

• Associated with congenital glaucoma: ?









• Associated with congenital glaucoma: Horizontal









## • Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma?







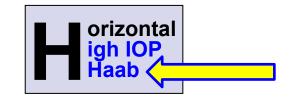


• Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae









## • Associated with congenital glaucoma: Horizontal

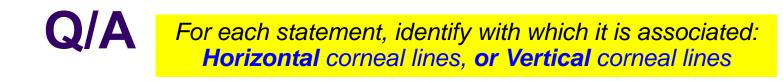
What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae

Can Haab striae develop in children whose glaucoma commences after birth?









• Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae

Can Haab striae develop in children whose glaucoma commences after birth? Yes, they appear in pts with glaucoma onset up to age









• Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae

Can Haab striae develop in children whose glaucoma commences after birth? Yes, they appear in pts with glaucoma onset up to age 4 years









• Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae

What do Haab striae look like?





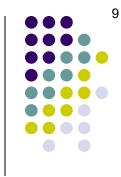




• Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae

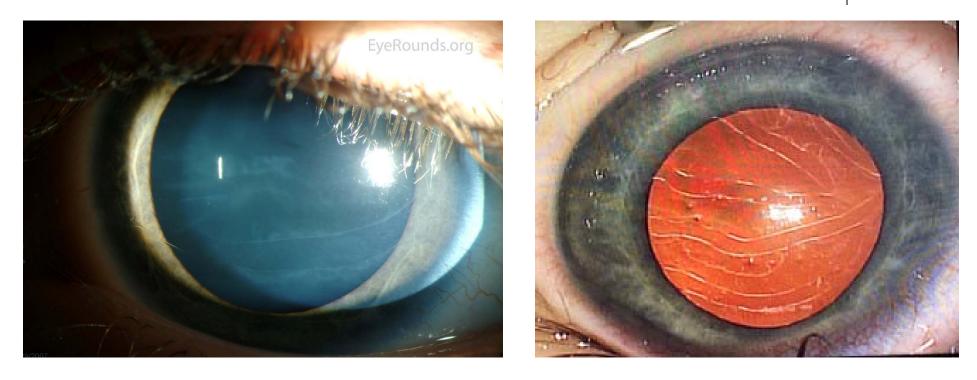
What do Haab striae look like? Parallel lines that taper and meet at their ends











Haab striae in congenital glaucoma

Q

For each statement, identify with which it is associated: Horizontal corneal lines, or Vertical corneal lines

• Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae

*What do Haab striae look like?* Parallel lines that taper and meet at their ends

Haab striae represent what sort of pathology, ie, which corneal structure is damaged, and in what way?







A

For each statement, identify with which it is associated: Horizontal corneal lines, or Vertical corneal lines

• Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae

*What do Haab striae look like?* Parallel lines that taper and meet at their ends

Haab striae represent what sort of pathology, ie, which corneal structure is damaged, and in what way? Tears in Descemet's secondary to corneal stretching







Q

For each statement, identify with which it is associated: Horizontal corneal lines, or Vertical corneal lines

• Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae

*What do Haab striae look like?* Parallel lines that taper and meet at their ends

Haab striae represent what sort of pathology, ie, which corneal structure is damaged, and in what way? Tears in Descemet's secondary to corneal stretching

What is the mechanism?







A

For each statement, identify with which it is associated: Horizontal corneal lines, or Vertical corneal lines

• Associated with congenital glaucoma: Horizontal

What is the name for the horizontal corneal finding associated with congenital glaucoma? Haab striae

*What do Haab striae look like?* Parallel lines that taper and meet at their ends

Haab striae represent what sort of pathology, ie, which corneal structure is damaged, and in what way? Tears in Descemet's secondary to corneal stretching

What is the mechanism? Mechanical deformation caused by the elevated IOP









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: ?

