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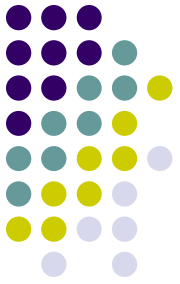
IK? IDK IK! OMG!



Interstitial keratitis is an inflammatory condition of the in the absence of primary involvement of either the corneal or .

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Interstitial keratitis is an inflammatory condition of the corneal stroma in the absence of primary involvement of either the corneal epithelium or endothelium.

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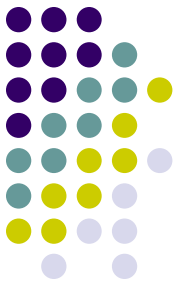


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What does it mean to say the corneal stroma is inflamed?

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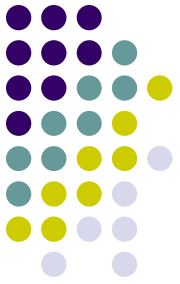
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It means inflammatory cells are present in the interlamellar stroma

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No—IK is a nonsuppurative condition

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Interstitial keratitis is an inflammatory condition of the corneal stroma in the absence of primary involvement of either the corneal epithelium or endothelium.

*Be sure to take note of this! This is why stromal inflammation resulting from, say, a corneal ulcer eating its way into stroma would **not** be classified as IK.*

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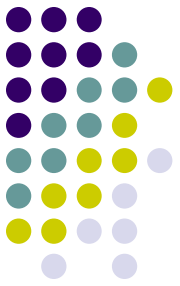


Interstitial keratitis is an inflammatory condition of the corneal stroma in the absence of primary involvement of either the corneal epithelium or endothelium.

What are the typical symptoms of IK?

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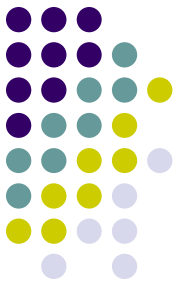
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What are the typical signs of IK, ie, what does it look like at the slit lamp?

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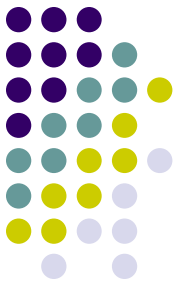
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*With respect to IK, to what does the term **salmon patch** refer?*

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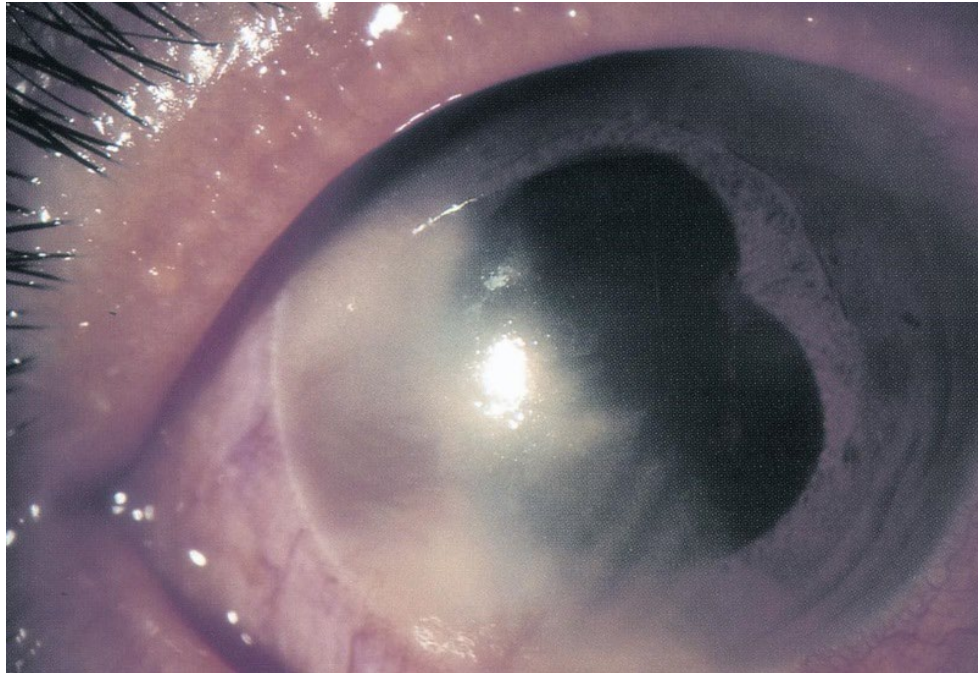
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*With respect to IK, to what does the term **salmon patch** refer?*

If the stromal vascularization is particularly dense and the blood flow is exuberant, the resulting color of the cornea has been likened to that of salmon flesh

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Salmon patch in IK

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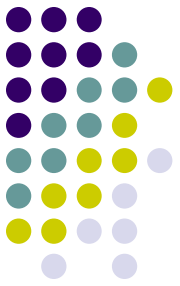


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Interstitial keratitis is an inflammatory condition of the corneal stroma in the absence of primary involvement of either the corneal epithelium or endothelium.

IK represents a Type IV **hypersensitivity reaction** to antigens within the corneal stroma.

Speaking of hypersensitivity reactions...

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Speaking of hypersensitivity reactions...

How many types of ocular-surface hypersensitivity reactions are there?

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IK? IDK IK! OMG!



Type I

Type II

Type III

Type IV

Speaking of hypersensitivity reactions...

How many types of ocular-surface hypersensitivity reactions are there?

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IK? IDK IK! OMG!



Type I

Type II

Type III

Type IV

Type I reactions involve... [One word that captures the nature of this rxn]
Type II reactions involve...
Type III reactions involve...
Type IV reactions involve...

Speaking of hypersensitivity reactions...

How many types of ocular-surface hypersensitivity reactions are there?

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Anaphylaxis

Type I

Type II

Type III

Type IV

Type I reactions involve...Anaphylaxis

Type II reactions involve...

Type III reactions involve...

Type IV reactions involve...

Speaking of hypersensitivity reactions...

How many types of ocular-surface hypersensitivity reactions are there?

Q

IK? IDK IK! OMG!



Anaphylaxis

Type I

Type II

Type III

Type IV

Type I reactions involve...Anaphylaxis

Type II reactions involve... [Two words capturing this rxn]

Type III reactions involve...

Type IV reactions involve...

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IK? IDK IK! OMG!



Anaphylaxis

Cytotoxic Ab

Type I

Type II

Type III

Type IV

Type I reactions involve...Anaphylaxis

Type II reactions involve...Cytotoxic antibodies

Type III reactions involve...

Type IV reactions involve...

Q

IK? IDK IK! OMG!



Anaphylaxis

Cytotoxic Ab

Type I

Type II

Type III

Type IV

Type I reactions involve...Anaphylaxis

Type II reactions involve...Cytotoxic antibodies

Type III reactions involve... [Three words for this one]

Type IV reactions involve...

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IK? IDK IK! OMG!



Anaphylaxis

Cytotoxic Ab

**Immune-complex
reactions**

Type I

Type II

Type III

Type IV

Type I reactions involve...Anaphylaxis

Type II reactions involve...Cytotoxic antibodies

Type III reactions involve...Immune-complex reactions

Type IV reactions involve...

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Anaphylaxis

Type I

Cytotoxic Ab

Type II

**Immune-complex
reactions**

Type III

Type IV

Type I reactions involve...Anaphylaxis

Type II reactions involve...Cytotoxic antibodies

Type III reactions involve...Immune-complex reactions

Type IV reactions involve... [Three words again]

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Anaphylaxis

Type I

Cytotoxic Ab

Type II

**Immune-complex
reactions**

Type III

**Cell-mediated
reactions**

Type IV

Type I reactions involve...Anaphylaxis

Type II reactions involve...Cytotoxic antibodies

Type III reactions involve...Immune-complex reactions

Type IV reactions involve...Cell-mediated reactions

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Anaphylaxis

Type I

Cytotoxic Ab

Type II

*Immune-complex
reactions*

Type III

**Cell-mediated
reactions**

Type IV

Type I reactions involve...Anaphylaxis

Type II reactions involve...Cytotoxic antibodies

Type III reactions involve...Immune-complex reactions

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'Cell-mediated reaction'...Which sort of immune cell is doing the mediating?

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In what way are T-helper cells mediating the reaction?

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In Type IV reactions, T-helpers interact with antigens, thereby becoming activated. Once activated, the T-helpers release chemotactic factors that recruit and activate macrophages.

