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## Ocular anatomy histology Powerpoint presentation

Neil VanderHorst  
*Pacific University*

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## Ocular anatomy histology Powerpoint presentation

### Abstract

This project is a digital photo representation of ocular histology slides, chosen to represent the basic ocular anatomy course as taught at Pacific University College of Optometry. The purpose of this project is to facilitate the study of ocular histology without requiring access to a microscope and histology slides, or to an internet connection. This Microsoft Powerpoint presentation was prepared by topic using digital photos of the ocular histology slides at Pacific University. These photos were taken through the microscope with a four megapixel Olympus digital camera. Multiple photos were taken of each view of interest, and the best representations of given areas were included in the powerpoint presentation. Many of the photos were of sufficient quality that they were requested for use by Dr. Lee Ann Remington O.D .. Twenty-nine of the images were reproduced in the second edition (2005) of her textbook: Clinical Anatomy of the Visual System. The series of powerpoint presentations, in their varying forms of evolution, have been freely available to students and faculty at Pacific University over the past two years through access to the College of Optometry Web-based server, Victoria. I have received feedback from several first year students. The program was used to assist their study of the laboratory portion of the ocular anatomy course at Pacific University. Those who used the program particularly liked the formatting and accessibility of the images. They were able to view and print the images while studying on personal computers. I have received other feedback noting the convenience of being able to make a single download and having the information on hand, particularly from students without internet access at home. While appreciated by the target audience for which the program was intended, there have been several critiques that the project is redundant. The information provided is viewed in the laboratory portion of the anatomy course, or available through several optometric and ophthalmologic university websites or publications. While this is true, it doesn't take into consideration the benefit to the projected users of the program; namely the ability to study regardless of microscope access or internet availability. Also to be considered is that several of the images are now available in Dr. Remington's new textbook, however I view this as an endorsement rather than a detraction from this thesis project.

### Degree Type

Thesis

### Degree Name

Master of Science in Vision Science

### Committee Chair

Lee Ann Remington

### Subject Categories

Optometry

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# Ocular Anatomy Histology Powerpoint Presentation

An Optometry Thesis  
project by:  
Neil VanderHorst, B.S.


Advised by:  
Lee Ann Remington, O.D., M.S., F.A.A.O.

Pacific University College of Optometry  
Doctor of Optometry Degree  
Submitted October 2005

# Ocular Anatomy Histology Powerpoint Presentation

## Signatures

Author:

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Neil VanderHorst

Advisor:

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Lee Ann Remington

## **BIOGRAPHY**

Neil A. VanderHorst is a member of Pacific University College of Optometry graduating class of 2006. Neil is a member of Beta Sigma Kappa Honors Society, and enjoys gaining experience in a wide variety of optometric specialties including ocular disease and visual therapy.

Neil is a Canadian student and received a Bachelor of Science from Okanagan University College in Kelowna, British Columbia, Canada. This Bachelors degree includes a Major in Biology, with a concentration in physiology, along with a Minor in French. Neil has an affinity for genetics, and enjoys fluency in the French language having lived in France for two years.

Neil VanderHorst enjoys the support of his loving wife Kimberly, as well as his baby daughter Emma. After graduation the VanderHorst family plan to settle in northern Washington state for several years, pending the decision to go into private practice in the US or in Canada. It is Neil's long-term practice goal to become a well respected pediatric specialist.

## **ABSTRACT**

This project is a digital photo representation of ocular histology slides, chosen to represent the basic ocular anatomy course as taught at Pacific University College of Optometry. The purpose of this project is to facilitate the study of ocular histology without requiring access to a microscope and histology slides, or to an internet connection.

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# ***RETINA HISTOLOGY SLIDES***

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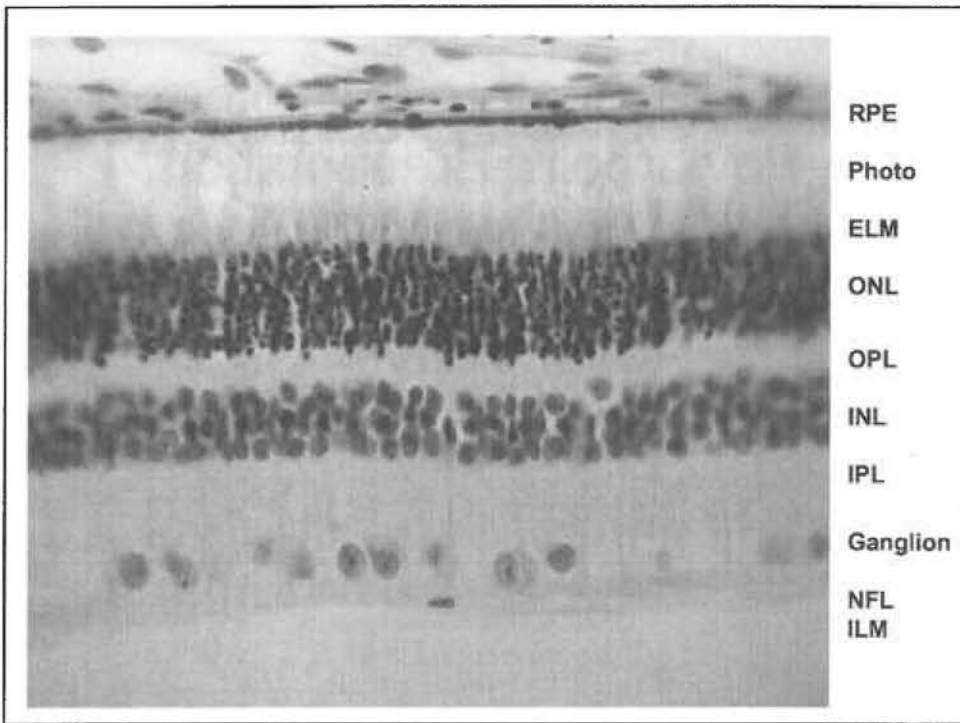
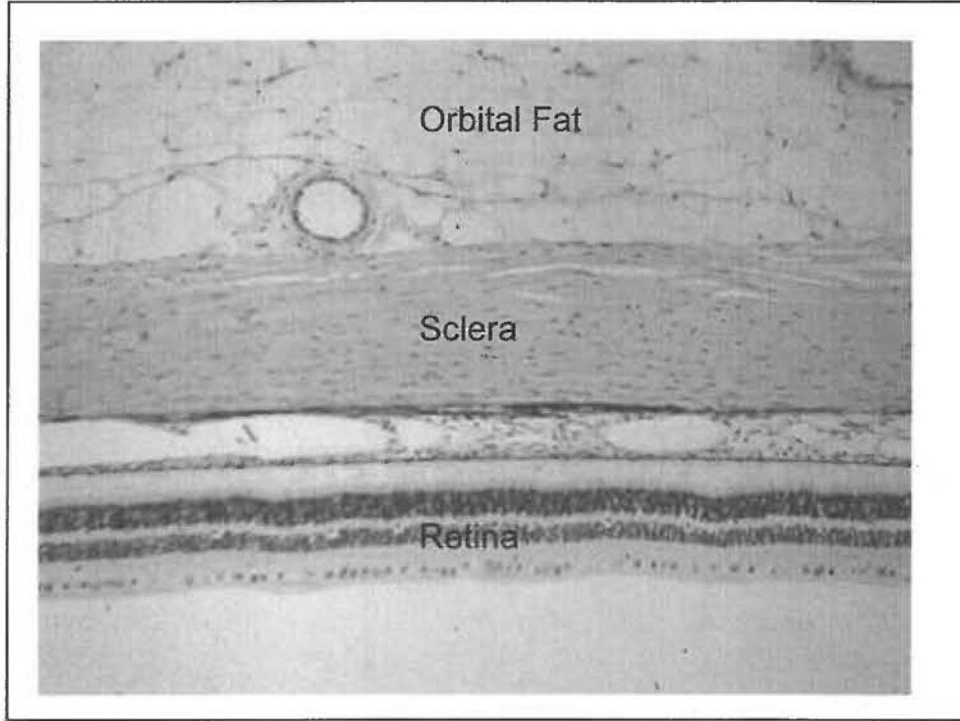
## **Ocular Anatomy Histology Powerpoint Presentation**

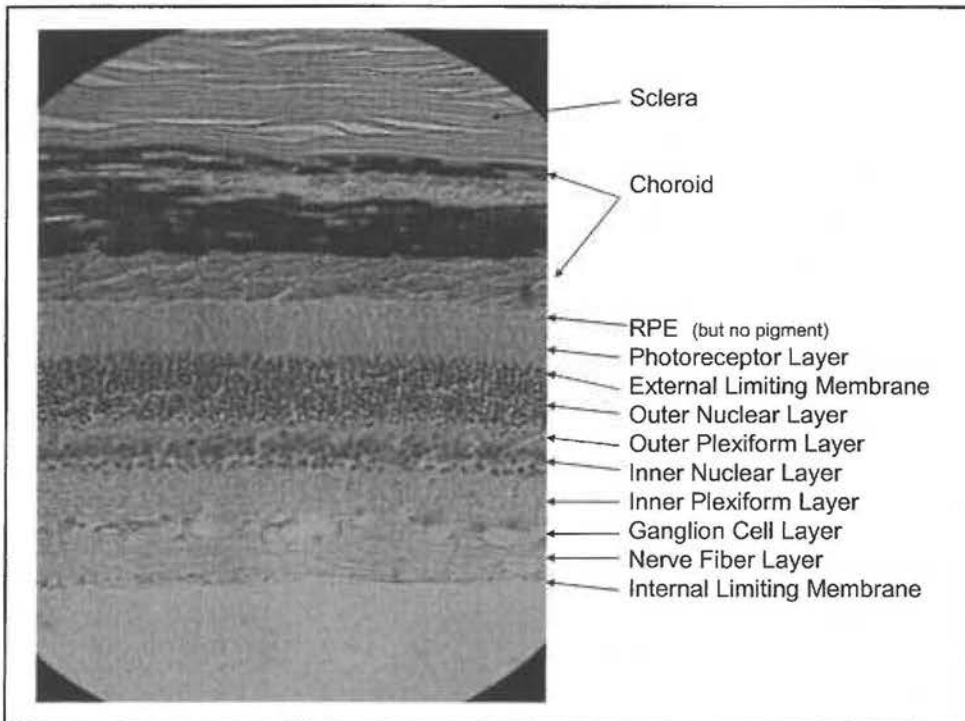
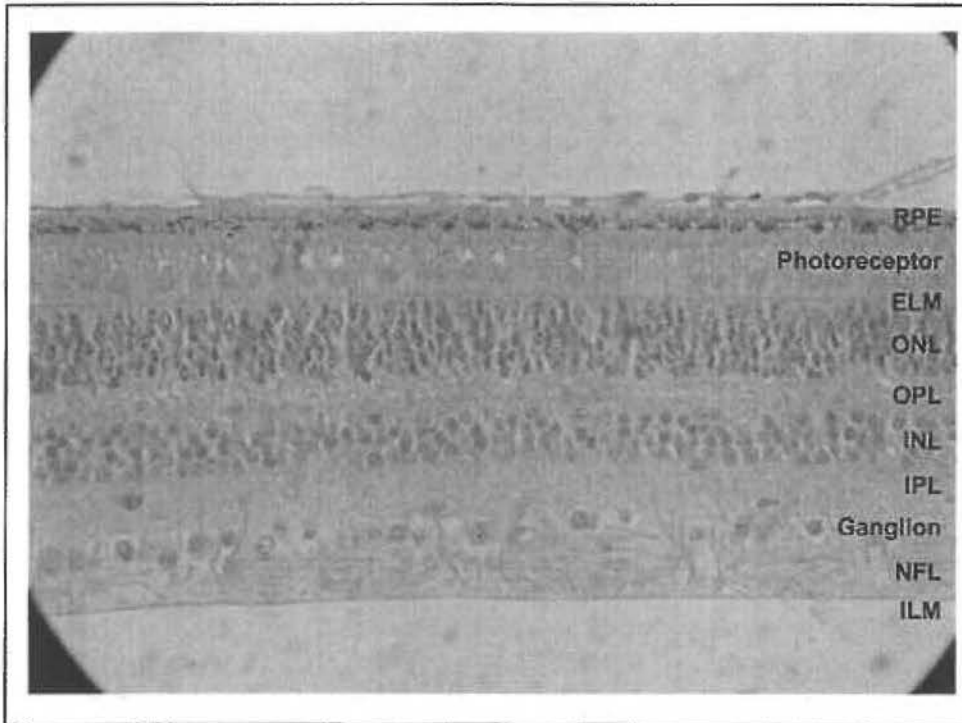
An Optometric Thesis project by  
Neil VanderHorst

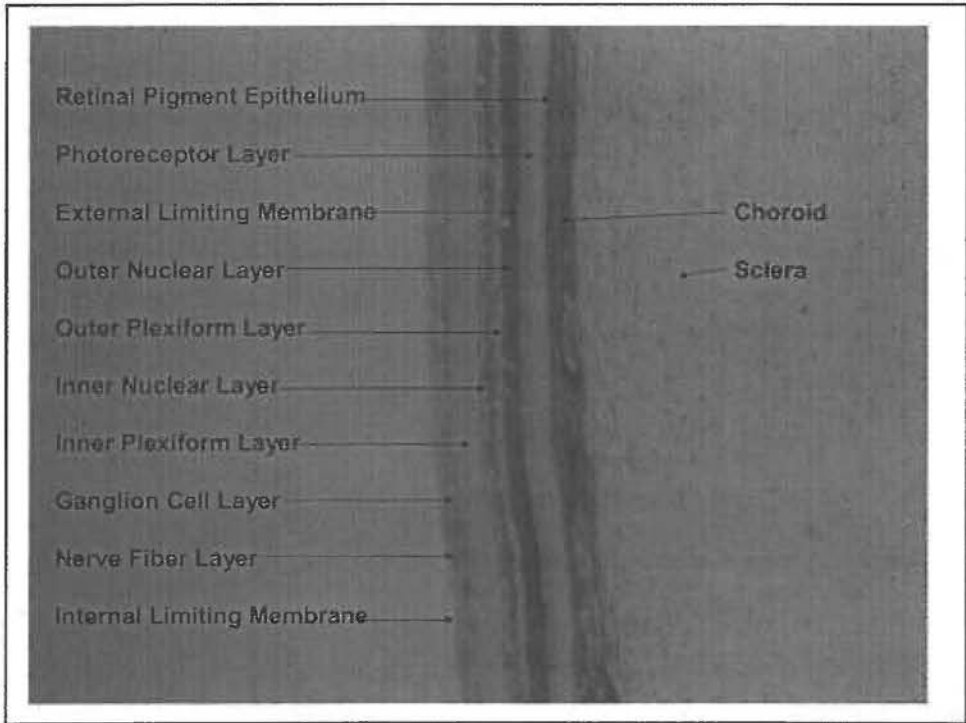
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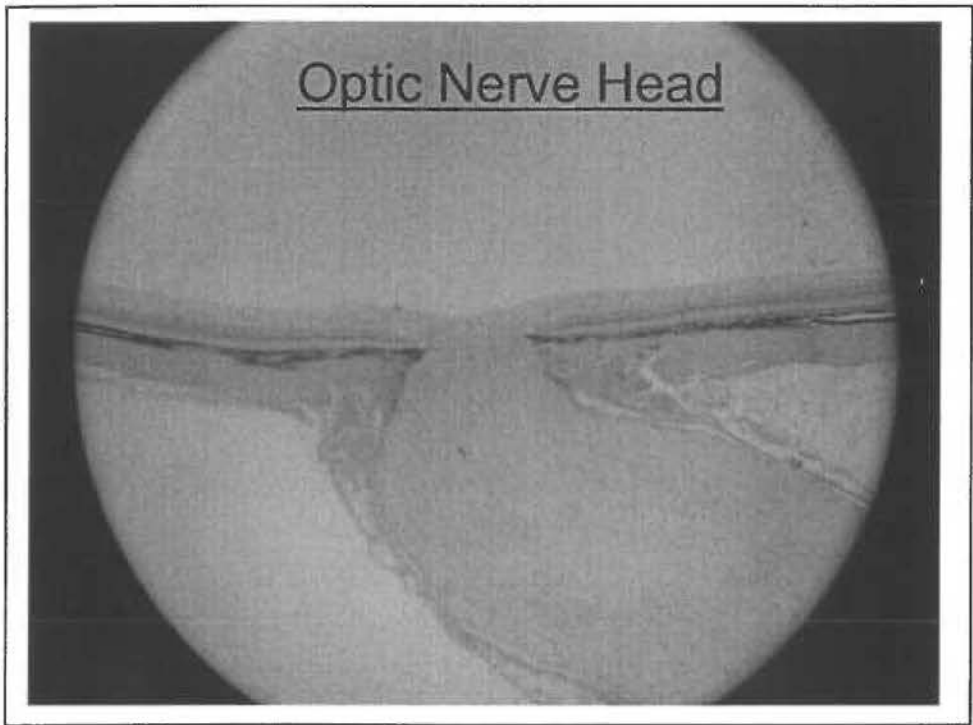
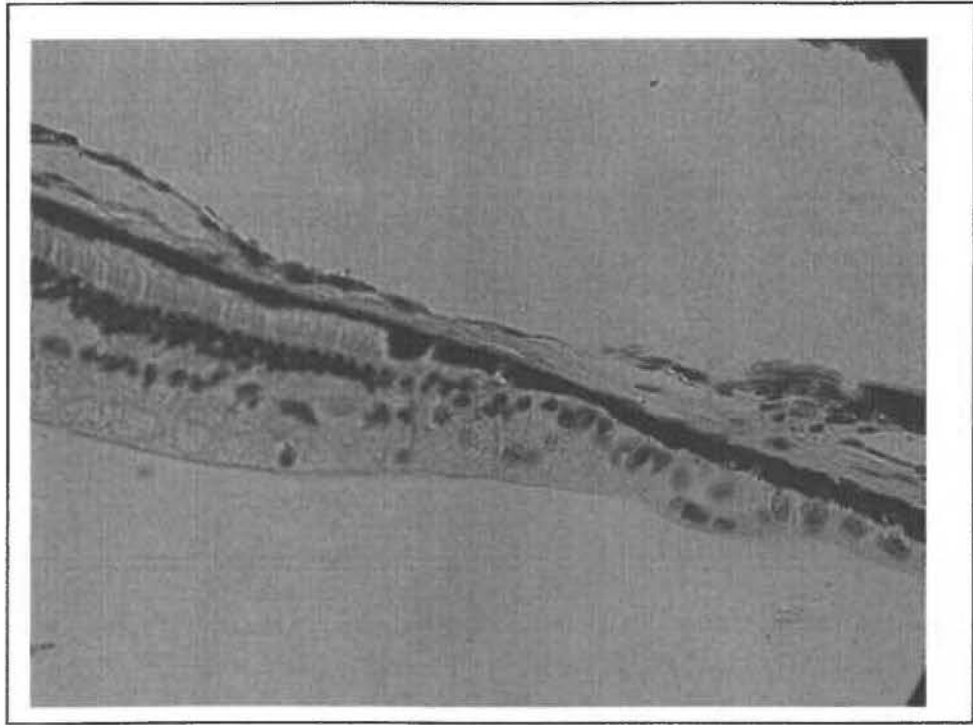
Pacific University College of Optometry  
Doctor of Optometry Degree  
Submitted October 2005