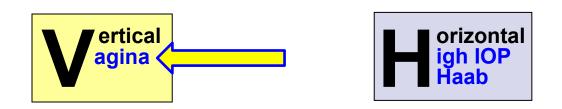






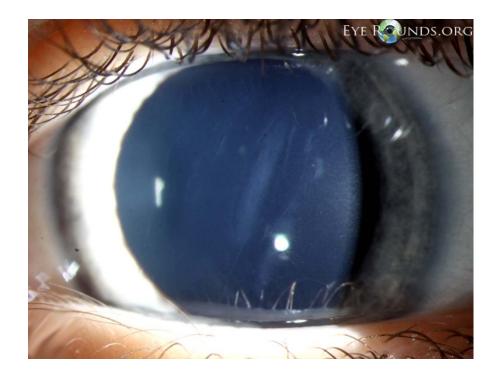


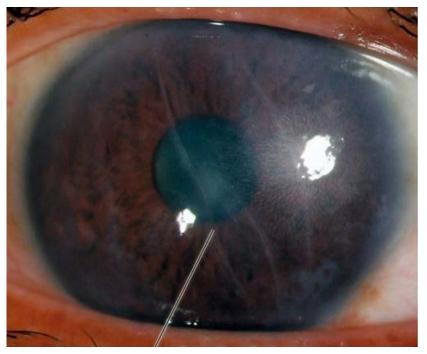
- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical











Vertical striae related to birth trauma



- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical

What is the pathology underlying these breaks, ie, which corneal structure is damaged, and in what way?







- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical

What is the pathology underlying these breaks, ie, which corneal structure is damaged, and in what way? The same as Haab striae: Tears in Descemet's secondary to pressure on the cornea









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical

What is the pathology underlying these breaks, ie, which corneal structure is damaged, and in what way? The same as Haab striae: Tears in Descemet's secondary to pressure on the cornea

What specific birth-event is the classic cause?









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical

What is the pathology underlying these breaks, ie, which corneal structure is damaged, and in what way? The same as Haab striae: Tears in Descemet's secondary to pressure on the cornea

*What specific birth-event is the classic cause?* Forceps delivery









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: ?









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- <u>Corneal stress lines in keratoconus: Vertical</u>

What is the name for the vertical corneal finding associated with KCN?









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- <u>Corneal stress lines in keratoconus: Vertical</u>

What is the name for the vertical corneal finding associated with KCN? **Vogt striae** 









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- <u>Corneal stress lines in keratoconus: Vertical</u>

What is the name for the vertical corneal finding associated with KCN? **Vogt striae** 

What do Vogt striae look like?









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- <u>Corneal stress lines in keratoconus: Vertical</u>

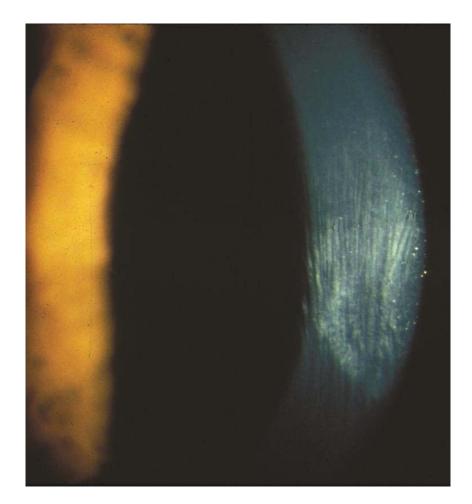
What is the name for the vertical corneal finding associated with KCN? **Vogt striae** 