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24-72 hours, which is why this reaction is often referred to as *delayed hypersensitivity*

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Anaphylaxis

Cytotoxic Ab

*Immune-complex
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Type I

Type II

Type III

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Type I

Type II

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Type I reactions involve...Anaphylaxis

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***For more on hypersensitivity reactions
of the ocular surface, see slide-set K21***

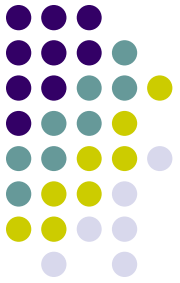
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The combined differential is listed below. It long. Let's work through it...*

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The only cause to make all four lists

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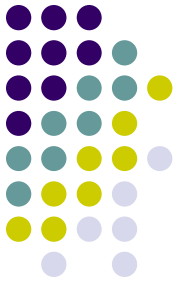
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← These three are included in three of the four lists

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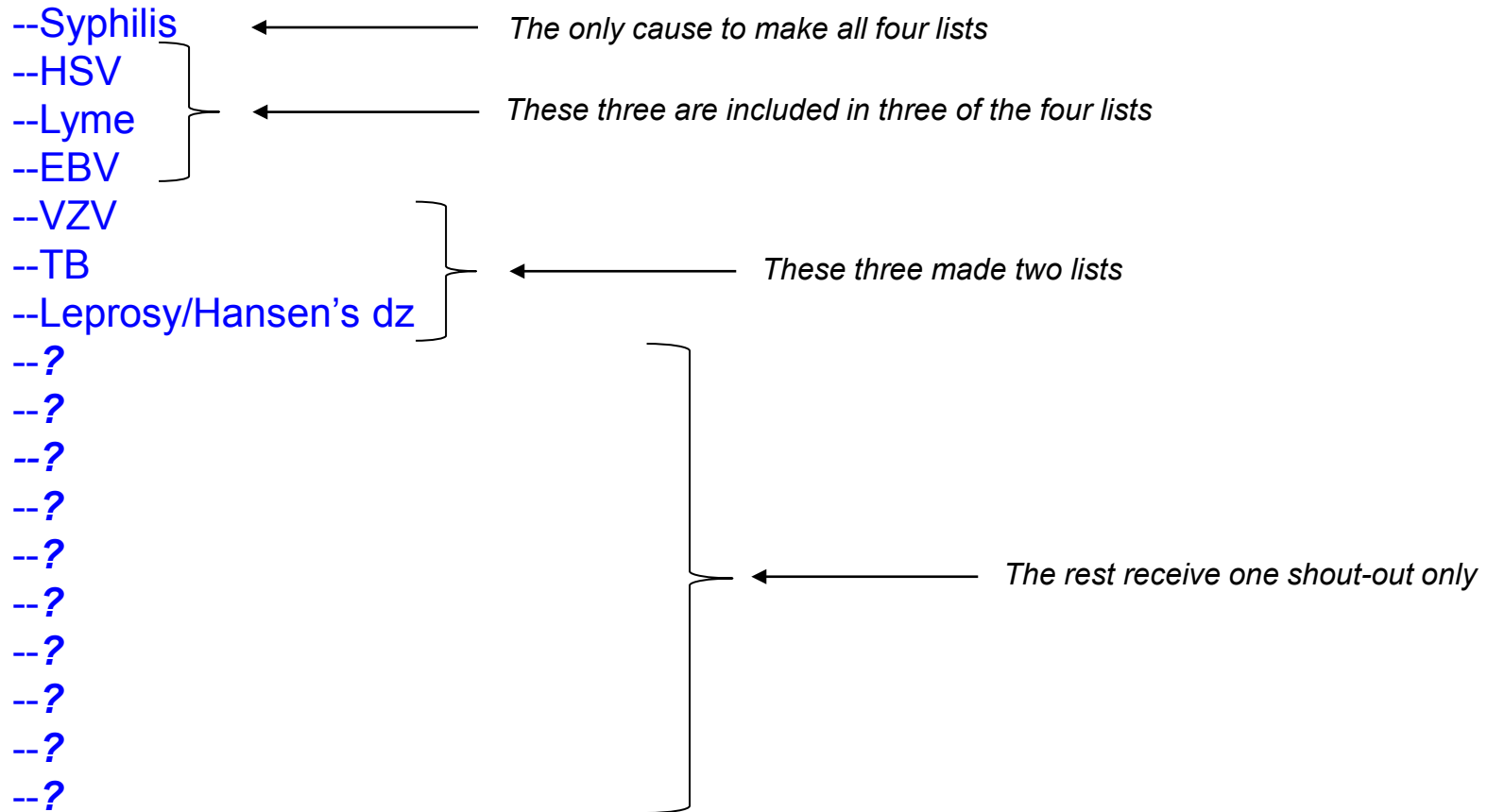
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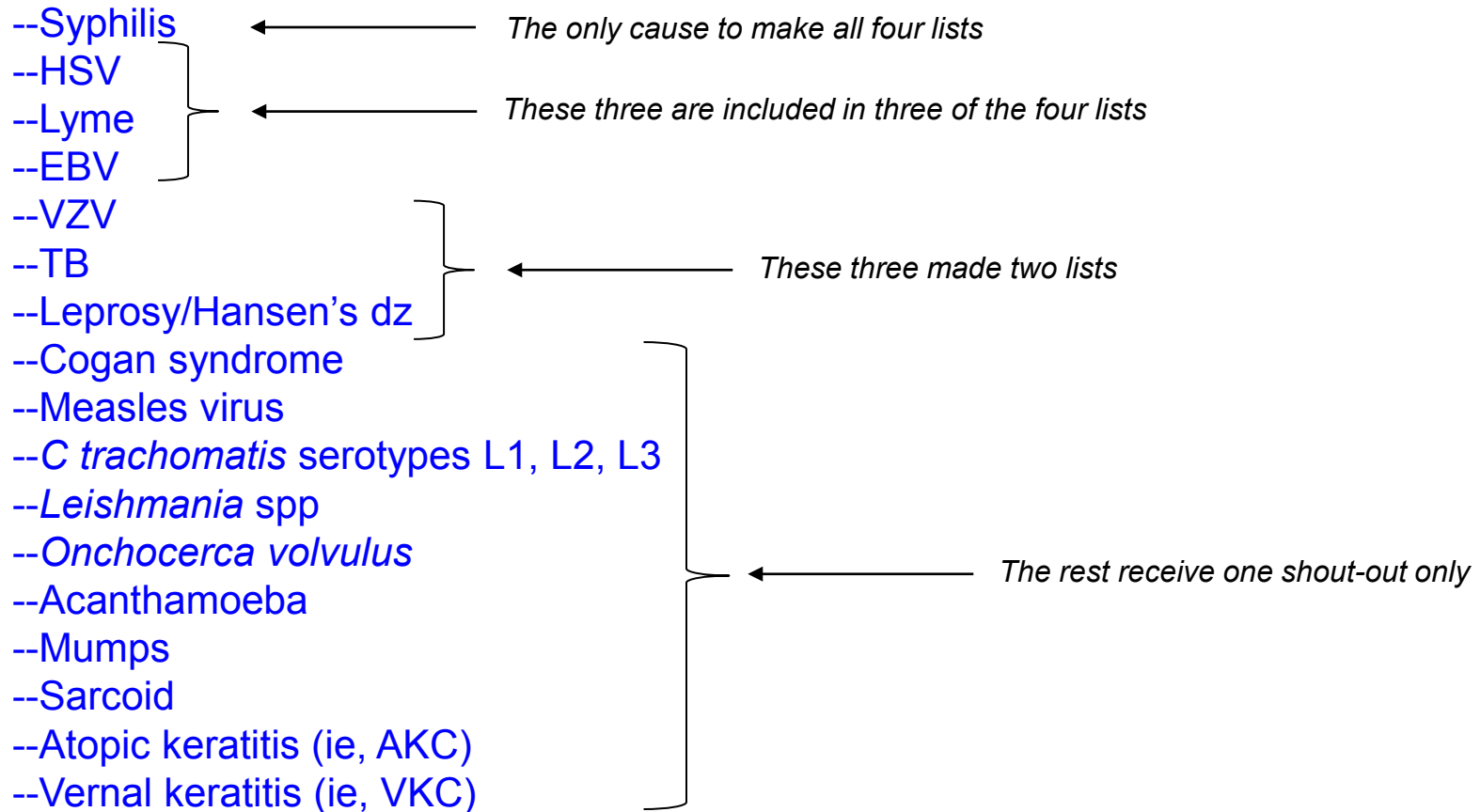


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- HSV
- Lyme
- EBV
- VZV
- TB
- Leprosy/Hansen's dz
- Cogan syndrome
- Measles virus
- C trachomatis* serotypes L1, L2, L3
- Leishmania* spp
- Onchocerca volvulus*
- Acanthamoeba*
- Mumps
- Sarcoid
- Atopic keratitis (ie, AKC)
- Vernal keratitis (ie, VKC)

Which one is described (by at least one BCSC book) as the "classic cause" of IK?

