

Acute/Hyperacute Conjunctivitis

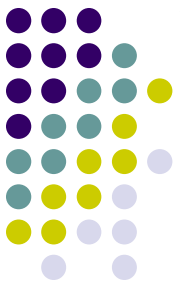
What is Conjunctivitis?



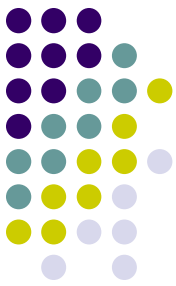
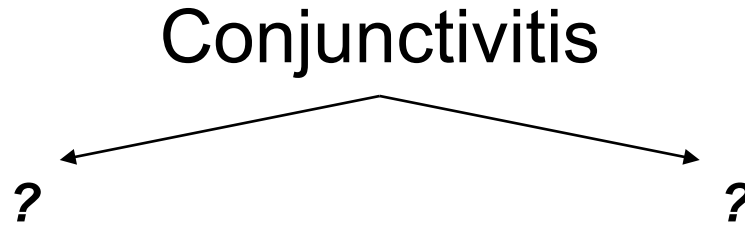
Acute/Hyperacute Conjunctivitis

What is Conjunctivitis?

Like any other *-itis*, it is an inflammatory condition involving the tissue of interest (in this case, the conj)

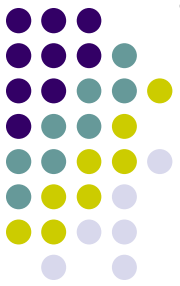
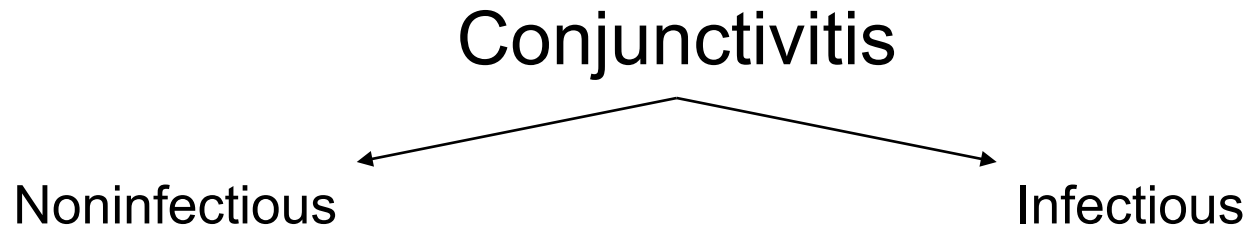