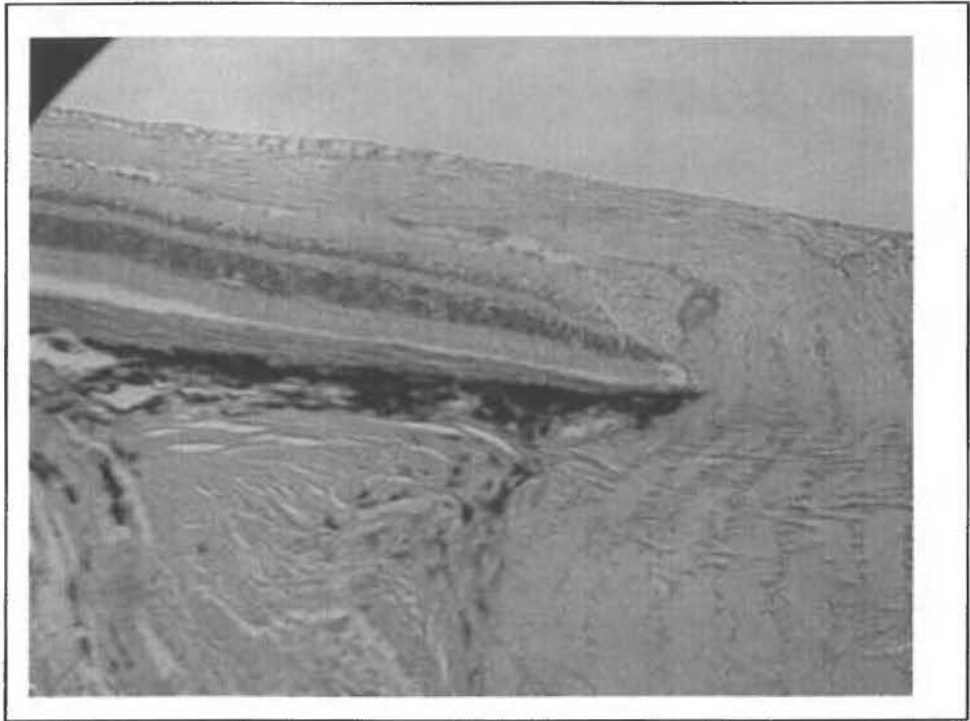
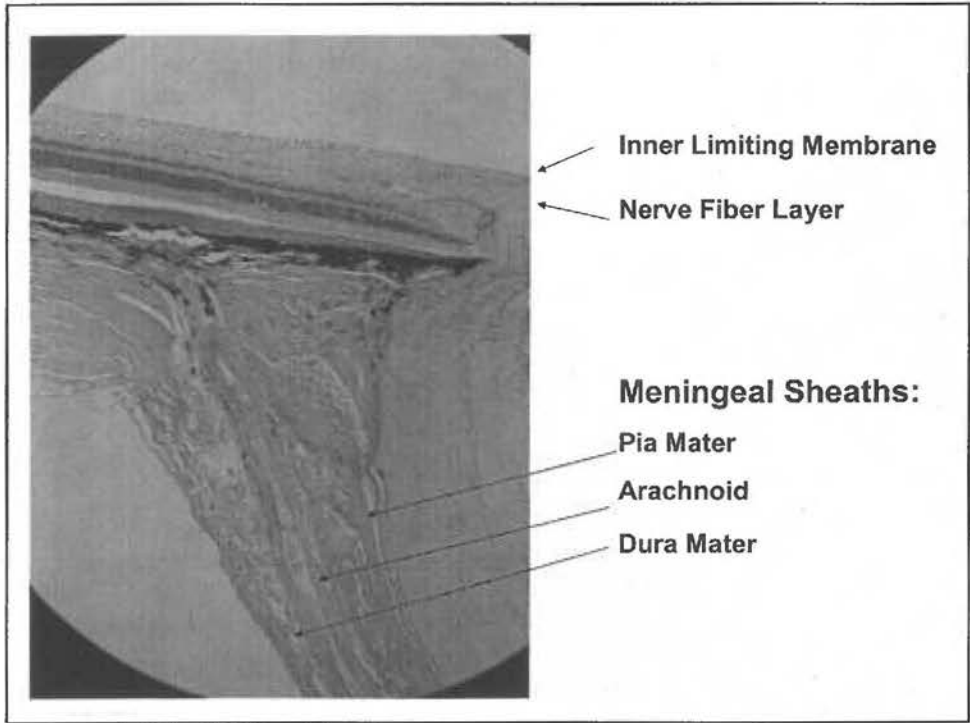


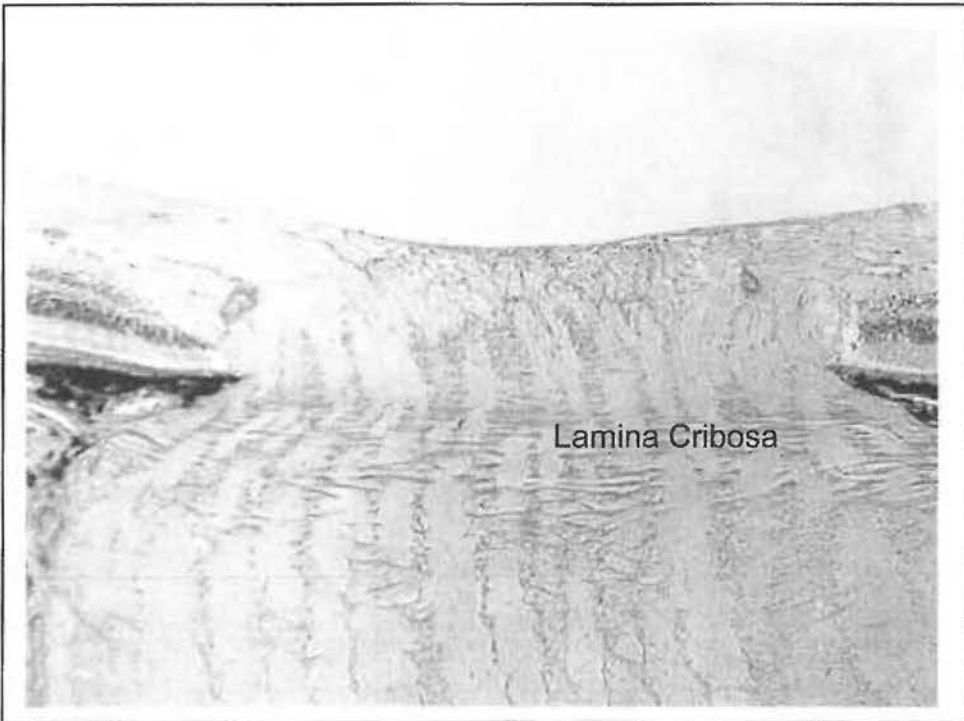
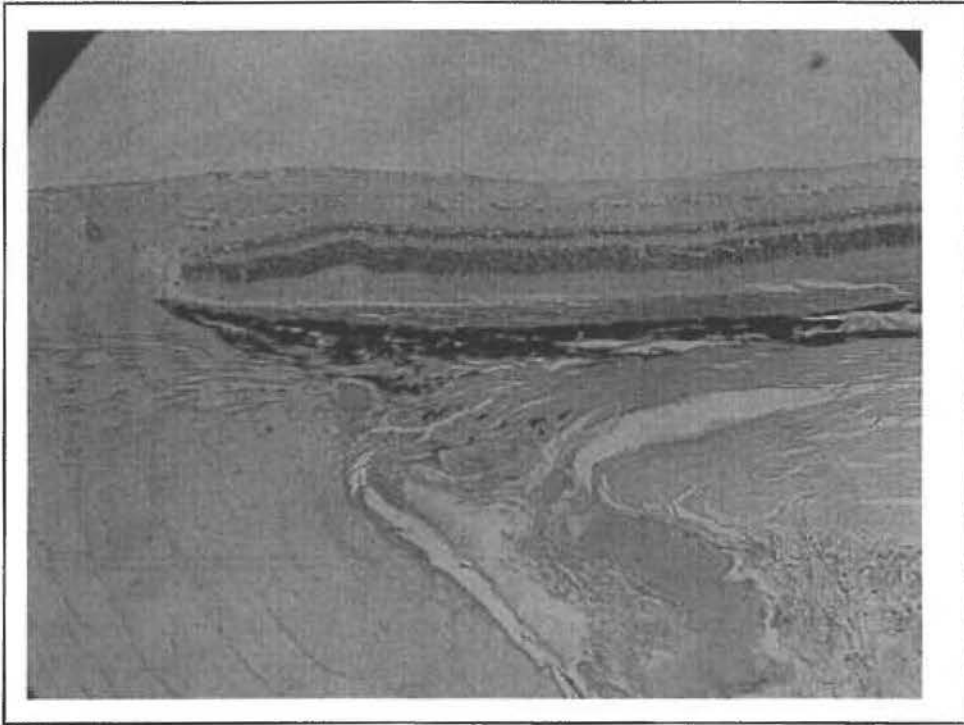


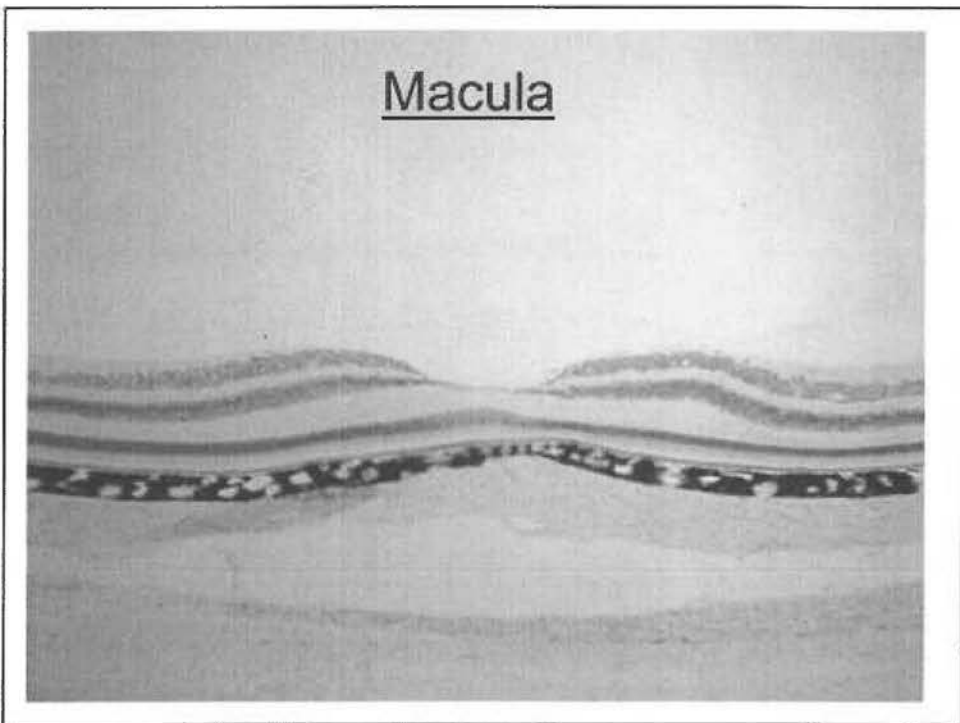
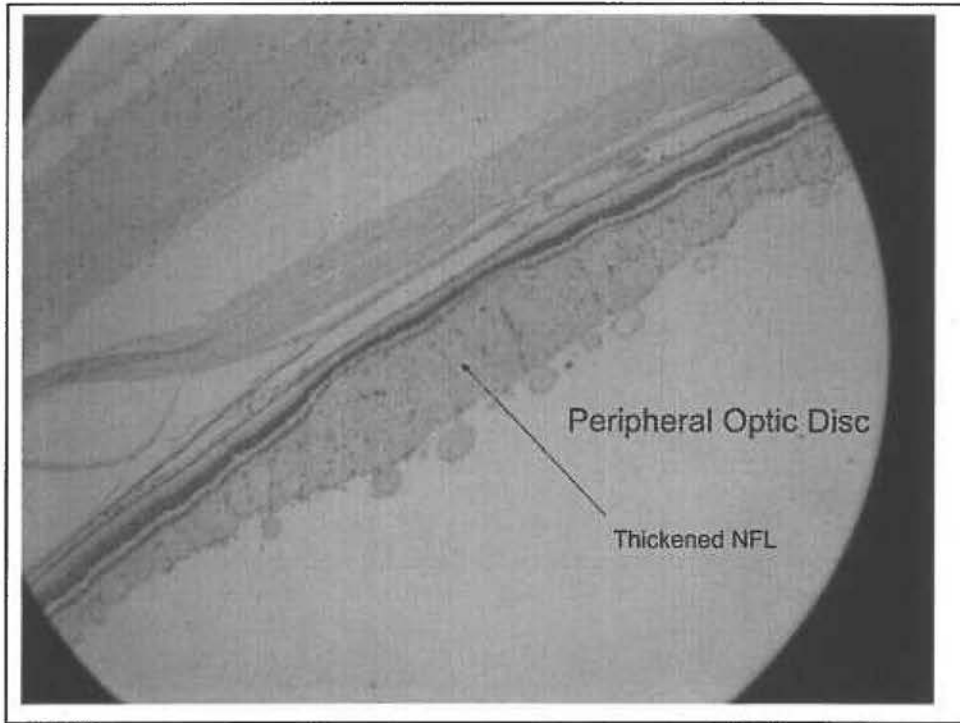


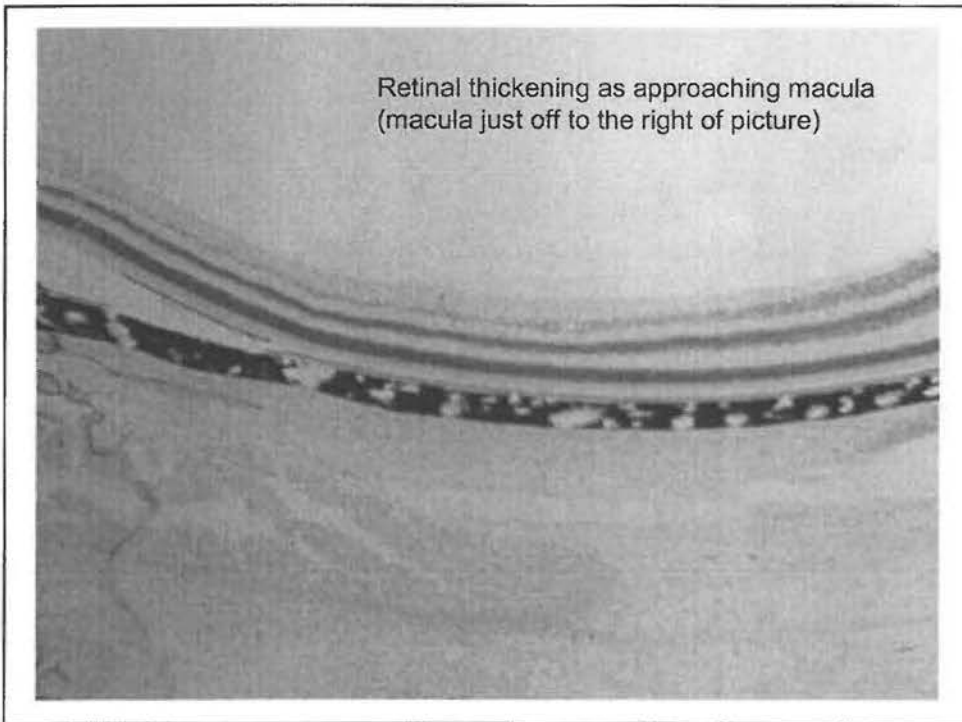
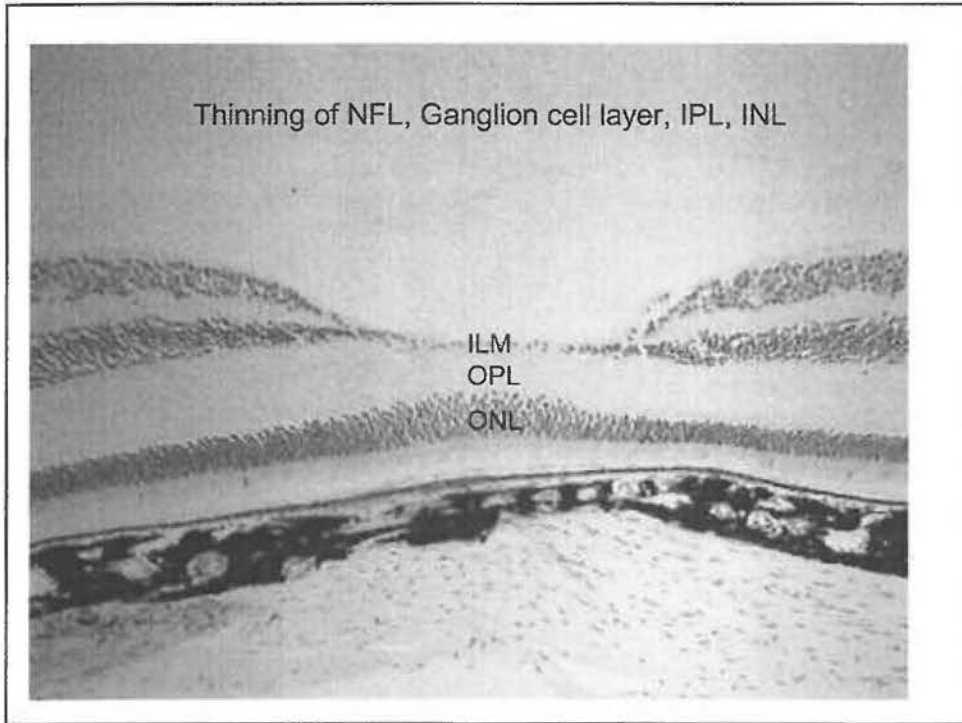