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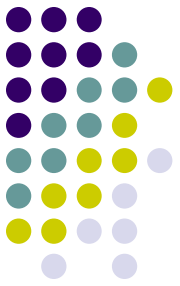
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Which is the most common cause of IK?

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Which is the most common cause of IK?

HSV (interesting that the most common cause is not considered the 'classic' cause!)

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- Lymphogranuloma venereum
- Cogan syndrome
- Measles virus
- C trachomatis** serotypes L1, L2, L3
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Is trachoma a serious ocular condition?

--**Trachoma**

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Mos def—it is a blinding condition*

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--**Trachoma**

*Is trachoma a serious ocular condition?
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Where does it rank in terms of infectious causes of blindness?

--Adult inclusion conjunctivitis
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Is trachoma a serious ocular condition?
Mos def—it is a blinding condition

Where does it rank in terms of infectious causes of blindness?
It is the #1 cause worldwide

--Adult inclusion conjunctivitis

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Is adult inclusion conjunctivitis a serious ocular condition?

Nah—it is mild and transient

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For completeness' sake: The Cornea book lists sexually-transmitted causes of conjunctivitis.

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Um, ask your parent.

For completeness' sake: The Cornea book lists *five** sexually-transmitted causes of conjunctivitis.

*We'll address what's being asterisked** shortly

**Yes, *asterisked* is a word

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--Chlamydia

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--Chlamydia

--*Neisseria gonorrhoeae*

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Now, the asterisk: The book lists a sixth cause—**bug**—but acknowledges that it is vastly rarer than the others. Thus, it was left off the list here.

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*Surely lymphogranuloma venereum is an STD as well?
I mean, it has venere- in its name.*

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It is an STD too, but it's not 'the' chlamydial STD*

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I mean, it has venere- in its name.*

It is an STD too, but it's not 'the' chlamydial STD (and it doesn't cause conjunctivitis, if you were wondering why it wasn't on the just-discussed list)



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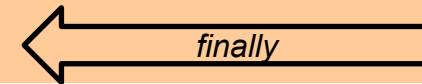
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finally

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The BCS

The com

Let's rev

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Got a mnemonic for remembering these serotypes?

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--Trachoma is as simple as ABC

--Adult inclusion conjunctivitis is 'the' sexually-transmitted form of Chlamydia.

Can you think of a sex-related word that starts with a D and ends with a K?

*--Trachoma: Serotypes... **A, B, C***

*--Adult inclusion conjunctivitis: Serotypes... **D-K***

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Can you think of a sex-related word that starts with a D and ends with a K?

--As for the 'L' serotypes causing Lymphogranuloma, I assume you got that one.

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--Adult inclusion conjunctivitis: Serotypes...D-K

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**Finally: Take note that it is the
lymphogranuloma venereum
serotypes which are associated
with IK!**

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Because HSV is the most common cause of IK...

(No question—proceed when ready)

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*Because HSV is the most common cause of IK...
and syphilis is its 'classic' cause...*

(No question—proceed when ready)

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*Because HSV is the most common cause of IK...
and syphilis is its 'classic' cause...
it should come as no surprise that the BCSC
addresses them in depth—and thus, so shall we.*

(No question—proceed when ready)

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--Lyme

--EBV

--VZV

--TB

--Leprosy/Hansen's dz

--Cogan syndrome

--Measles virus

--*C trachomatis* serotypes L1, L2, L3

--*Leishmania* spp

--*Onchocerca volvulus*

--*Acanthamoeba*

--Mumps

--Sarcoid

--Atopic keratitis (ie, AKC)

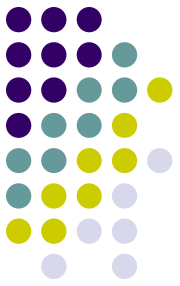
--Vernal keratitis (ie, VKC)

*Because HSV is the most common cause of IK...
and syphilis is its 'classic' cause...*

*it should come as no surprise that the BCSC
addresses them in depth—and thus, so shall we.
Of the remaining causes of IK, only one is
covered in detail by any BCSC volume—and thus
by this slide-set. Which one?*

A

IK? IDK IK! OMG!



*The BCSC addresses IK four times in three volumes (twice in the Cornea book).
The combined differential is listed below. It long. Let's work through it...*

--Syphilis

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Cogan syndrome

Let's start with luetic (ie, syphilitic) IK...

Q

IK? IDK IK! OMG!



- Regarding luetic interstitial keratitis (IK), which are true?
 - Most cases are secondary to congenital disease

A

IK? IDK IK! OMG!



- Regarding luetic interstitial keratitis (IK), which are true?
 - Most cases are secondary to congenital disease T

Q

IK? IDK IK! OMG!



- Regarding luetic interstitial keratitis (IK), which are true?
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 - Symptoms include tearing and photophobia

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IK? IDK IK! OMG!



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Rule of thumb regarding congenital syphilis manifestations and age:

--Manifestations presenting within the first two years of life are secondary to..

two words

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Rule of thumb regarding congenital syphilis manifestations and age:

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--Manifestations presenting later in life are secondary to...an

three words

A

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Rule of thumb regarding congenital syphilis manifestations and age:

*--Manifestations presenting within the first two years of life are secondary to...**active infection***

*--Manifestations presenting later in life are secondary to...an **immune-mediated process***

Q

IK? IDK IK! OMG!



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 - Most cases are secondary to congenital disease **T**
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Re bilateral IK, do both eyes always present simultaneously?

A

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Re bilateral IK, do both eyes always present simultaneously?

No

Q

IK? IDK IK! OMG!



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Re bilateral IK, do both eyes always present simultaneously?

No

Is the extent of involvement always equal between the eyes?

A

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 - Usual age of presentation is ^{nine years} ~~late teens to early 20s~~ F
 - Treatment is topical steroids and cycloplegia T
 - **Most patients have bilateral disease T**

Re bilateral IK, do both eyes always present simultaneously?

No

Is the extent of involvement always equal between the eyes?

No, involvement can be asymmetric

Q

IK? IDK IK! OMG!



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 - Most cases are secondary to congenital disease **T**
 - Symptoms include tearing and photophobia **T**
 - Usual age of presentation is ~~late teens to early 20s~~ ^{nine years} **F**
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 - Most patients have bilateral disease **T**
 - About 50% of congenital syphilis cases manifest IK

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 - Most patients have bilateral disease **T**
 - About ~~50%~~ ^{10%} of congenital syphilis cases manifest IK **F**

Q

IK? IDK IK! OMG!



- Regarding luetic interstitial keratitis (IK), which are true?
 - Most cases are secondary to congenital disease T
 - Symptoms include tearing and photophobia T
 - *What is the natural course of syphilitic IK if it goes untreated?*
 -
 -
 -
 -
 - About 50% of congenital syphilis cases manifest IK F

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IK? IDK IK! OMG!



- Regarding luetic interstitial keratitis (IK), which are true?
 - Most cases are secondary to congenital disease T
 - Symptoms include tearing and photophobia T
 - *What is the natural course of syphilitic IK if it goes untreated?*
 - It tends to burn itself out in a matter of weeks to months
 -
 -
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Q

IK? IDK IK! OMG!



- Regarding luetic interstitial keratitis (IK), which are true?
 - Most cases are secondary to congenital disease T
 - Symptoms include tearing and photophobia T
 - *What is the natural course of syphilitic IK if it goes untreated?*
 - It tends to burn itself out in a matter of weeks to months
 - *Irrespective of whether it was treated, what are the common corneal stigmata of resolved IK that may be seen at the slit lamp?*
 - About 50% of congenital syphilis cases manifest IK F

Q/A

IK? IDK IK! OMG!



- Regarding luetic interstitial keratitis (IK), which are true?

- Most cases are secondary to congenital disease T

- Symptoms include tearing and photophobia T

What is the natural course of syphilitic IK if it goes untreated?

It tends to burn itself out in a matter of weeks to months

Irrespective of whether it was treated, what are the common corneal stigmata of resolved IK that may be seen at the slit lamp?

