

# **OSTEO-ODONTO- KERATOPROSTHESE**

**Maral DABESTAN**

**Bernard DUCHESNE**

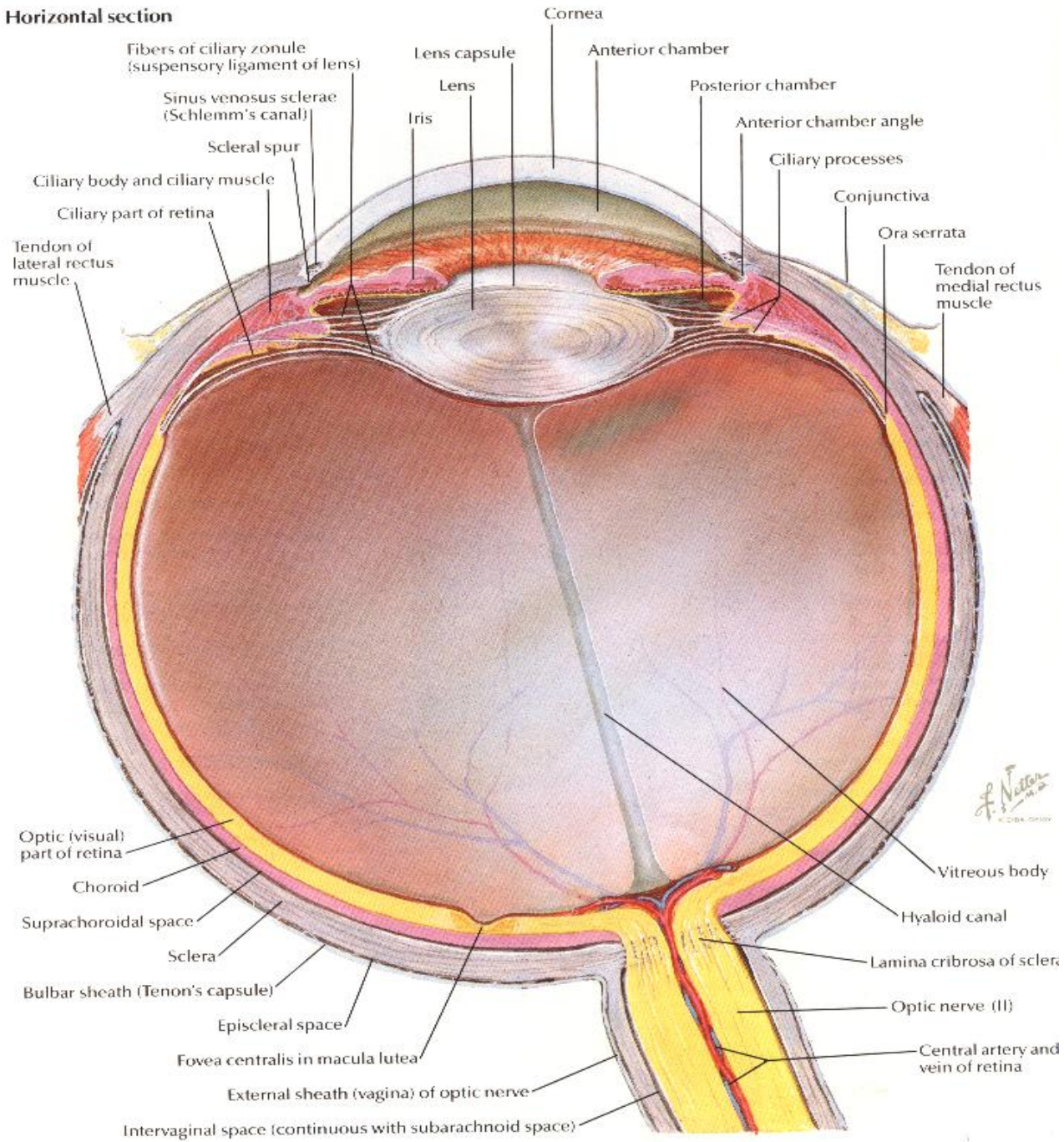
**Departement d' Ophtalmologie**

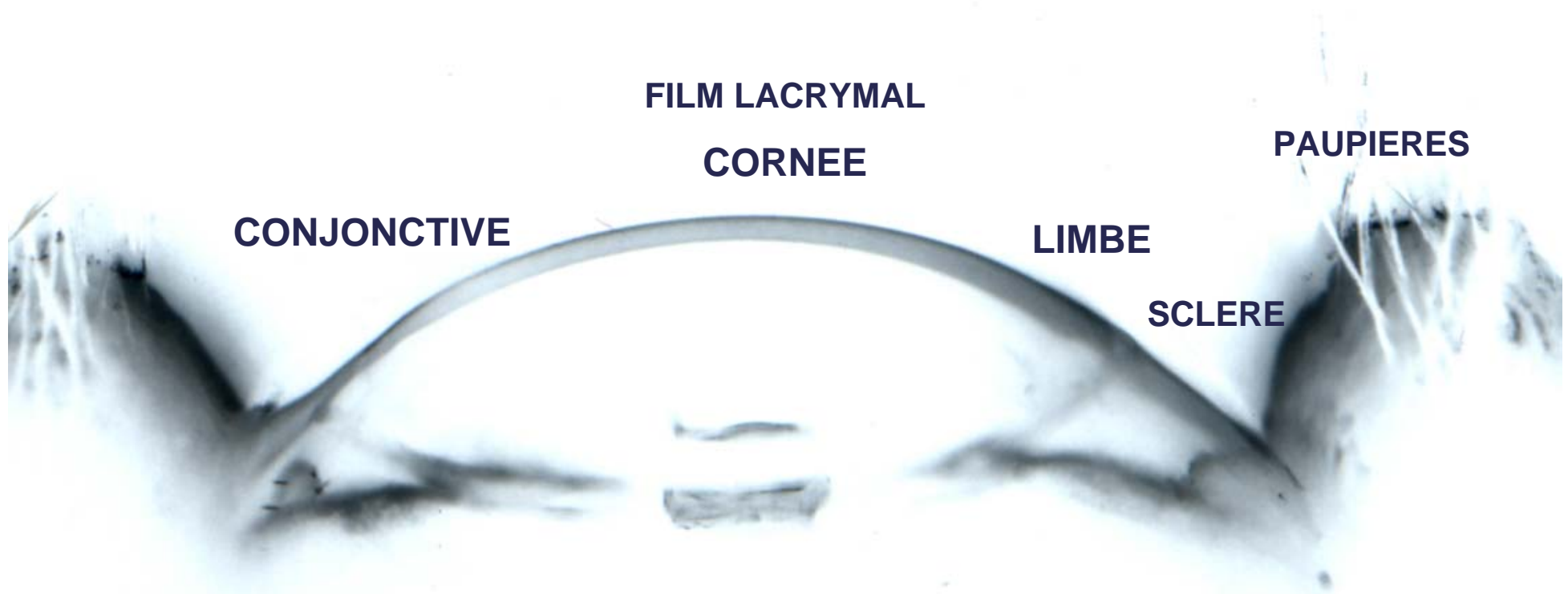
**Prof. J-M. RAKIC**

**CHU Sart-Tilman**

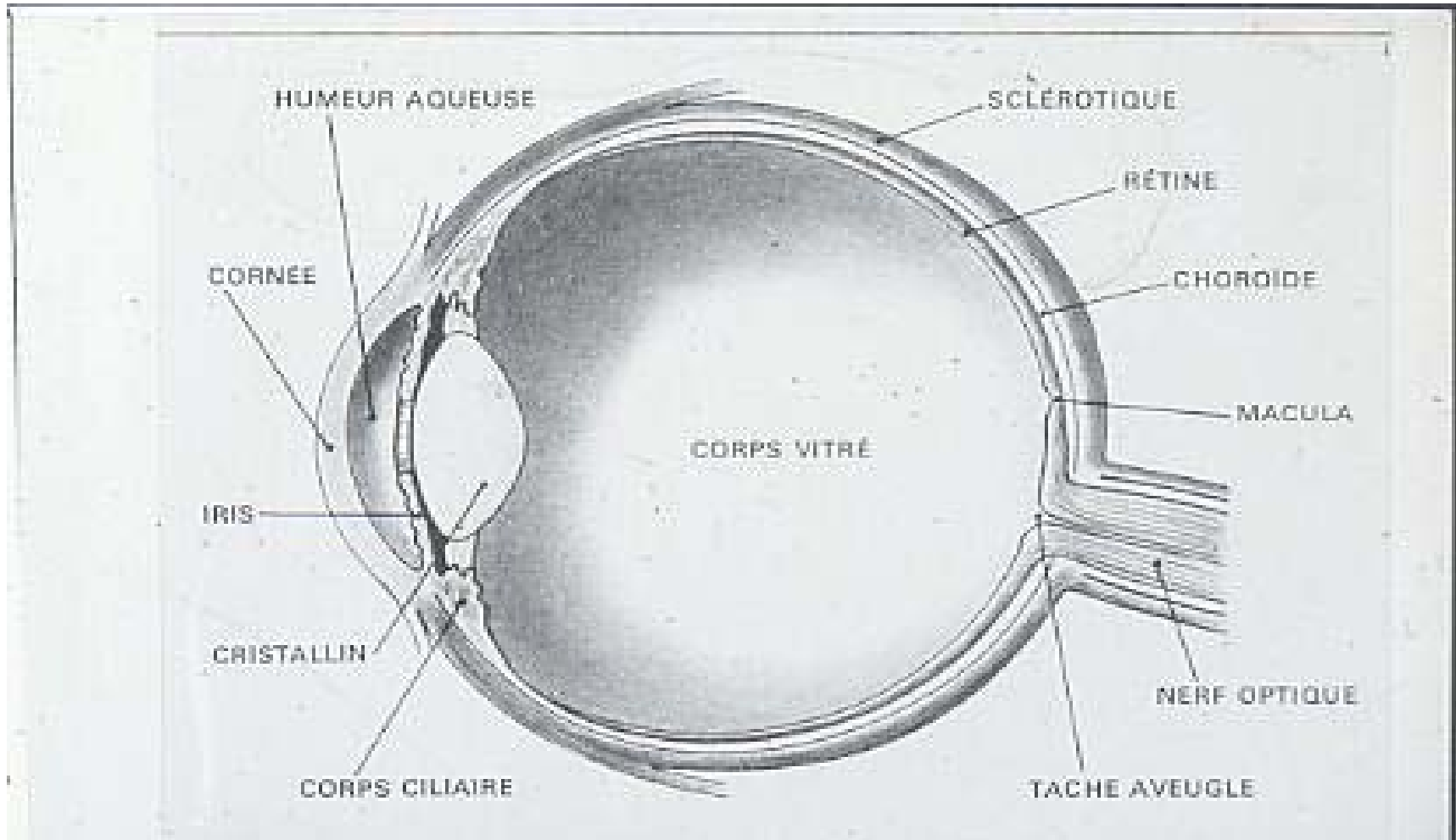
**Liège, Belgique**

**Horizontal section**

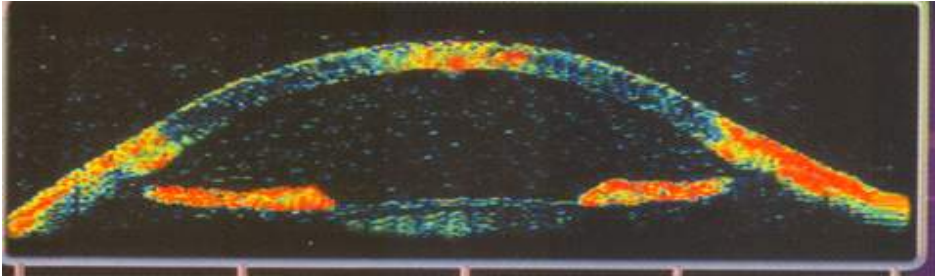




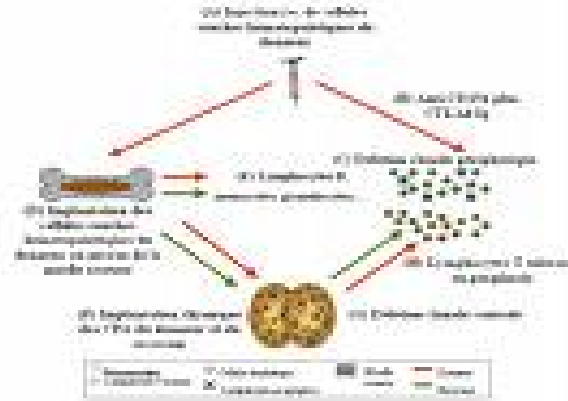
# GREFFE D'OEIL = IMPOSSIBLE



# GREFFES DE TISSUS



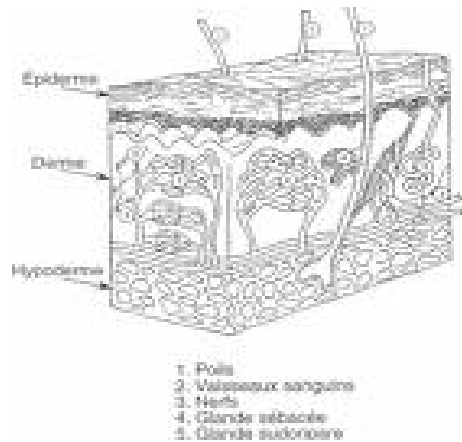
Cornée, sclère, amnios



Greffe de moëlle

QuickTime™ et un décompresseur TIFF (non compressé) sont requis pour visionner cette image.

Osselets



Peau



Greffe autochthone de tibia distal pour arthrose sévère chez un patient âgé de 68 ans, depuis 4 mois et 1/2 ans. Fixation transcutanée rapide de l'os greffé avec ciment osseux autogène.