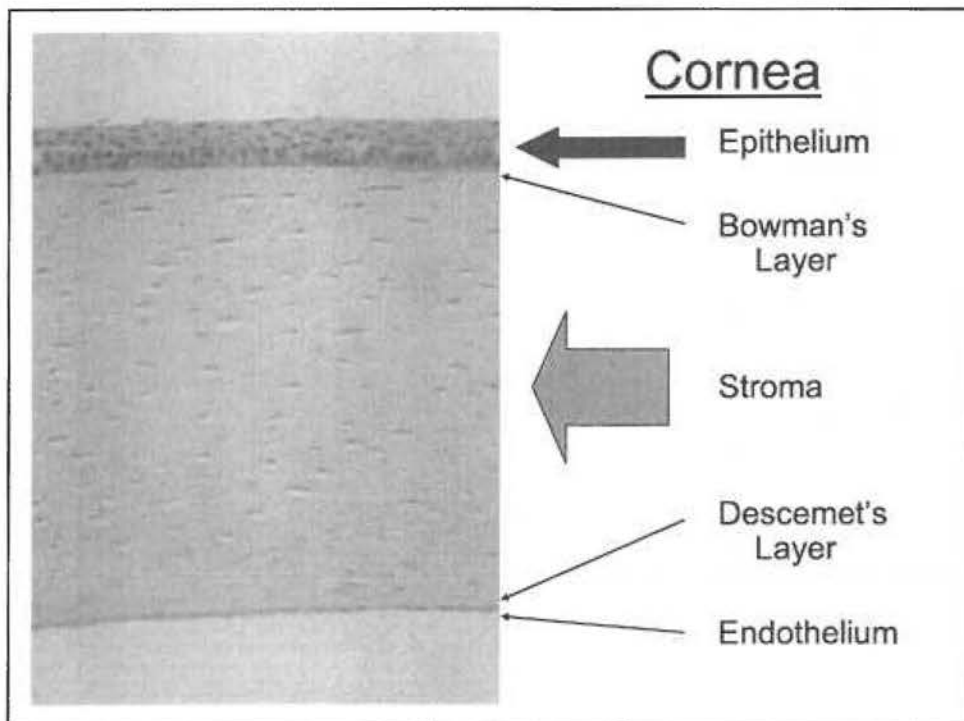


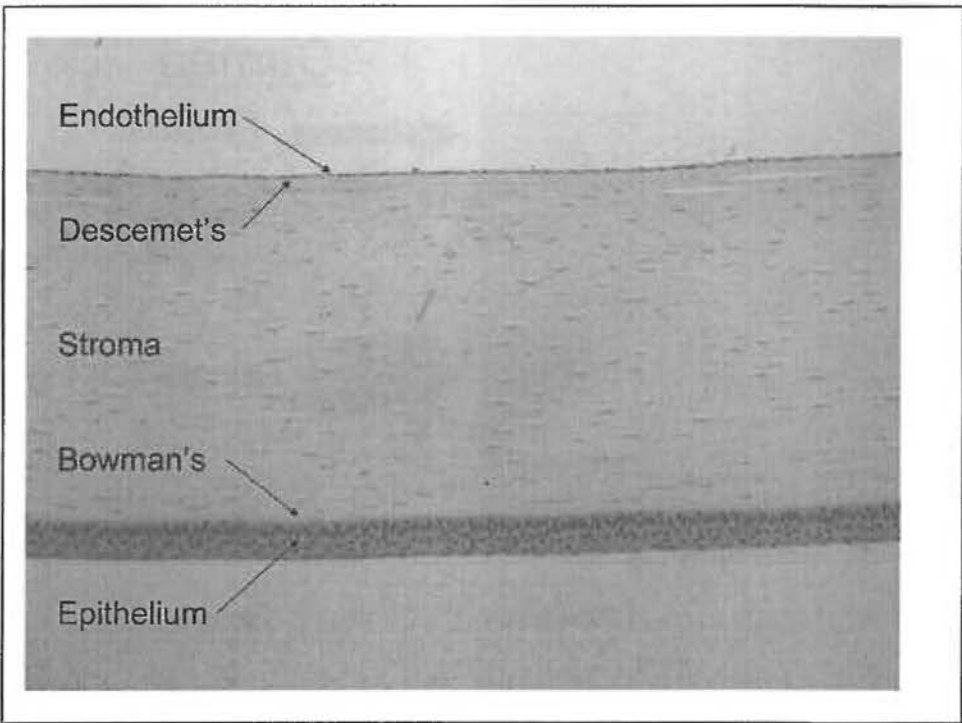
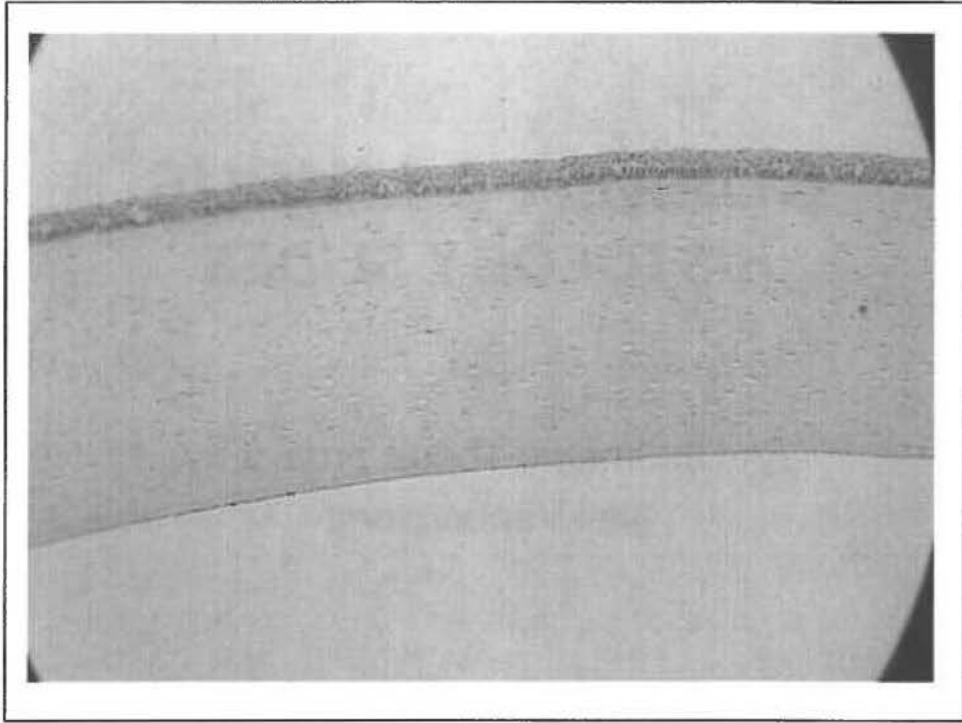


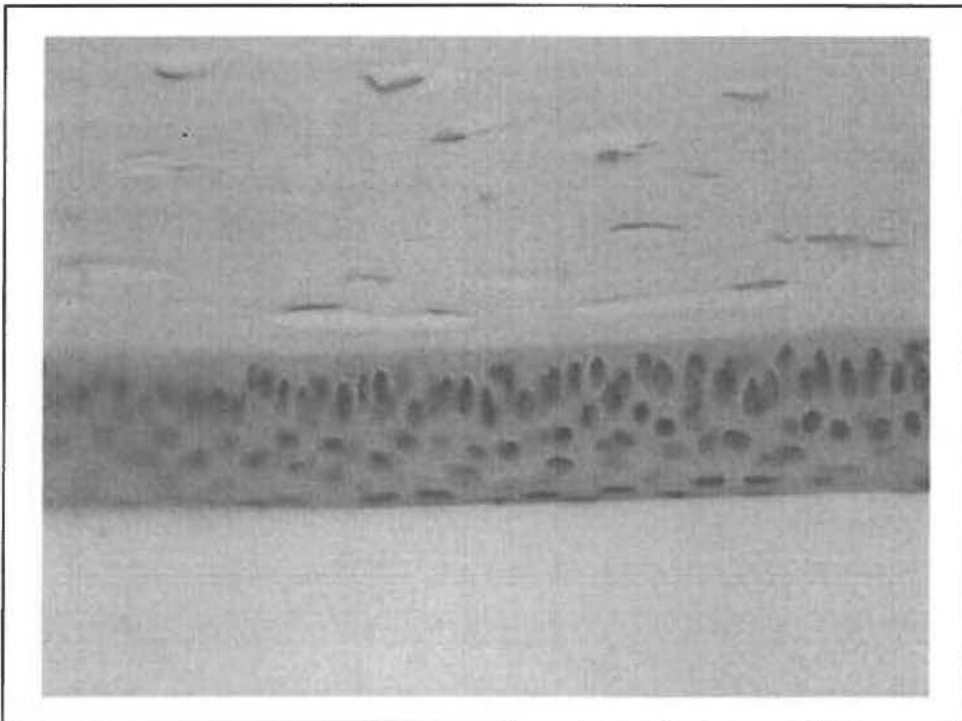
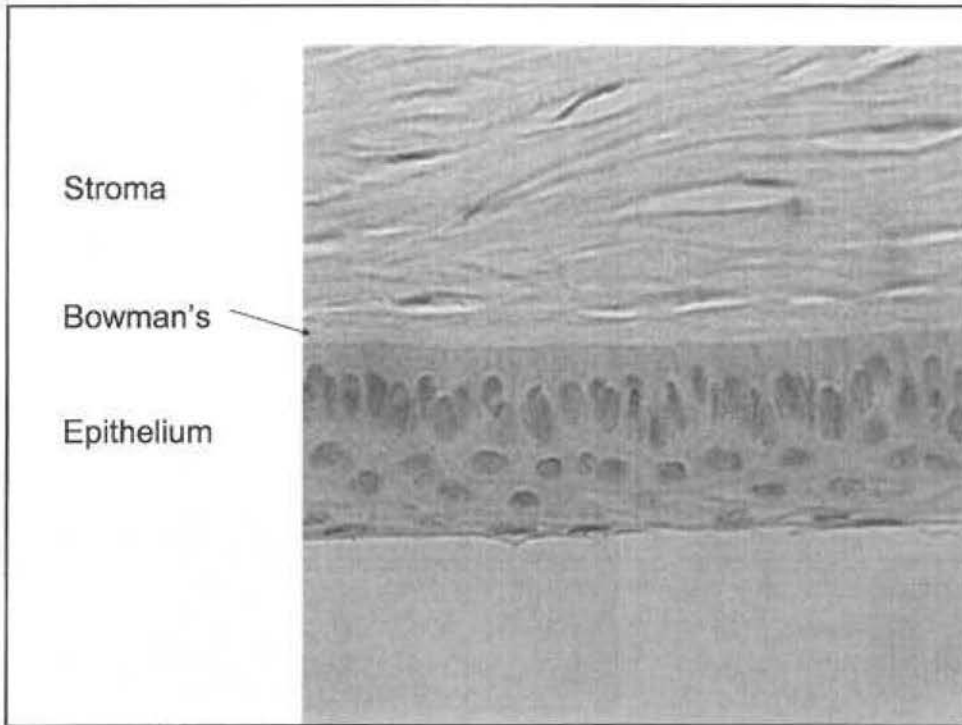


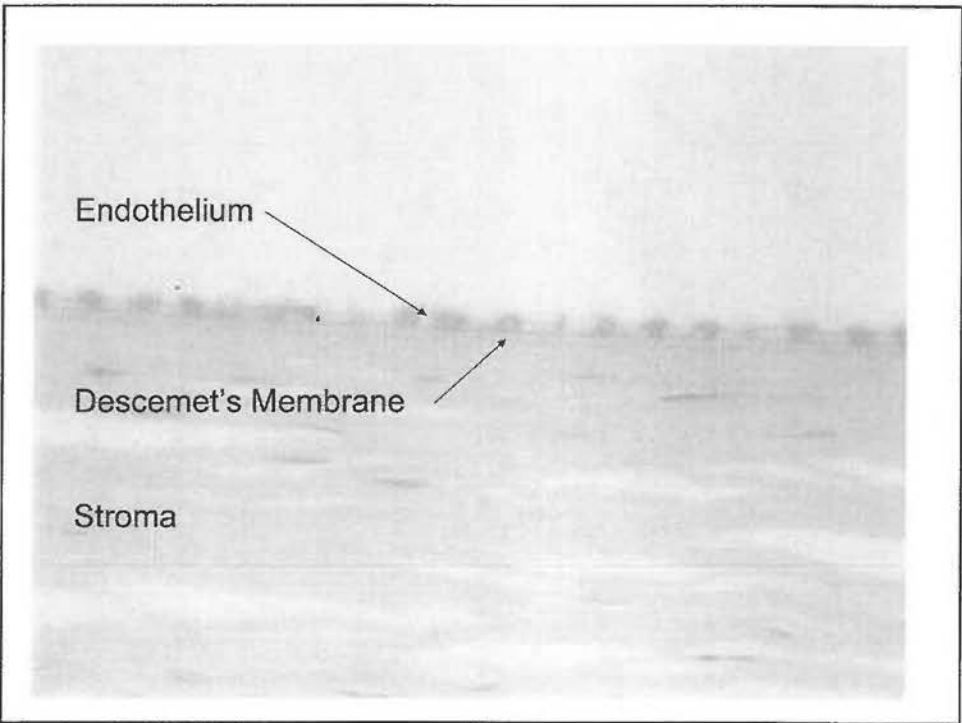
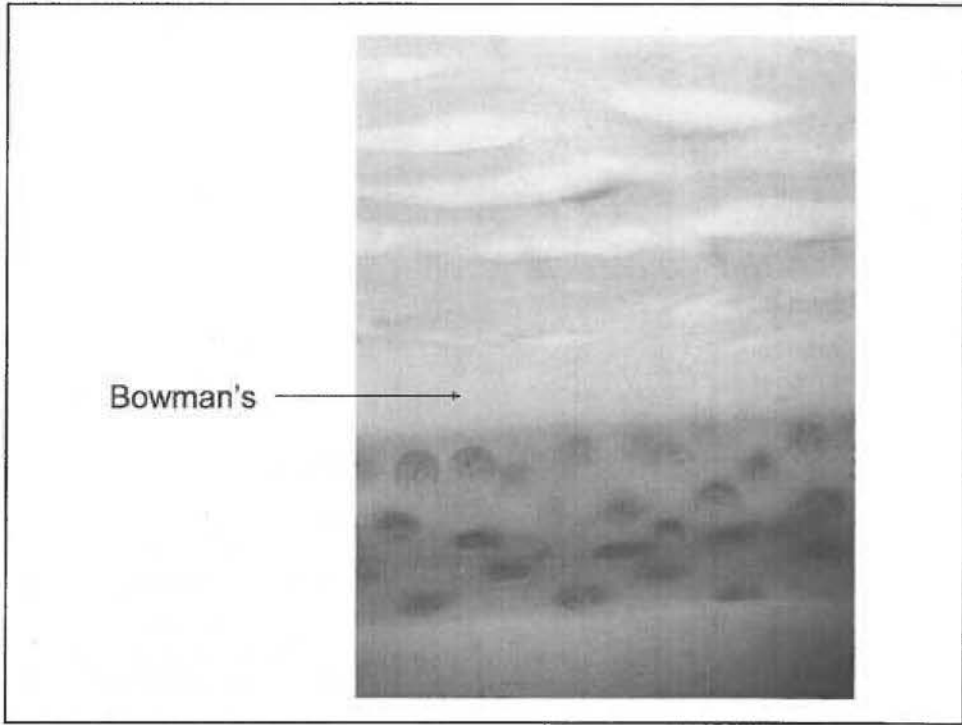
# ***CORNEA & LIMBUS HISTOLOGY SLIDES***