Acute/Hyperacute Conjunctivitis

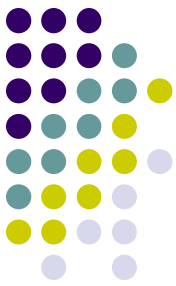


We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response

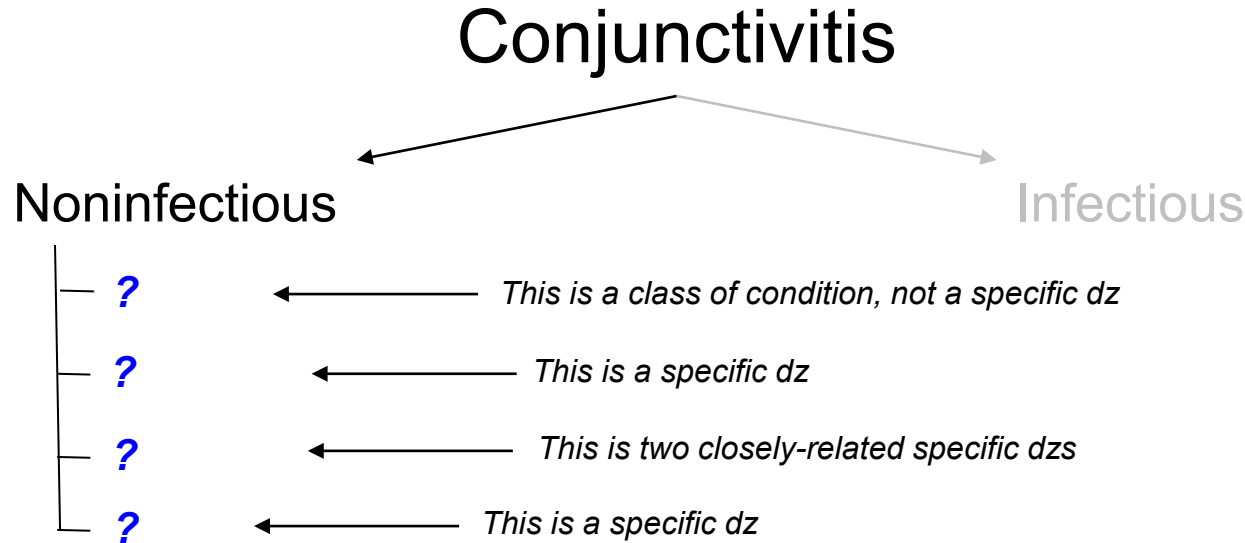
Acute/Hyperacute Conjunctivitis



We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response

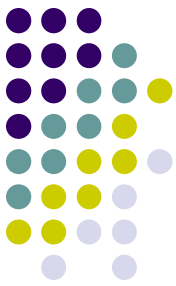


Acute/Hyperacute Conjunctivitis

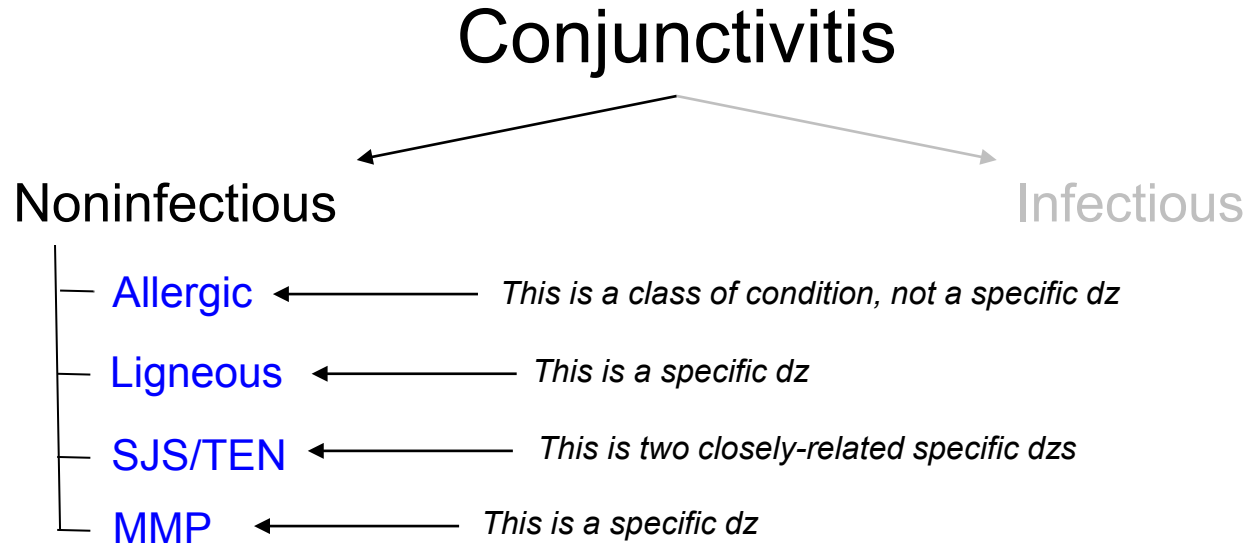


*The Cornea book emphasizes four causes of **noninfectious** conjunctivitis—what are they?*

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis



*The Cornea book emphasizes four causes of **noninfectious conjunctivitis**—what are they?*

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response

Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

— Allergic

Infectious

What are the four forms of allergic conjunctivitis?

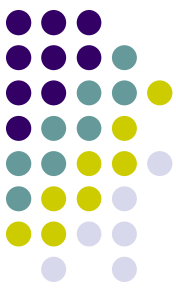
--?

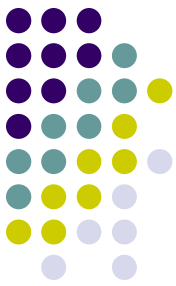
--?

--?

--?

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response





Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

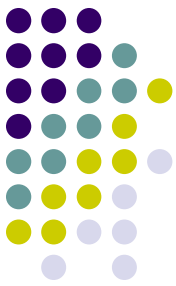
Infectious

— **Allergic**

What are the four forms of allergic conjunctivitis?

- Seasonal** allergic conjunctivitis (SAC)
- Perennial** allergic conjunctivitis (PAC)
- Vernal** keratoconjunctivitis (VKC)
- Atopic** keratoconjunctivitis (AKC)

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

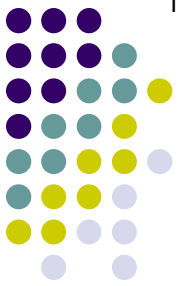
— **Allergic**

What are the four forms of allergic conjunctivitis?

- Seasonal** allergic conjunctivitis (SAC)
- Perennial** allergic conjunctivitis (PAC)
- Vernal** keratoconjunctivitis (VKC)
- Atopic** keratoconjunctivitis (AKC)

How should you group these four in your mind?

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— **Allergic**

What are the four forms of allergic conjunctivitis?

- Seasonal** allergic conjunctivitis (SAC)
- Perennial** allergic conjunctivitis (PAC)
- Vernal** keratoconjunctivitis (VKC)
- Atopic** keratoconjunctivitis (AKC)

How should you group these four in your mind?

two of them

constitute one group;

other two

constitute a different, distinct group

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response

Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— **Allergic**

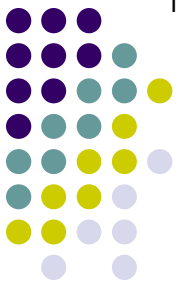
What are the four forms of allergic conjunctivitis?

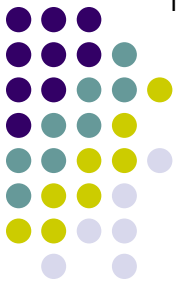
- Seasonal** allergic conjunctivitis (SAC)
- Perennial** allergic conjunctivitis (PAC)
- Vernal** keratoconjunctivitis (VKC)
- Atopic** keratoconjunctivitis (AKC)

How should you group these four in your mind?

SAC and PAC constitute one group; VKC and AKC constitute a different, distinct group

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response





Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— **Allergic**

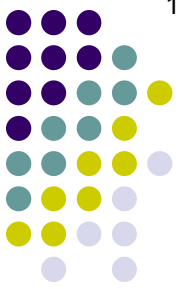
What are the four forms of allergic conjunctivitis?

- Seasonal** allergic conjunctivitis (SAC)
 - Perennial** allergic conjunctivitis (PAC)
 - Vernal** keratoconjunctivitis (VKC)
 - Atopic** keratoconjunctivitis (AKC)
- see slide-set K36 to review these
- see slide-set K6 to review these

How should you group these four in your mind?