Os  
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Valves cardiaques

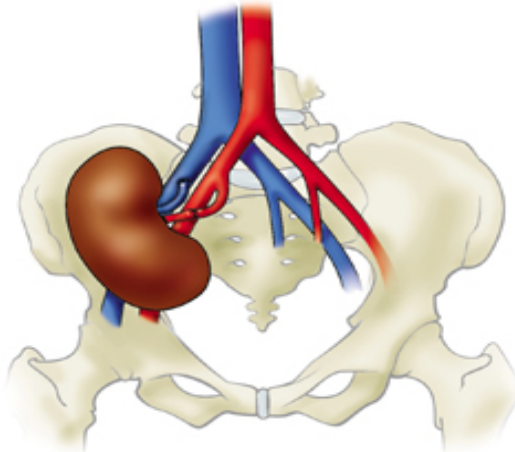


# GREFFES D'ORGANES

**Coeur**



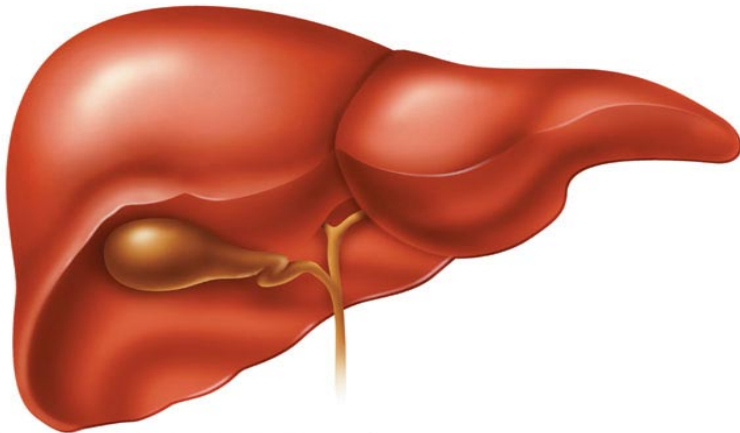
**Reins**



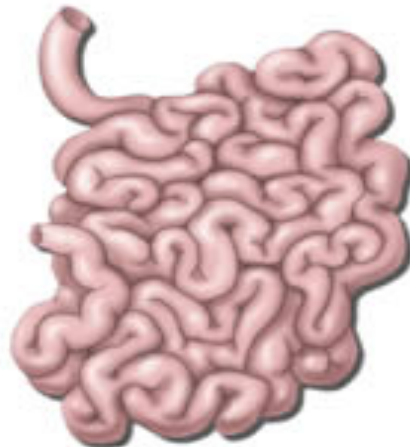
**Poumons**



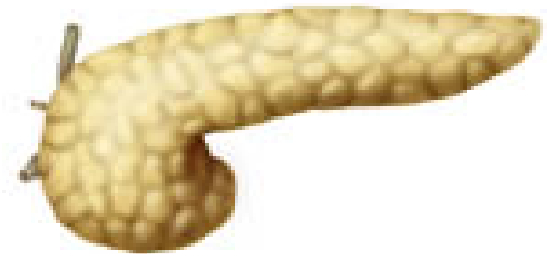
**Foie**

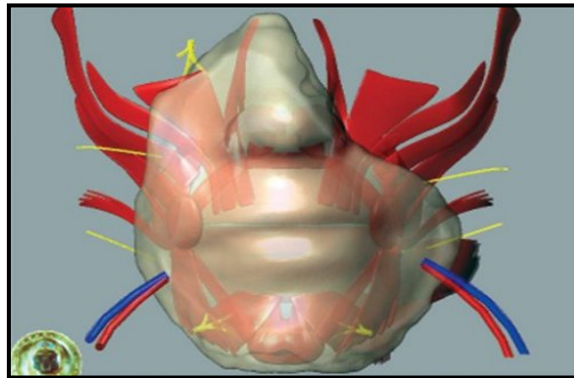
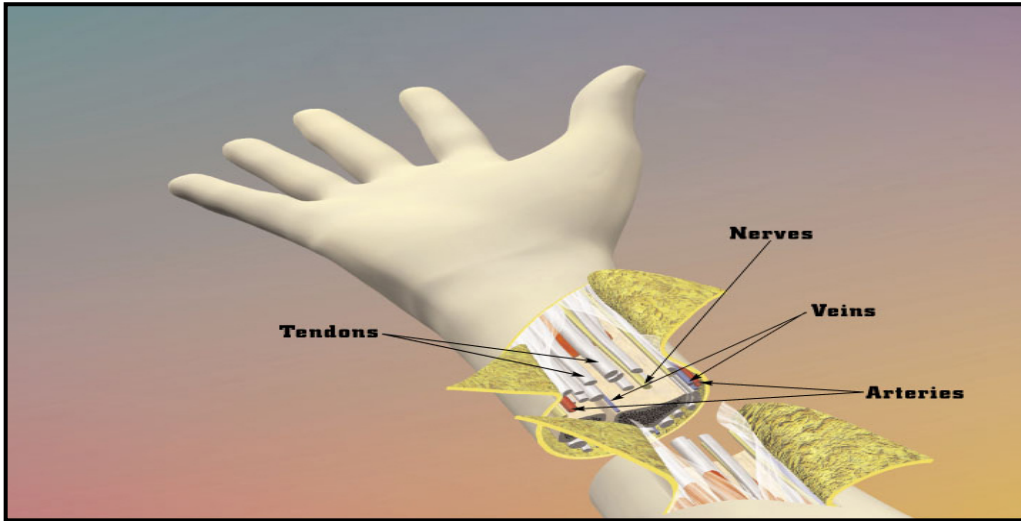


**Instestin**



**Pancréas**



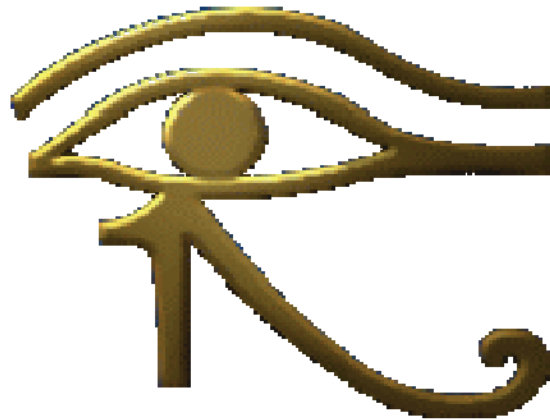


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Oeil « Oudjat »  
Oeil sain de Horus

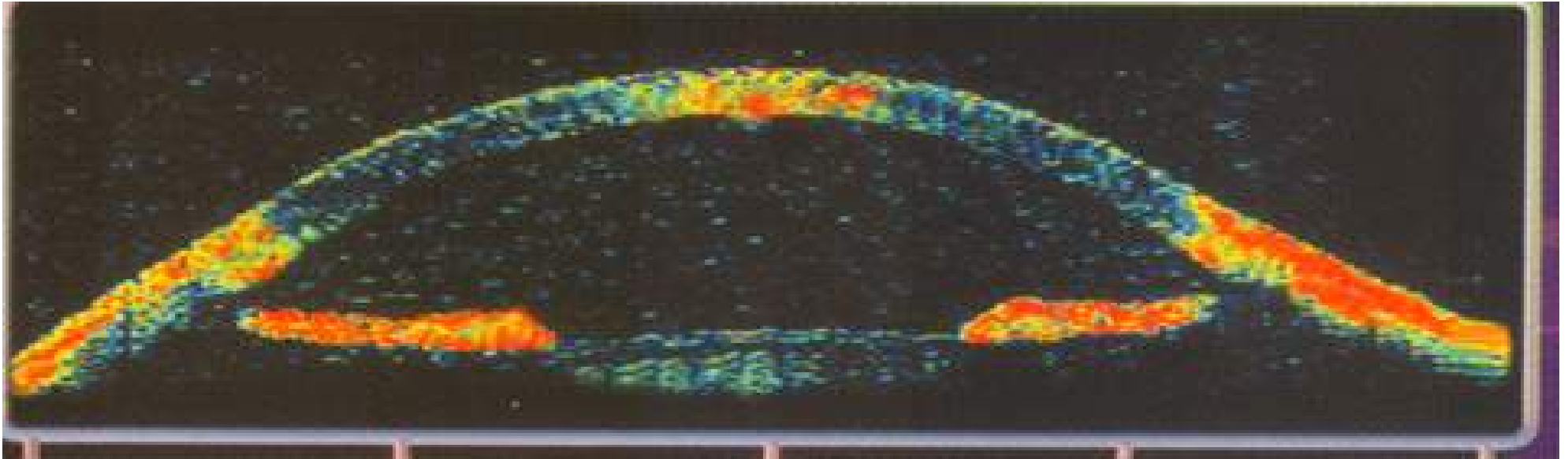
=

Oeil protecteur chez les Egyptiens





# LA GREFFE DE CORNEE



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**AUGUST 5, 1946**  
**INTERNATIONAL EDITION**





CHARACTERISTIC SQUARE OF A CORNEAL TRANSPLANT IS VISIBLE IN EYE AT LEFT, WHICH, BEFORE OPERATION, WAS BLIND AND CLOUDY LIKE THE

# CORNEA TRANSPLANTS

Transparent slivers from the eyes of dead people restore sight to blind whose eye "windows" are

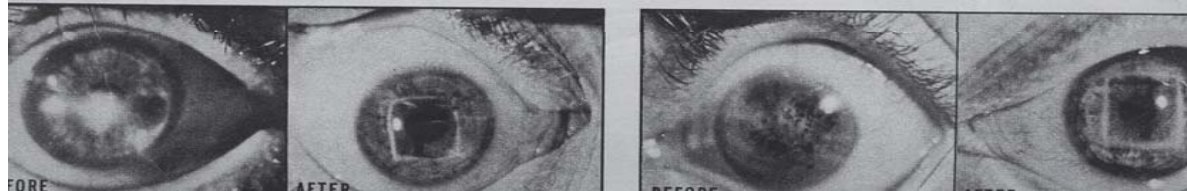
hundreds of people in the U.S. who once were blind able to see today with the help of dead people's eyes. They had been blind because the corneas of their eyes were cloudy, and their sight was restored by grafting in their eyes tiny slivers from the clear corneas of the newly dead. The cornea is the part of the eye covering the pupil and the iris. This window of the eye is sometimes malformed and sometimes damaged by disease or accident, such as being splattered by grease. About 10,000 people in the U.S. today have cloudy corneas which can be replaced by a transplant.

of the eye is good has always seemed particularly unbearable. As early as 1798 an eye surgeon tried inserting a piece of glass in place of a cloudy cornea. This failed since the eye will not heal around glass. Later the corneas of pigs, rabbits and other animals were tried. Although the graft took hold in the human eye and knit, it always became opaque and useless. In 1906 a German doctor named Eduard Zirm used a transplant taken from a human eye. It knit and remained clear and the patient's sight was restored.

But later operations proved to be bitterly disappointing. Nine out of 10 operations failed. After hundreds of experiments on animals in the 1930s,

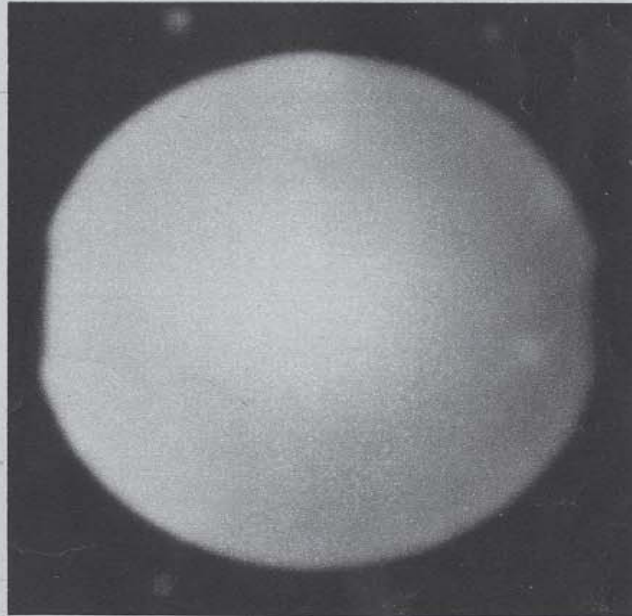
operating technique was so improved that about 9 out of 10 operations are successful.

One great obstacle still besets corneal transplantation. It is the difficulty of finding donor corneas which to take transplants. Any clear cornea can be used, provided only that the eyeball is available within 12 hours after death. People who donate their eyes as a source of corneal transplants after death may make the necessary arrangements through their hospital. In almost every city in the U.S. there are long lists of blind people who spend most of their time waiting for an eye to be given and that their chance for sight





**WHAT PATIENT SEES** on operation table through cloudy cornea is the reproduced here by the photographer.



**GLARE** is all that is seen when cornea is removed. Local anesthetic leaves patients conscious during operation.



**CLEAR SIGHT** may come instantly when transplant is set. Patients cry out excitedly to doctor, "I can see."

# **NOMBRE DE GREFFES DE CORNEE**

**Belgique**  
**450 à 550**

**USA**  
**44000**



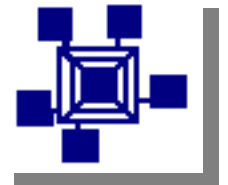
**La loi Belge précise que chaque citoyen est donneur d'organes ou de tissus potentiel. Seul un refus, officiellement signalé à la maison communale empêche le prélèvement.**

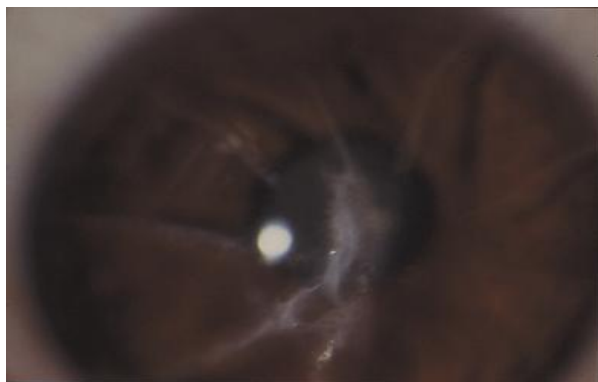
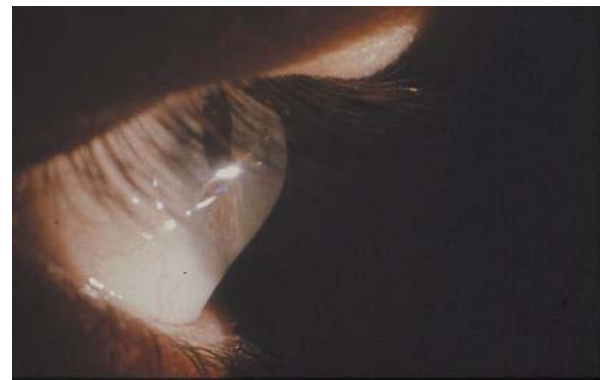
**Cette loi s'applique à toutes personnes résidant depuis 6 mois en Belgique et âgés de plus de 18 ans.  
Pour les mineurs, l'accord parental est nécessaire.**

**265.374 citoyens**

Accords: 73.741

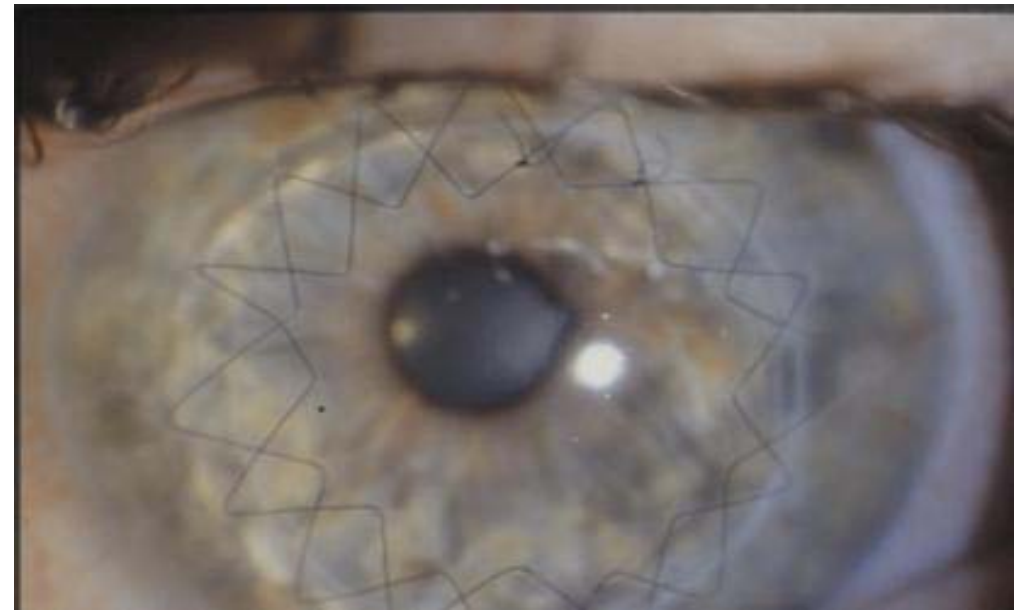
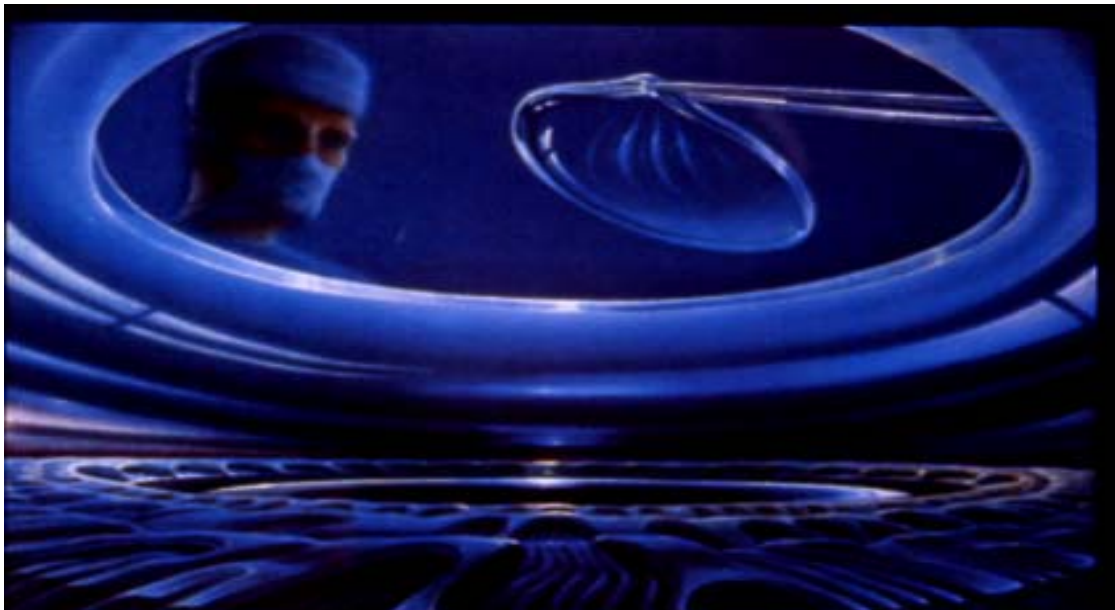
Oppositions: 191.633