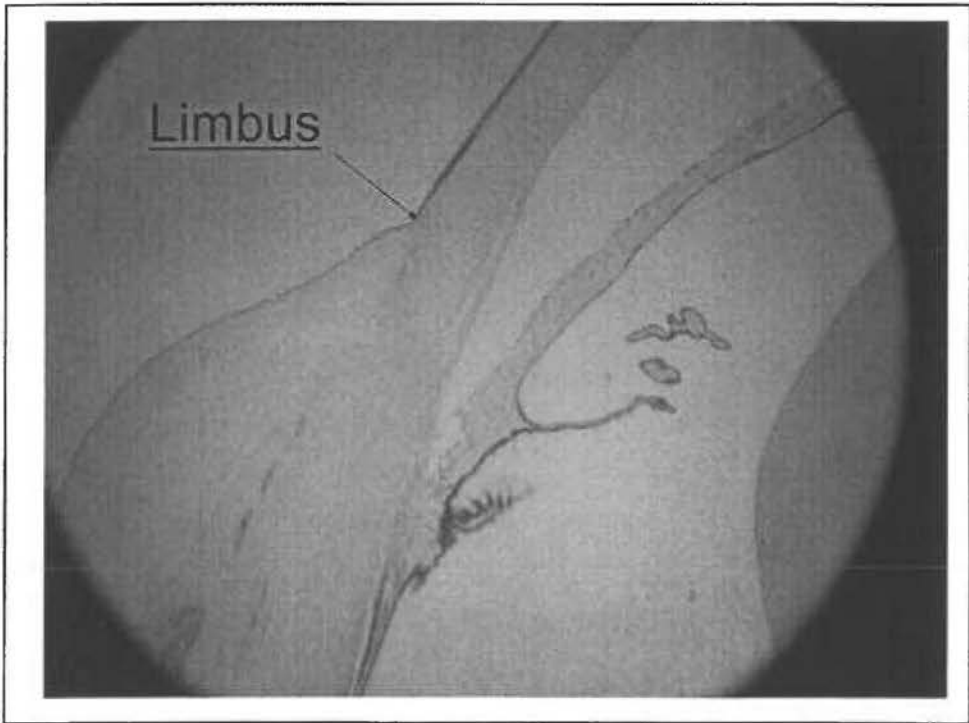
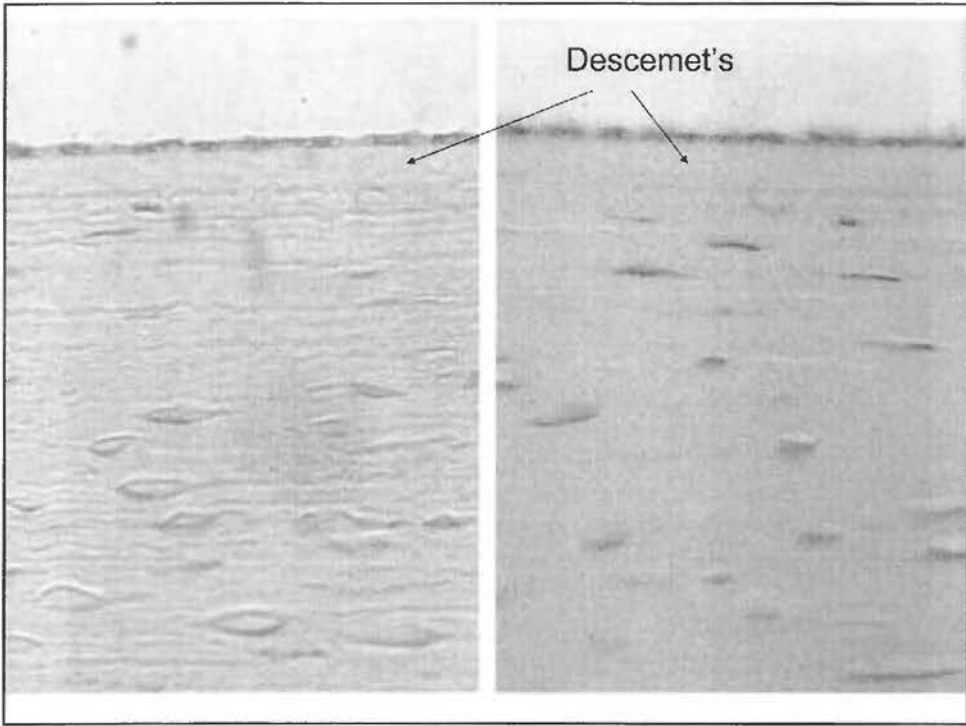
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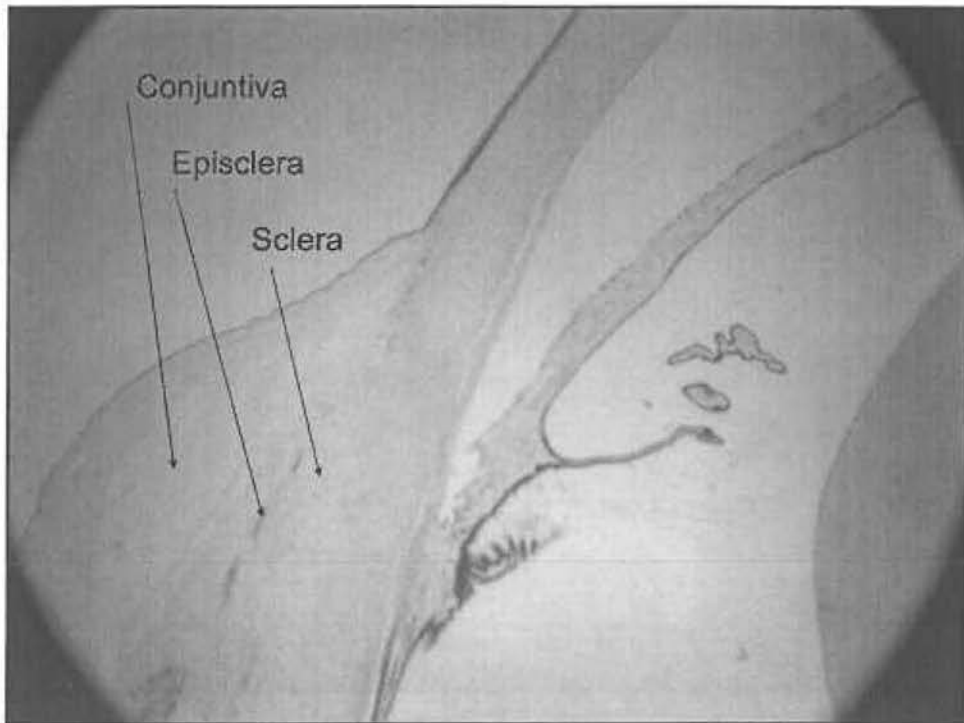
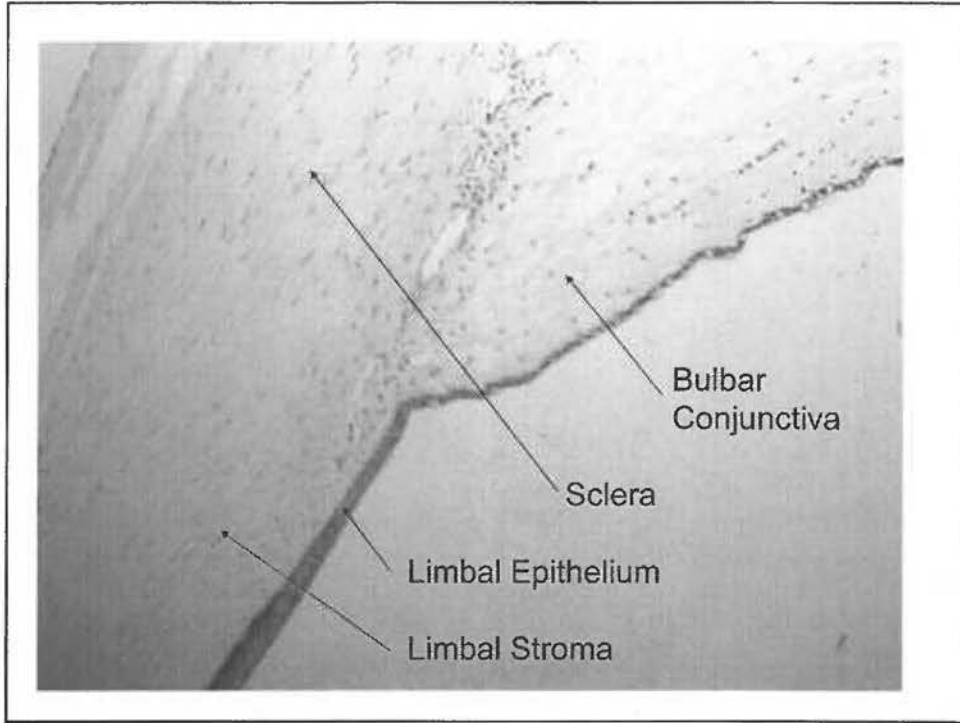


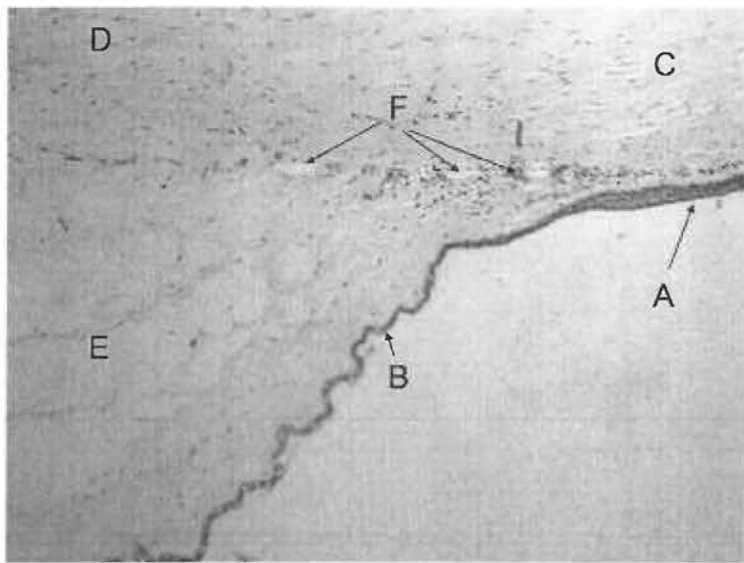












Corneal Epithelium (A) continuous with Conjunctival Epithelium (B)  
 Corneal Stroma (C) continuous with Sclera (D)  
 Conjunctival Stroma (E)                      Episcleral Vessels (F)



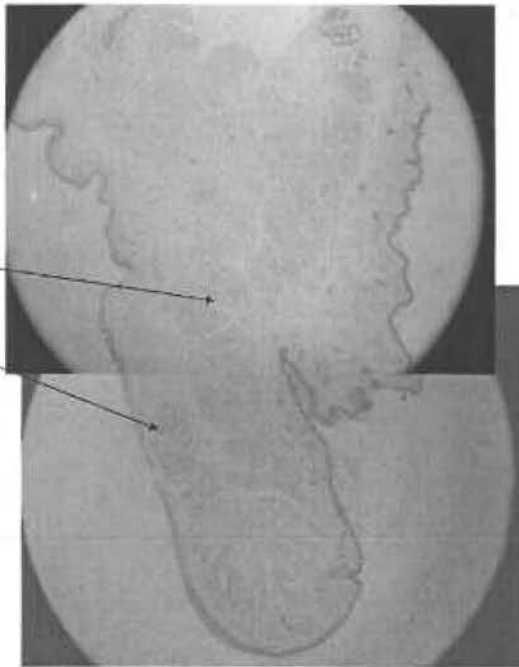
# ***EYELID HISTOLOGY SLIDES***

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Neil VanderHorst

## Upper Lid

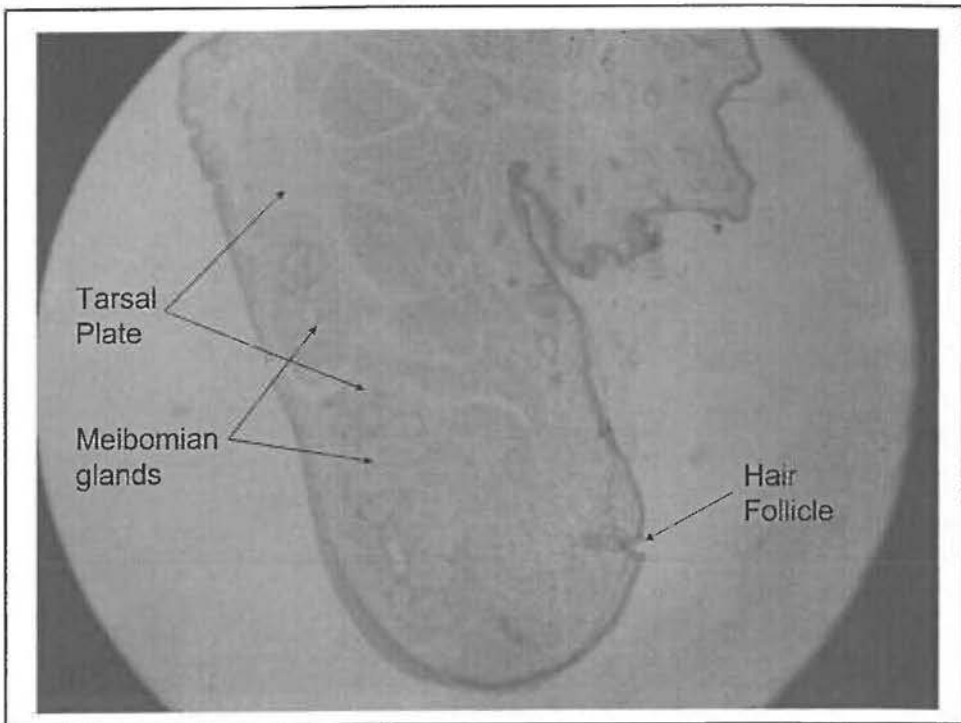
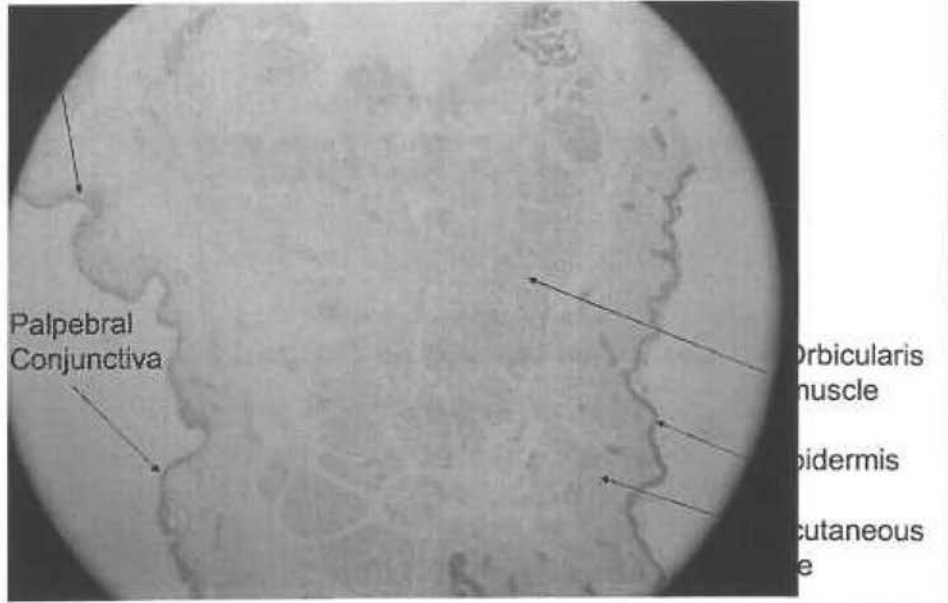
Orbicularis muscle