--Formerly-perfused, now-empty stromal blood vessels (aka **Boo!**)

--

- About 50% of congenital syphilis cases manifest IK F

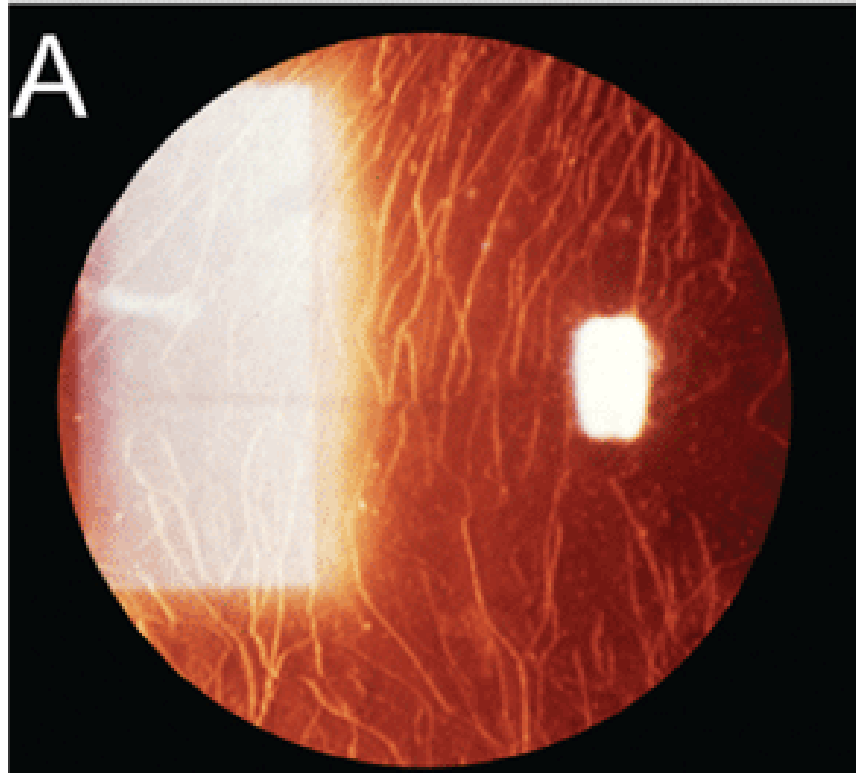
A

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 - *What is the natural course of syphilitic IK if it goes untreated?*
 - It tends to burn itself out in a matter of weeks to months
 - *Irrespective of whether it was treated, what are the common corneal stigmata of resolved IK that may be seen at the slit lamp?*
 - --Formerly-perfused, now-empty stromal blood vessels (aka **ghost vessels**)
 - --
 - About 50% of congenital syphilis cases manifest IK F

IK? IDK IK! OMG!



Ghost vessels

Congenital syphilis: Interstitial keratitis

Q

IK? IDK IK! OMG!



- Regarding luetic interstitial keratitis (IK), which are true?

- Most cases are secondary to congenital disease T

- Symptoms include tearing and photophobia T

What is the natural course of syphilitic IK if it goes untreated?

It tends to burn itself out in a matter of weeks to months

Irrespective of whether it was treated, what are the common corneal stigmata of resolved IK that may be seen at the slit lamp?

--Formerly-perfused, now-empty stromal blood vessels (aka **ghost vessels**)

--Corneal scarring may produce visually significant and/or one word

- About 50% of congenital syphilis cases manifest IK F

A

IK? IDK IK! OMG!



- Regarding luetic interstitial keratitis (IK), which are true?
 - Most cases are secondary to congenital disease T
 - Symptoms include tearing and photophobia T
 - *What is the natural course of syphilitic IK if it goes untreated?*
 - It tends to burn itself out in a matter of weeks to months
 - *Irrespective of whether it was treated, what are the common corneal stigmata of resolved IK that may be seen at the slit lamp?*
 - --Formerly-perfused, now-empty stromal blood vessels (aka **ghost vessels**)
 - --Corneal scarring may produce visually significant **haze** and/or **astigmatism**
 - About 50% of congenital syphilis cases manifest IK F

IK? IDK IK! OMG!



Congenital syphilis: Corneal scarring/haze after active IK

Q

IK? IDK IK! OMG!



- Speaking of congenital syphilis: What are the classic signs (other than IK, duh)?



A

IK? IDK IK! OMG!



- Speaking of congenital syphilis: What are the classic signs (other than IK, duh)?
 - Circumoral scars
 - Hutchinson teeth
 - Saddle nose
 - Saber shins
 - Cognitive impairment
 - CN8 deafness

Q

IK? IDK IK! OMG!



- Speaking of congenital syphilis: What are the classic signs (other than IK, duh)?
 - **Circumoral scars** *What is the formal term for these circumoral scars?*
 - Hutchinson teeth
 - Saddle nose
 - Saber shins
 - Cognitive impairment
 - CN8 deafness

A

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- Speaking of congenital syphilis: What are the classic signs (other than IK, duh)?
 - **Circumoral scars** *What is the formal term for these circumoral scars?*
'Rhagades'
 - Hutchinson teeth
 - Saddle nose
 - Saber shins
 - Cognitive impairment
 - CN8 deafness

IK? IDK IK! OMG!



Congenital syphilis: Rhagades

Q

IK? IDK IK! OMG!



- Speaking of congenital syphilis: What are the classic signs (other than IK, duh)?
 - Circumoral scars
 - **Hutchinson teeth** *What is the classic description of Hutchinson teeth?*
 - Saddle nose
 - Saber shins
 - Cognitive impairment
 - CN8 deafness

A

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- Speaking of congenital syphilis: What are the classic signs (other than IK, duh)?
 - Circumoral scars
 - **Hutchinson teeth** *What is the classic description of Hutchinson teeth?*
'Peg-shaped'
 - Saddle nose
 - Saber shins
 - Cognitive impairment
 - CN8 deafness

IK? IDK IK! OMG!



Congenital syphilis: Teeplus

Q

IK? IDK IK! OMG!



abnormal teeth...

- Speaking of [^]congenital syphilis: What are the classic signs (other than IK, duh)?

When a pt has dental issues, several conditions should spring immediately to mind. One is congenital syphilis; what are the other three?

--Congenital syphilis

--?

--?

--?

- Saber shins

- Cognitive impairment

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abnormal teeth...

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When a pt has dental issues, several conditions should spring immediately to mind. One is congenital syphilis; what are the other three?

- Congenital syphilis
- Gardner syndrome
- Axenfeld-Reiger
- Incontinentia pigmenti

- Saber shins

- Cognitive impairment
- CN8 deafness

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What is the noneponymous name of this syndrome?

- Saber shins
- Cognitive impairment
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What is the noneponymous name of this syndrome?

Familial adenomatous polyposis

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What is the noneponymous name of this syndrome?

Familial adenomatous polyposis

Is it common, or rare?

- Saber shins
- Cognitive impairment
- CN8 deafness

A

IK? IDK IK! OMG!



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Is it common, or rare?

Rare

- Sadel stims
- Cognitive impairment
- CN8 deafness

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What is the main issue facing these pts? (It's not ophthalmic.)

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What is the main issue facing these pts? (It's not ophthalmic.)

They develop innumerable two words at a young age

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- Cognitive impairment
- CN8 deafness

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Is it common, or rare?

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What is the main issue facing these pts? (It's not ophthalmic.)

They develop innumerable colonic polyps at a young age

- Sadel stims
- Cognitive impairment
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Familial adenomatous polyposis

Is it common, or rare?

Rare

What is the main issue facing these pts? (It's not ophthalmic.)

They develop innumerable colonic polyps at a young age, and are at extremely high risk of developing colon cancer by age or so

- Saber shins
- Cognitive impairment
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Why are we talking about it, ie, what is its ocular involvement?

- Saber shins
- Cognitive impairment
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abnormal teeth...

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Pts have something-like lesions in their retina

- Saber shins
- Cognitive impairment
- CN8 deafness

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abnormal teeth...

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They develop innumerable colonic polyps at a young age, and are at extremely high risk of developing colon cancer by age 40 or so

Why are we talking about it, ie, what is its ocular involvement?

Pts have CHRPE-like lesions in their retina

- Sadel stims
- Cognitive impairment
- CN8 deafness

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abnormal teeth...

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- Gardner syndrome**
- Axenfeld-Reiger
- Incontinentia pigmenti

- **Saber shins**

- Cognitive impairment

- CN8 deafness

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Pts have **CHRPE-like** lesions in their retina

What does CHRPE stand for here?

A

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abnormal teeth...

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- Cognitive impairment

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Why are we talking about it, ie, what is its ocular involvement?

Pts have **CHRPE-like** lesions in their retina

What does CHRPE stand for here?

Congenital hyperplasia of the RPE

IK? IDK IK! OMG!



CHRPE



CHRPE-like lesions of Gardner syndrome

IK? IDK IK! OMG!



abnormal teeth...

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They develop innumerable colonic polyps at a young age, and are at extremely high risk of developing colon cancer by age 40 or so

Why are we talking about it, ie, what is its ocular involvement?

Pts have CHRPE-like lesions in their retina

(For more on Gardner's, see slide-set P3)

- Sadel stims
- Cognitive impairment
- CN8 deafness

Q

IK? IDK IK! OMG!



abnormal teeth...

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What is the noneponymous name of this syndrome?