*What do Vogt striae look like?* Fine parallel lines







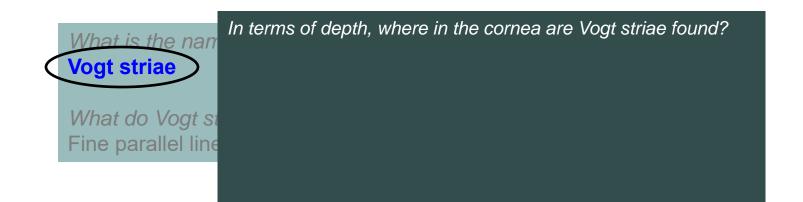




Vogt striae



- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical

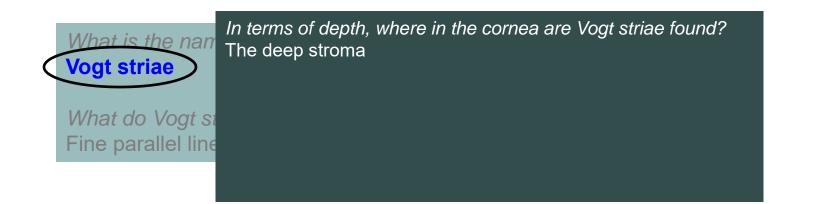








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical

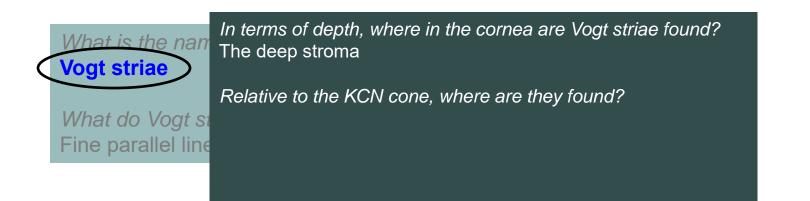








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical



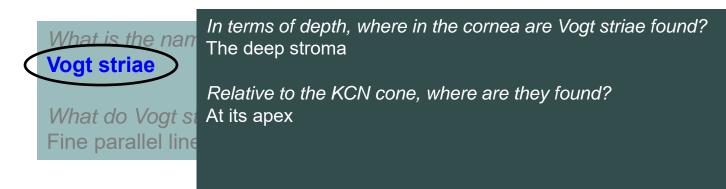








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical



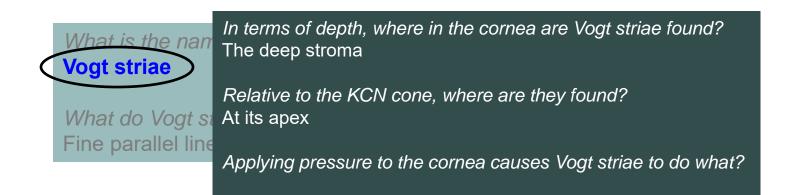








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical

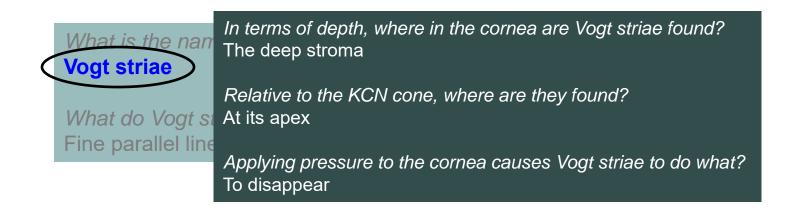








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical

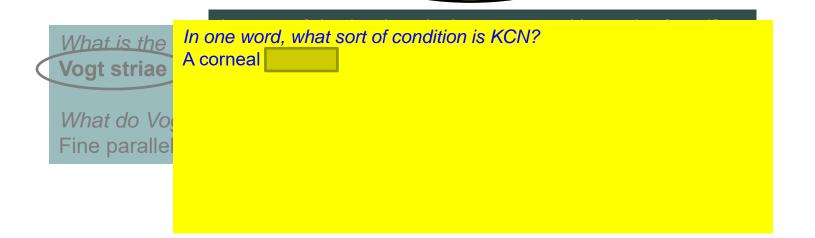








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus. Vertical

*What is the In one word, what sort of condition is KCN?* A corneal ectasia

*What do Vo* Fine parallel

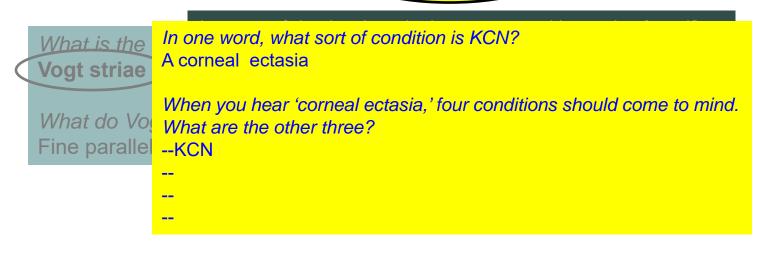








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus. Vertical

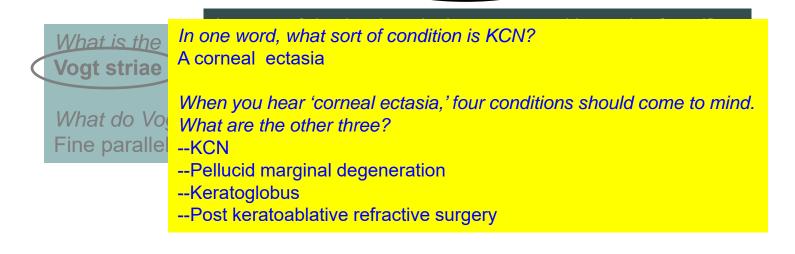








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus. Vertical







- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical

## For more on KCN, see slide-set K38

For more on corneal ectasias, see slide-set K12

What do Vog What are the other three? Fine parallel – KCN

- -Pellucid marginal degeneration
- --Keratoglobus
- -Post keratoablative refractive surgery







• Associated with congenital glaucoma: Horizontal

PPMD

- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical



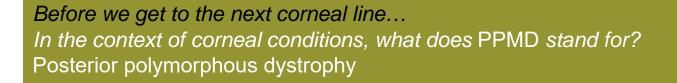




• Associated with congenital glaucoma: Horizontal

PPMD

- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical







42

• Associated with congenital glaucoma: Horizontal

PPMD

- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical

Before we get to the next corneal line... In the context of corneal conditions, what does PPMD stand for? Posterior polymorphous dystrophy

The BCSC Cornea book divvies the corneal dystrophies into four categories. What are they?



- ---



- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical

Before we get to the next corneal line... In the context of corneal conditions, what does PPMD stand for? Posterior polymorphous dystrophy

The BCSC Cornea book divvies the corneal dystrophies into four categories. What are they?

- --Epithelial and subepithelial
- --Epithelial-stromal TGFBI
- --Stromal
- --Endothelial







• Associated with congenital glaucoma: Horizontal

PPMD

- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical

Before we get to the next corneal line... In the context of corneal conditions, what does PPMD stand for? Posterior polymorphous dystrophy

The BCSC Cornea book divvies the corneal dystrophies into four categories. What are they?

- --Epithelial and subepithelial
- --Epithelial-stromal TGFBI
- --Stromal
- --Endothelial

To which category does PPMD belong?





• Associated with congenital glaucoma: Horizontal

PPMD

- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical

Before we get to the next corneal line... In the context of corneal conditions, what does PPMD stand for? Posterior polymorphous dystrophy

The BCSC Cornea book divvies the corneal dystrophies into four categories. What are they?

- --Epithelial and subepithelial
- --Epithelial-stromal TGFBI
- --Stromal
- --Endothelial

*To which category does PPMD belong?* Endothelial





- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: ?









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- <u>A corneal finding in PPMD: Horizontal</u>

What is the name for the horizontal corneal finding in PPMD?









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- <u>A corneal finding in PPMD: Horizontal</u>

What is the name for the horizontal corneal finding in PPMD? **Snail tracks** 









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- <u>A corneal finding in PPMD: Horizontal</u>

What is the name for the horizontal corneal finding in PPMD? **Snail tracks** 

What do snail tracks look like?









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- <u>A corneal finding in PPMD: Horizontal</u>

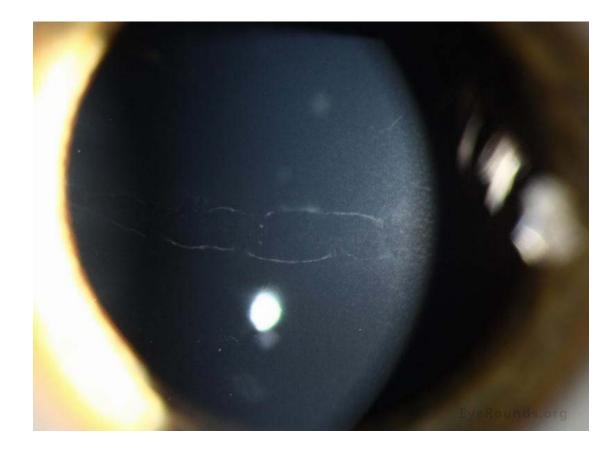
What is the name for the horizontal corneal finding in PPMD? Snail tracks