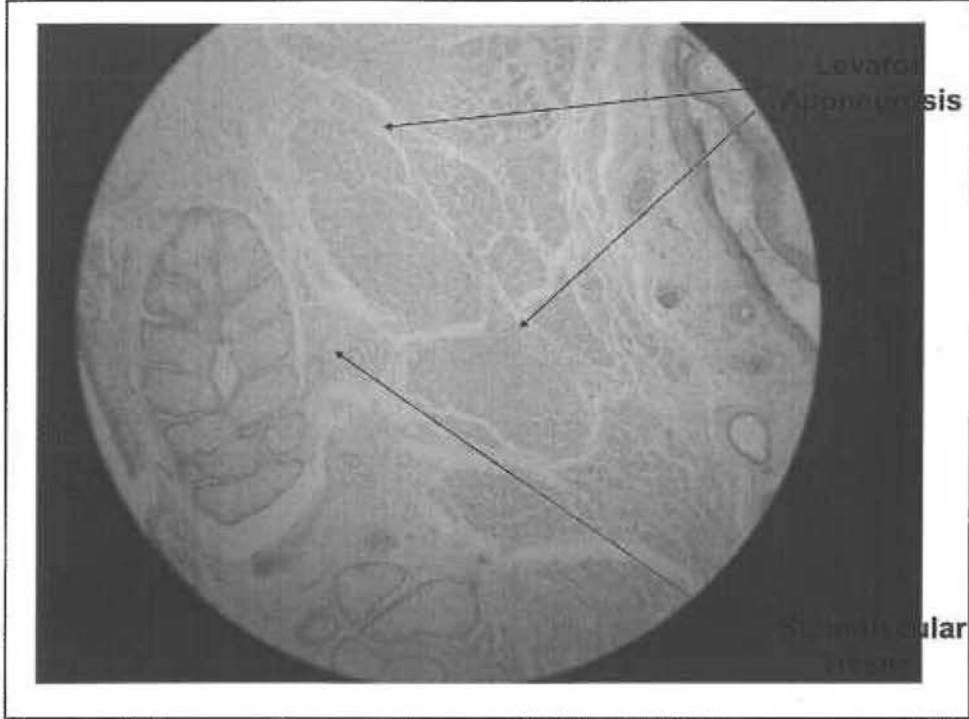
Meibomian glands

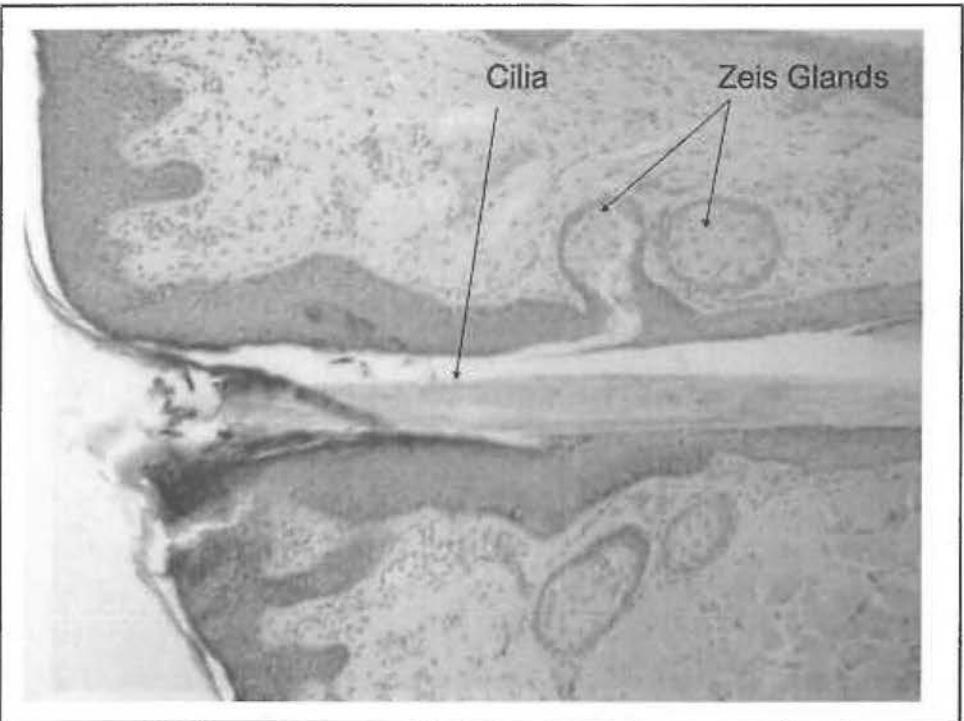




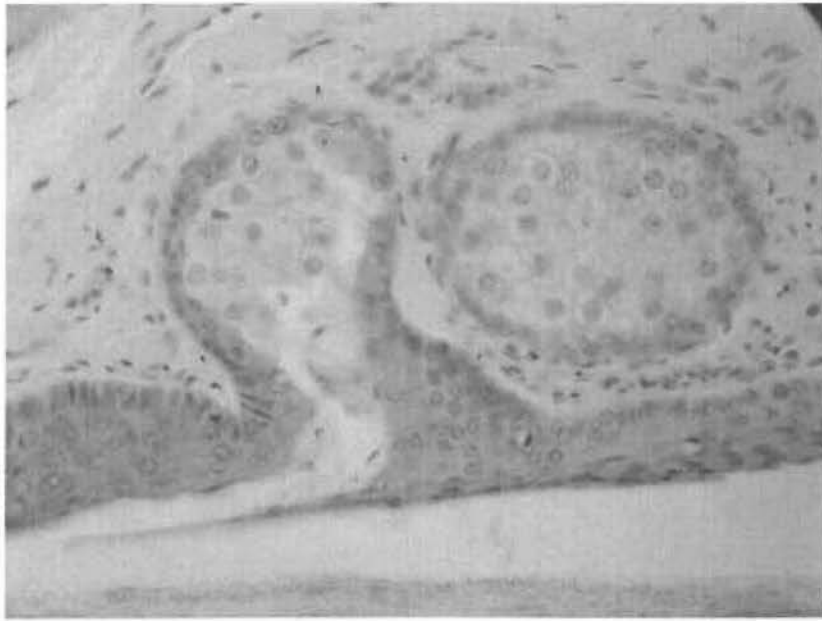
Crypt of Henle



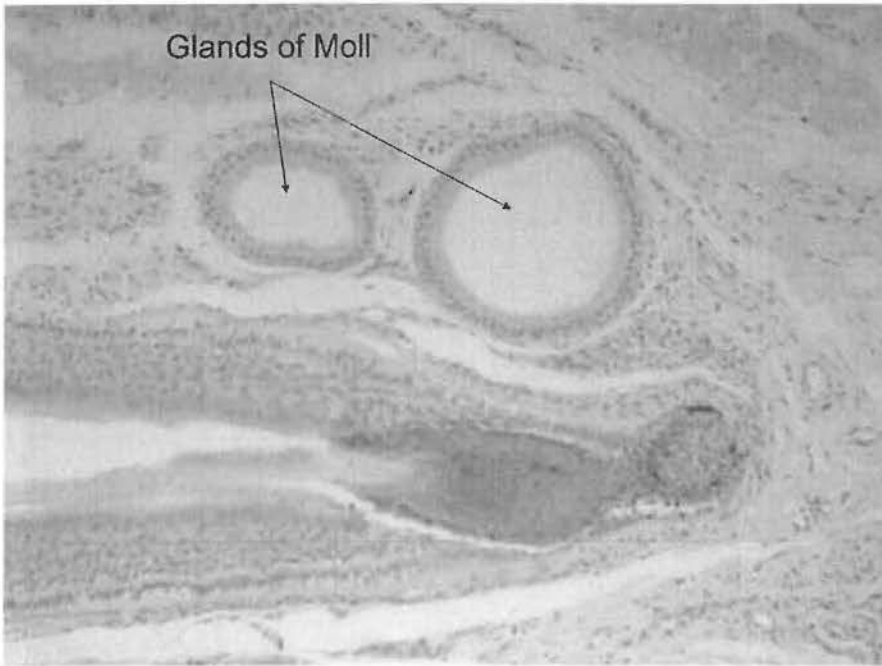


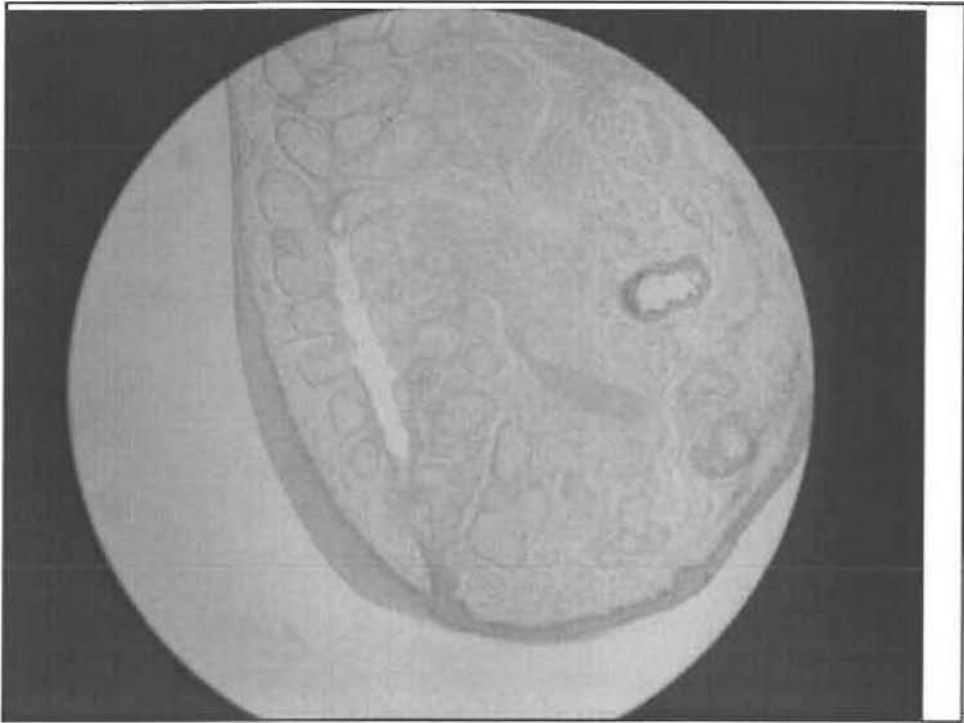
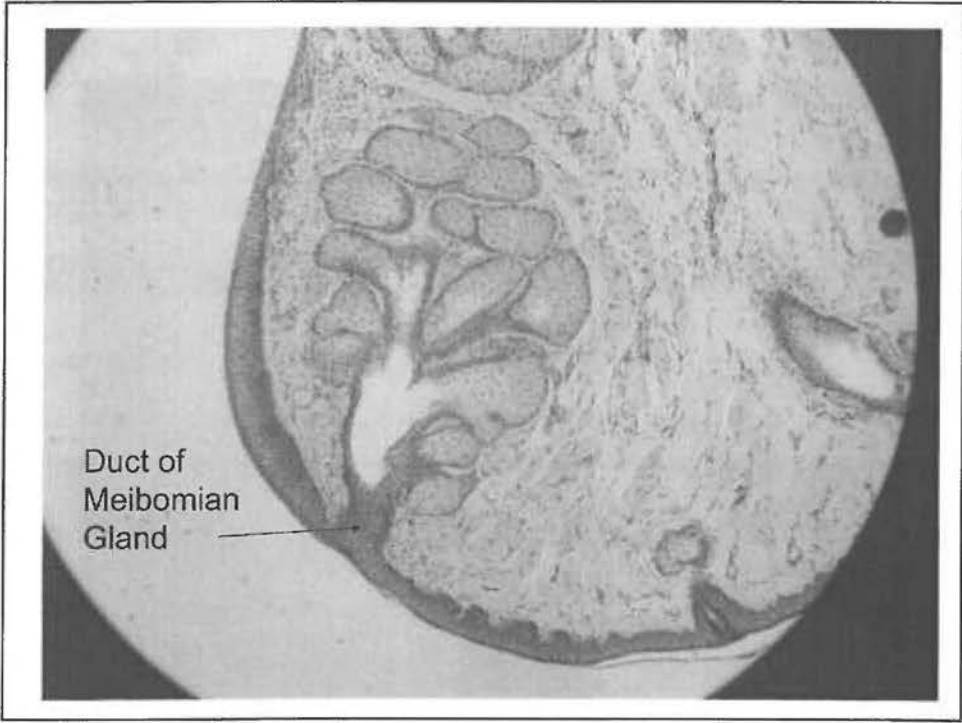


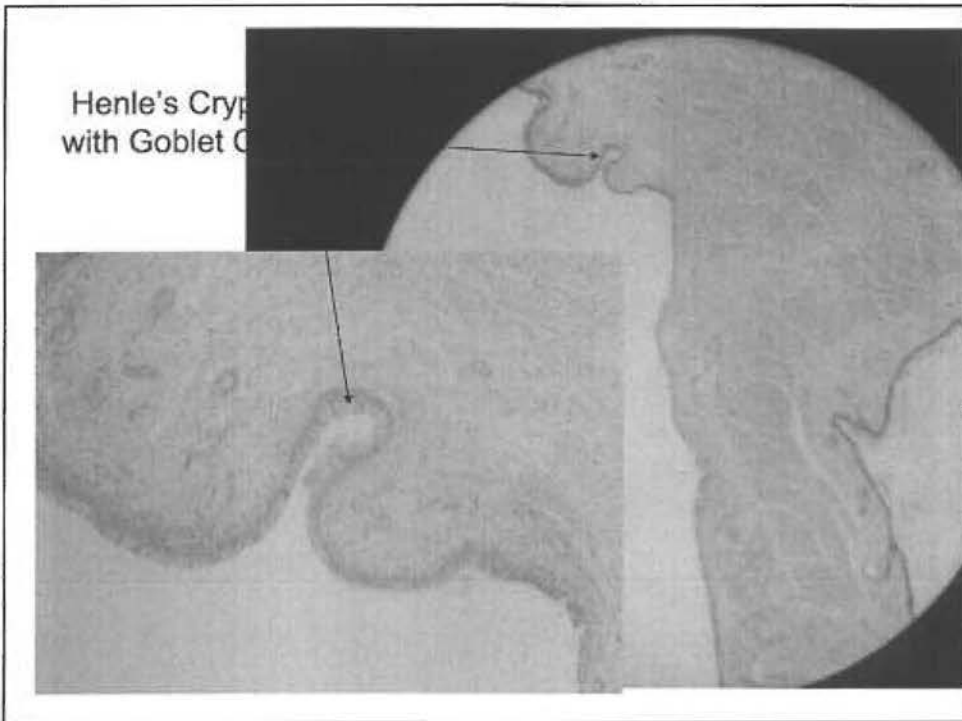
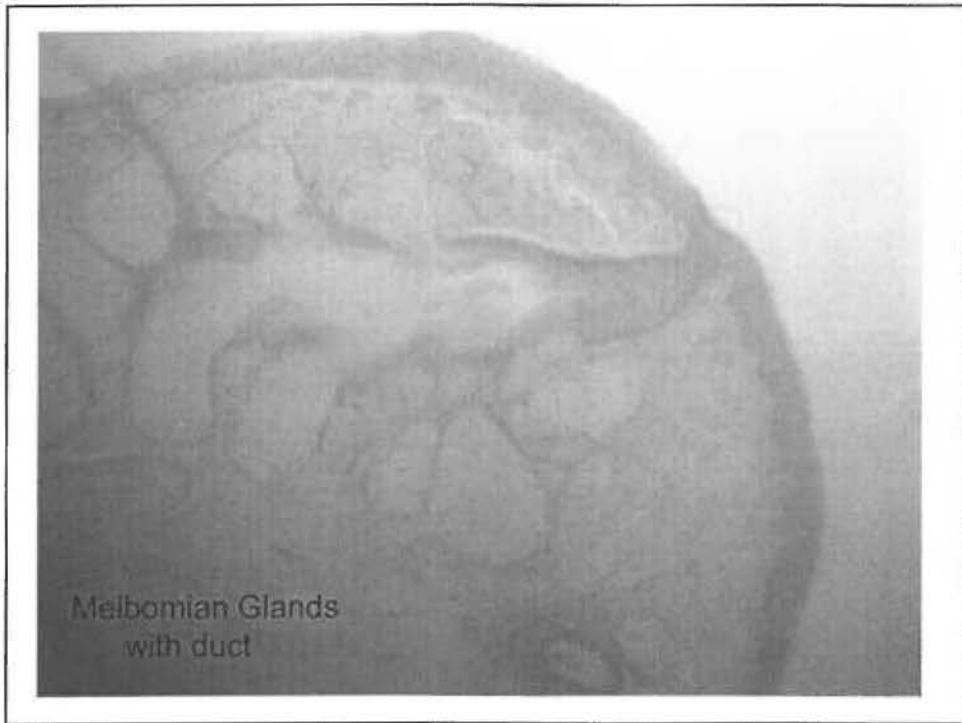
Zeis Glands

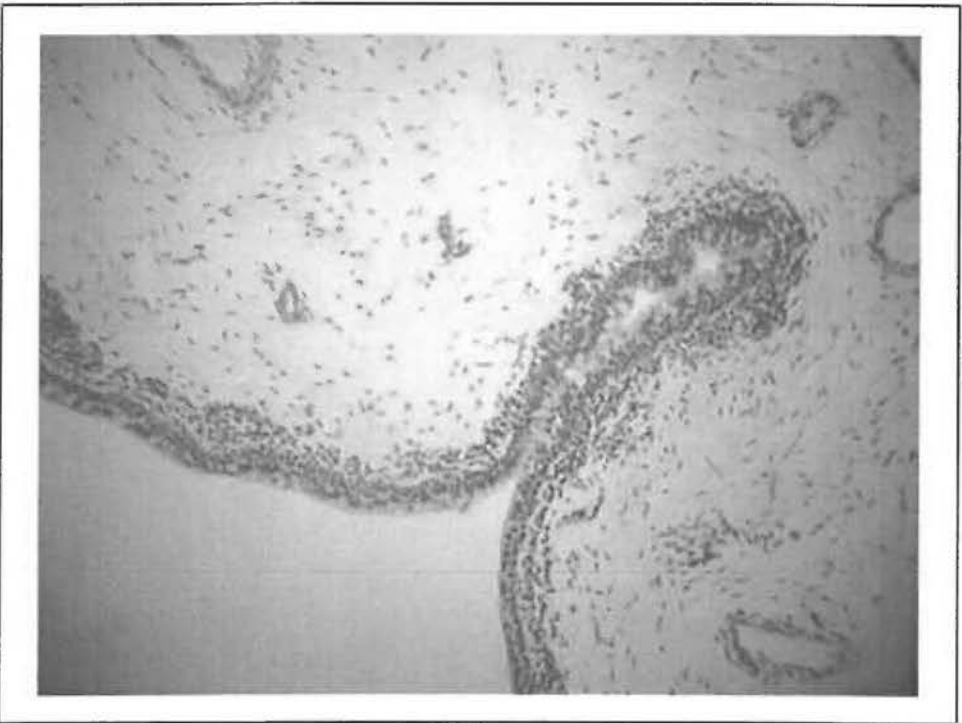
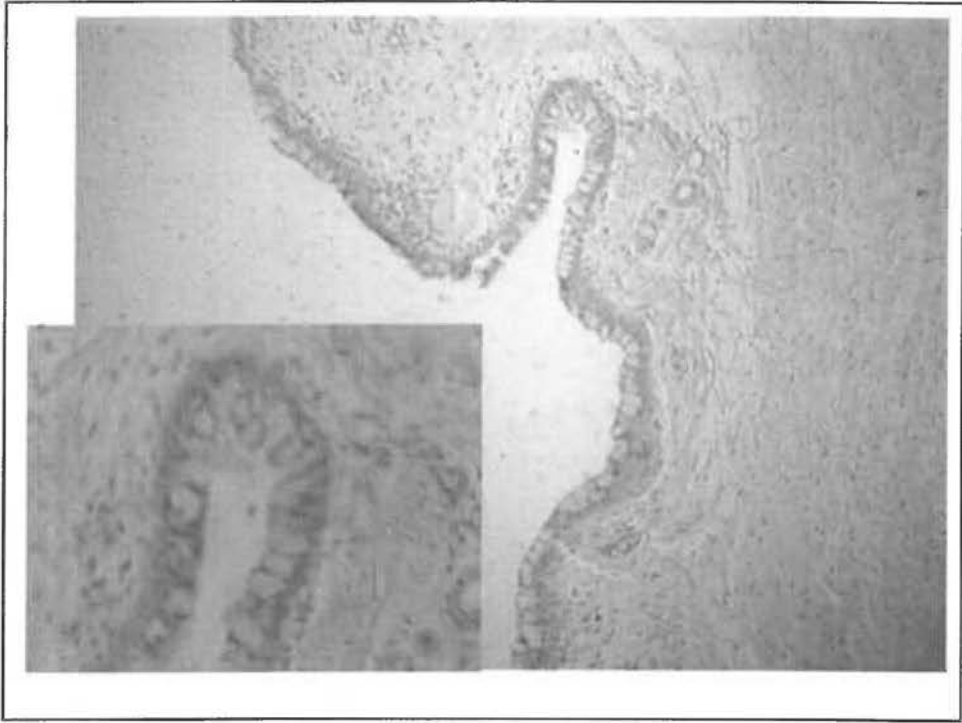