In three words, what sort of condition is A-R?

- **Saber shins**

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(for more on A-R, see slide-set FELT7)

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(not ophthalmic.)

*at a young age, and are
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Gardner's, see slide-set P3)



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Incontinentia pigmenti: Splashed-paint appearance



abnormal teeth...

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(For more on IP, see slide-set P10)

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Q

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 - Circumoral scars
 - Hutchinson teeth
 - **Saddle nose**

Speaking of saddle-nose deformity...If a pt with it had peripheral ulcerative keratitis (PUK) rather than IK, what two diagnoses should you consider?



Saddle-nose deformity



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Because Dr Wegener was a Nazi



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--RP?

--Granulomatosis with polyangiitis?



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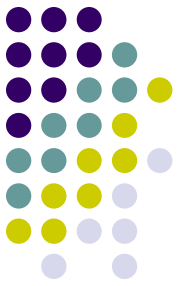
--RP? The presence of ear-cartilage inflammation and/or deformity

--Granulomatosis with polyangiitis?



Saddle-nose deformity

IK? IDK IK! OMG!



Acute inflammation



Post-inflammation deformity

Auricular damage in RP

Q

IK? IDK IK! OMG!



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Saddle-nose deformity

Q

IK? IDK IK! OMG!



- Speaking of congenital syphilis: What are the classic signs (other than IK, duh)?
 - Circumoral scars
 - Hutchinson teeth
 - Saddle nose
 - Saber shins
 - Cognitive impairment
 - CN8 deafness

In the present context, to what does the term Hutchinson's triad refer?

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In the present context, to what does the term Hutchinson's triad refer?
To the three stigmata of congenital syphilis that are especially common

Q

IK? IDK IK! OMG!



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- Circumoral scars
- Hutchinson teeth
- Saddle nose
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Which three comprise Hutchinson's triad?

--?

--?

--?

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IK? IDK IK! OMG!



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- Circumoral scars
- **Hutchinson teeth**
- Saddle nose
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Which three comprise Hutchinson's triad?

- Interstitial keratitis**
- Deafness**
- Hutchinson teeth**

In the present context, to what does the term Hutchinson's triad refer?

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What is the classic retinal finding in congenital lues?

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Salt -and-pepper retinitis

IK? IDK IK! OMG!



Congenital syphilis: Salt-and-pepper retinitis

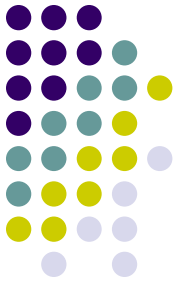
IK? IDK IK! OMG!



*Next we will turn our attention to **HSV***

Q

IK? IDK IK! OMG!



1) ?

2) ?

*You should think of anterior HSV eye dz as having two very broad forms.
What are they?*

A

IK? IDK IK! OMG!



1) Primary ocular disease

2) Recurrent ocular disease

*You should think of anterior HSV eye dz as having two very broad forms.
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Q

IK? IDK IK! OMG!



1) Primary ocular disease

2) **Recurrent** ocular disease

Does 'recurrence' mean the pt gets re-infected?

A

IK? IDK IK! OMG!



1) Primary ocular disease

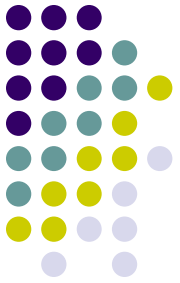
2) **Recurrent** ocular disease

Does 'recurrence' mean the pt gets re-infected?

No! Remember, herpes virus infection is never cleared—rather, it becomes latent within the host. Thus, recurrence means the virus is **reactivated**, not re-acquired.

Q

IK? IDK IK! OMG!



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Where in the body do herpesviruses establish their latency?



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Where in the body do herpesviruses establish their latency?

Different members of the herpesvirus family take up residence in different cell types.

HSV-1 and HSV-2 hole up in three words

A

IK? IDK IK! OMG!



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Different members of the herpesvirus family take up residence in different cell types. HSV-1 and HSV-2 hole up in sensory neural ganglia.

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The trigeminal nerve breaks into three 'sub-nerves.' What are they?

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The trigeminal nerve breaks into three 'sub-nerves.' What are they?

--Ophthalmic

--Maxillary

--Mandibular

Q

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral*

one long word

2) Recurrent ocular disease

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral* *blepharoconjunctivitis*

2) Recurrent ocular disease

Q

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin

sign 1

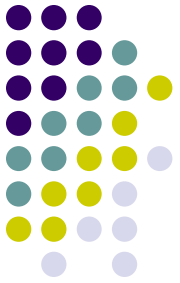
and bulbar

sign 2

2) Recurrent ocular disease

A

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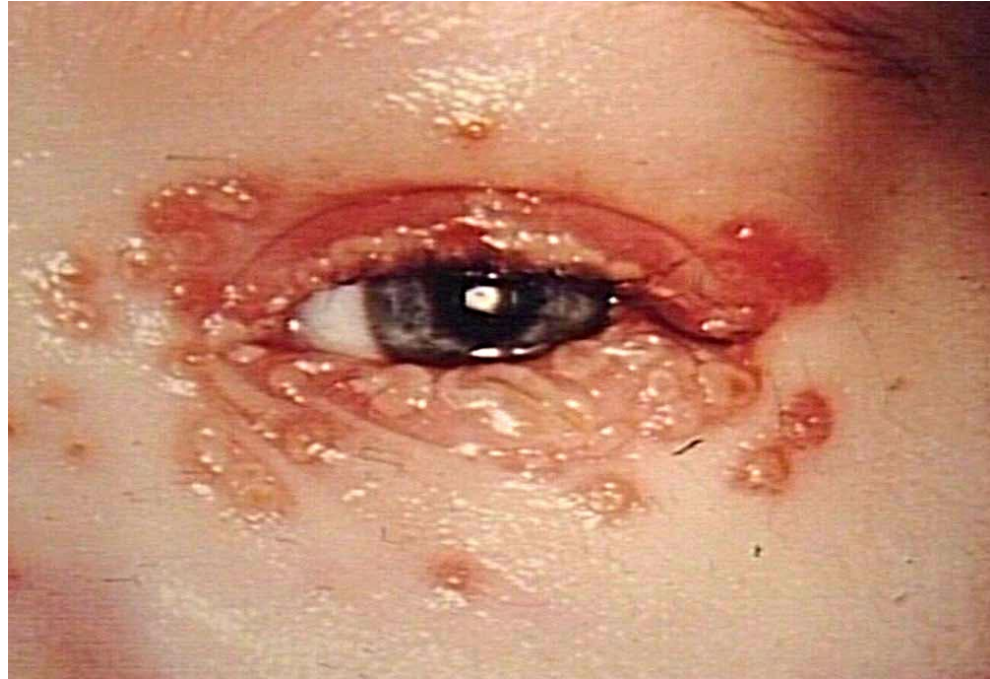
1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin *vesicles/ulcers* and bulbar *conj ulcers*

2) Recurrent ocular disease

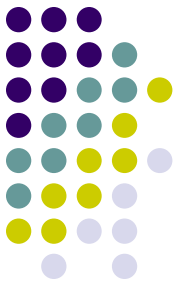
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HSV blepharoconjunctivitis

Q

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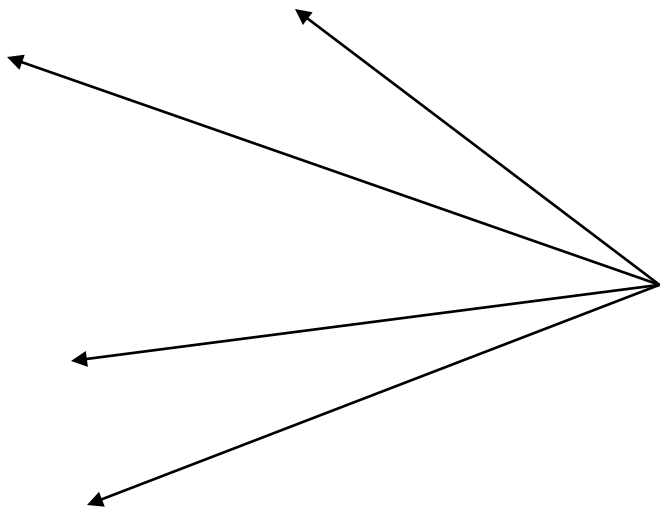
2) Recurrent ocular disease

a) ?

b) ?

c) ?

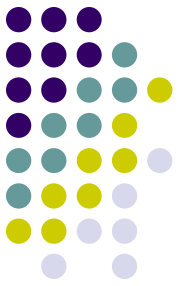
d) ?