SAC and PAC constitute one group; VKC and AKC constitute a different, distinct group

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

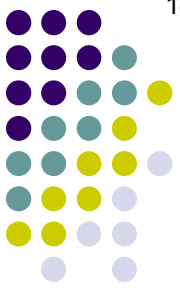
Noninfectious

Infectious

- Allerg
- **Ligneous**
- SJS/T
- MMP

What is the cardinal clinical sign of ligneous conjunctivitis?

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

What is the cardinal clinical sign of ligueous conjunctivitis?

The presence of a

firm vs soft	color	membrane vs pseudomembrane
--------------	-------	----------------------------

on the conj

Ligneous

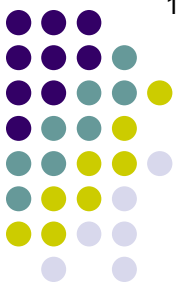
Allerg

SJS/T

MMP

We can divvy conjunctivitis many ways, including in terms of:

The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

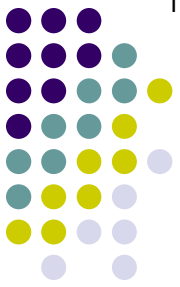
Infectious

- Allergic
- **Ligneous**
- SJS/T
- MMP

What is the cardinal clinical sign of ligneous conjunctivitis?

The presence of a firm **yellow** pseudomembrane on the conj

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis



Firm yellowish lesions of the eyelids characteristic of ligneous conjunctivitis



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

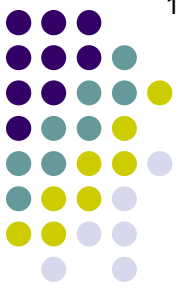
- Allergic
- **Ligneous**
- SJS/T
- MMP

What is the cardinal clinical sign of ligneous conjunctivitis?

The presence of a firm yellow **pseudomembrane** on the conj

What's the difference between a membrane and a pseudomembrane?

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

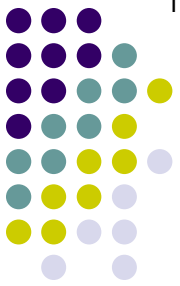
- Allergic
- **Ligneous**
- SJS/T
- MMP

What is the cardinal clinical sign of ligneous conjunctivitis?

The presence of a firm yellow **pseudomembrane** on the conj

What's the difference between a membrane and a pseudomembrane?
A membrane is adherent to the conj, a pseudo isn't

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— Allergy
— **Ligneous**
— SJS/T
— MMP

What is the cardinal clinical sign of ligneous conjunctivitis?
The presence of a firm yellow **pseudomembrane** on the conj

What's the difference between a membrane and a pseudomembrane?
A membrane is adherent to the conj, a pseudo isn't

How can you tell whether it's actually adhering?

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

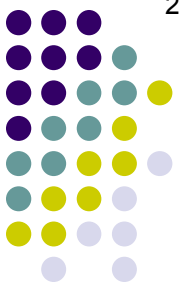
— Allerg
— Ligneous
— SJS/T
— MMP

What is the cardinal clinical sign of ligneous conjunctivitis?
The presence of a firm yellow **pseudomembrane** on the conj

What's the difference between a membrane and a pseudomembrane?
A membrane is adherent to the conj, a pseudo isn't

How can you tell whether it's actually adhering?
A membrane when peeled; a pseudomembrane doesn't

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

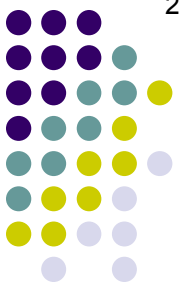
— Allerg
— Ligneous
— SJS/T
— MMP

What is the cardinal clinical sign of ligneous conjunctivitis?
The presence of a firm yellow **pseudomembrane** on the conj

What's the difference between a membrane and a pseudomembrane?
A membrane is adherent to the conj, a pseudo isn't

How can you tell whether it's actually adhering?
A membrane bleeds when peeled; a pseudomembrane doesn't

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

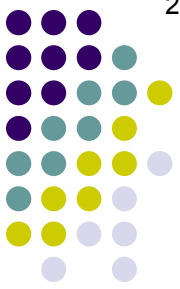
Conjunctivitis

Noninfectious

Infectious

- Allerg
 - **Ligneous**
 - SJS/T
 - MMP
- What is the cardinal clinical sign of ligneous conjunctivitis?*
The presence of a firm **yellow** pseudomembrane on the conj
- What arboreal term is used to describe the degree of firmness of the pseudomembrane?*

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

- Allergy
 - **Ligneous**
 - SJS/T
 - MMP
- What is the cardinal clinical sign of ligneous conjunctivitis?*
The presence of a firm **yellow** pseudomembrane on the conj
- What arboreal term is used to describe the degree of firmness of the pseudomembrane?*
'Woody' (*ligneous* means 'consisting of or resembling wood' in Latin)



We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

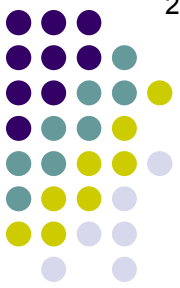
Conjunctivitis

Noninfectious

Infectious

- Allergic
 - **Ligneous**
 - SJS/T
 - MMP
- What is the cardinal clinical sign of ligneous conjunctivitis?*
 The presence of a firm **yellow** pseudomembrane on the conj
- What arboreal term is used to describe the degree of firmness of the pseudomembrane?*
 'Woody' (*ligneous* means 'consisting of or resembling wood' in Latin)
- Is ligneous conjunctivitis common, or rare?*