Glands of Moll



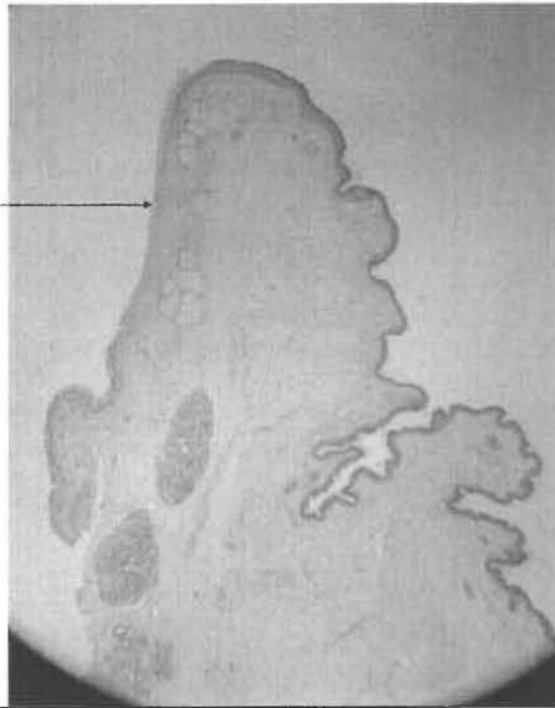






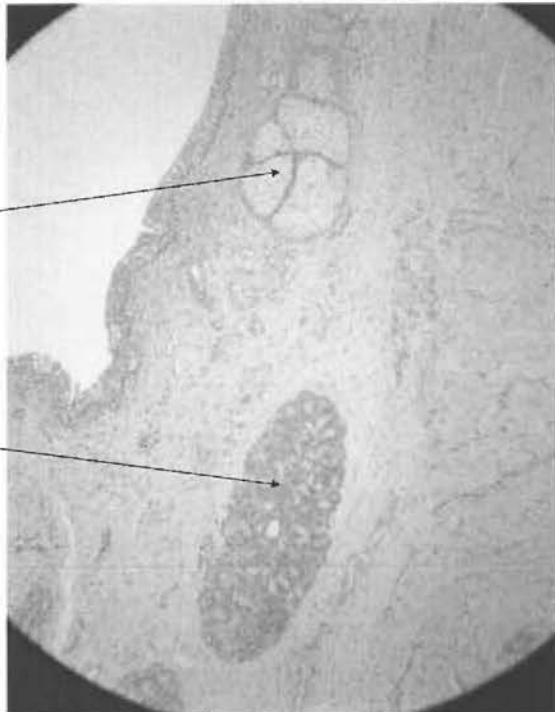
## Lower Lid

Palpebral  
Conjunctiva



Meibomian  
Gland

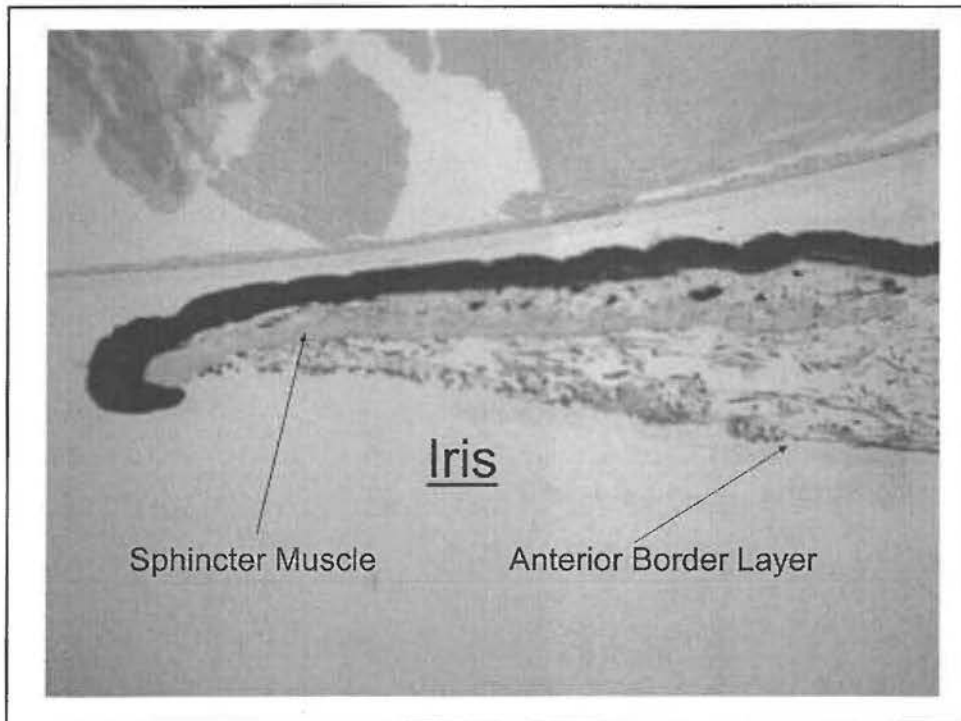
Accessory  
Lacrimal  
Gland

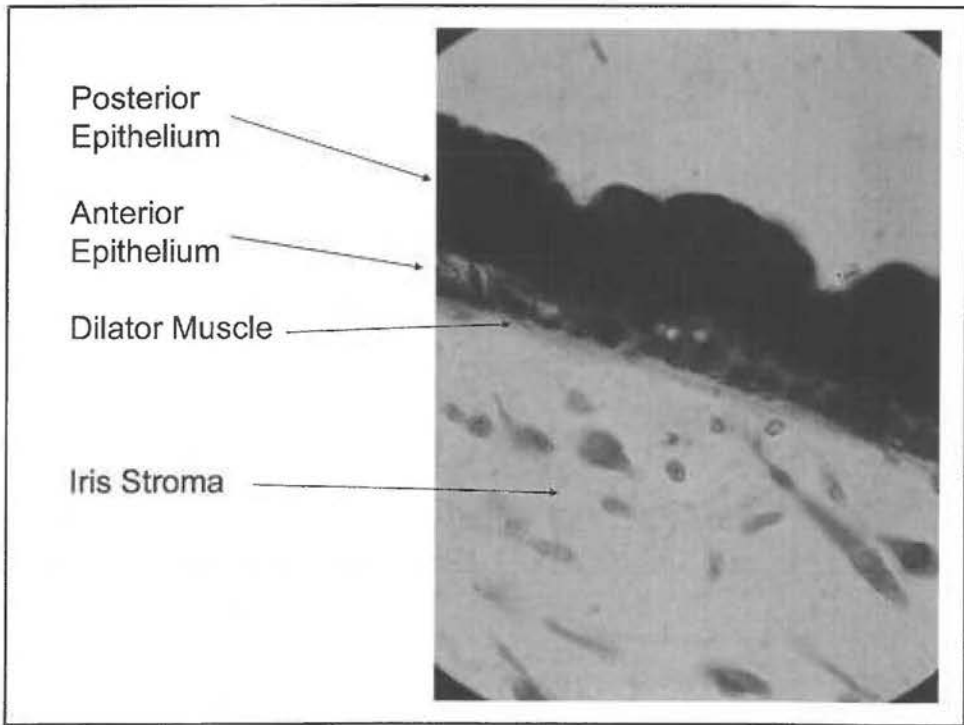


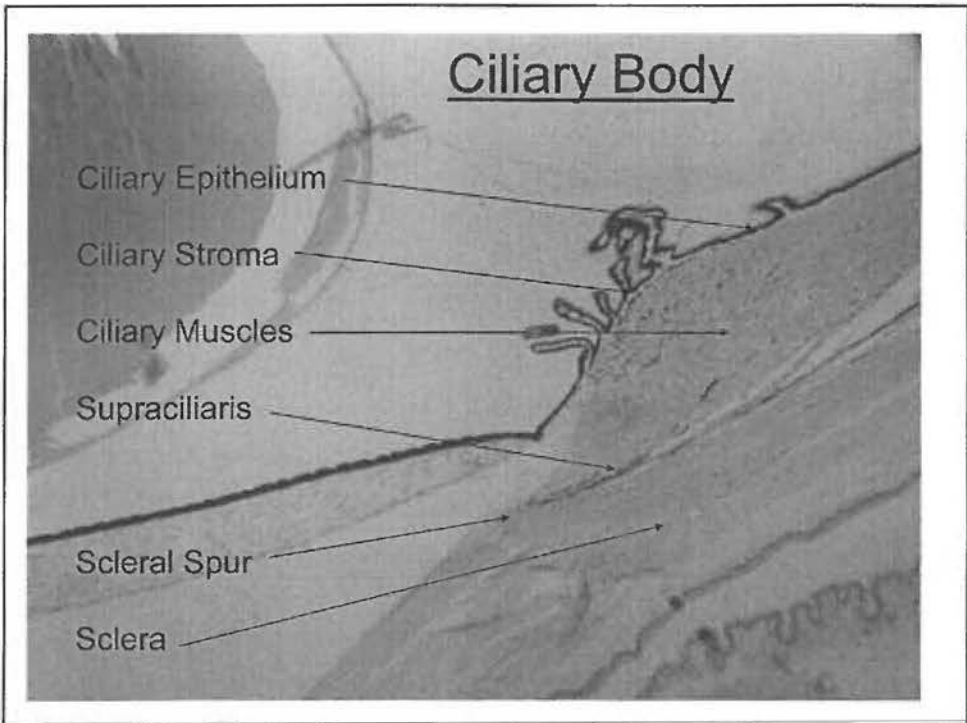
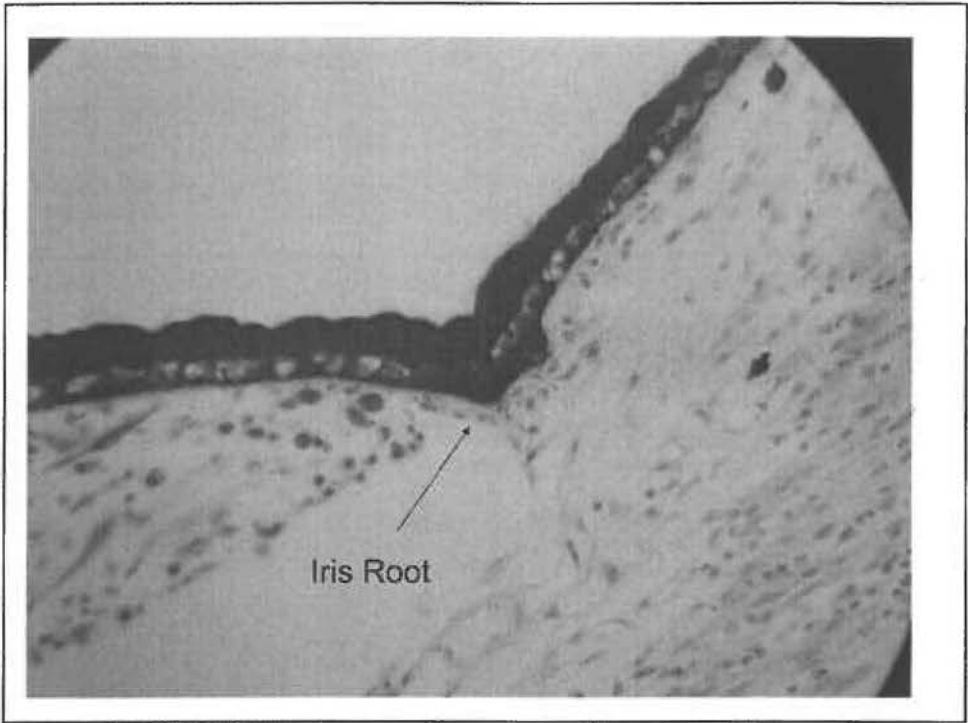


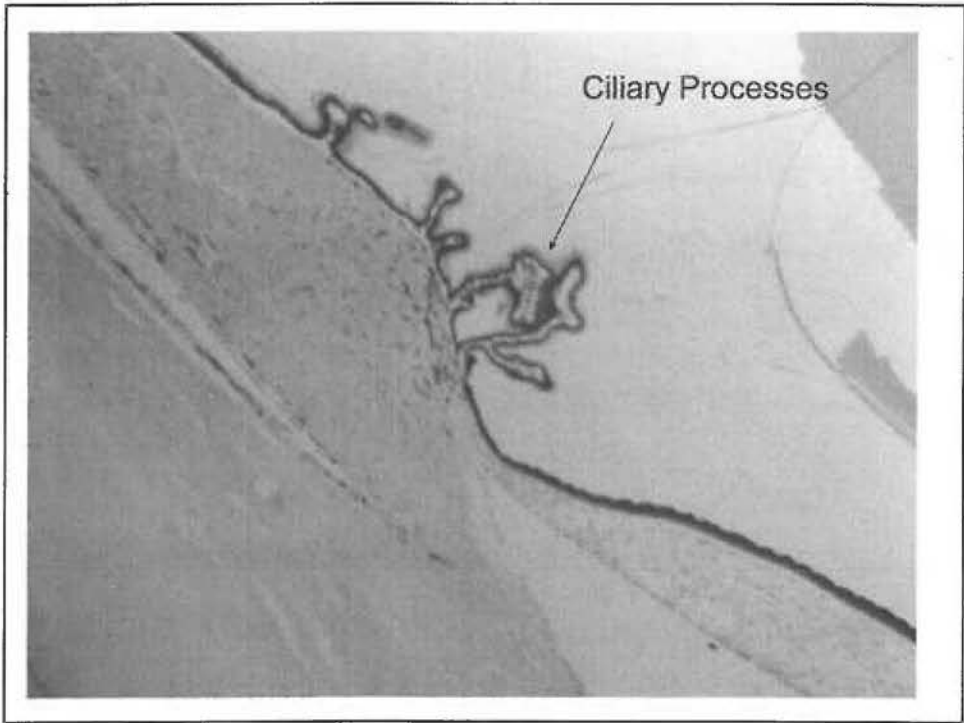
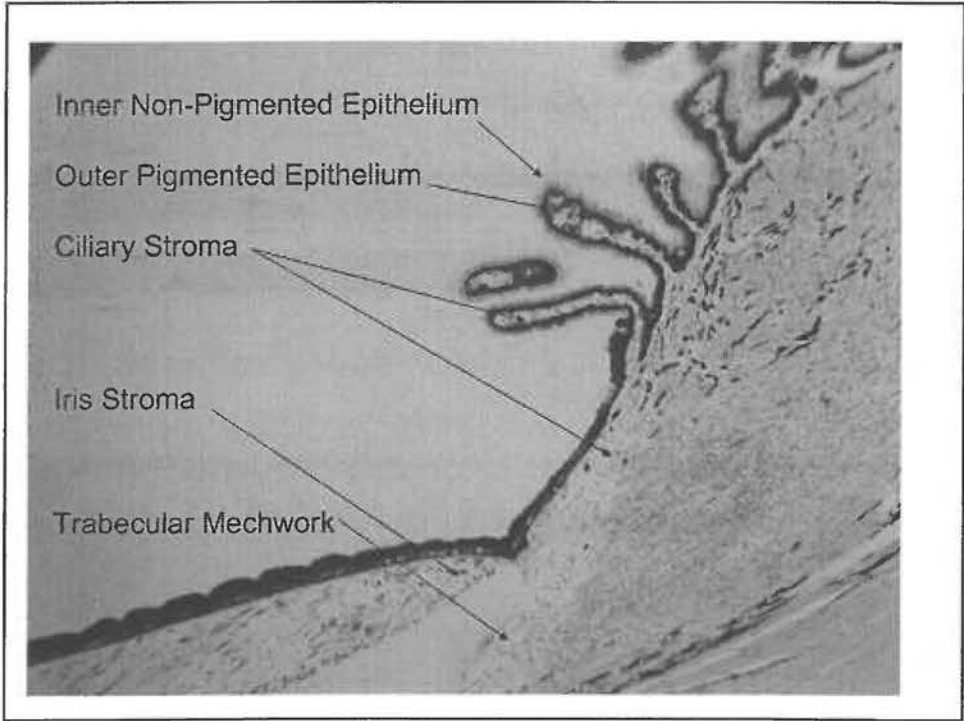
# ***UVEAL TRACT HISTOLOGY SLIDES***

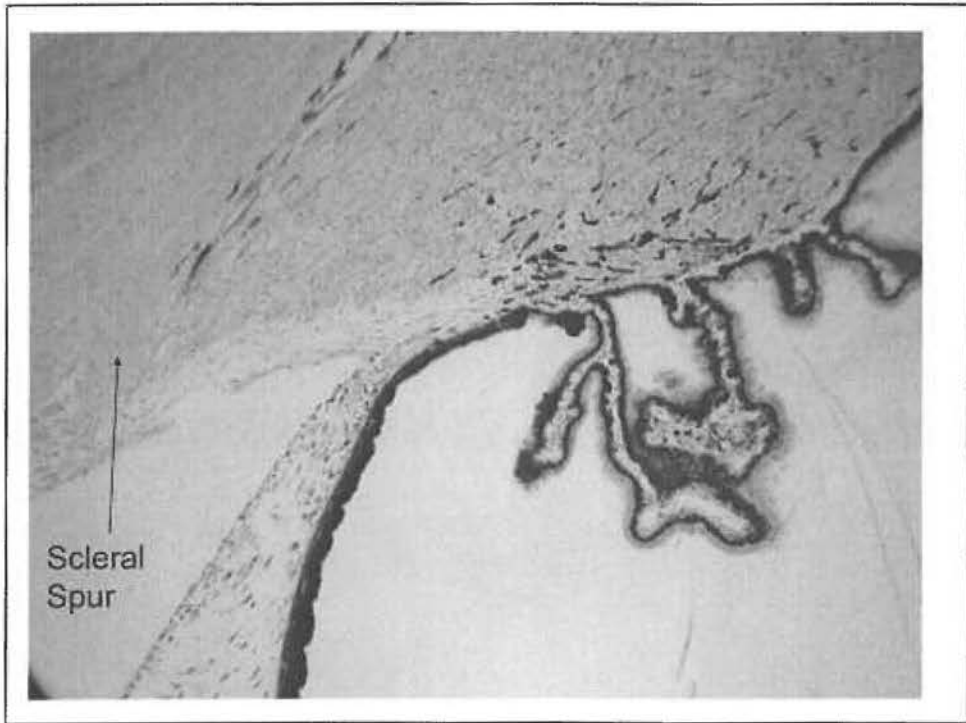
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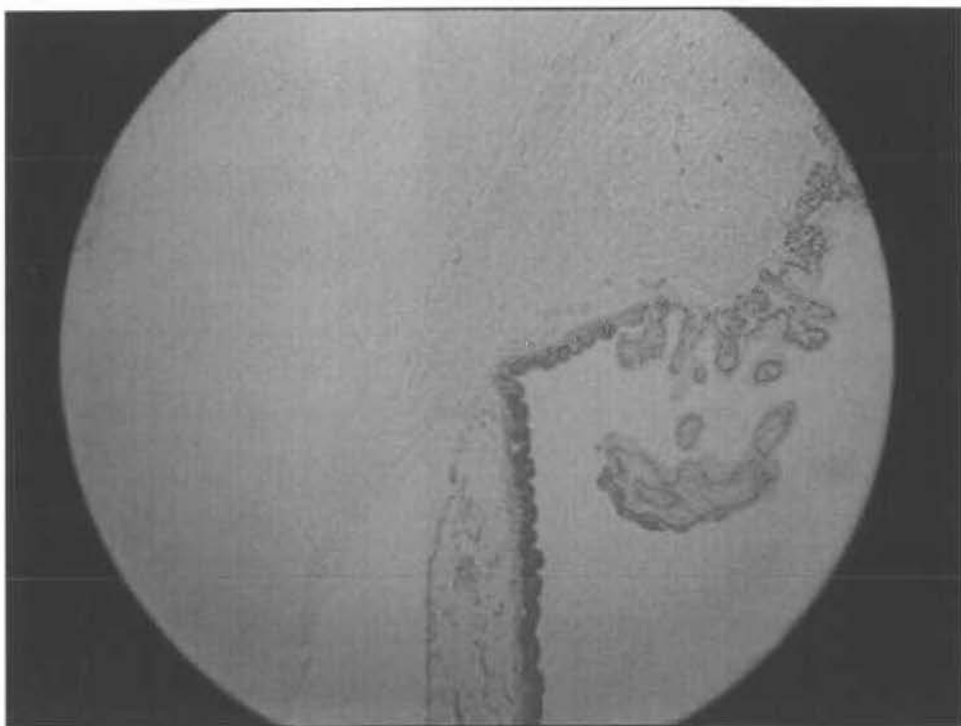
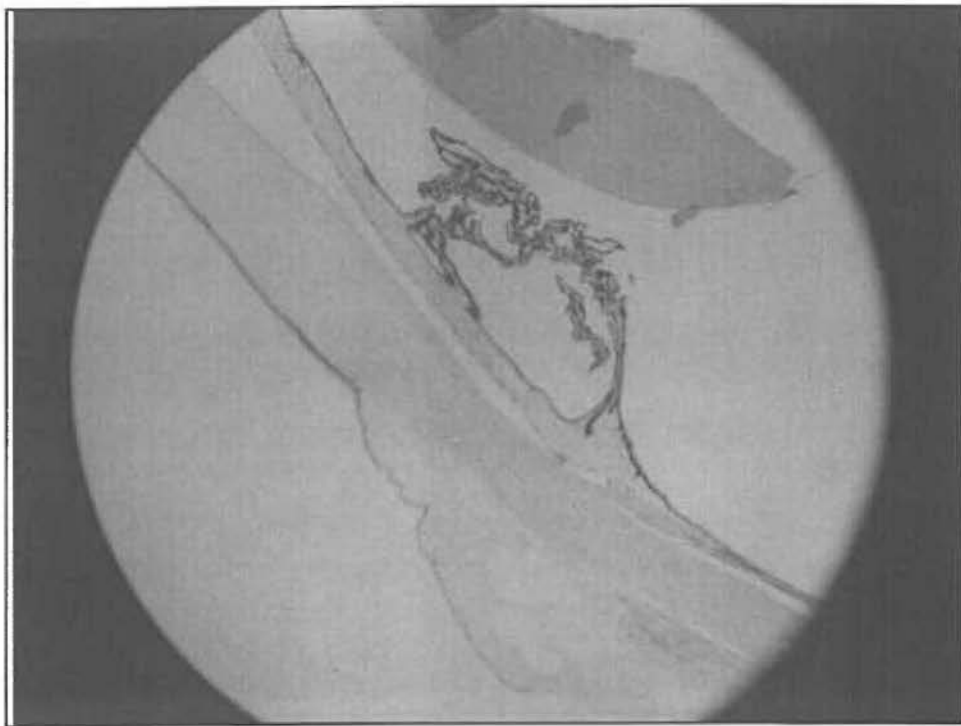