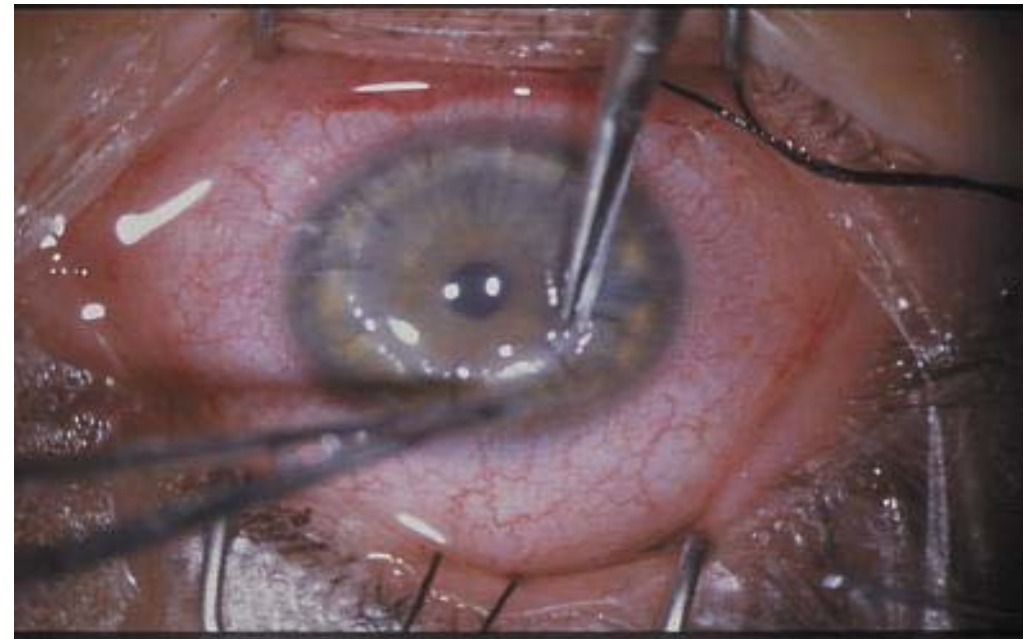
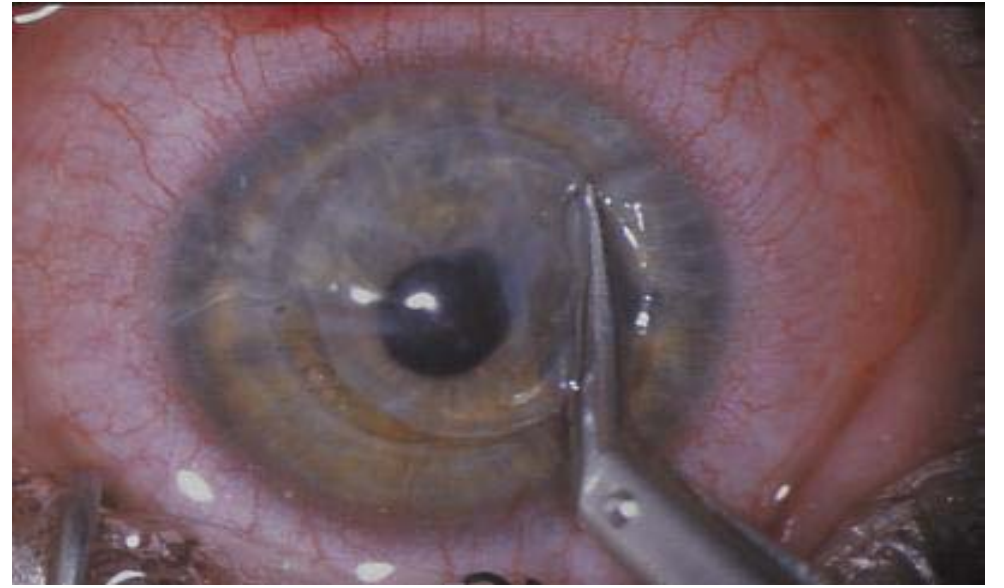
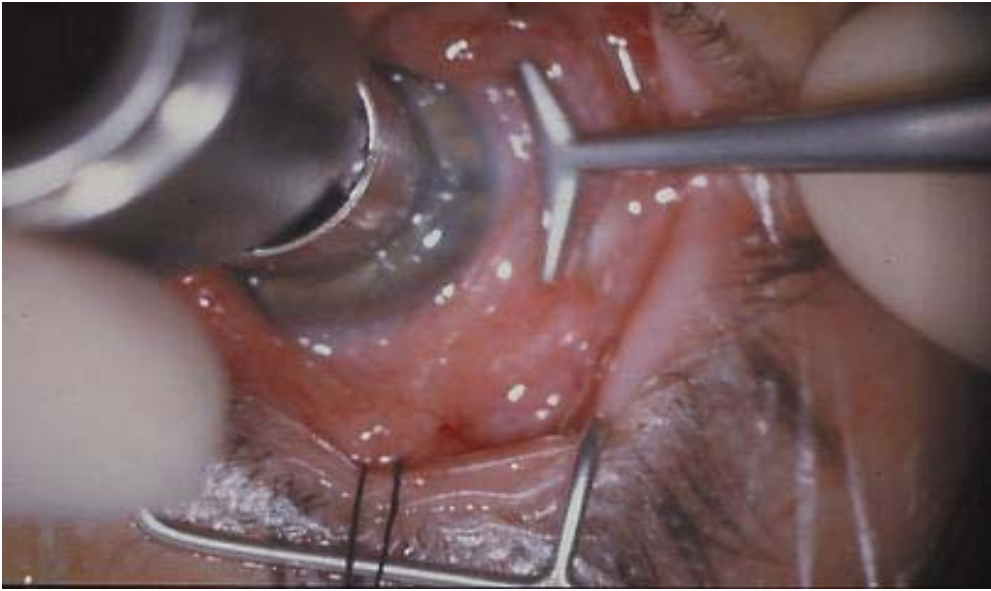
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# GREFFE DE CORNEE PENETRATING KERATOPLASTY CORNEAL GRAFT

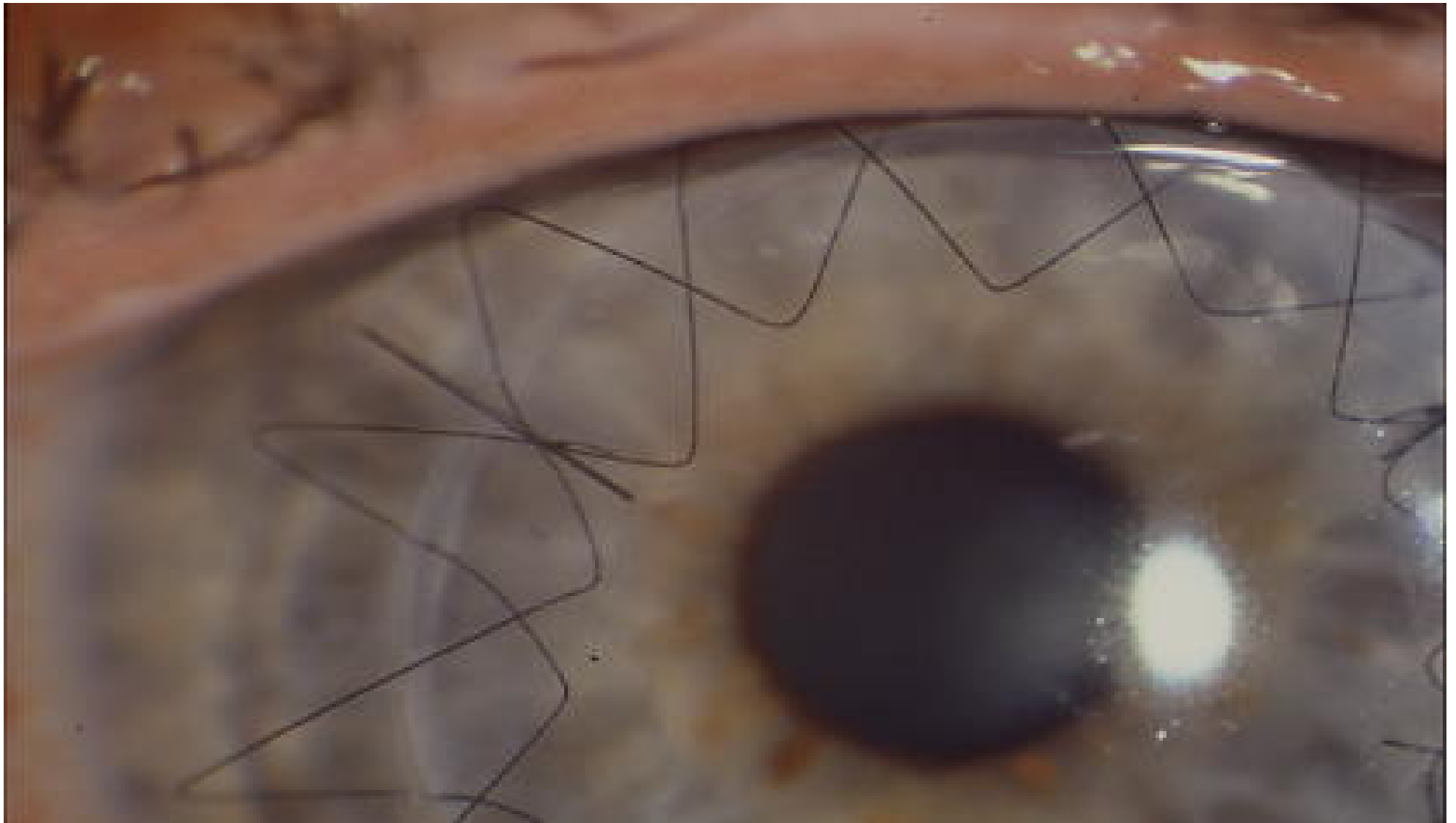


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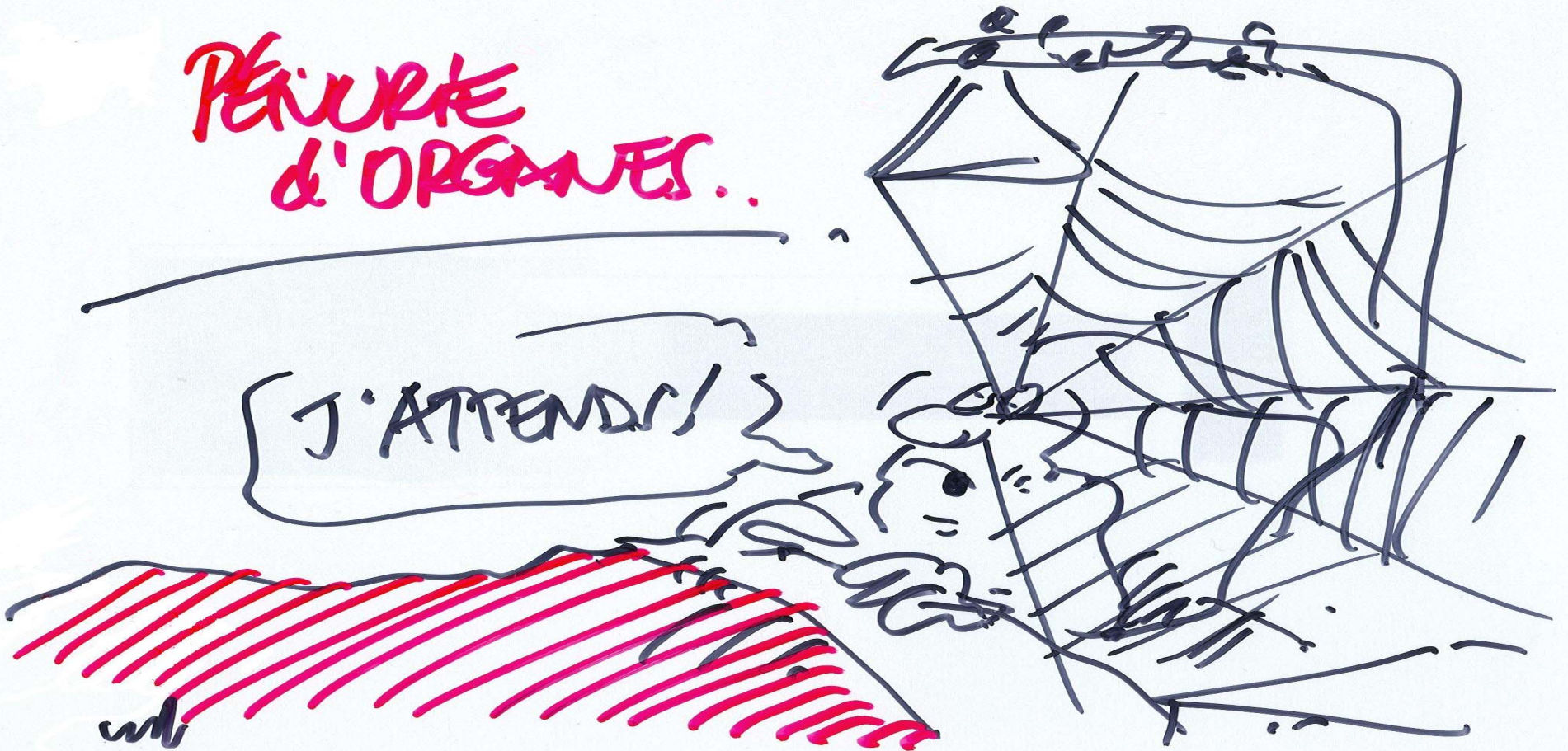


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PÉNURIE  
d'ORGANES...

J'ATTENDS!