What do snail tracks look like? Parallel lines, often with a scalloped contour











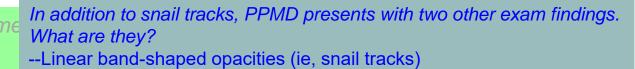
Snail tracks in PPMD



**Snail tracks** 

For each statement, identify with which it is associated: Horizontal corneal lines, or Vertical corneal lines

- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- <u>A corneal finding in PPMD: Horizontal</u>



*What do snail trace--*Parallel lines, often with a scalloped contour









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- <u>A corneal finding in PPMD: Horizontal</u>



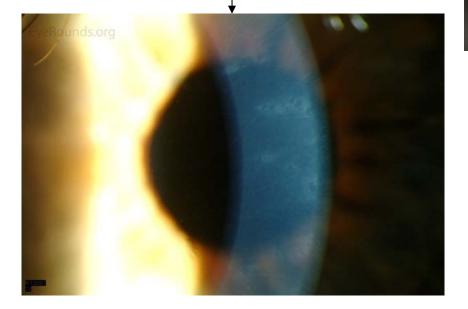








Vesicular lesions



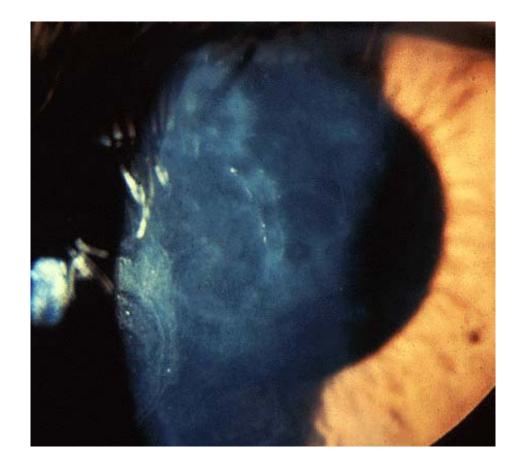
dentify with which it is associated: lines, **or Vertical** corneal lines



Diffuse opacities

**PPMD** 

55

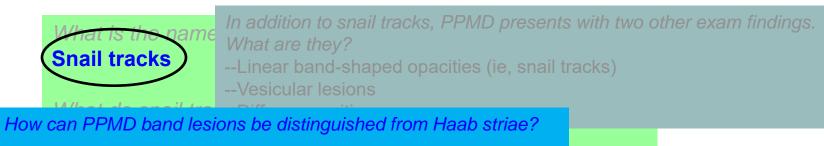


**PPMD**. Its clinical appearance is notoriously variable don't commit any one image to memory as representing it!





- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- <u>A corneal finding in PPMD: Horizontal</u>



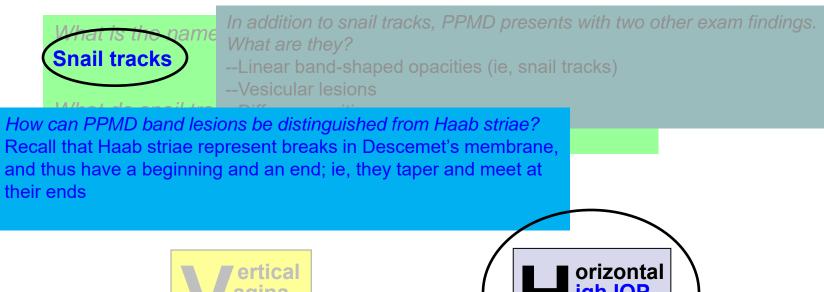








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- <u>A corneal finding in PPMD: Horizontal</u>



How can PPMD band lesions be distinguished from Haab striae? Recall that Haab striae represent breaks in Descemet's membrane, and thus have a beginning and an end; ie, they taper and meet at their ends. In contrast, the bands of PPMD are not breaks in Descemet's, and therefore do **not** meet at their terminuses.