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

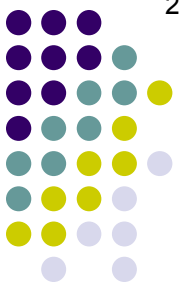
Conjunctivitis

Noninfectious

Infectious

- Allergic
 - **Ligneous**
 - SJS/T
 - MMP
- What is the cardinal clinical sign of ligneous conjunctivitis?*
The presence of a firm **yellow** pseudomembrane on the conj
- What arboreal term is used to describe the degree of firmness of the pseudomembrane?*
'Woody' (*ligneous* means 'consisting of or resembling wood' in Latin)
- Is ligneous conjunctivitis common, or rare?*
Rare

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

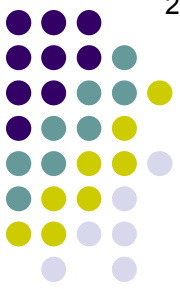
Conjunctivitis

Noninfectious

Infectious

- Allergic
 - What is the cardinal clinical sign of liginous conjunctivitis?
 - The presence of a firm **yellow** pseudomembrane on the conj
- **Liginous**
- SJS/T
 - What arboreal term is used to describe the degree of firmness of the pseudomembrane?
- MMP
 - 'Woody' (*liginous* means 'consisting of or resembling wood' in Latin)
 - Is *liginous conjunctivitis* common, or rare?
 - Rare
 - With what clotting abnormality is it associated?

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

- Allergic
 - What is the cardinal clinical sign of liginous conjunctivitis?
 - The presence of a firm **yellow** pseudomembrane on the conj
- **Liginous**
- SJS/T
 - What arboreal term is used to describe the degree of firmness of the pseudomembrane?
- MMP
 - 'Woody' (*liginous* means 'consisting of or resembling wood' in Latin)
 - Is *liginous conjunctivitis* common, or rare?
 - Rare
 - With what clotting abnormality is it associated?
 - Plasminogen deficiency

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

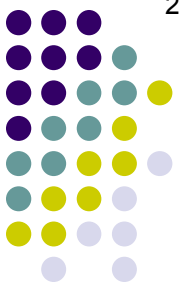
Conjunctivitis

Noninfectious

Infectious

- A What do SJS and TEN stand for in this context?
- Li **SJS:**
- **TEN:**
- **SJS/TEN**
- M

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— A What do SJS and TEN stand for in this context?

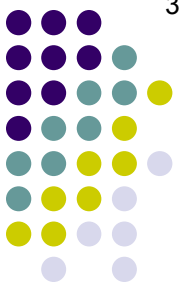
— Li **SJS**: Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

— **SJS/TEN**

— M

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

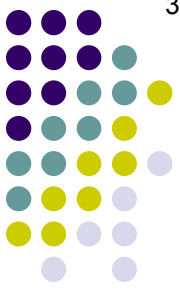
Conjunctivitis

Noninfectious

Infectious

- A *What do SJS and TEN stand for in this context?*
- Li **SJS:** Stevens-Johnson syndrome
- TEN:** Toxic epidermal necrolysis
- SJS/TEN**
- M *In just a few words, how would you describe the pathophysiology of SJS/TEN?*

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

A What do SJS and TEN stand for in this context?

Li **SJS**: Stevens-Johnson syndrome

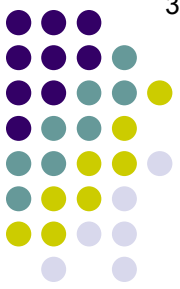
TEN: Toxic epidermal necrolysis

SJS/TEN

M In just a few words, how would you describe the pathophysiology of SJS/TEN?

It is an inflammatory reaction of the and

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

- A *What do SJS and TEN stand for in this context?*
 - Li **SJS:** Stevens-Johnson syndrome
 - TEN:** Toxic epidermal necrolysis
 - SJS/TEN**
 - M *In just a few words, how would you describe the pathophysiology of SJS/TEN?*
- It is an acute inflammatory vesiculobullous reaction of the skin and mucus membranes

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— A *What do SJS and TEN stand for in this context?*

— Li **SJS:** Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

— **SJS/TEN**

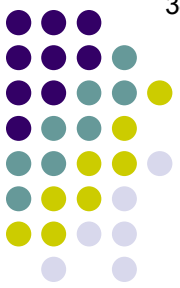
— M *In just a few words, how would you describe the pathophysiology of SJS/TEN?*

It is an acute inflammatory vesiculobullous reaction of the skin and mucus membranes

How do SJS and TEN differ? What distinguishes one from the other?

We can divvy conjunctivitis many ways, including in terms of:

The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— A *What do SJS and TEN stand for in this context?*

— Li **SJS:** Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

— **SJS/TEN**

— M *In just a few words, how would you describe the pathophysiology of SJS/TEN?*

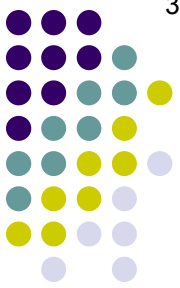
It is an acute inflammatory vesiculobullous reaction of the skin and mucus membranes

How do SJS and TEN differ? What distinguishes one from the other?

It's a matter of degree—TEN involves significantly more
vs
less body surface area than does SJS

We can divvy conjunctivitis many ways, including in terms of:

The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— A *What do SJS and TEN stand for in this context?*

— Li **SJS**: Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

— **SJS/TEN**

— M *In just a few words, how would you describe the pathophysiology of SJS/TEN?*

It is an acute inflammatory vesiculobullous reaction of the skin and mucus membranes

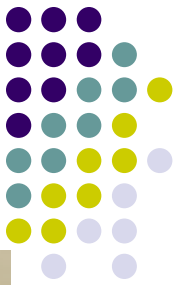
How do SJS and TEN differ? What distinguishes one from the other?