*Four distinct ocular manifestations
(think broadly and anatomically)*

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin *vesicles/ulcers* and bulbar *conj ulcers*

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

c) *Iridocyclitis*

d) *Trabeculitis*

*Four distinct ocular manifestations
(think broadly and anatomically)*

A diagram consisting of four black arrows originating from a single point on the right and pointing towards the four items listed on the left: a) Blepharoconjunctivitis, b) Keratitis, c) Iridocyclitis, and d) Trabeculitis.

Q

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin *vesicles/ulcers* and bulbar *conj ulcers*

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--?

--?

--?

c) *Iridocyclitis*

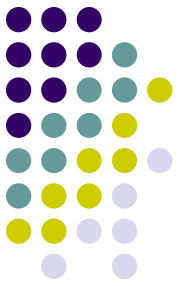
d) *Trabeculitis*

Three specific and distinct keratitis subtypes

A diagram consisting of three black arrows originating from a single point on the right and pointing left towards the text 'a) Keratitis', 'b) Keratitis', and 'c) Iridocyclitis'.

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin *vesicles/ulcers* and bulbar *conj ulcers*

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--Epithelial

--Stromal

--Endotheliitis

c) *Iridocyclitis*

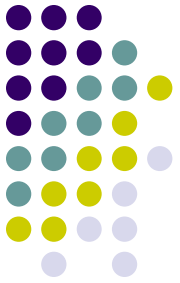
d) *Trabeculitis*

Three specific and distinct keratitis subtypes

A diagram consisting of three black arrows originating from a single point on the right and pointing left towards the text 'Epithelial', 'Stromal', and 'Endotheliitis'.

Q

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin *vesicles/ulcers* and bulbar *conj ulcers*

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial:** c/o . Classic sign:

--**Stromal**

--**Endotheliitis**

c) *Iridocyclitis*

d) *Trabeculitis*

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin *vesicles/ulcers* and bulbar *conj ulcers*

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o *foreign body sensation*. Classic sign: *Dendrites*

--**Stromal**

--**Endotheliitis**

c) *Iridocyclitis*

d) *Trabeculitis*

IK? IDK IK! OMG!



HSV epithelial keratitis

Q

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin **vesicles/ulcers** and bulbar **conj ulcers**

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o **foreign body sensation**. Classic sign: **Dendrites**

--**Stromal**

--**Endotheliitis** (aka **two words**): Presents as **-shaped** edematous area with **abb.**

c) *Iridocyclitis*

d) *Trabeculitis*

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin *vesicles/ulcers* and bulbar *conj ulcers*

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o *foreign body sensation*. Classic sign: *Dendrites*

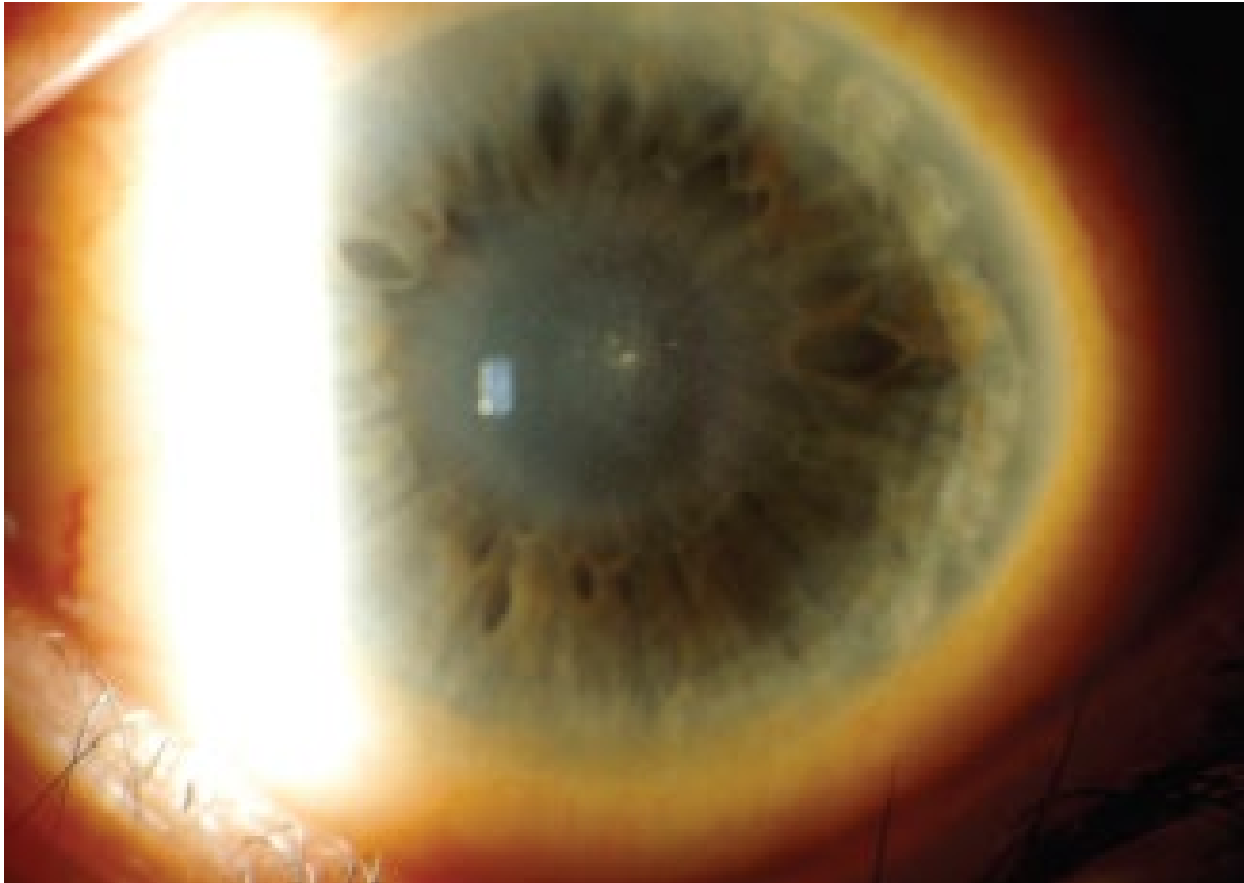
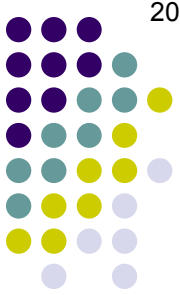
--**Stromal**

--**Endotheliitis** (aka *disciform keratitis*): Presents as *disc*-shaped edematous area with *KP*

c) *Iridocyclitis*

d) *Trabeculitis*

IK? IDK IK! OMG!



HSV endotheliitis/disciform keratitis



IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin *vesicles/ulcers* and bulbar *conj ulcers*

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o *foreign body sensation*. Classic sign: *Dendrites*

--**Stromal**

--?

--?

} *Two subtypes of stromal keratitis*

--**Endotheliitis** (aka *disciform keratitis*): Presents as *disc*-shaped edematous area with *KP*

c) *Iridocyclitis*

d) *Trabeculitis*

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin *vesicles/ulcers* and bulbar *conj ulcers*

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o *foreign body sensation*. Classic sign: *Dendrites*

--**Stromal**

★ --*Necrotizing* } *Two subtypes of stromal keratitis*
--*Interstitial*

--**Endotheliitis** (aka *disciform keratitis*): Presents as *disc*-shaped edematous area with *KP*

c) *Iridocyclitis*

d) *Trabeculitis*

Q

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin **vesicles/ulcers** and bulbar **conj ulcers**

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o **foreign body sensation**. Classic sign: **Dendrites**

--**Stromal**

--**Necrotizing**: Looks like an 

★--**Interstitial**

--**Endotheliitis** (aka **disciform keratitis**): Presents as **disc**-shaped edematous area with **KP**

c) *Iridocyclitis*

d) *Trabeculitis*

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin **vesicles/ulcers** and bulbar **conj ulcers**

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o **foreign body sensation**. Classic sign: **Dendrites**

--**Stromal**

--**Necrotizing**: Looks like an **ulcer**

★--**Interstitial**

--**Endotheliitis** (aka **disciform keratitis**): Presents as **disc-shaped** edematous area with **KP**

c) *Iridocyclitis*

d) *Trabeculitis*

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin **vesicles/ulcers** and bulbar **conj ulcers**

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o **foreign body sensation**. Classic sign: **Dendrites**

--**Stromal**

--**Necrotizing**: Looks like an **ulcer** (ie, suppurative, with an overlying epithelial defect)

