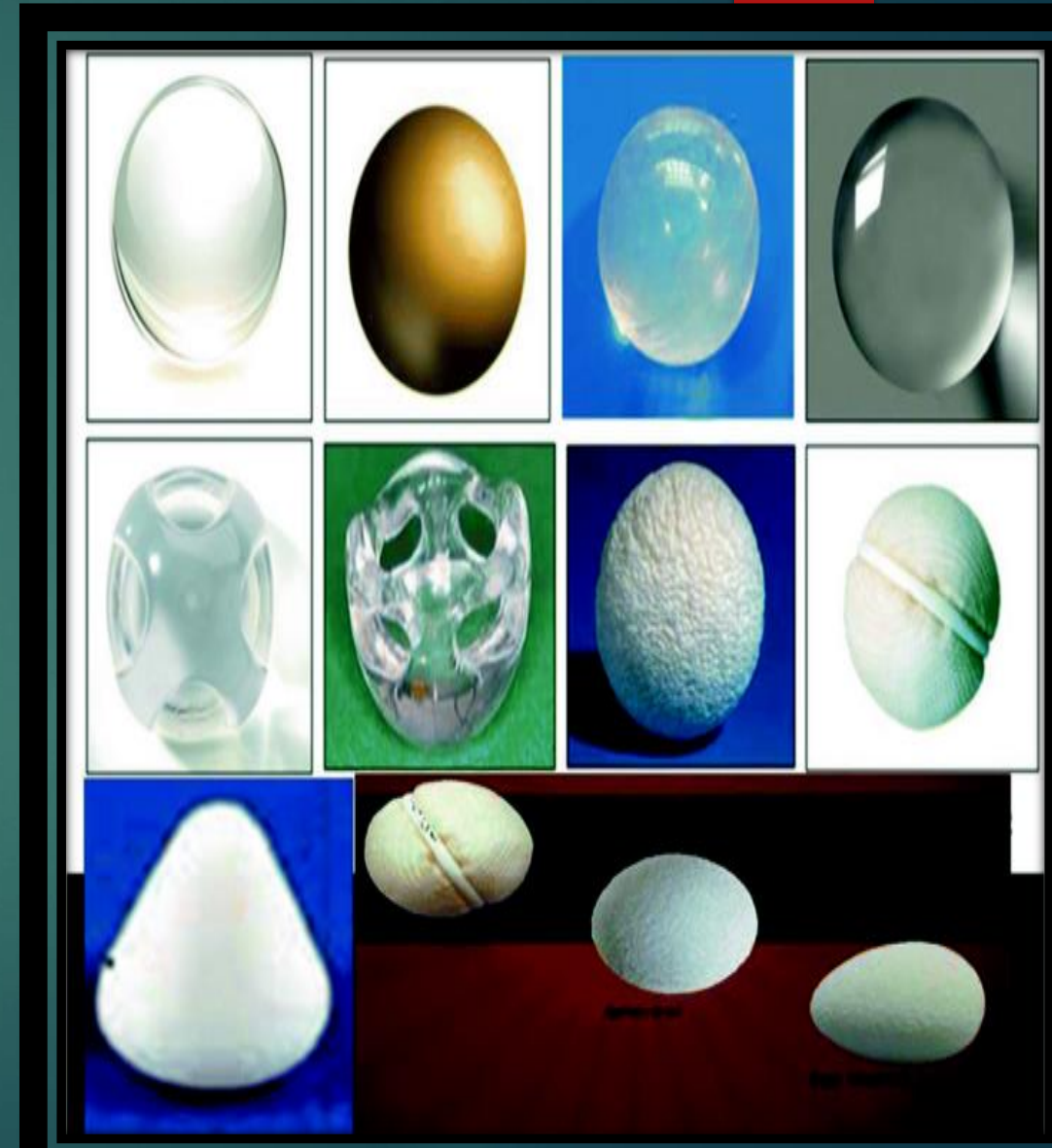
**Step 6: Sclera and conjunctiva sutured over implant**