[www.ophtalmo.ulg.ac.be](http://www.ophtalmo.ulg.ac.be)



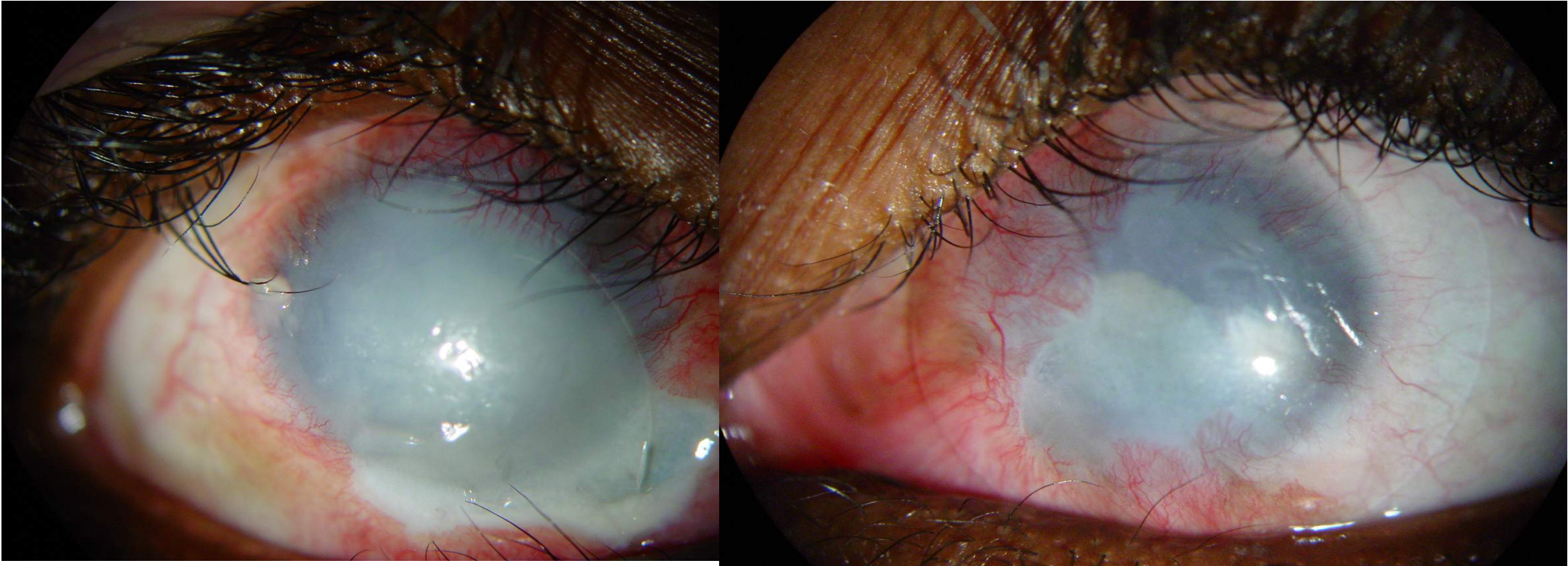
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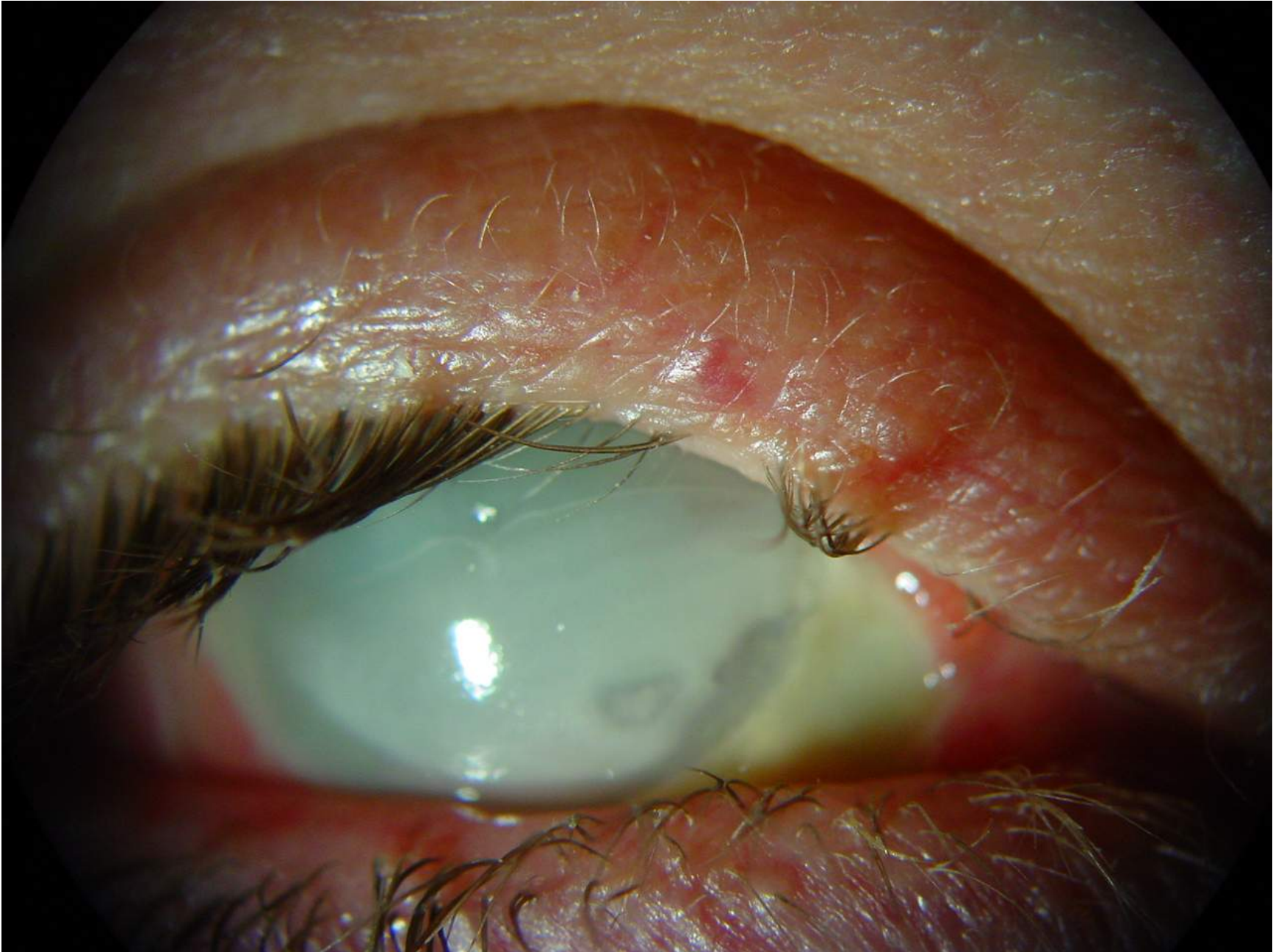
[www.ophtalmo.ulg.ac.be](http://www.ophtalmo.ulg.ac.be)

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# Indications for Keratoprosthesis

- **Bilateral corneal blindness**
- **Monophthalme corneal blindness**
- **Lack of tissue or corneal transplant impossible**
- **Normal retina by B-scan**
- **No amblyopia**

# Indications

Chemical burns

Pemphigoid

Stevens-Johnson syndrome

Severe dry eye syndrome

Severe keratitis

Multiple graft failure

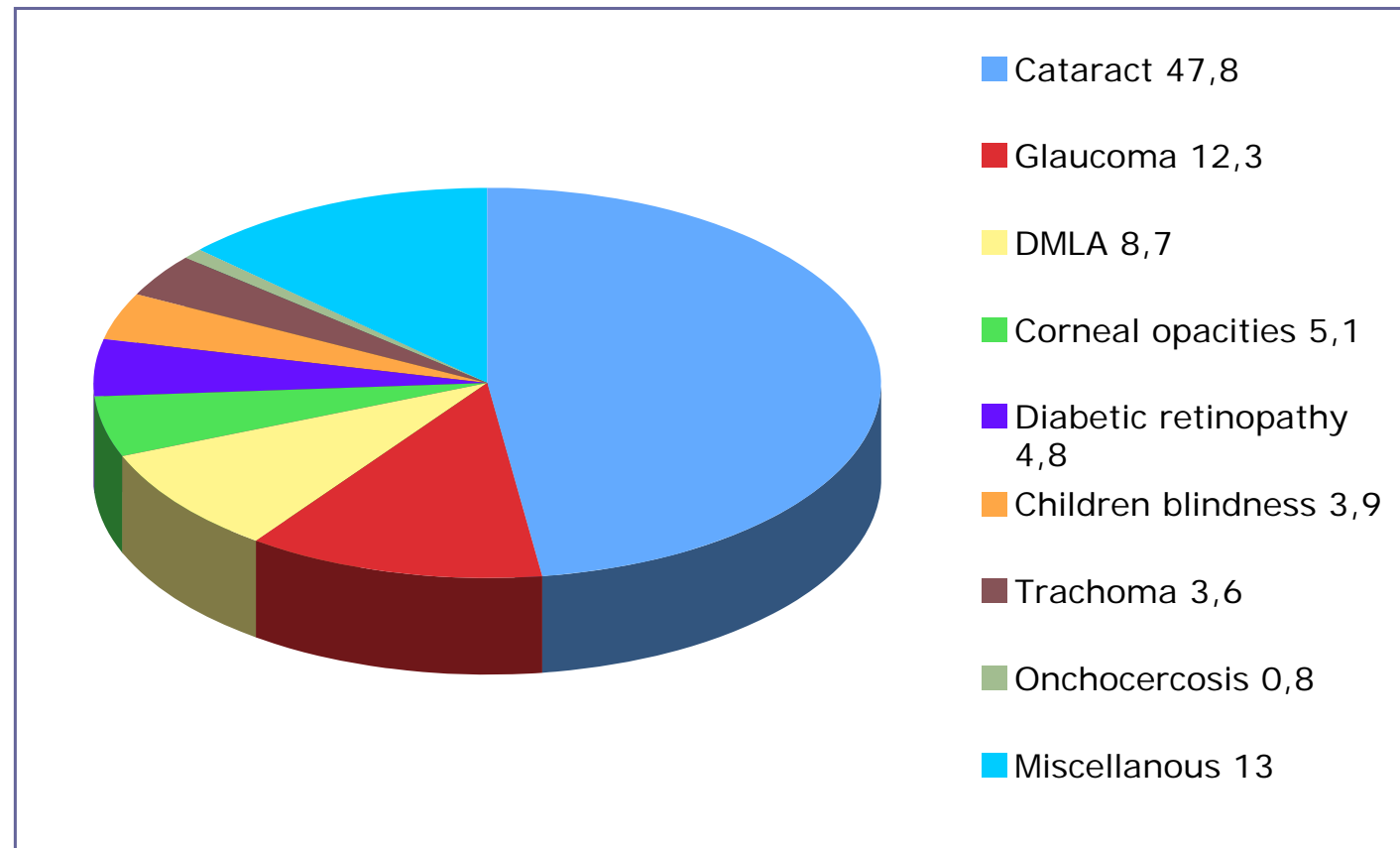
Neovascularization

Severe corneal edema

Lack of tissue

# Global Data on Blindness

- **2002**      **Blind**                       **$37 \times 10^6$**   
                  **Low vision**                     **$161 \times 10^6$**



# Keratoprosthesis: History

- **Pellier de Quengsy, France, 1789**
- **Von Nussbaum, Germany, 1853**
- **Heusser, Switzerland, 1860**
- **Stone, USA, 1953**
- **Cardona, Castroviejo, De Voe, Barraquer, Strampelli, Choyce, Brown, Dohlman, Fyodorov, Girard, Roper-Hall...**





GPELLIER DE QUENGSY, Fils, Docteur  
en médecine & chirurgien, Orateur des  
colleges de médecine et de chirurgie,  
Chirurgien du Roy, &c.



PRÉCIS  
OU  
COURS D'OPÉRATIONS  
SUR LA CHIRURGIE DES YEUX,

*Puisé dans le sein de la pratique, & enrichi de  
Figures en Taille-douce, qui représentent les  
Instrumens qui leur sont propres, avec des  
Observations de pratique très-intéressantes.*

PAR Mr. G. PELLIER DE QUENGSY, fils, Docteur en  
Médecine, & Chirurgien-Oculiste des Villes de Toulouse  
& de Montpellier, Brévété du Roi, &c.

*Oculorum vis nisi valeat & constet, periculum minatur.*

TOME PREMIER.



A PARIS,

Chez DIDOT, le jeune, Quai des Augustins.  
MEQUIGNON, Libraire, Rue des Cordeliers,  
A MONTPELLIER,

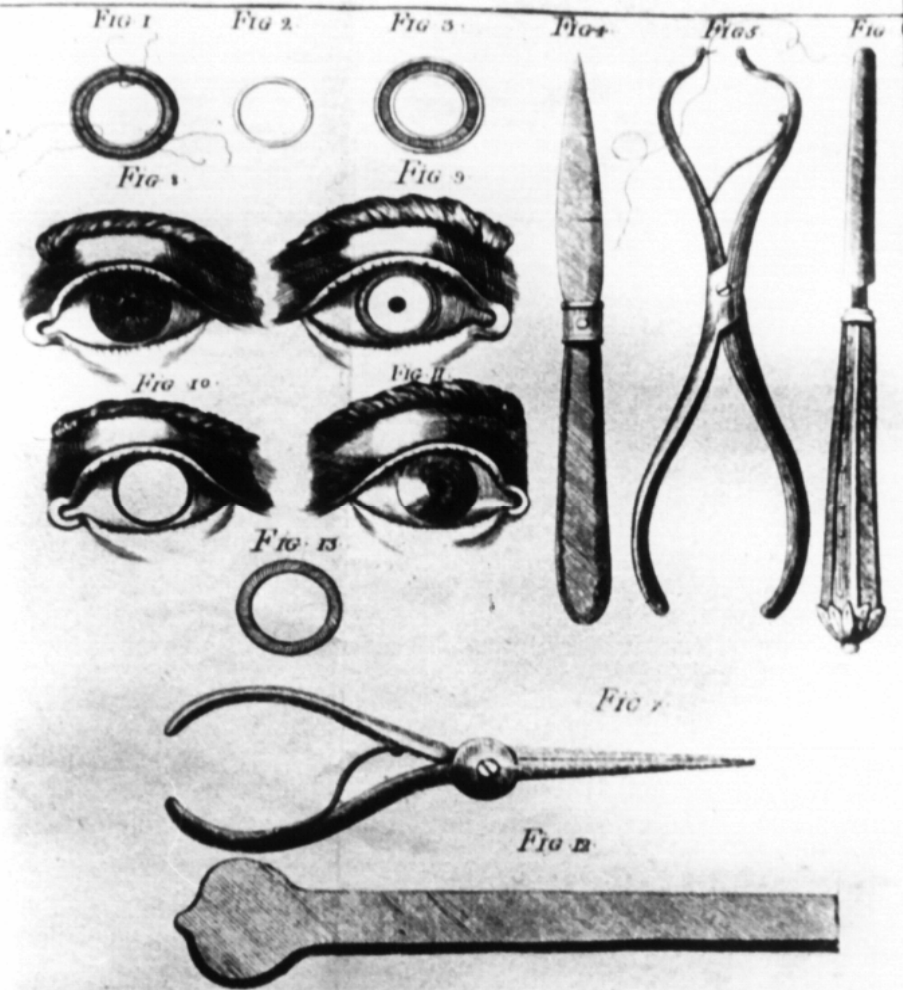
Chez L'AUTEUR, hors la porte de Lattes, Isle des Cordeliers.  
RIGAUT, ROULLET, Libraires, & chez  
les principaux Libraires du Royaume.