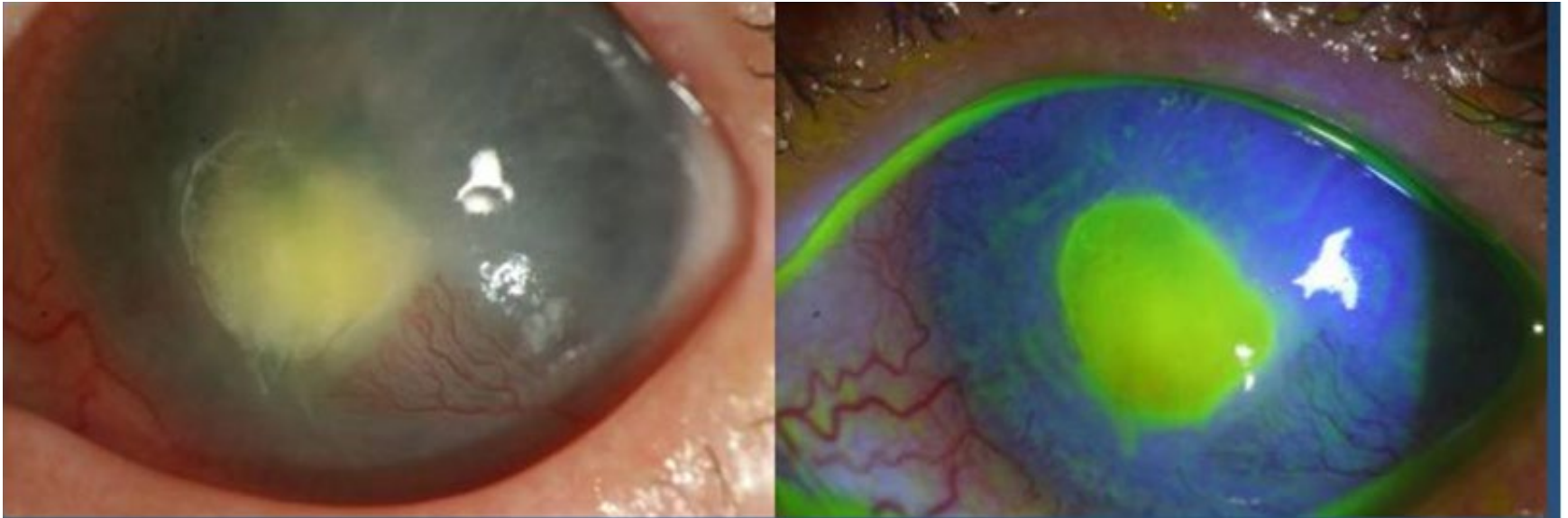
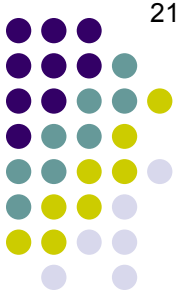
★--**Interstitial**

--**Endotheliitis** (aka **disciform keratitis**): Presents as **disc-shaped** edematous area with **KP**

c) *Iridocyclitis*

d) *Trabeculitis*

IK? IDK IK! OMG!



HSV necrotizing keratitis



IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin **vesicles/ulcers** and bulbar **conj ulcers**

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o **foreign body sensation**. Classic sign: **Dendrites**

--**Stromal**

--**Necrotizing**: Looks like an **ulcer** (ie, suppurative, with an overlying epithelial defect)

★--**Interstitial**: Looks like a

--**Endotheliitis** (aka **disciform keratitis**): Presents as **disc-shaped** edematous area with **KP**

c) *Iridocyclitis*

d) *Trabeculitis*

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin **vesicles/ulcers** and bulbar **conj ulcers**

2) Recurrent ocular disease

a) *Blepharoconjunctivitis*

b) *Keratitis*

--**Epithelial**: c/o **foreign body sensation**. Classic sign: **Dendrites**

--**Stromal**

--**Necrotizing**: Looks like an **ulcer** (ie, suppurative, with an overlying epithelial defect)

★--**Interstitial**: Looks like a **scar**

--**Endotheliitis** (aka **disciform keratitis**): Presents as **disc-shaped** edematous area with **KP**

c) *Iridocyclitis*

d) *Trabeculitis*

A

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin **vesicles/ulcers** and bulbar **conj ulcers**

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--**Epithelial**: c/o **foreign body sensation**. Classic sign: **Dendrites**

--**Stromal**

--**Necrotizing**: Looks like an **ulcer** (ie, suppurative, with an overlying epithelial defect)

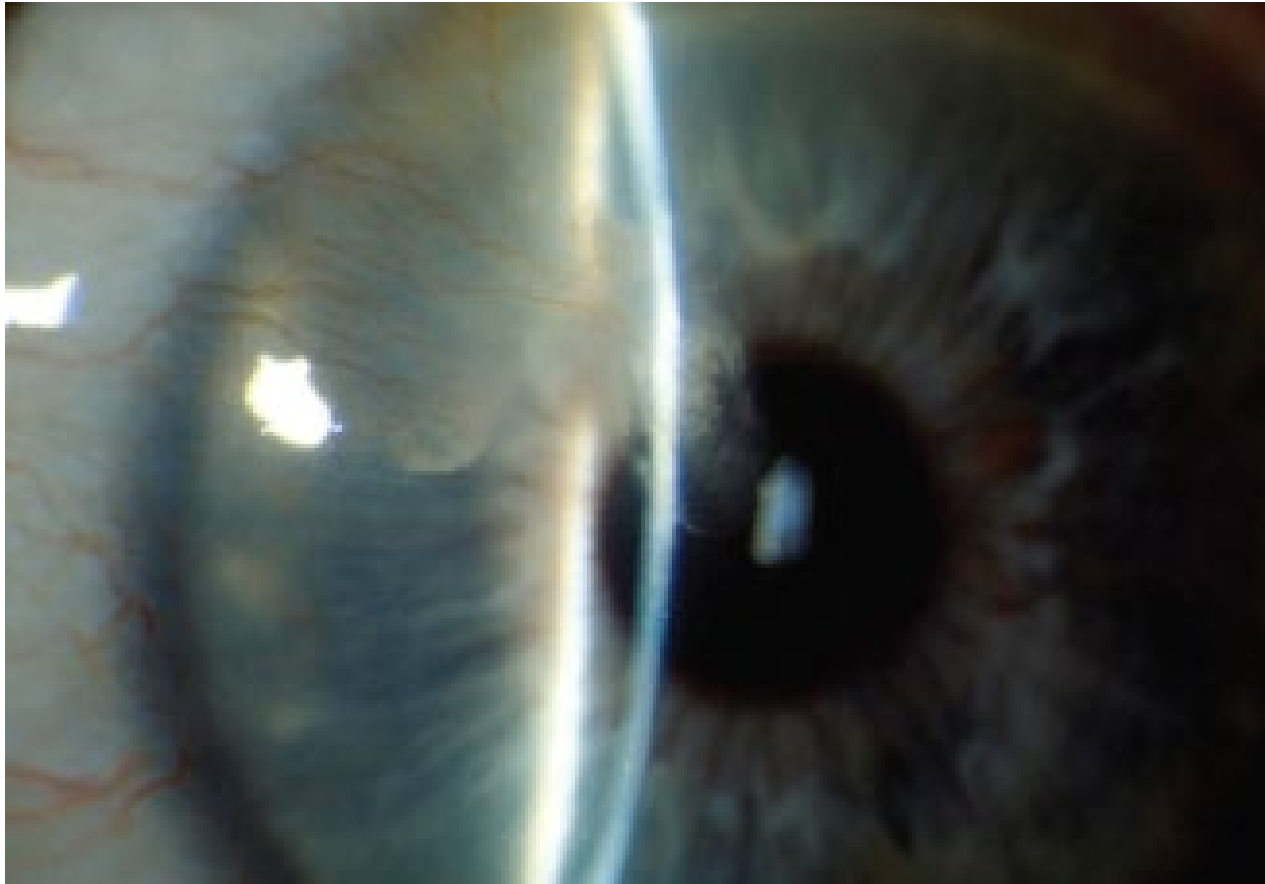
★--**Interstitial**: Looks like a **scar** (ie, hazy, with **no** overlying epithelial defect)

--**Endotheliitis** (aka **disciform keratitis**): Presents as **disc-shaped** edematous area with **KP**

c) *Iridocyclitis*

d) *Trabeculitis*

IK? IDK IK! OMG!



HSV interstitial keratitis

IK? IDK IK! OMG!



1) Primary ocular disease

--Usually a *unilateral blepharoconjunctivitis*

--Presents with lid margin vesicles/ulcers and bulbar conj ulcers

2) Recurrent ocular disease

a) *Blepharitis*

b) *Keratitis*

For more on anterior HSV dz, see slide-set K23

--Epithelial: c/o foreign body sensation. Classic sign: Dendrites

--Stromal

--Necrotizing: Looks like an ulcer (ie, suppurative, with an overlying epithelial defect)

★--Interstitial: Looks like a scar (ie, hazy, with no overlying epithelial defect)

--Endotheliitis (aka disciform keratitis): Presents as disc-shaped edematous area with KP

c) *Iridocyclitis*

d) *Trabeculitis*

IK? IDK IK! OMG!