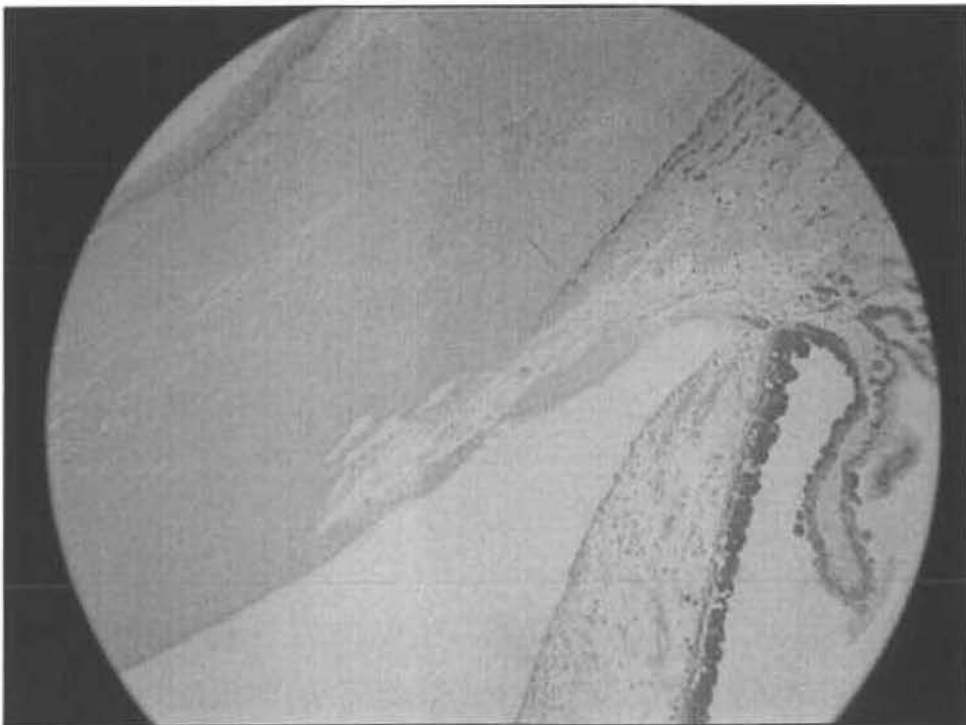
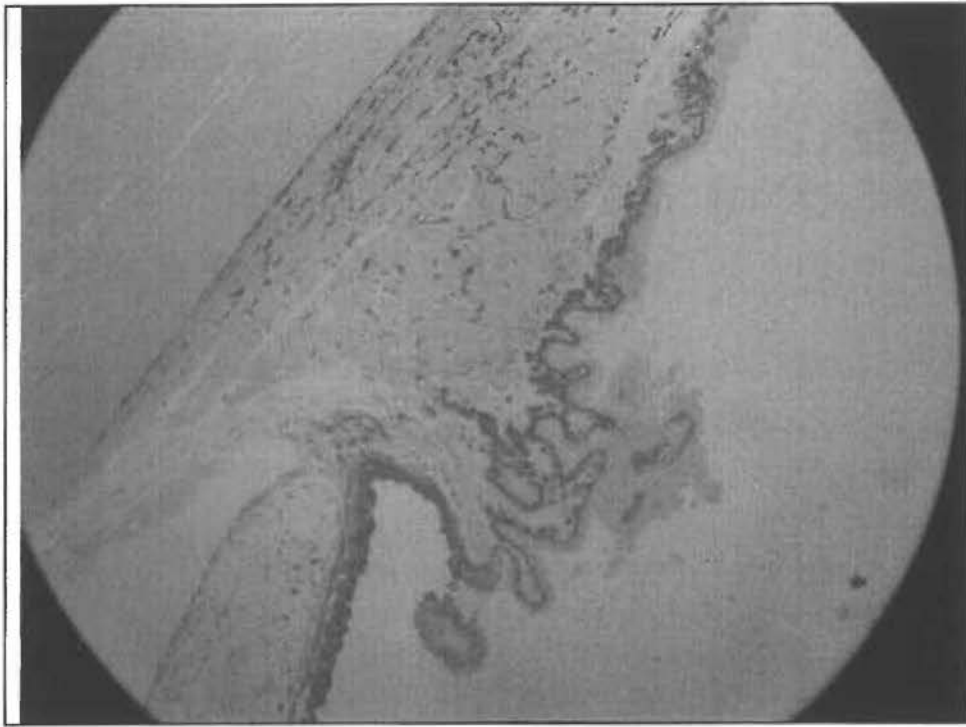


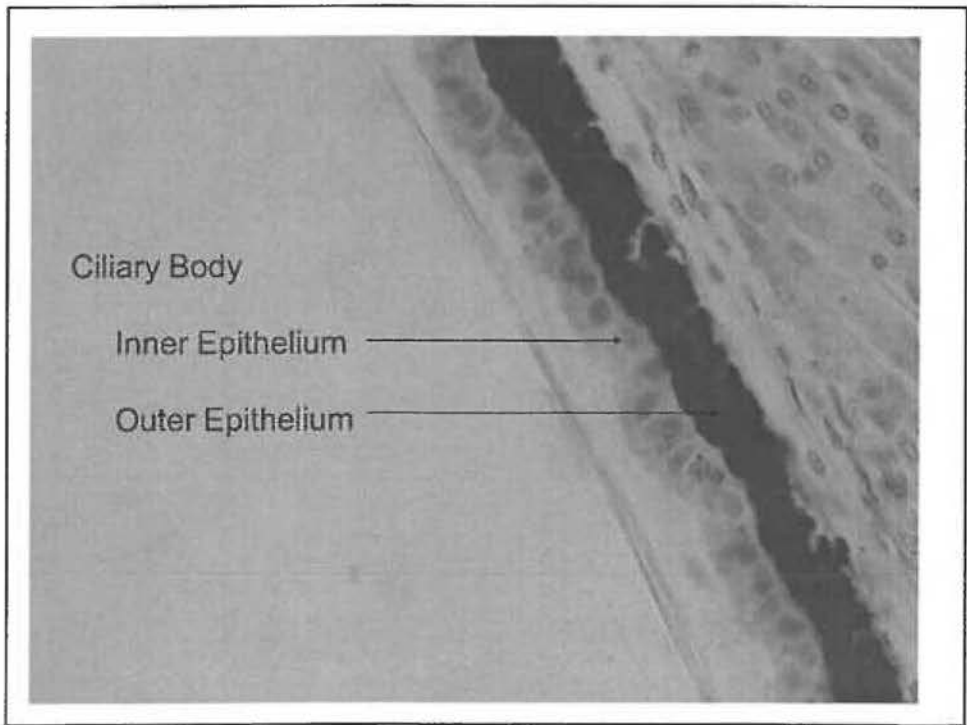
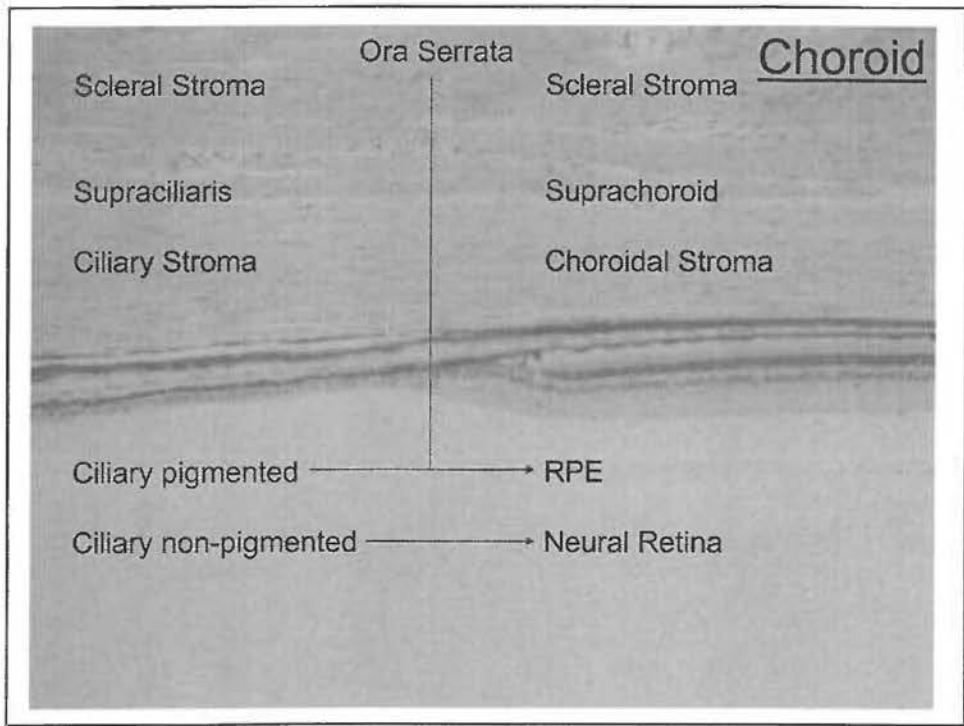




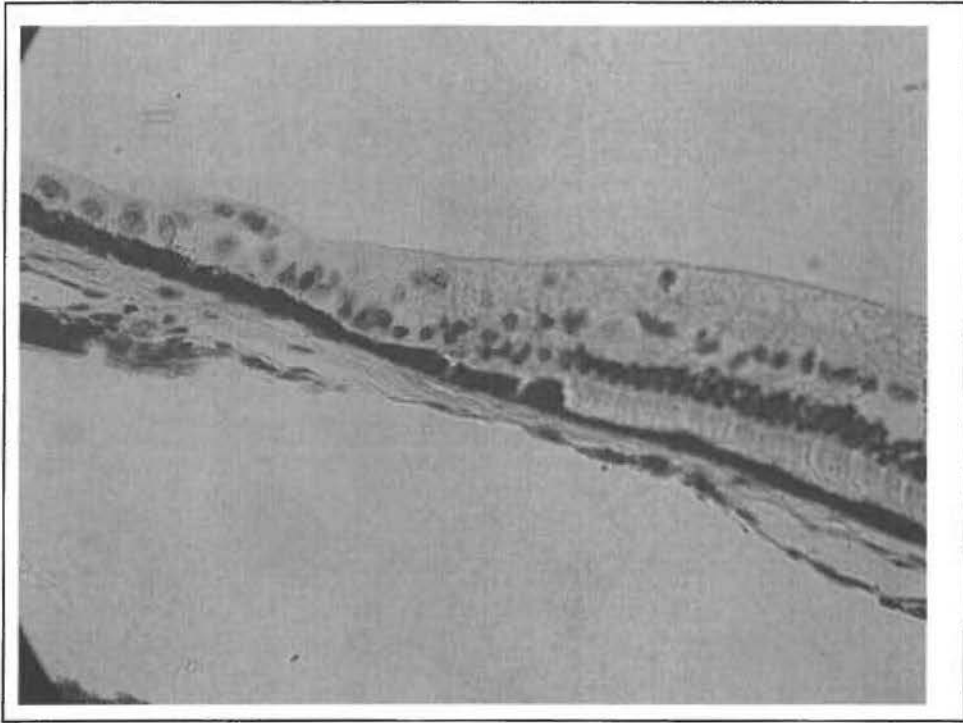






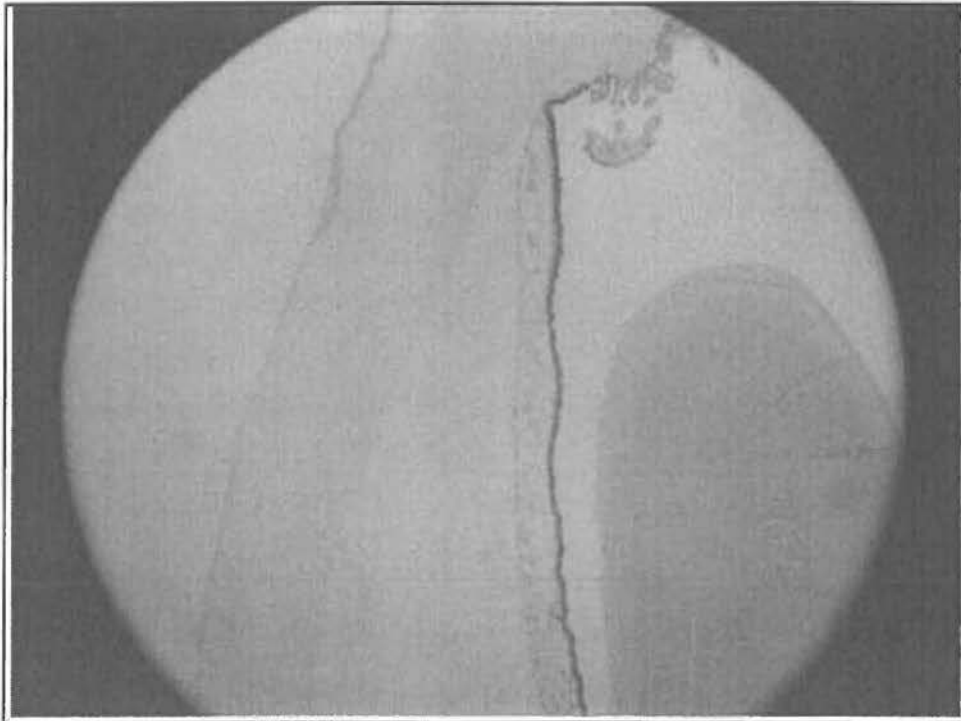


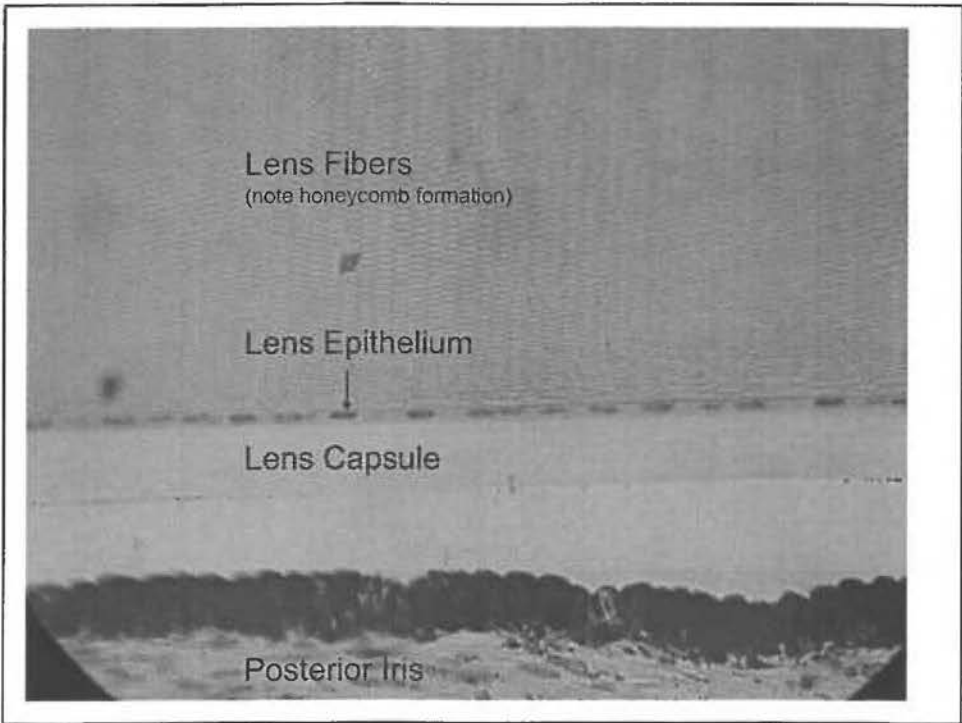
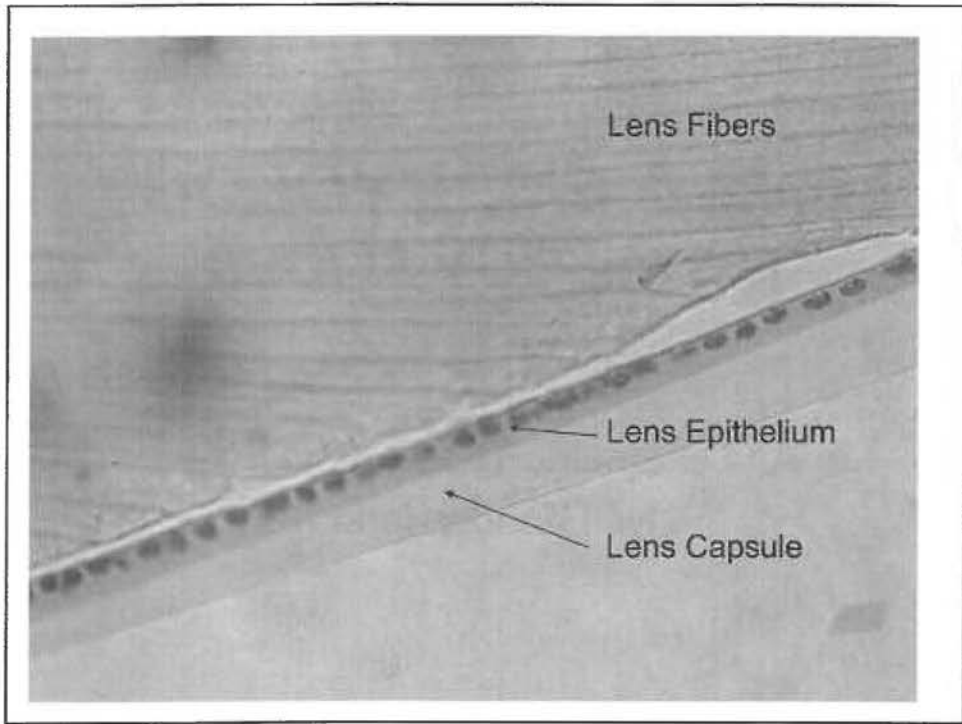