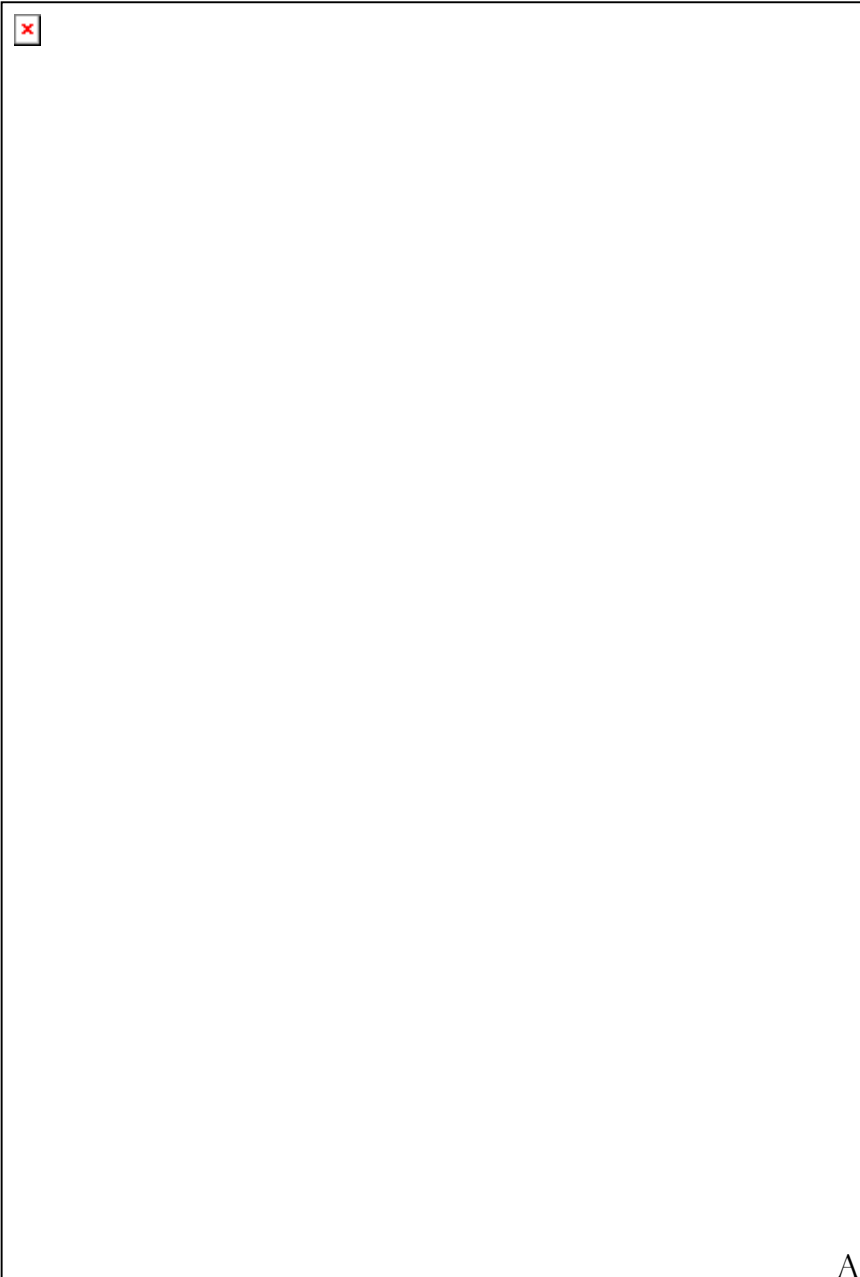
M. DCC. LXXXIX.

AVEC APPROBATION ET PRIVILÈGE DU ROI.



PLANCHE IV





**J'invite donc les  
personnes de l'Art à  
s'occuper avec moi  
d'un objet aussi  
intéressant, elles auront  
part à une découverte  
aussi riche.**

# POLLACK





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# CHOYCE



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# CHOYCE



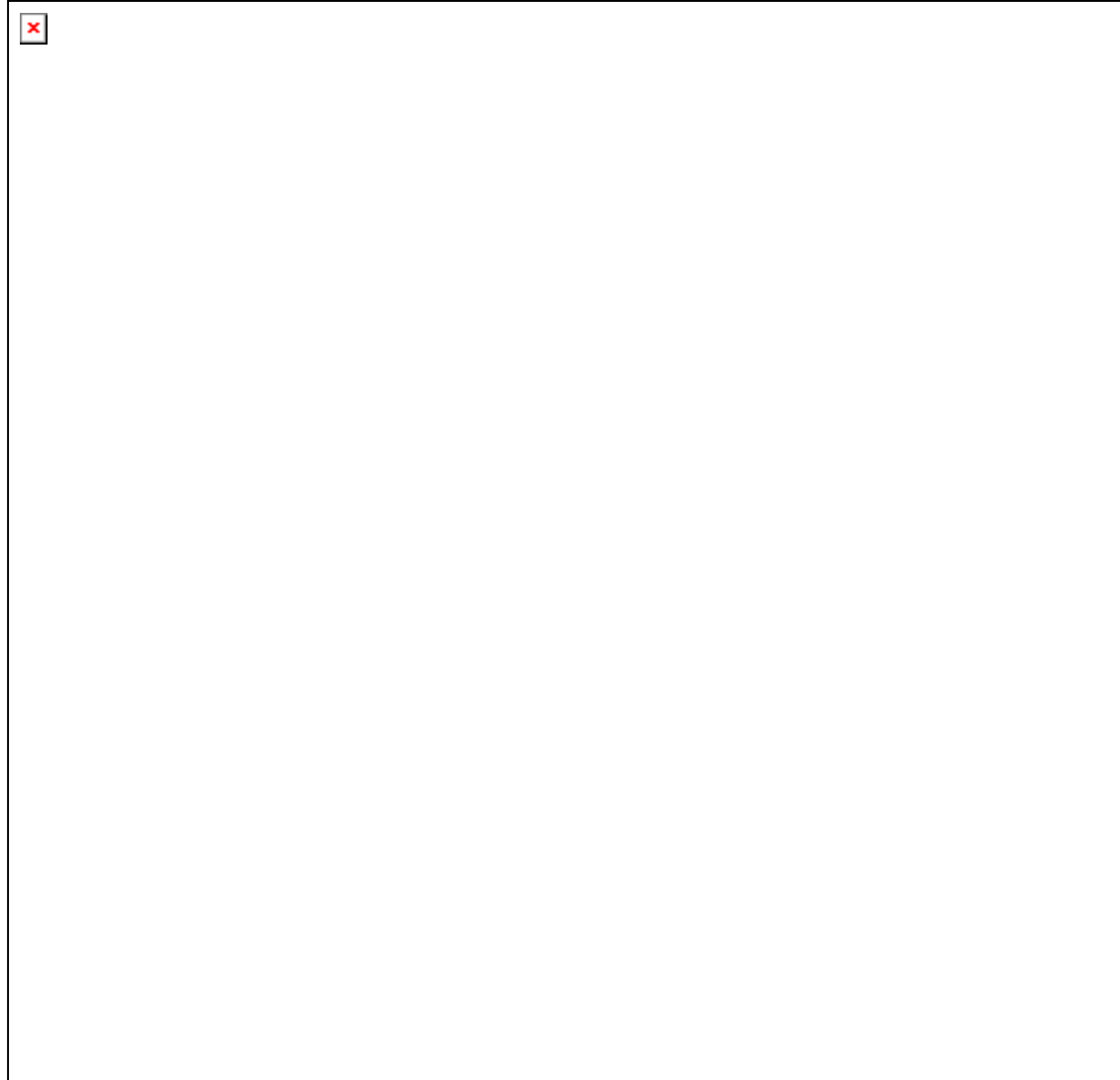
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# GIRARD



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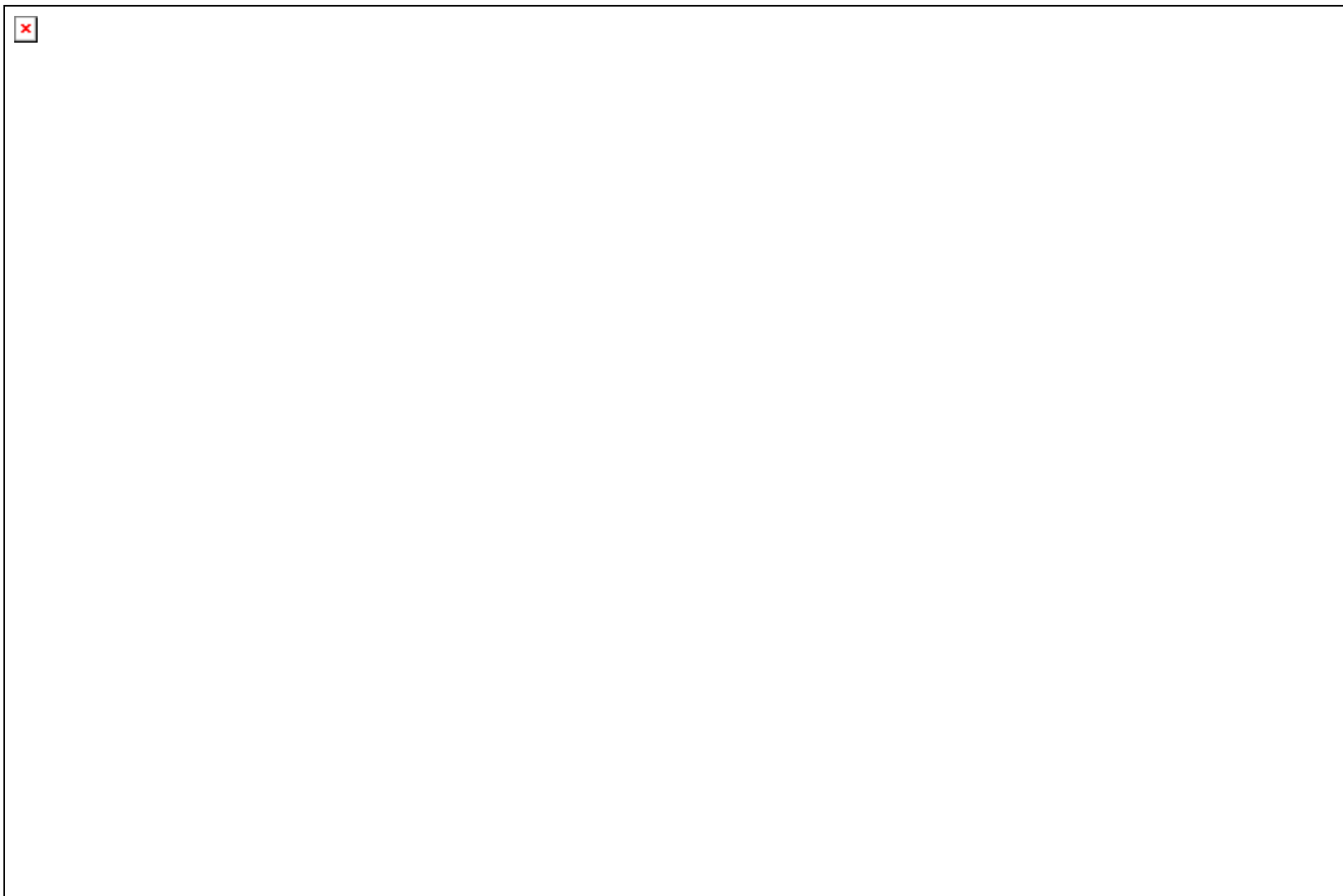
# GIRARD



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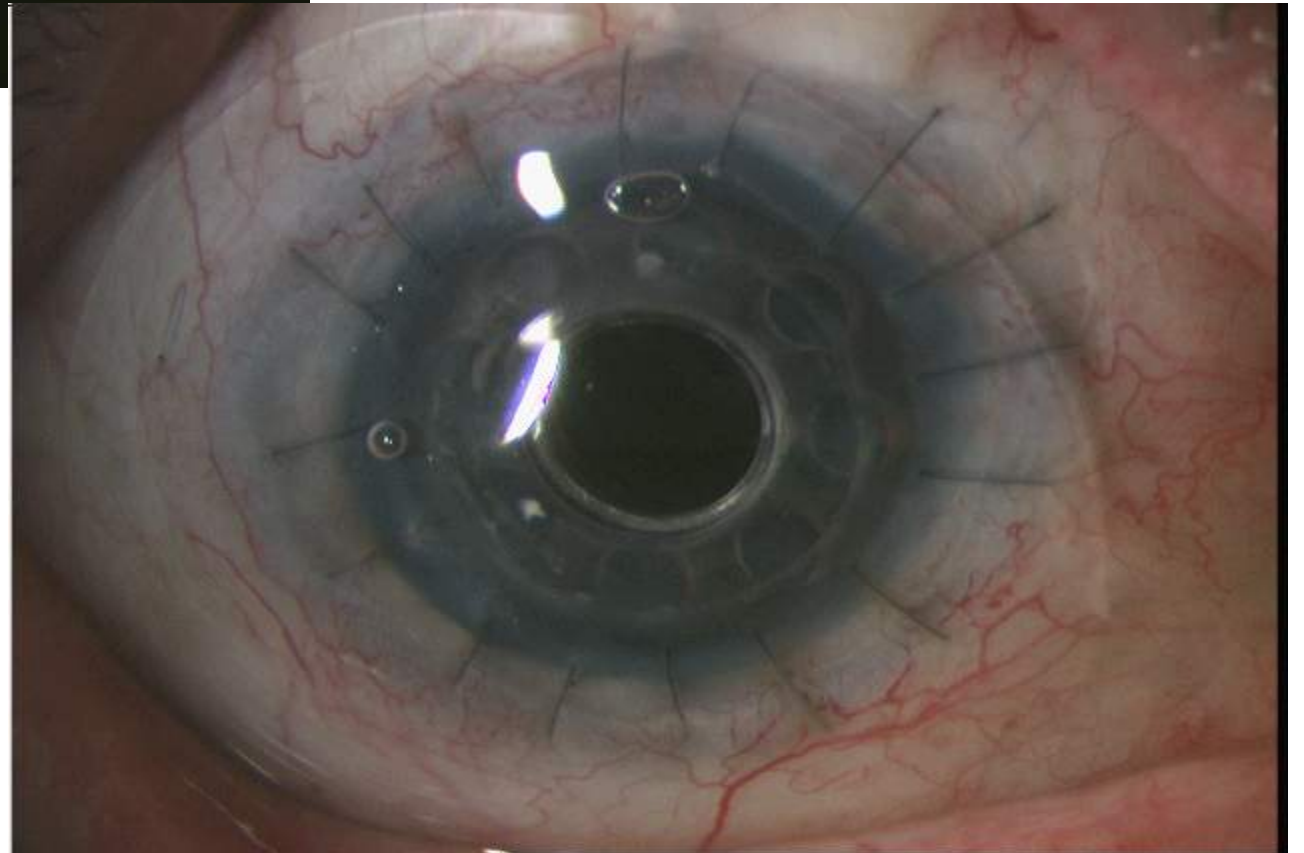