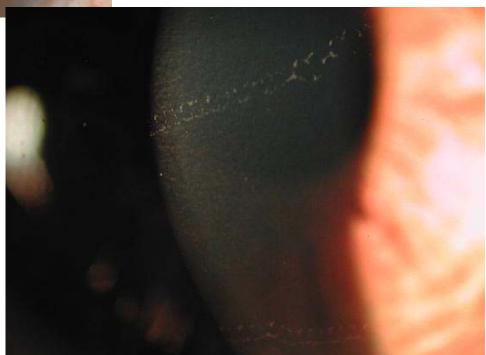


which it is associated: **rtical** corneal lines

Haab's striae (note that the lines taper and meet)



## Snail tracks in PPMD (the lines don't meet)





- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal
- A manifestation of corneal transplant rejection:









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal
- A manifestation of corneal transplant rejection: Horizontal

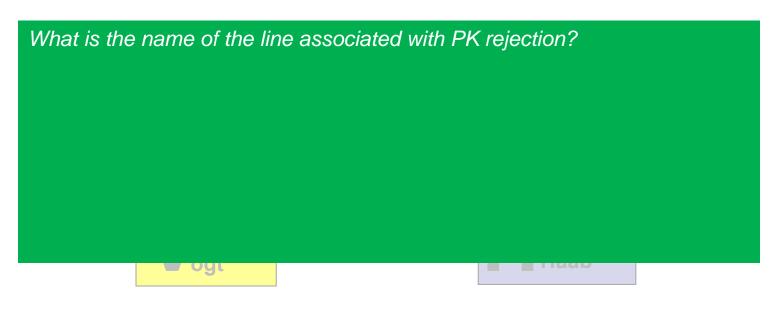








- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal
- <u>A manifestation of corneal transplant rejection: Horizontal</u>







- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal

Οgι

• <u>A manifestation of corneal transplant rejection: Horizontal</u>

What is the name of the line associated with PK rejection? **Khodadoust line** 





- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal
- <u>A manifestation of corneal transplant rejection: Horizontal</u>

What is the name of the line associated with PK rejection? **Khodadoust line** 

Rejection of which layer of the cornea (ie, epithelial, stromal, etc) is heralded by the presence of a Khodadoust line?







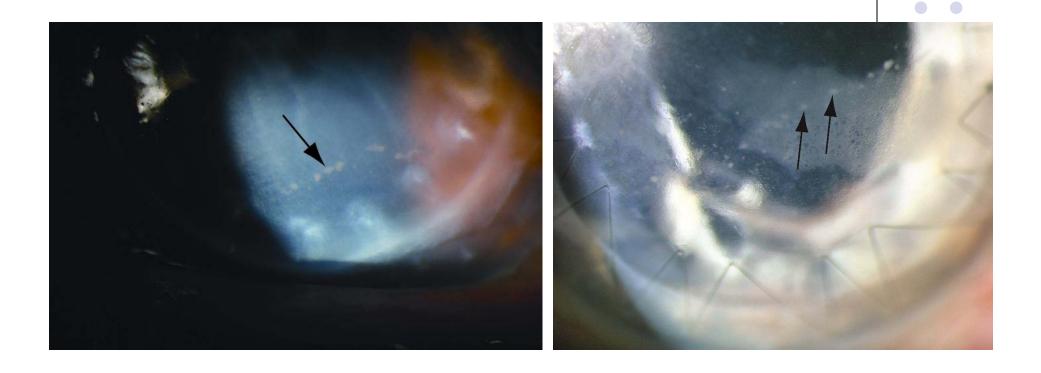
- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal
- <u>A manifestation of corneal transplant rejection: Horizontal</u>

What is the name of the line associated with PK rejection? **Khodadoust line** 

Rejection of which layer of the cornea (ie, epithelial, stromal, etc) is heralded by the presence of a Khodadoust line? The endothelium







Khodadoust line



- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal
- <u>A manifestation of corneal transplant rejection: Horizontal</u>

What is the name of the line associated with PK rejection? **Khodadoust line** 

Rejection of which layer of the cornea (ie, epithelial, stromal, etc) is heralded by the presence of a Khodadoust line? The endothelium

Of what is the line composed?









- Associated with congenital glaucoma: Horizontal
- Associated with birth trauma: Vertical
- Corneal stress lines in keratoconus: Vertical
- A corneal finding in PPMD: Horizontal
- <u>A manifestation of corneal transplant rejection: Horizontal</u>

What is the name of the line associated with PK rejection? **Khodadoust line** 

Rejection of which layer of the cornea (ie, epithelial, stromal, etc) is heralded by the presence of a Khodadoust line? The endothelium

Of what is the line composed? Inflammatory precipitates