*Next we will turn our attention to **Cogan syndrome***

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes children around age 9 years

A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children around age 9 years~~ *young adults* F

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children around age 9 years~~ *young adults* **F**
 - It often follows an URTI by 1-2 weeks or so
(Upper respiratory tract infection)

A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children around age 9 years~~ *young adults* F
 - It often follows an URTI by 1-2 weeks or so T

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children around age 9 years~~ *young adults* **F**
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 - Some patients have serologic evidence of granulomatosis with polyangiitis

A

IK? IDK IK! OMG!



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A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children around age 9 years~~ *young adults* **F**
 - It often follows an URTI by 1-2 weeks or so **T**
 - Some patients have serologic evidence of *polyarteritis nodosum* ~~granulomatosis with polyangiitis~~ **F**

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children~~ ^{young adults} around age 9 years F
 - It often follows an URTI by 1-2 weeks or so T
 - **Some patients have serologic evidence of** ^{*polyarteritis nodosum*} ~~granulomatosis~~ ^{*with polyangiitis*}

Do these pts go on to manifest a systemic vasculitic process?

A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children~~ ^{young adults} around age 9 years F
 - It often follows an URTI by 1-2 weeks or so T
 - **Some patients have serologic evidence of** ^{*polyarteritis nodosum*} ~~granulomatosis~~ ^{*with polyangiitis*}
Do these pts go on to manifest a systemic vasculitic process?
Some do, and it can be life-threatening

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children around age 9 years~~ *young adults* **F**
 - It often follows an URTI by 1-2 weeks or so **T**
 - Some patients have serologic evidence of *polyarteritis nodosum* ~~granulomatosis with polyangiitis~~ **F**
 - Patients may complain of tinnitus and/or vertigo

A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children around age 9 years~~ *young adults* **F**
 - It often follows an URTI by 1-2 weeks or so **T**
 - Some patients have serologic evidence of ~~granulomatosis with polyangiitis~~ *polyarteritis nodosum* **F**
 - Patients may complain of tinnitus and/or vertigo **T**

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
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 - Some patients have serologic evidence of *polyarteritis nodosum* ~~granulomatosis with polyangiitis~~ **F**
 - Patients may complain of tinnitus and/or vertigo **T**
 - Topical steroids are the sole treatment

A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children around age 9 years~~ *young adults* **F**
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 - Some patients have serologic evidence of ~~granulomatosis with polyangiitis~~ *polyarteritis nodosum* **F**
 - Patients may complain of tinnitus and/or vertigo **T**
 - Topical steroids are the sole treatment **F**

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with

Does this mean topical steroids play no role in managing Cogan syndrome?

Cogan
syndrome
is

- Patients may complain of tinnitus and/or vertigo
- **Topical steroids are the sole treatment** **F**

A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with

Does this mean topical steroids play no role in managing Cogan syndrome?
Not at all; in fact, topical steroids are the mainstay of treatment for the IK component of Cogan syndrome

*Cogan
syndrome
is*

- Patients may complain of tinnitus and/or vertigo
- **Topical steroids are the sole treatment** **F**

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with

Does this mean topical steroids play no role in managing Cogan syndrome?

Not at all; in fact, topical steroids are the mainstay of treatment for the IK component of Cogan syndrome

What other med(s) is/are indicated in managing Cogan syndrome?

osum
is

- Patients may complain of tinnitus and/or vertigo

- **Topical steroids are the sole treatment** F

A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with

Does this mean topical steroids play no role in managing Cogan syndrome?

Not at all; in fact, topical steroids are the mainstay of treatment for the IK component of Cogan syndrome

What other med(s) is/are indicated in managing Cogan syndrome?

PO steroids (or on occasion, IMT) are used to treat the CNS manifestations

*osum
is*

- Patients may complain of tinnitus and/or vertigo

- **Topical steroids are the sole treatment** F

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with

Does this mean topical steroids play no role in managing Cogan syndrome?

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What other med(s) is/are indicated in managing Cogan syndrome?

PO steroids (or on occasion, IMT) are used to treat the CNS manifestations

How urgent is the need to start systemic steroids?

- Patients may complain of tinnitus and/or vertigo

- **Topical steroids are the sole treatment** F



- Regarding interstitial keratitis (IK) associated with

Does this mean topical steroids play no role in managing Cogan syndrome?

Not at all; in fact, topical steroids are the mainstay of treatment for the IK component of Cogan syndrome

What other med(s) is/are indicated in managing Cogan syndrome?

PO steroids (or on occasion, IMT) are used to treat the CNS manifestations

How urgent is the need to start systemic steroids?

Quite. Cogan's tends to progress rapidly, and profound, permanent hearing loss and even death can result if systemic steroid therapy isn't initiated promptly.

- Patients may complain of tinnitus and/or vertigo

- **Topical steroids are the sole treatment** F

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children around age 9 years~~ *young adults* **F**
 - It often follows an URTI by 1-2 weeks or so **T**
 - Some patients have serologic evidence of *polyarteritis nodosum* ~~granulomatosis with polyangiitis~~ **F**
 - Patients may complain of tinnitus and/or vertigo **T**
 - Topical steroids are the sole treatment **F**
 - Cogan's is diagnosed via a serum antibody test

A

IK? IDK IK! OMG!



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 - Topical steroids are the sole treatment **F**
 - Cogan's is diagnosed via a serum antibody test **F**

Q

IK? IDK IK! OMG!



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 - It usually strikes ~~children~~ ^{young adults} around age 9 years F
 - It often follows an URTI by 1-2 weeks or so T
 - Some patients have serologic evidence of ^{polyarteritis nodosum} ~~granulomatosis~~ ~~with polyangiitis~~ F
 - Patients may complain of tinnitus and/or vertigo T
 - Topical steroids are the sole treatment F
 - **Cogan's is diagnosed a via serum antibody test F**

What test is used to diagnose Cogan's?

A

IK? IDK IK! OMG!



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 - It usually strikes ~~children~~ ^{young adults} around age 9 years F
 - It often follows an URTI by 1-2 weeks or so T
 - Some patients have serologic evidence of ^{polyarteritis nodosum} ~~granulomatosis~~ ~~with polyangiitis~~ F
 - Patients may complain of tinnitus and/or vertigo T
 - Topical steroids are the sole treatment F
 - **Cogan's is diagnosed a via serum antibody test F**

What test is used to diagnose Cogan's?

There is none—it is a diagnosis of exclusion

Q

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children~~ ^{young adults} around age 9 years F
 - It often follows an URTI by 1-2 weeks or so T
 - Some patients have serologic evidence of ^{polyarteritis nodosum} ~~granulomatosis~~ with ~~polyangiitis~~ F
 - Patients may complain of tinnitus and/or vertigo T
 - Topical steroids are the sole treatment F
 - **Cogan's is diagnosed a via serum antibody test F**

What test is used to diagnose Cogan's?

There is none—it is a diagnosis of exclusion

So does this mean no testing is necessary?

Q/A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children~~ ^{young adults} around age 9 years F
 - It often follows an URTI by 1-2 weeks or so T
 - Some patients have serologic evidence of ^{polyarteritis nodosum} ~~granulomatosis~~ ~~with polyangiitis~~ F
 - Patients may complain of tinnitus and/or vertigo T
 - Topical steroids are the sole treatment F
 - **Cogan's is diagnosed a via serum antibody test F**

What test is used to diagnose Cogan's?

There is none—it is a diagnosis of exclusion

So does this mean no testing is necessary?

It does not. When faced with a case of IK of uncertain origin, must be ruled out via serologic testing (and consideration should be given to assessing for systemic inflammatory causes as well)

A

IK? IDK IK! OMG!



- Regarding interstitial keratitis (IK) associated with *Cogan syndrome*, which are true?
 - It usually strikes ~~children~~ ^{young adults} around age 9 years F
 - It often follows an URTI by 1-2 weeks or so T
 - Some patients have serologic evidence of ^{polyarteritis nodosum} ~~granulomatosis~~ with ~~polyangiitis~~ F
 - Patients may complain of tinnitus and/or vertigo T
 - Topical steroids are the sole treatment F
 - **Cogan's is diagnosed a via serum antibody test F**

What test is used to diagnose Cogan's?

There is none—it is a diagnosis of exclusion

So does this mean no testing is necessary?

It does not. When faced with a case of IK of uncertain origin, syphilis must be ruled out via serologic testing (and consideration should be given to assessing for systemic inflammatory causes as well)