# GIRARD



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# DOHLMAN

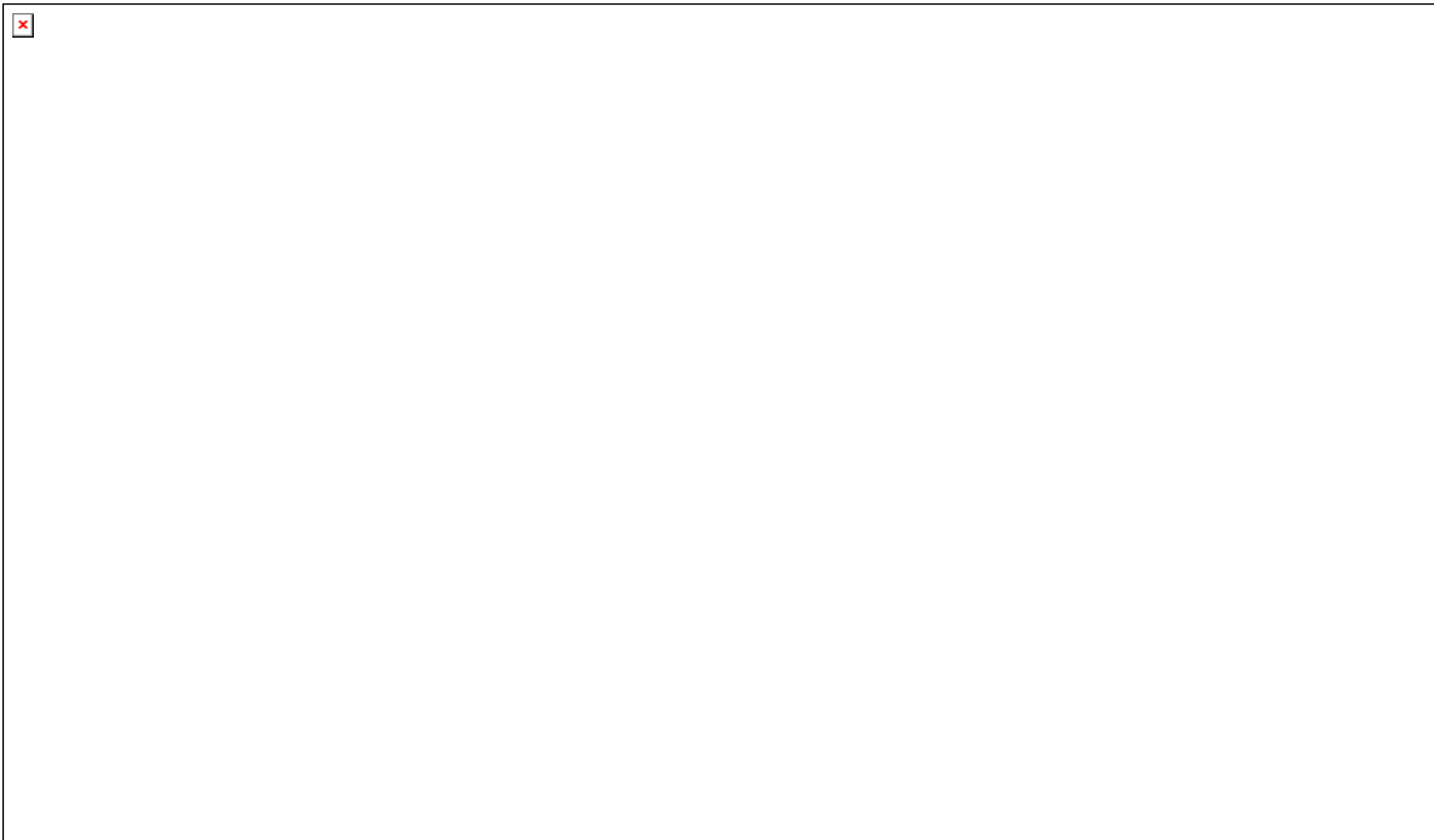


# DOHLMAN



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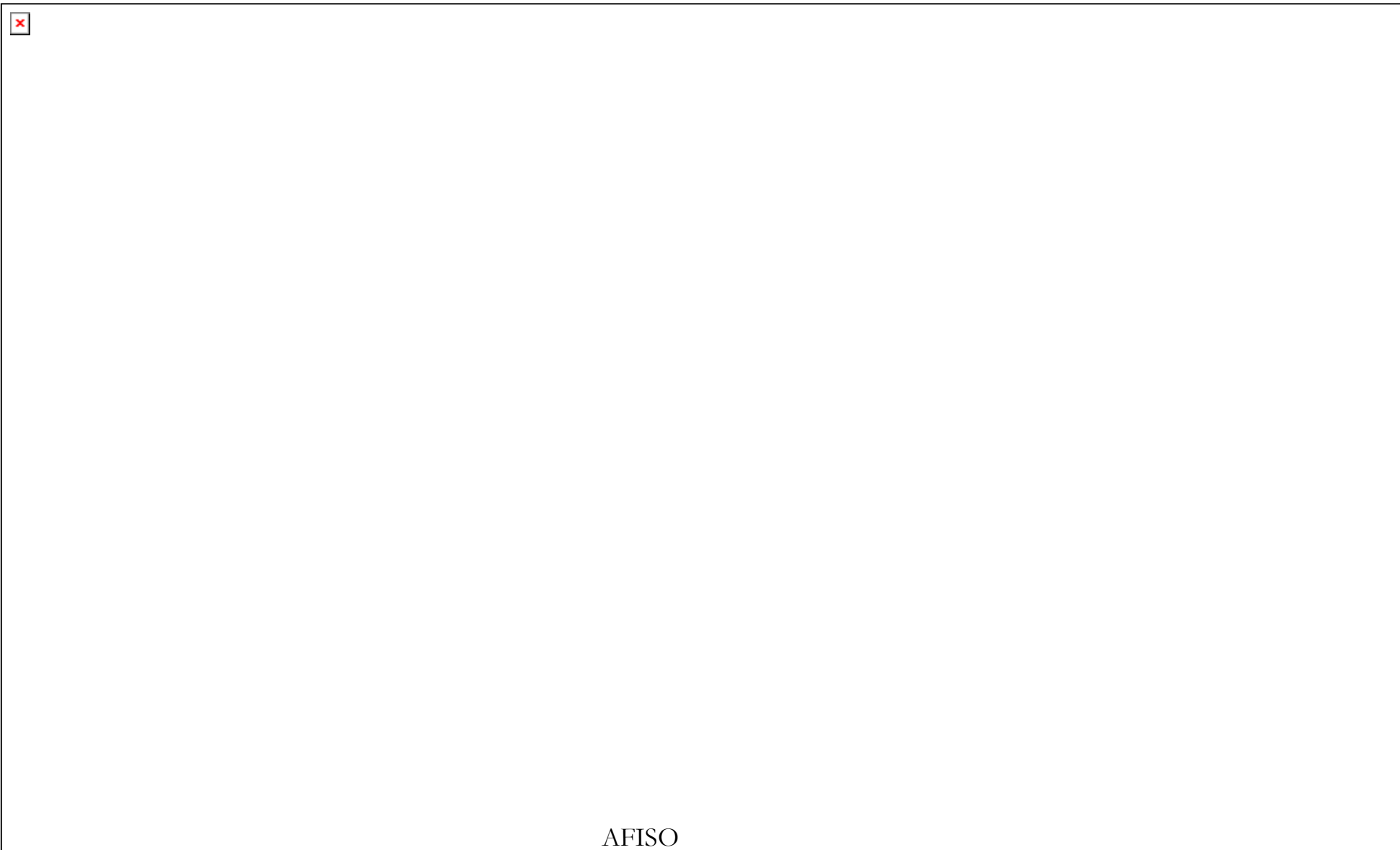
# DOLHMAN



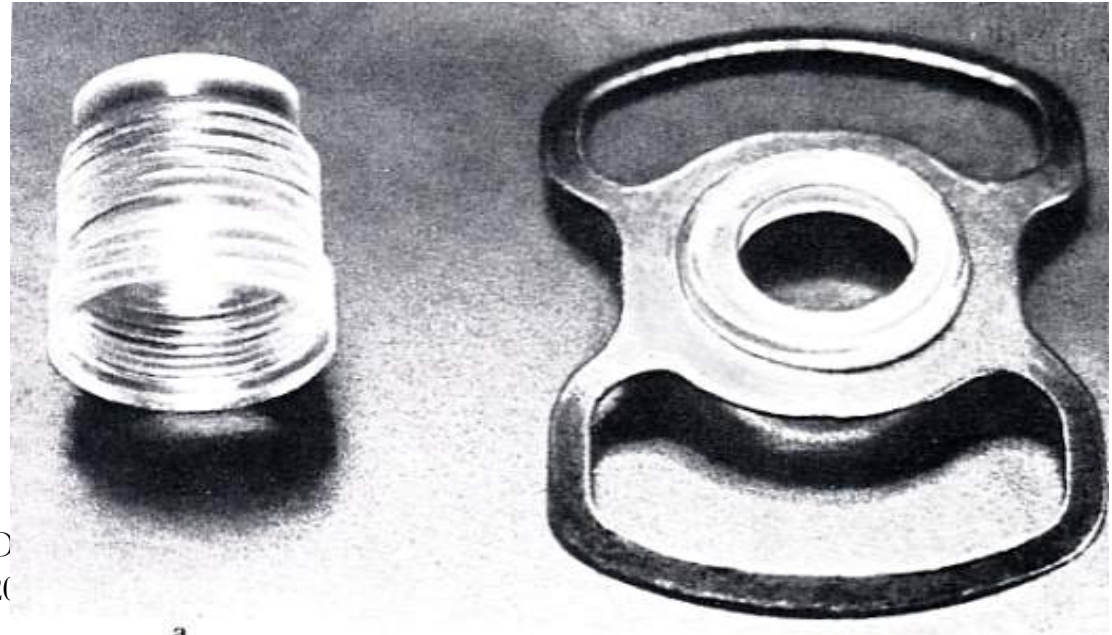
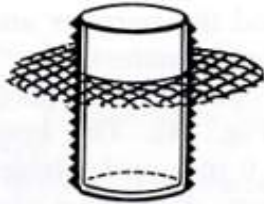
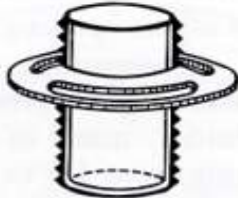
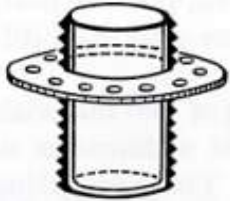
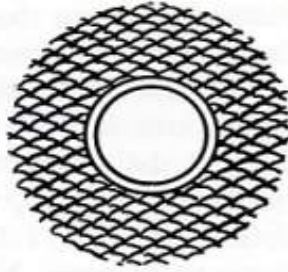
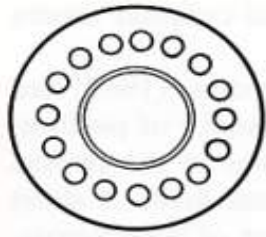
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# FILATOV



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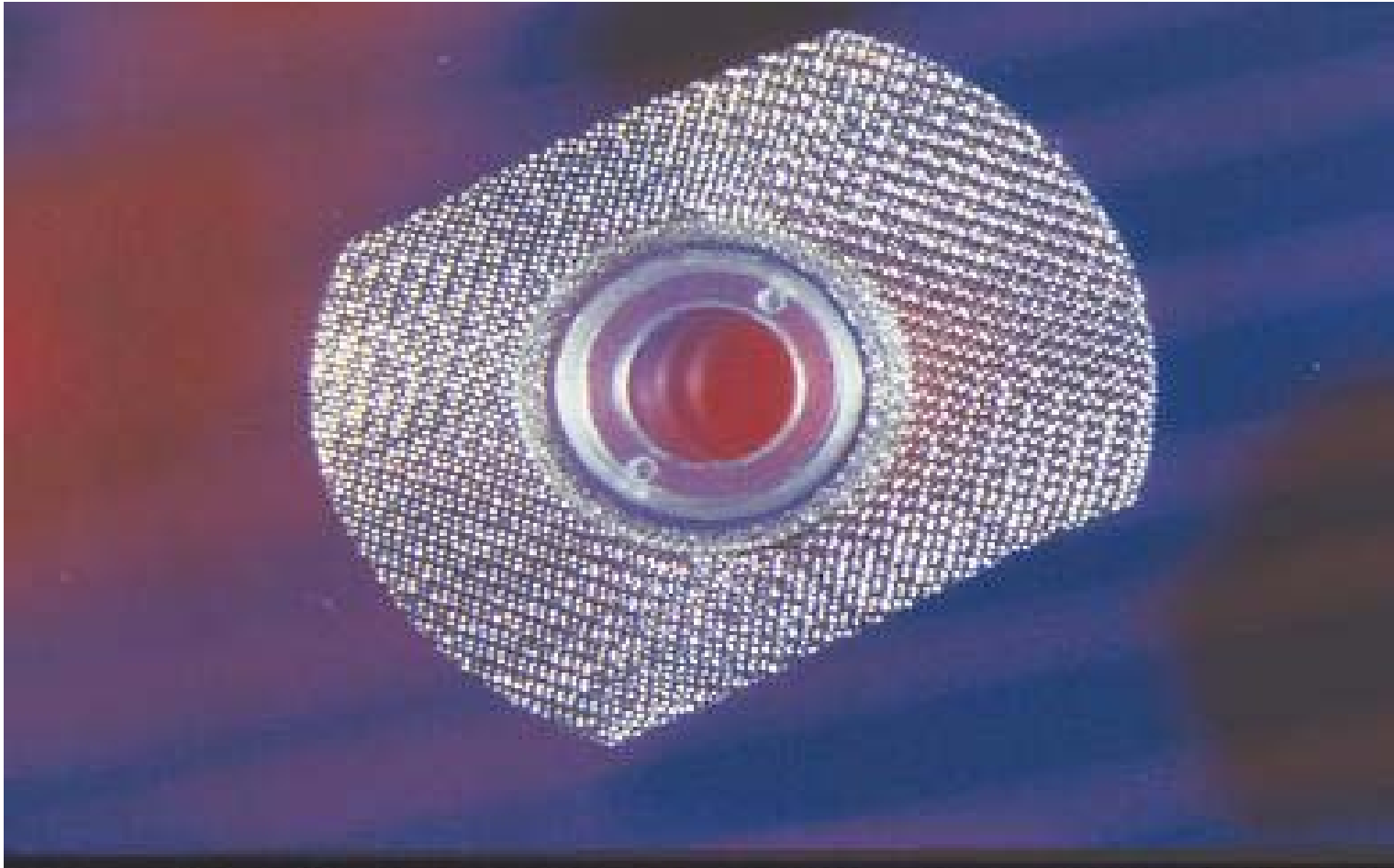
# FILATOV



# YAKIMENKO



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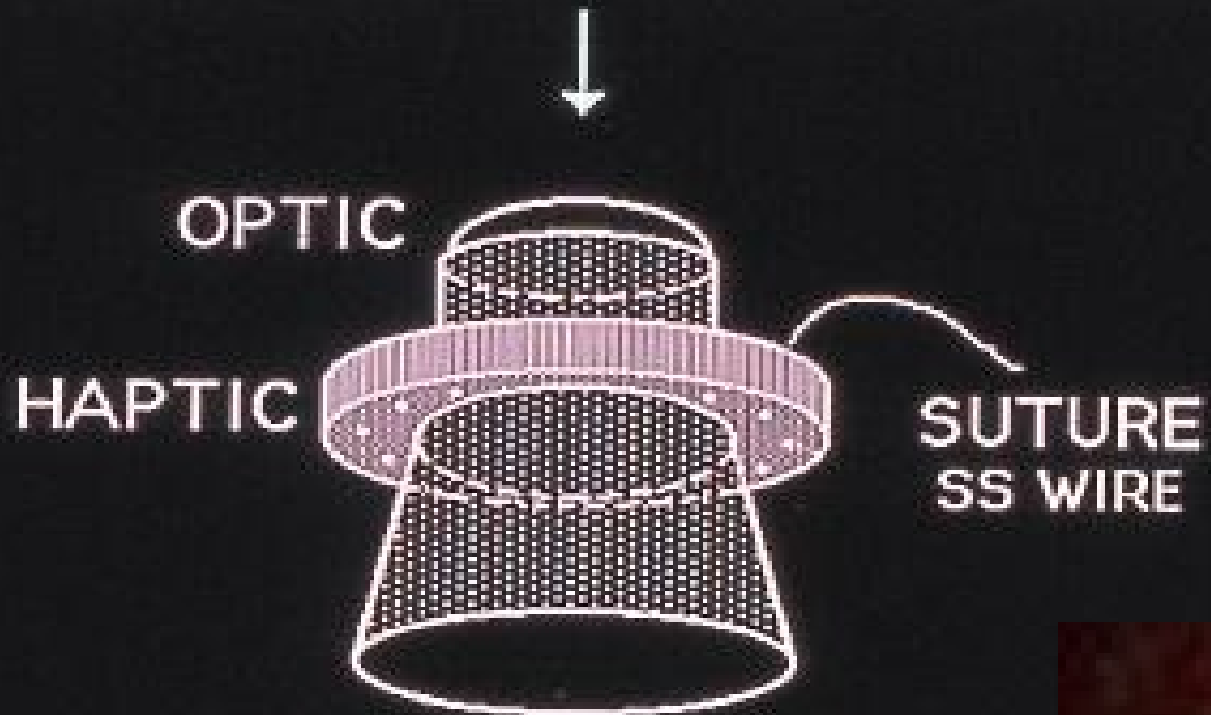
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# FYODOROV