It's a matter of degree—TEN involves significantly more body surface area than does SJS

We can divvy conjunctivitis many ways, including in terms of:

The nature of the inflammatory response

Acute/Hyperacute Conjunctivitis

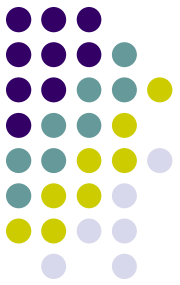


SJS

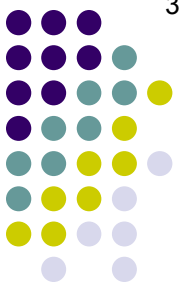


TEN

Acute/Hyperacute Conjunctivitis



SJS/TEN. Early, severe involvement of the conjunctiva, right eye



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

A *What do SJS and TEN stand for in this context?*

Li **SJS:** Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

SJS/TEN

M *In just a few words, how would you describe the pathophysiology of SJS/TEN?*

It is an acute inflammatory vesiculobullous reaction of the skin and mucus membranes

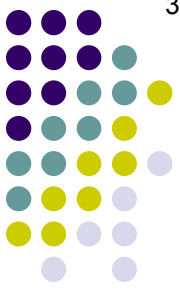
How do SJS and TEN differ? What distinguishes one from the other?

It's a matter of degree—TEN involves significantly more body surface area than does SJS

What is the pathogenesis of the acute inflammatory vesiculobullous reaction?

We can divvy conjunctivitis many ways, including in terms of:

The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

A What do SJS and TEN stand for in this context?

Li **SJS**: Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

SJS/TEN

M In just a few words, how would you describe the pathophysiology of SJS/TEN?

It is an acute inflammatory vesiculobullous reaction of the skin and mucus membranes

How do SJS and TEN differ? What distinguishes one from the other?

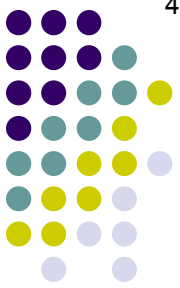
It's a matter of degree—TEN involves significantly more body surface area than does SJS

What is the pathogenesis of the acute inflammatory vesiculobullous reaction?

A hypersensitivity reaction, usually to a or two words

We can divvy conjunctivitis many ways, including in terms of:

The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

A *What do SJS and TEN stand for in this context?*

Li **SJS**: Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

SJS/TEN

M *In just a few words, how would you describe the pathophysiology of SJS/TEN?*

It is an acute inflammatory vesiculobullous reaction of the skin and mucus membranes

How do SJS and TEN differ? What distinguishes one from the other?

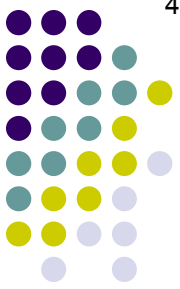
It's a matter of degree—TEN involves significantly more body surface area than does SJS

What is the pathogenesis of the acute inflammatory vesiculobullous reaction?

A hypersensitivity reaction, usually to a drug or infectious agent

We can divvy conjunctivitis many ways, including in terms of:

The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— A What do SJS and TEN stand for in this context?

— Li **SJS**: Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

SJS/TEN

— M In just Which four drugs/drug classes are most commonly implicated? TEN?

It is an --? mucous membranes

--? The mnemonic is...

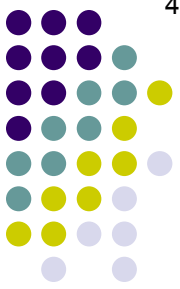
How do --? area than does SJS

It's a m --?

What is the pathogenesis of the acute inflammatory vesiculobullous reaction?

A hypersensitivity reaction, usually to a **drug** or infectious agent

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

What do SJS and TEN stand for in this context?

SJS: Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

SJS/TEN

Which four drugs/drug classes are most commonly implicated?

It is an

--N

--A

--S

--A

The mnemonic is...NASA

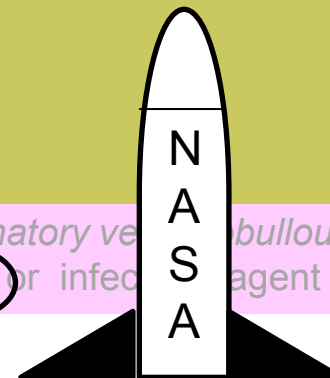
How do

It's a m

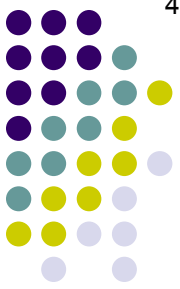
What is the pathogenesis of the acute inflammatory vesicular bullous reaction?

A hypersensitivity reaction, usually to a drug or infectious agent

drug



We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

— A What do SJS and TEN stand for in this context?

— Li **SJS**: Stevens-Johnson syndrome

TEN: Toxic epidermal necrolysis

SJS/TEN

— M In just Which four drugs/drug classes are most commonly implicated? TEN?

It is an --NSAIDs mucous membranes

How do --Anticonvulsants

It's a m --Sulfonamides

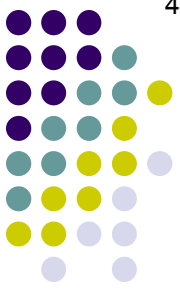
--Allopurinol area than does SJS

What is the pathogenesis of the acute inflammatory vesicular bullous reaction?

A hypersensitivity reaction, usually to a drug or infectious agent



We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

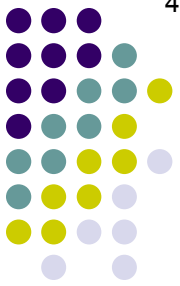
Infectious

- A What do SJS and TEN stand for in this context?
- Li **SJS**: Stevens-Johnson syndrome
- **TEN**: Toxic epidermal necrolysis

Which infectious agent is most commonly implicated in SJS/TEN?