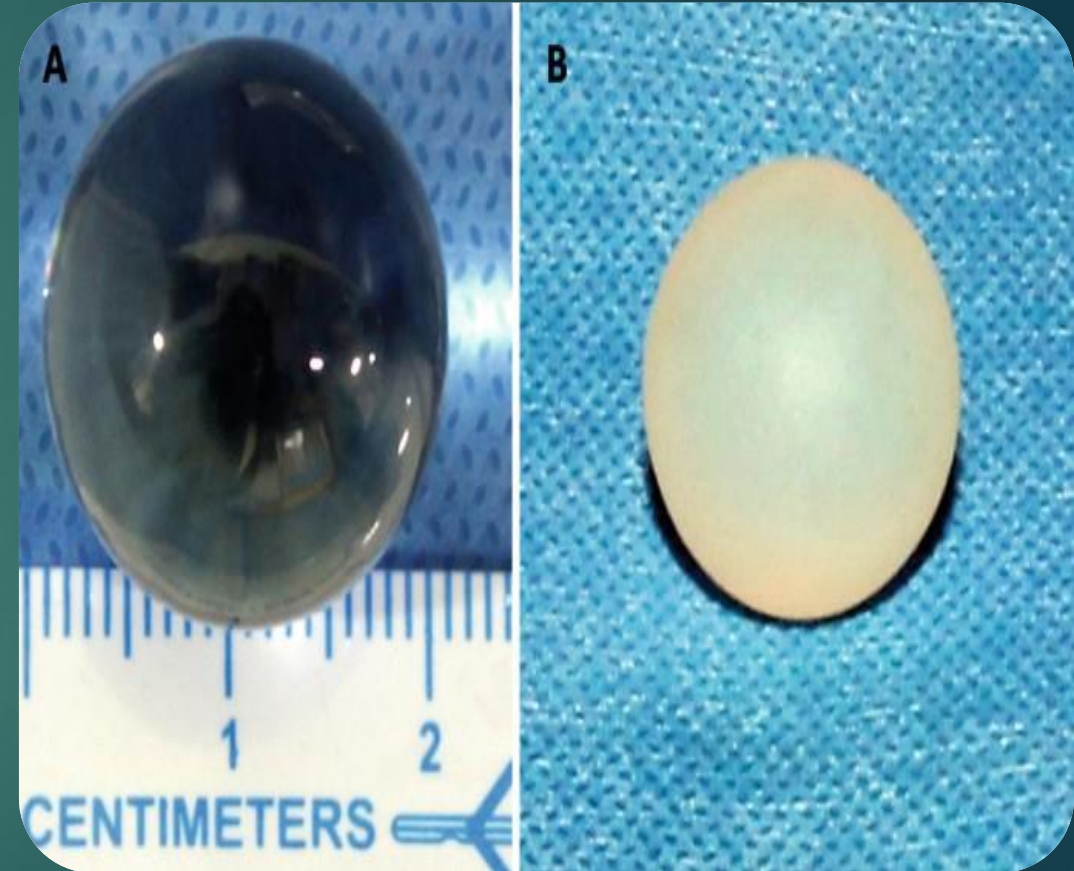
# Integrated orbital implant

- these implants are made of porous material, meaning tissues can grow into the implant. Examples are hydroxy-apatite, polyethylene and Aluminium oxide.
- Integrated of fibrovascular tissue into the porous structure of implant
- Advantages: excellent mobility; stays in the same position; rarely migrates; can be pegged.
- Disadvantages: risk of infection is higher than non integrated; expensive.



# Non integrated orbital implant

- these implants are made of non porous material, meaning tissues cannot grow into the implant. Examples are acrylic, glass and rubber.
- No unique apparatus for attachment to the extra ocular muscle
- dvantages: Inexpensive; very low risk of exposure.
- Disadvantages: Less movement; can migrate within the orbit.



## Pegged implants

- a peg can be connected to the implant after enucleation, to improve mobility of the artificial eye. A small hole is drilled into the implant and a peg inserted. The artificial eye then connects to the peg, creating more natural movement via the tiny ball and socket joint.





## Advantage of orbital implant

- To replace the area in the orbit
- To provide support for the artificial eye
- To reproduce the motility of artificial eye

## Material used for orbital implant

- silicone,
- hydroxyapatite,
- porous polyethylene.
- Glass
- Rubber
- acrylic

# Artificial eye (Ocular prosthesis)

- is a prosthesis replaces an absent natural eye.

## وحدة العيون الصناعية بطريقة البصمة 3D





## Advantage of ocular prosthesis

- To maintain the volume of eye socket.
- To give such individuals professional and social acceptance.
- To restore the appearance for the patient

# Types of ocular prosthesis

1. Stock ocular prosthesis is a readymade prosthesis that come in standard sizes, shapes and colors.

## Advantages

- inexpensive
- can be delivered quickly.

## Disadvantages:-

- Poor fit
- Used for interim purpose only.



# Types of ocular prosthesis

## 2. Custom made ocular prosthesis

is a hand made preosthesis used to replace the missing eye and fit the eye socket. It is made from acrylic resin.



قبل وضع العين



قبل وضع العين



بعد وضع العين



بعد وضع العين