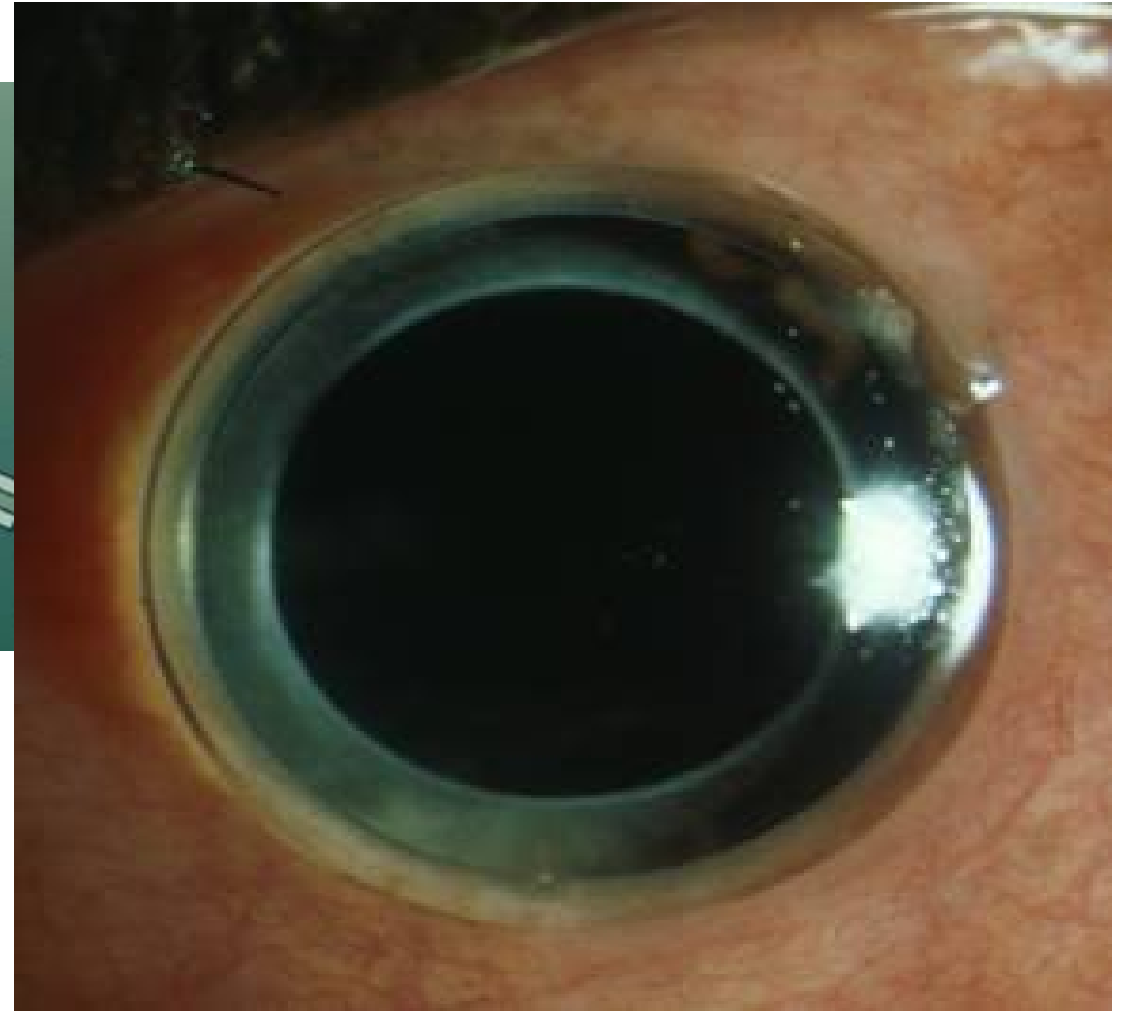
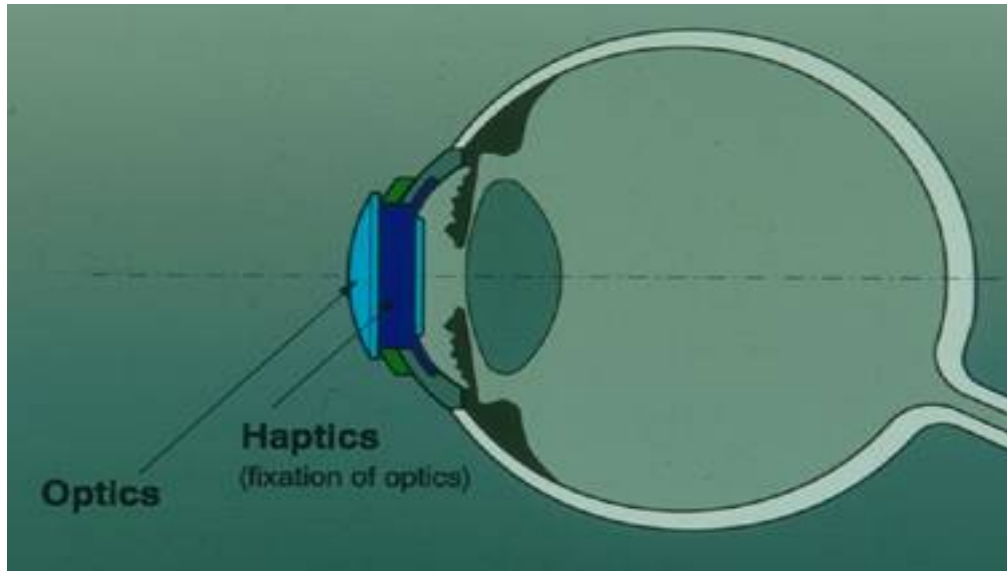
# Champagne Cork KPro



VanAndel, Worst, Singh



# LACOMBE



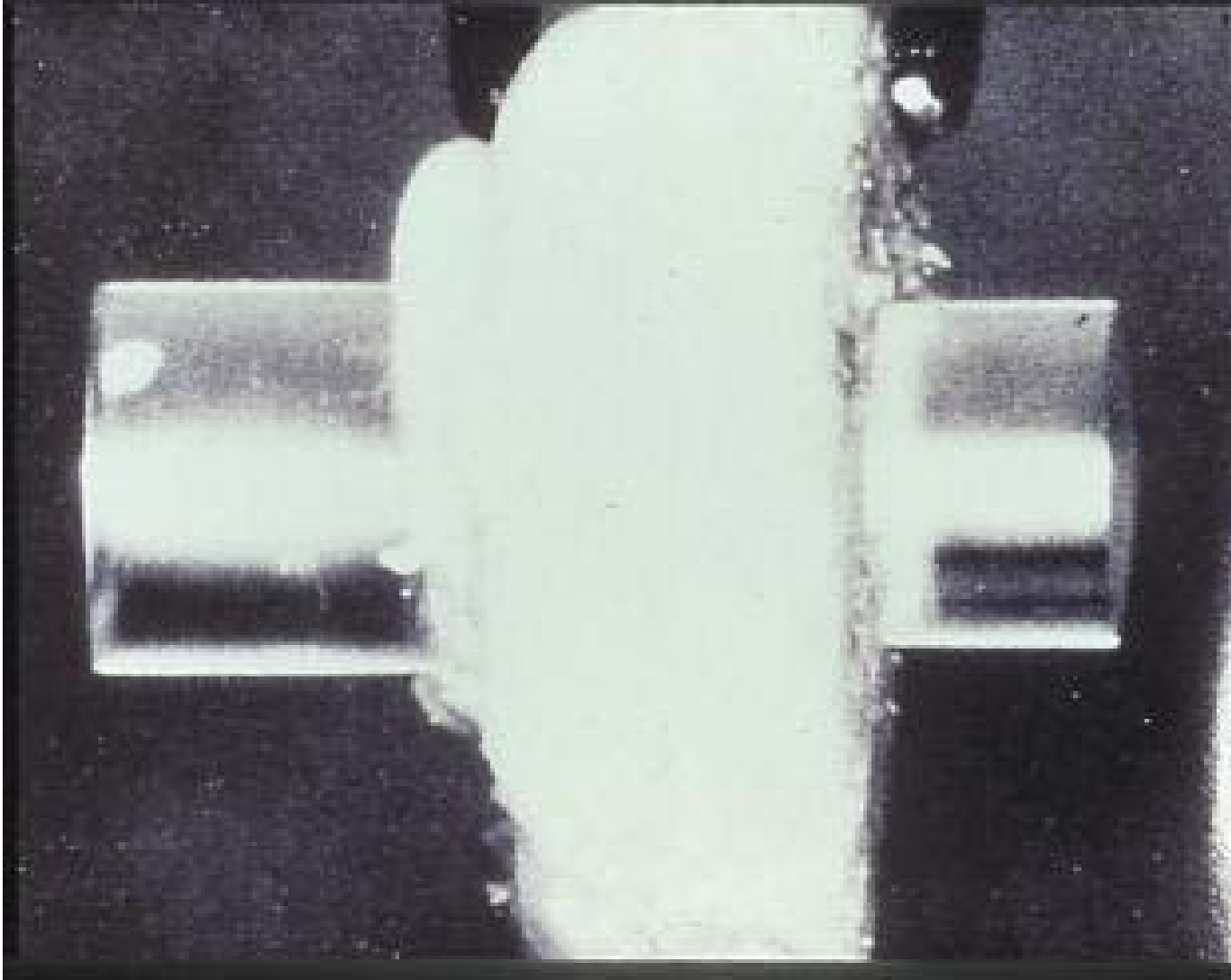
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# PINTUCCI



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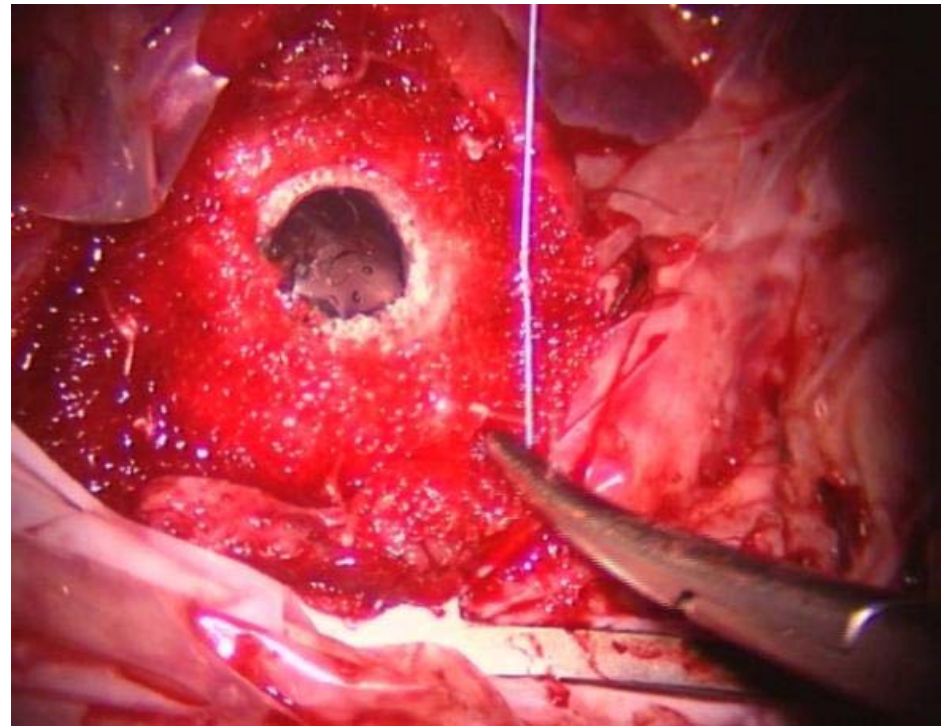
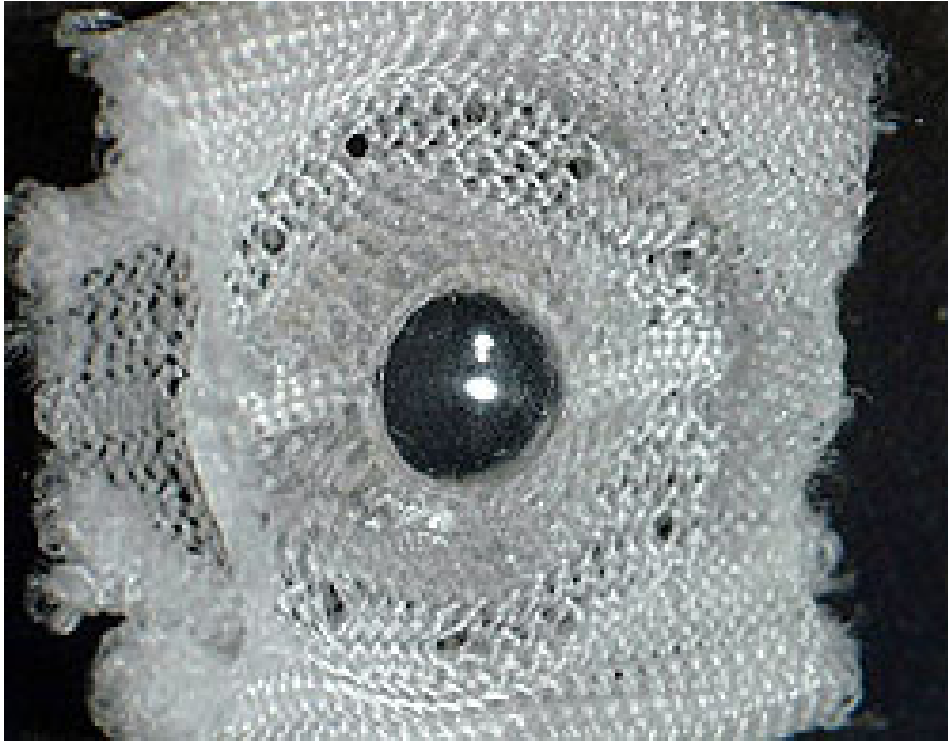
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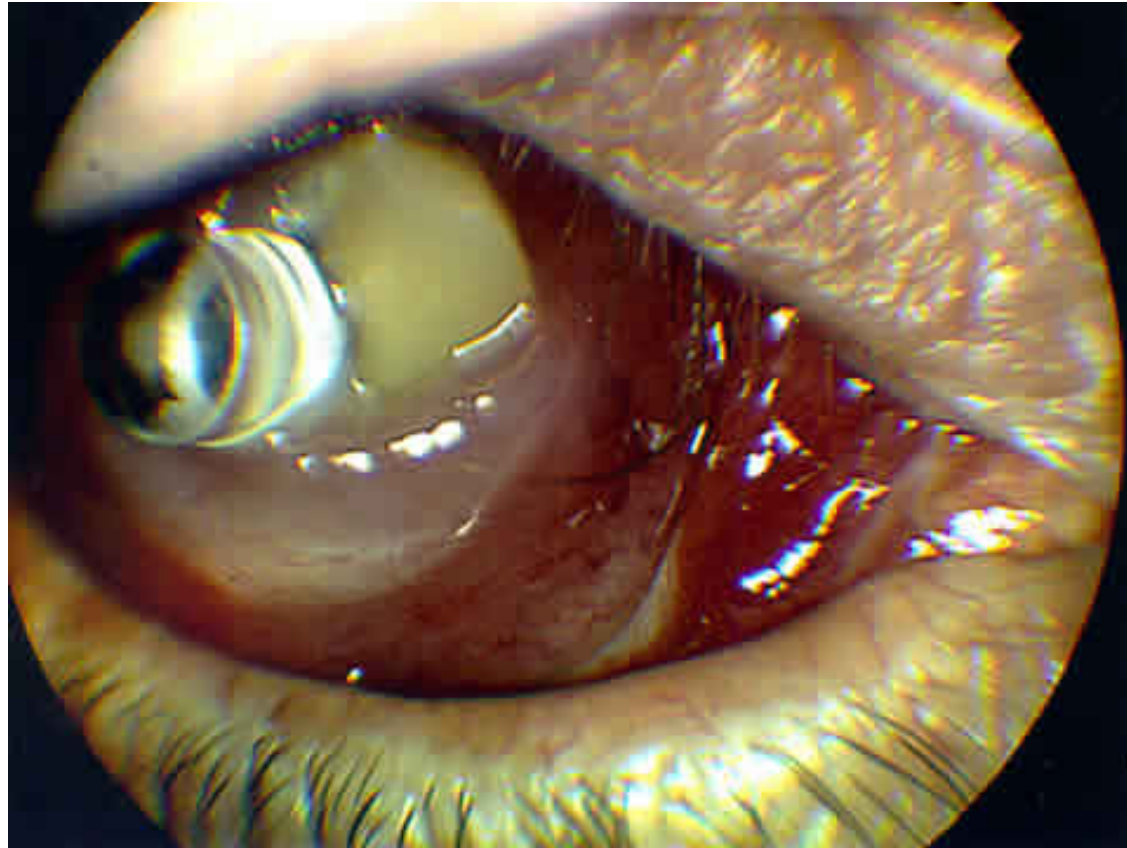