A hypersensitivity reaction, usually to a drug or **infectious agent**

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

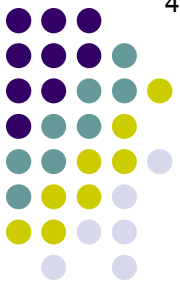
- A What do SJS and TEN stand for in this context?
- Li **SJS**: Stevens-Johnson syndrome
- **TEN**: Toxic epidermal necrolysis

Which infectious agent is most commonly implicated in SJS/TEN?

Depends on who you ask. Per both *EyeWiki* and *UpToDate*, *Mycoplasma pneumoniae* is by far the most common cause (*EyeWiki* attributes almost 90% of non-drug-induced cases to it).

A hypersensitivity reaction, usually to a drug or **infectious agent**

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

- A What do SJS and TEN stand for in this context?
- Li **SJS**: Stevens-Johnson syndrome
TEN: Toxic epidermal necrolysis

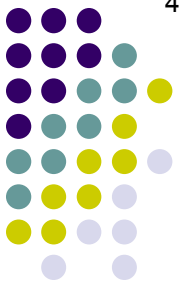
Which infectious agent is most commonly implicated in SJS/TEN?

Depends on who you ask. Per both *EyeWiki* and *UpToDate*, *Mycoplasma pneumoniae* is by far the most common cause (*EyeWiki* attributes almost 90% of non-drug-induced cases to it).

However, in the most recent version of the BCSC *Cornea/External Disease* book, *M pneumoniae* isn't even mentioned as a cause--HSV, strep and adeno are.

A hypersensitivity reaction, usually to a drug or **infectious agent**

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

- A What do SJS and TEN stand for in this context?
- Li **SJS:** Stevens-Johnson syndrome
TEN: Toxic epidermal necrolysis

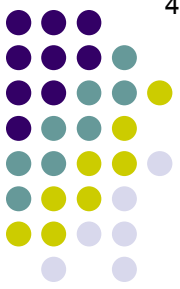
Which infectious agent is most commonly implicated in SJS/TEN?

Depends on who you ask. Per both *EyeWiki* and *UpToDate*, *Mycoplasma pneumoniae* is by far the most common cause (*EyeWiki* attributes almost 90% of non-drug-induced cases to it).

However, in the most recent version of the BCSC *Cornea/External Disease* book, *M pneumoniae* isn't even mentioned as a cause--HSV, strep and adeno are. On the other hand, the *Peds* book states that infection-related cases are usually secondary to "Mycoplasma species or herpes simplex virus." (Of course, this difference could be because *M pneumoniae* is a more common cause in *kids*.) **Caveat emptor.**

A hypersensitivity reaction, usually to a drug or **infectious agent**

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

- A What do SJS and TEN stand for in this context?
- Li **SJS**: Stevens-Johnson syndrome
TEN: Toxic epidermal necrolysis

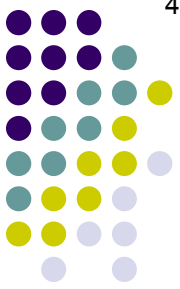
Which infectious agent is most commonly implicated in SJS/TEN?

Depends on who you ask. Per both *EyeWiki* and *UpToDate*, *Mycoplasma pneumoniae* is by far the most common cause (*EyeWiki* attributes almost 90% of non-drug-induced cases to it).

Ho is ***For more on SJS/TEN, see slide-set K8*** *Mycoplasma pneumoniae* *Peds book* states that infection-related cases are usually secondary to “*Mycoplasma* species or herpes simplex virus.” (Of course, this difference could be because *M pneumoniae* is a more common cause in *kids*.) **Caveat emptor.**

A hypersensitivity reaction, usually to a drug or **infectious agent**

We can divvy conjunctivitis many ways, including in terms of:
The **nature** of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

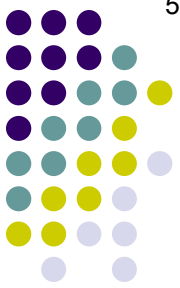
- Allergic
- Ligneous
- SJS
- **MMP**

What does MMP stand for in this context?

Infectious

- Viral
- Bacterial

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

— Allergic

— Ligneous

— SJS

MMP

What does MMP stand for in this context?

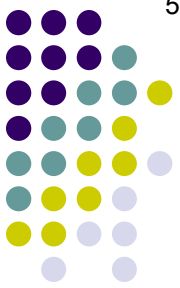
Mucus membrane pemphigoid

Infectious

— Viral

— Bacterial

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

— Allergic

— Ligneous

— SJS

MMP

What does MMP stand for in this context?

Mucus membrane pemphigoid

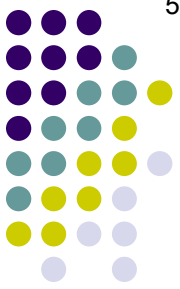
By what other name—less preferred, but frequently used—is it known?

Infectious

— Viral

— Bacterial

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

— Allergic

— Ligneous

— SJS

MMP

What does MMP stand for in this context?

Mucus membrane pemphigoid

By what other name—less preferred, but frequently used—is it known?

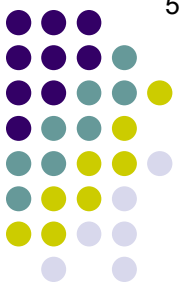
Ocular cicatricial pemphigoid, OCP

Infectious

— Viral

— Bacterial

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

— Allergic

— Ligneous

— SJS

— **MMP**

What does MMP stand for in this context?

Mucus membrane pemphigoid

By what other name—less preferred, but frequently used—is it known?