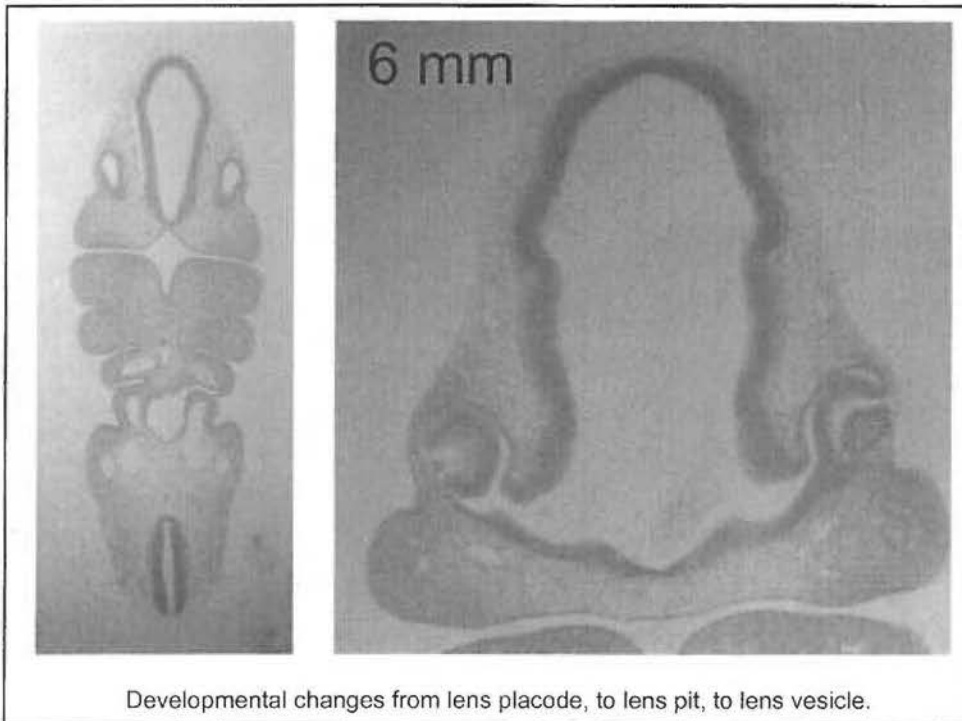
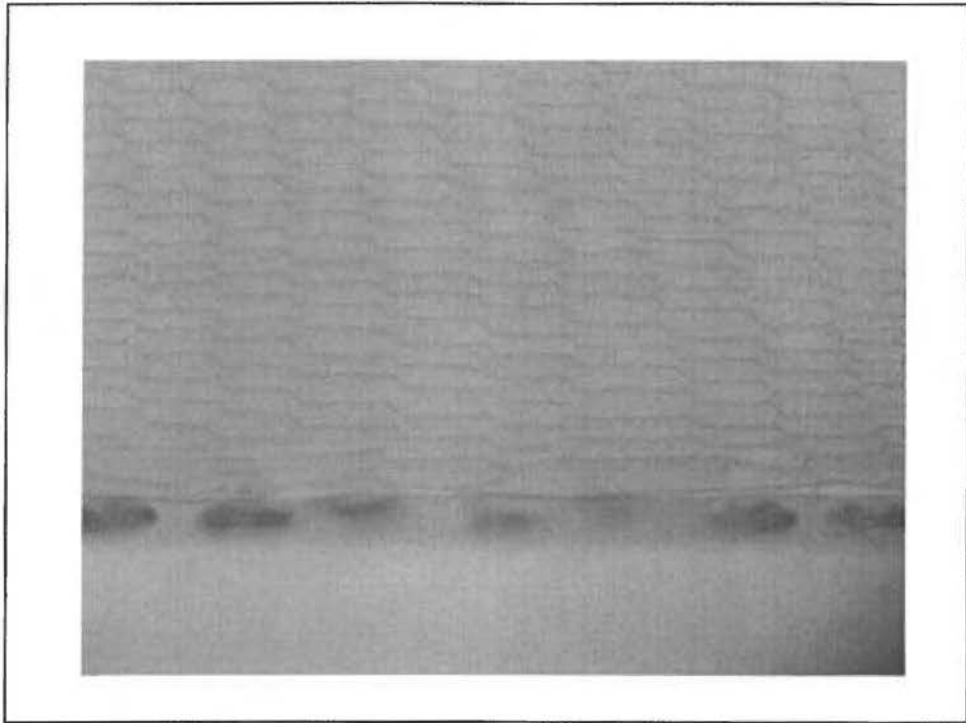


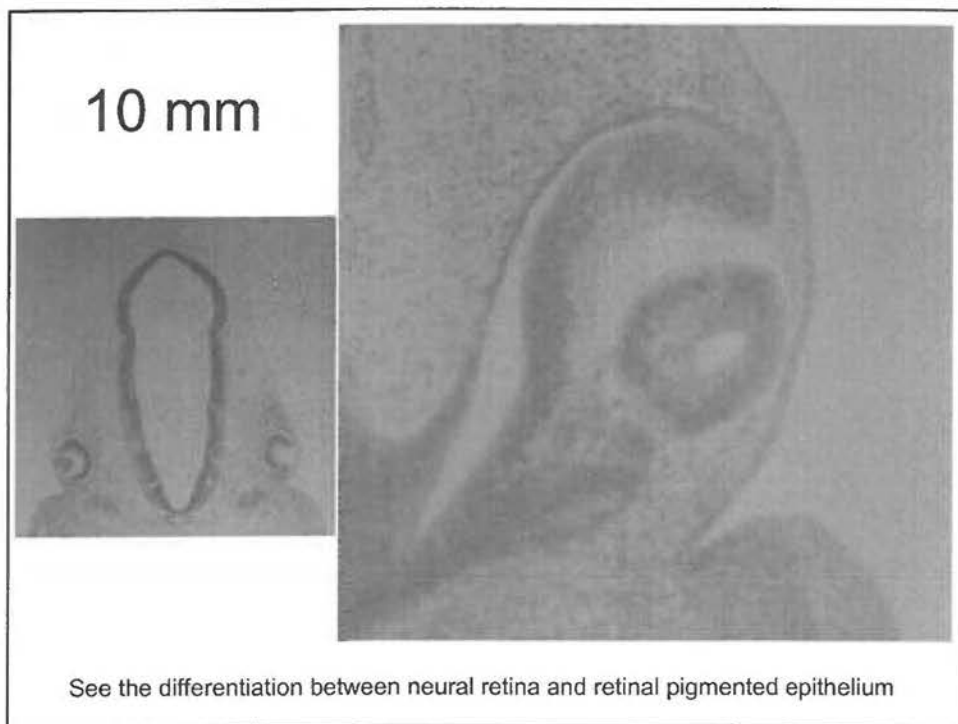
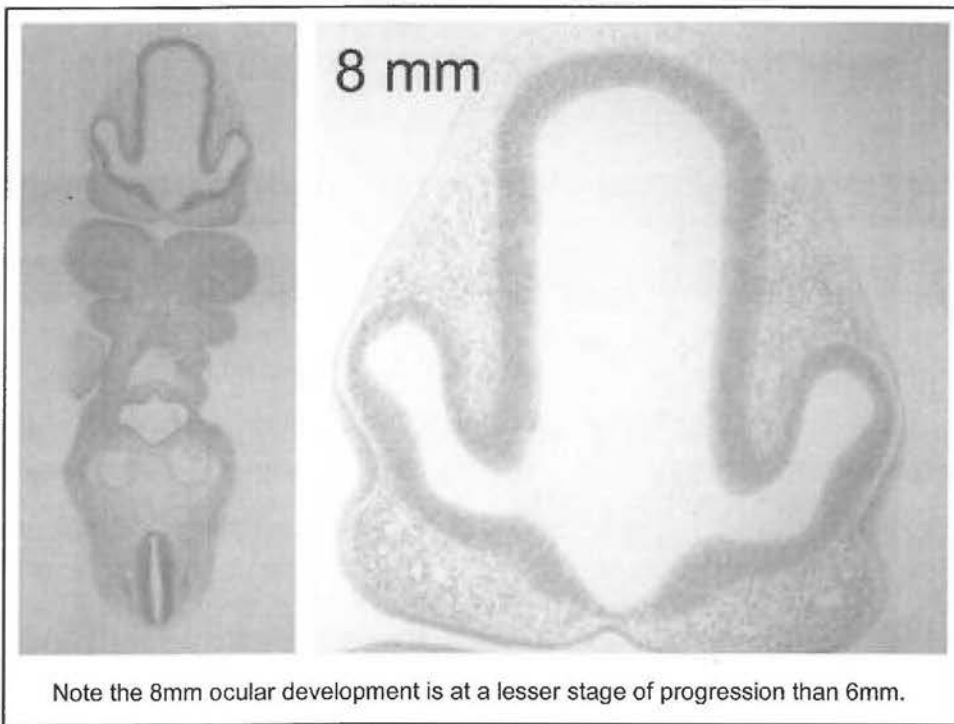
# ***LENS & EMBRYOLOGY HISTOLOGY SLIDES***

An Optometric Thesis project by  
Neil VanderHorst

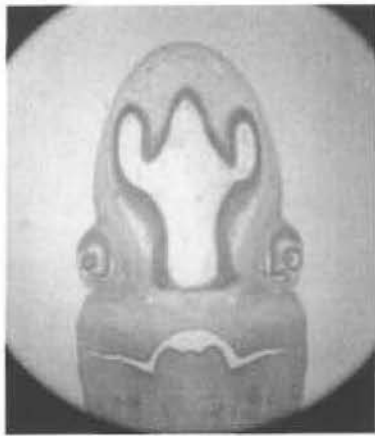






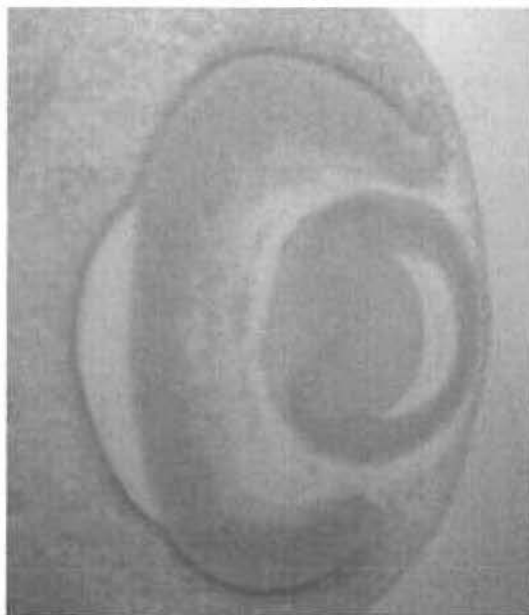
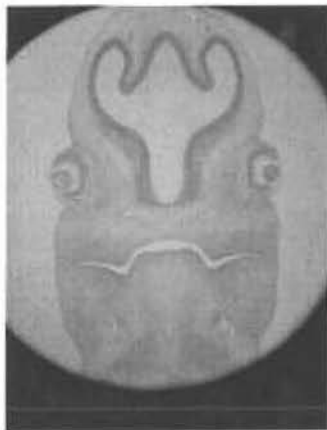


12 mm



Note elongation of posterior lens fibers.  
Also of the migration of mesenchyme to form corneal endothelium.

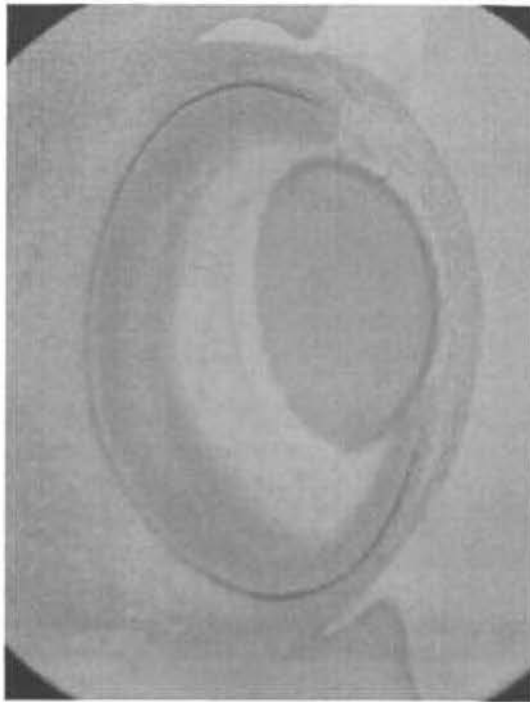
15 mm



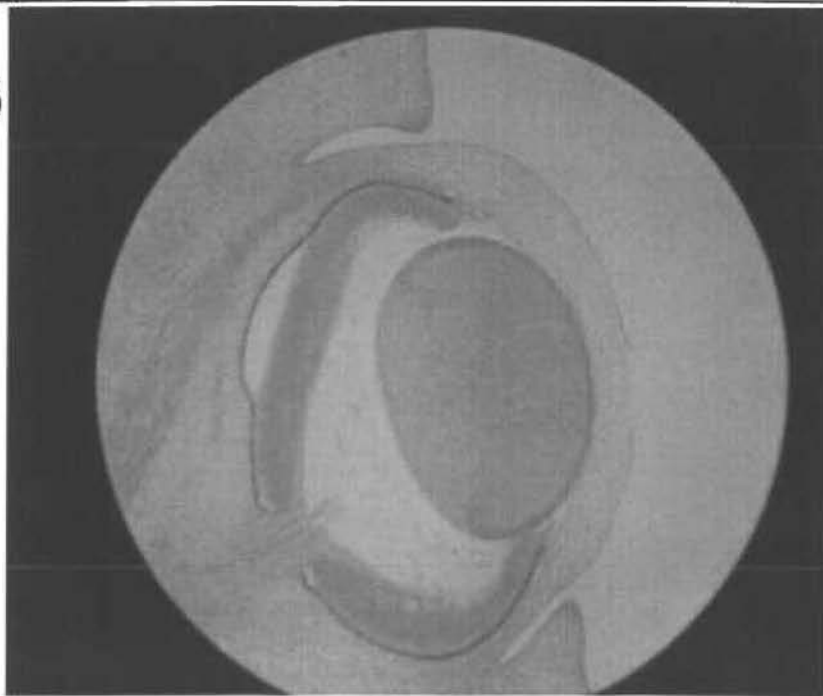
Differentiation of neural retinal into separate retinal layers.

20 mm

Observable lens bow,  
mesenchyme migration into  
corneal stroma,  
beginning of lid migration.

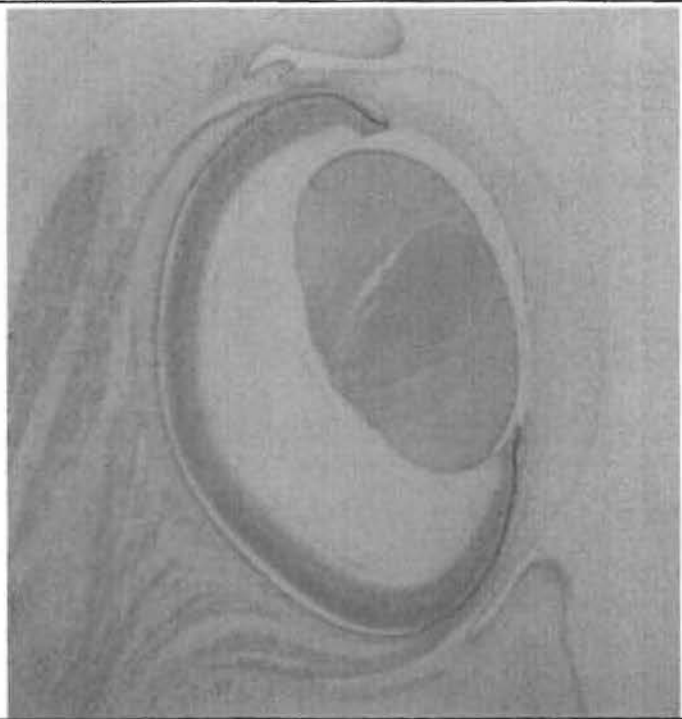


25



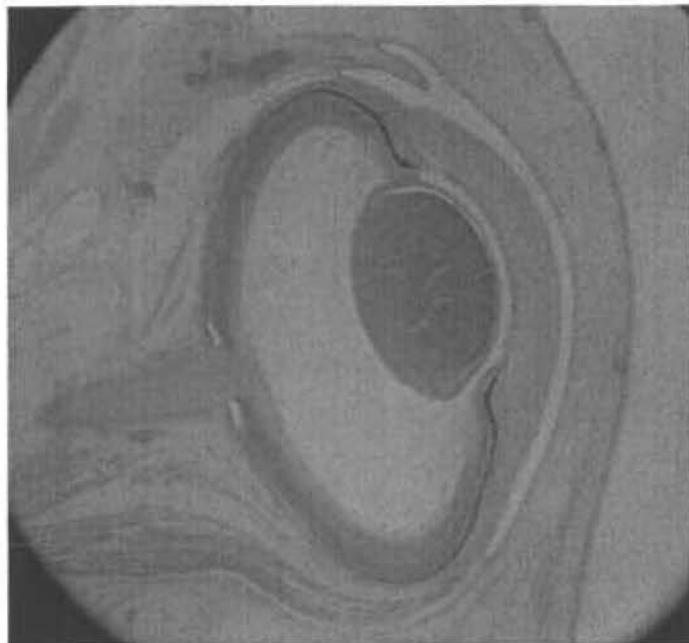
35 mm

Distinct retinal and  
corneal layers.



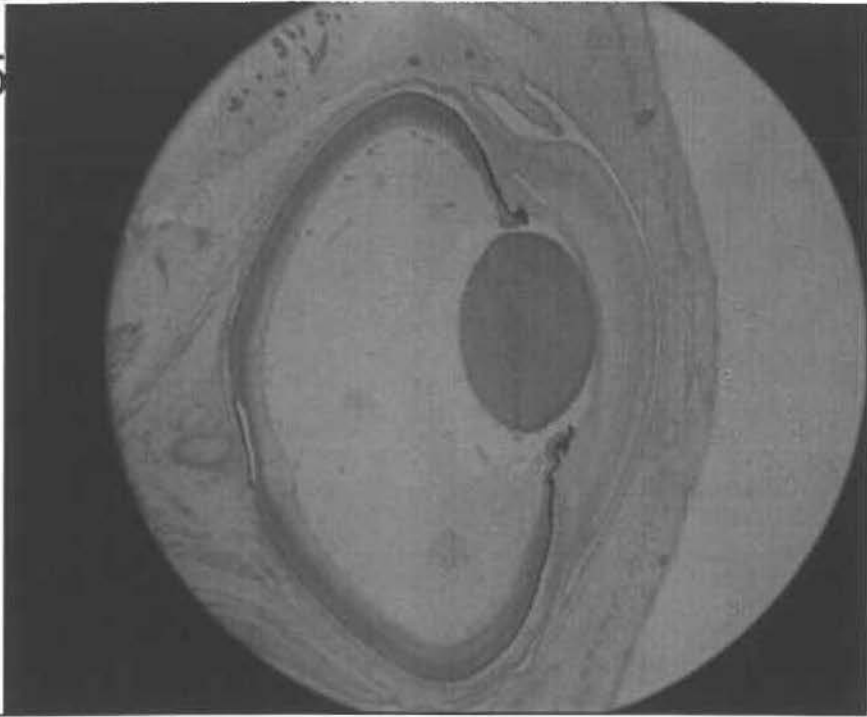
45 mm

Full migration  
of lids.

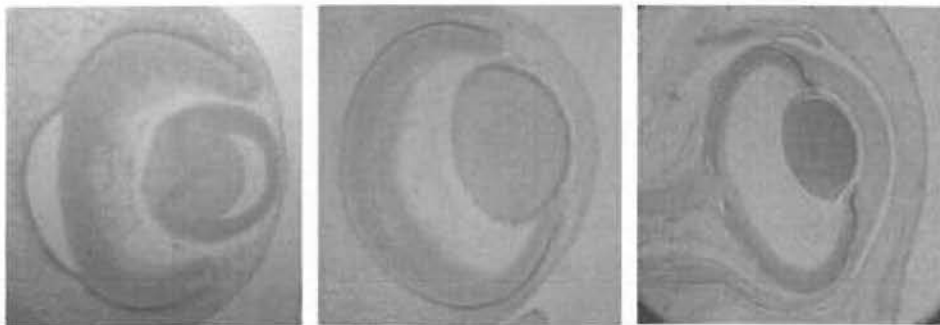




55



### Embryology Summary



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