# AACHEN KPro



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# Temprano



AFISO  
23 avril 2010

# CARLOS LEON



AFISO  
23 avril 2010

# JACOB



AFISO  
23 avril 2010

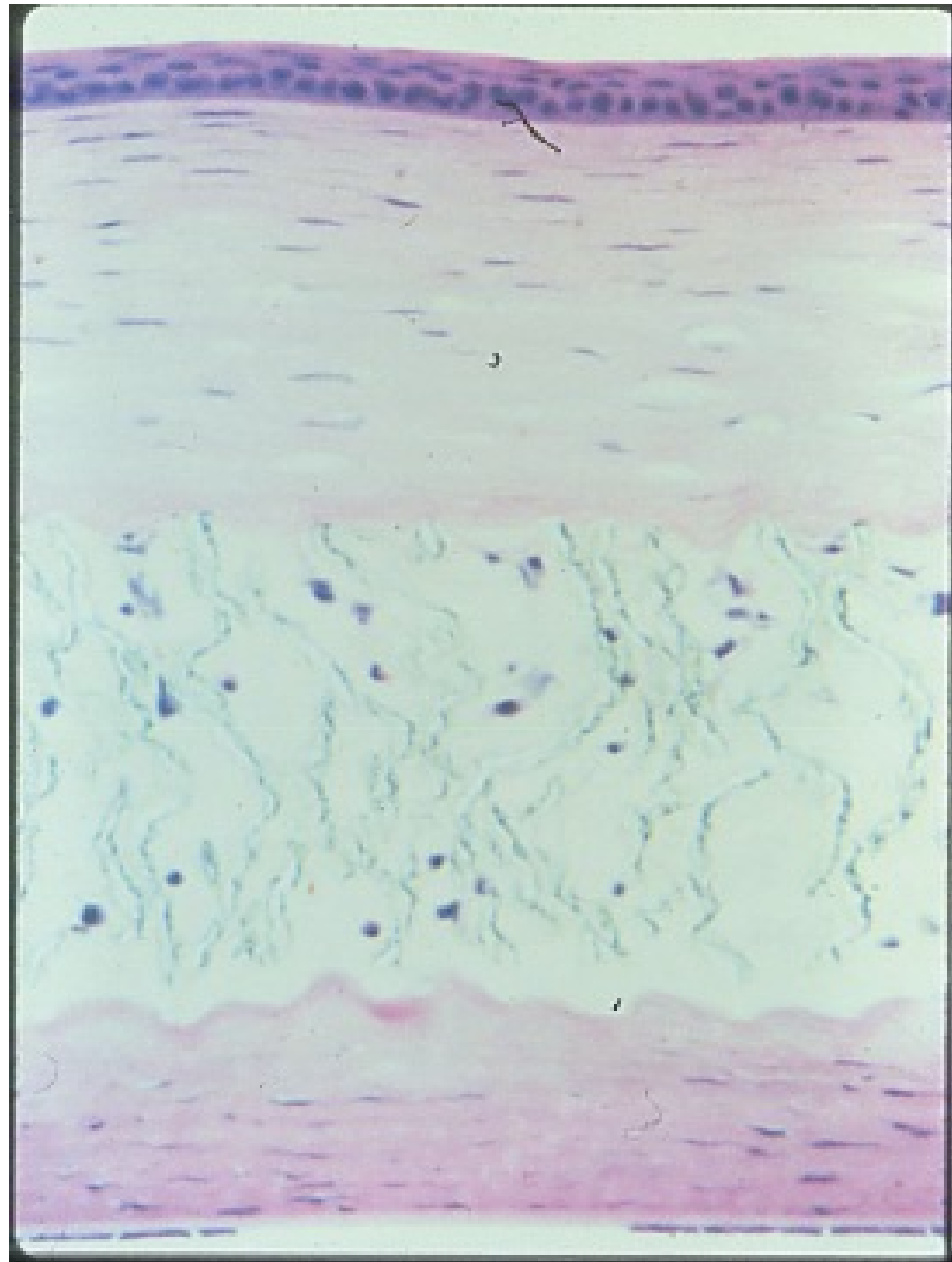
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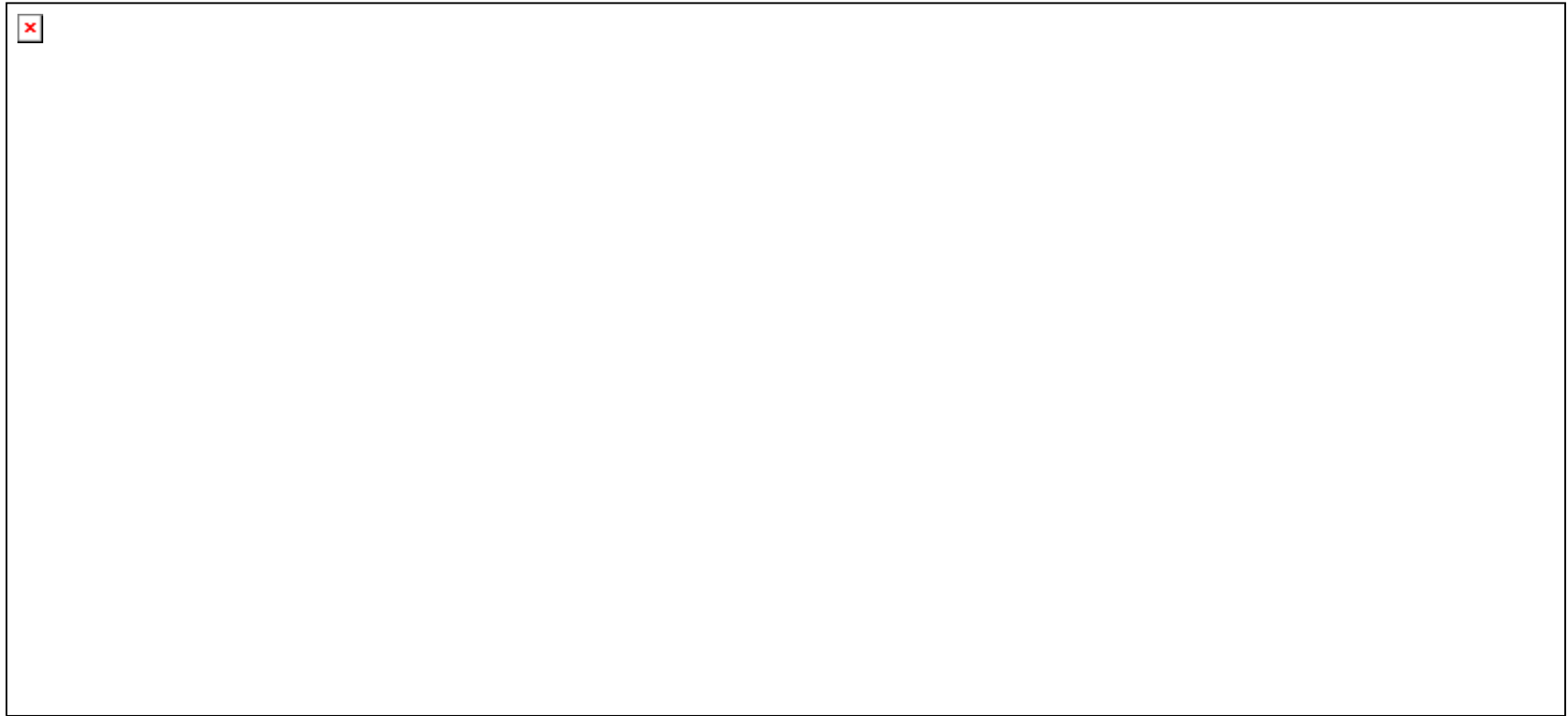


# LEGEAIS



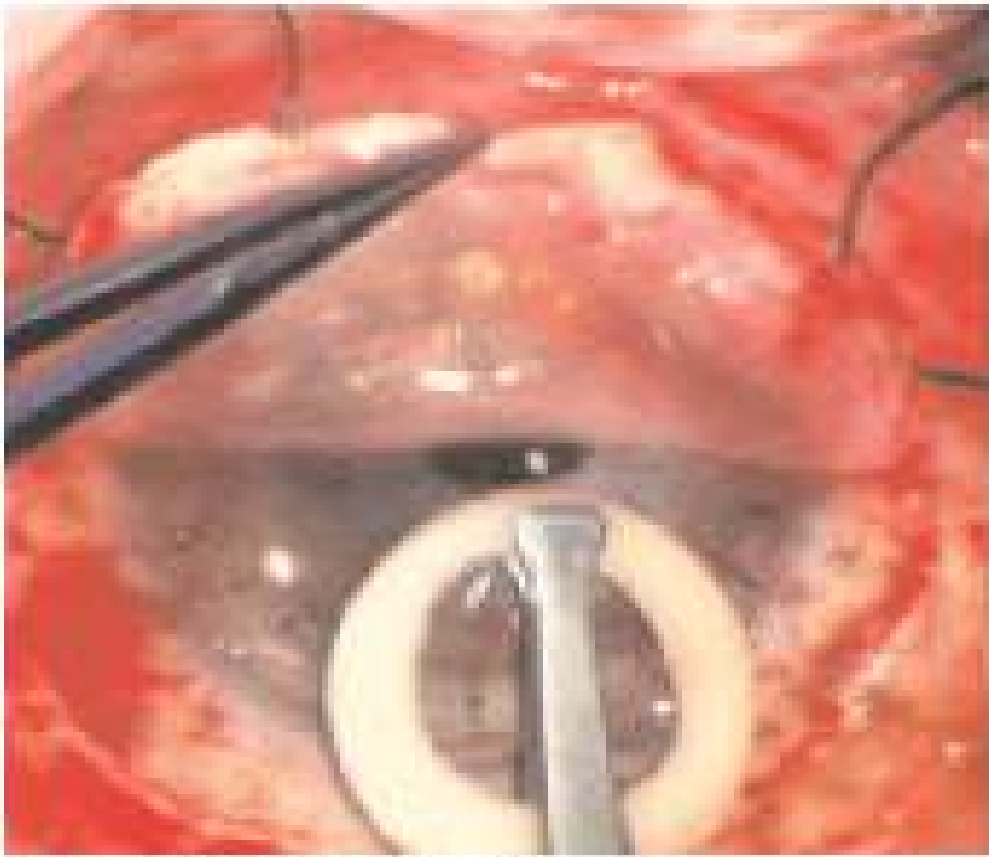
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# CHIRILLA

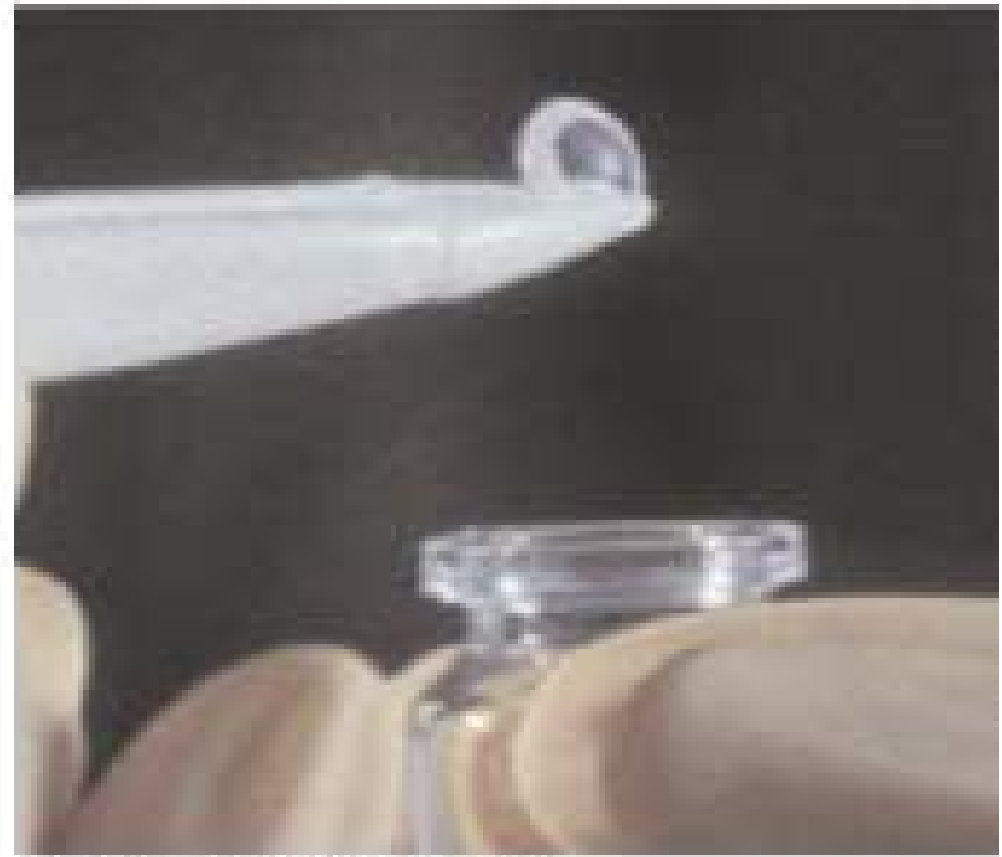


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# ALPHACORE CHIRILLA



AlphaCor inserted into the eye



AlphaCor artificial cornea

# Complications

Tissue necrosis

Glaucoma

Epithelium downgrowth

Extrusion

Retroprosthetic membrane

Endophthalmitis

Phthisis bulbi

Retinal detachment