Ocular cicatricial pemphigoid, OCP

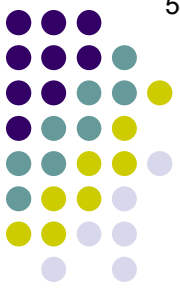
In just a few words, what is the clinical manifestation of MMP?

Infectious

— Viral

— Bacterial

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

— Allergic

— Ligneous

— SJS

MMP

What does MMP stand for in this context?

Mucus membrane pemphigoid

By what other name—less preferred, but frequently used—is it known?

Ocular cicatricial pemphigoid, OCP

In just a few words, what is the clinical manifestation of MMP?

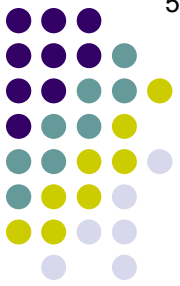
It is acute vs chronic longish word conjunctivitis

Infectious

— Viral

— Bacterial

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

— Allergic

— Ligneous

— SJS

MMP

What does MMP stand for in this context?

Mucus membrane pemphigoid

By what other name—less preferred, but frequently used—is it known?

Ocular cicatricial pemphigoid, OCP

In just a few words, what is the clinical manifestation of MMP?

It is a chronic cicatrizing conjunctivitis

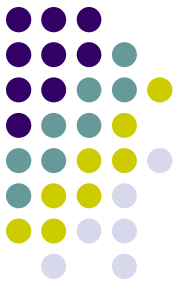
Infectious

— Viral

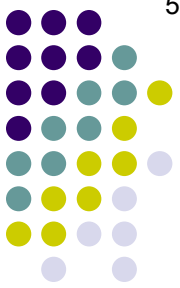
— Bacterial

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response

Acute/Hyperacute Conjunctivitis



MMP: Subepithelial fibrosis, symblepharon, and shortening of the inferior fornix



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

- Allergic
- Ligneous
- SJS
- **MMP**

What does MMP stand for in this context?

Mucus membrane pemphigoid

By what other name—less preferred, but frequently used—is it known?

Ocular cicatricial pemphigoid, OCP

In just a few words, what is the clinical manifestation of MMP?

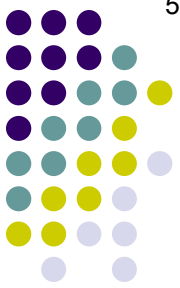
It is a chronic cicatrizing conjunctivitis

Other than timeframe of presentation (ie, acute vs chronic), in what fundamental way does MMP differ from SJS/TEN?

Infectious

- Viral
- Bacterial

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

- Allergic
- Ligneous
- SJS
- **MMP**

What does MMP stand for in this context?

Mucus membrane pemphigoid

By what other name—less preferred, but frequently used—is it known?

Ocular cicatricial pemphigoid, OCP

In just a few words, what is the clinical manifestation of MMP?

It is a chronic cicatrizing conjunctivitis

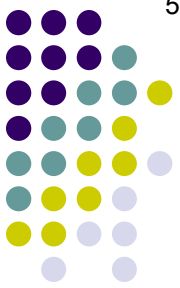
Other than timeframe of presentation (ie, acute vs chronic), in what fundamental way does MMP differ from SJS/TEN?

SJS/TEN is an immune condition—a hypersensitivity reaction

Infectious

- Viral
- Bacterial

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

- Allergic
- Ligneous
- SJS
- **MMP**

Infectious

- Viral
- Bacterial

What does MMP stand for in this context?

Mucus membrane pemphigoid

By what other name—less preferred, but frequently used—is it known?

Ocular cicatricial pemphigoid, OCP

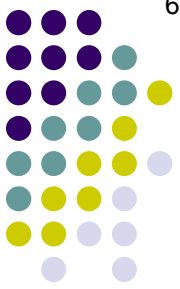
In just a few words, what is the clinical manifestation of MMP?

It is a chronic cicatrizing conjunctivitis

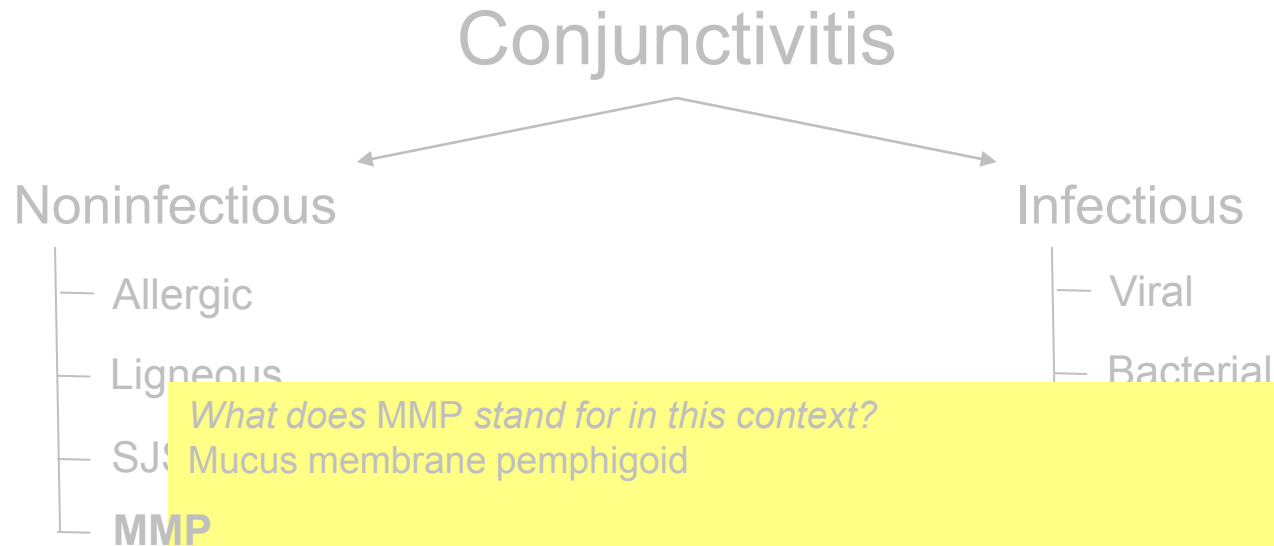
Other than timeframe of presentation (ie, acute vs chronic), in what fundamental way does MMP differ from SJS/TEN?

SJS/TEN is an immune condition—a hypersensitivity reaction. **In contrast, MMP is an autoimmune condition.**

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis



What does MMP stand for in this context?
Mucus membrane pemphigoid

For more on MMP, see slide-set K29

In just a few words, what is the clinical manifestation of MMP?
It is a chronic cicatrizing conjunctivitis

Other than timeframe of presentation (ie, acute vs chronic), in what fundamental way does MMP differ from SJS/TEN?

*SJS/TEN is an immune condition—a hypersensitivity reaction. In contrast, MMP is an **auto**immune condition.*

We can divvy conjunctivitis many ways, including in terms of:
 The **nature** of the inflammatory response

Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

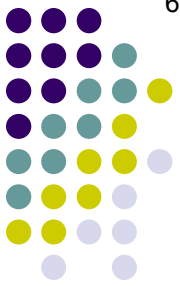
- Allergic
- Ligneous
- SJS/TEN
- MMP

Infectious

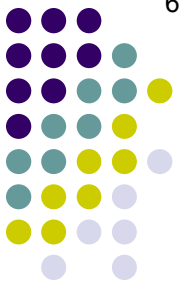
- ?
- ?
- ?
- ?

The Cornea book emphasizes four classes of organism implicated in infectious conjunctivitis—what are they?

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis



Conjunctivitis

Noninfectious

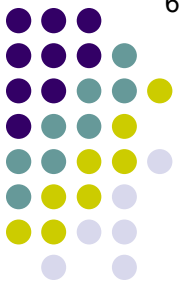
- Allergic
- Ligneous
- SJS/TEN
- MMP

Infectious

- Viral
- Bacterial
- Fungal
- Parasitic

The Cornea book emphasizes four classes of organism implicated in infectious conjunctivitis—what are they?

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

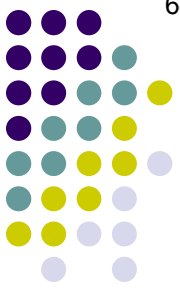
- Allergic
- Ligneous
- SJS/TEN
- MMP

Infectious

- Viral
- **Bacterial**

What is the typical course for bacterial conjunctivitis?

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

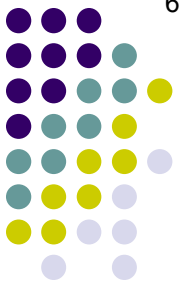
- Allergic
- Ligneous
- SJS/TEN
- MMP

Infectious

- Viral
- **Bacterial**

What is the typical course for bacterial conjunctivitis?
It's generally a self-limited condition

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

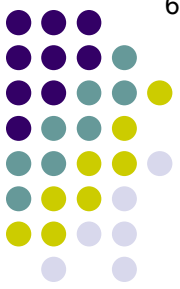
Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

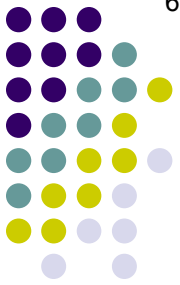
Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?
Microsporidia

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

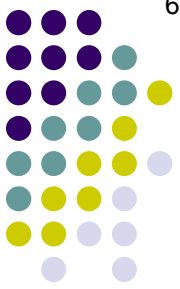
When you hear 'parasitic conjunctivitis,' what bug should come to mind?

Microsporidia

What sort of bug is Microsporidia?

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?

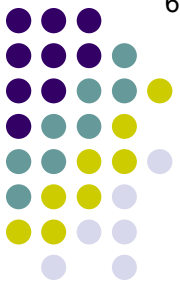
Microsporidia

What sort of bug is Microsporidia?

A protozoan

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?

Microsporidia

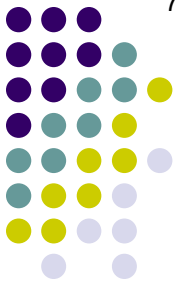
What sort of bug is Microsporidia?

A protozoan

Broadly speaking, what are protozoa?

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?

Microsporidia

What sort of bug is Microsporidia?

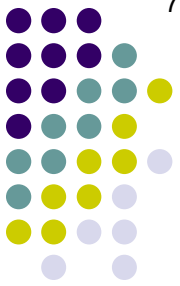
A protozoan

Broadly speaking, what are protozoa?

They are unicellular eukaryotes capable of some form of motility. Protozoa feed on organic material, and many are parasites.

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?

Microsporidia

What sort of bug is Microsporidia?

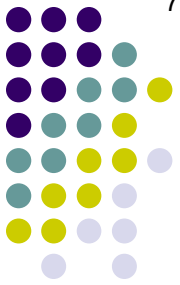
A protozoan

Broadly speaking, what are protozoa?

They are unicellular eukaryotes capable of some form of motility. Protozoa feed on organic material, and many are parasites. The term *protozoa* is considered outdated by modern biologists, but it persists in the ophthalmic literature.

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?
Microsporidia

What sort of bug is Microsporidia?
A protozoan

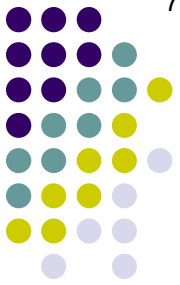
Broadly speaking, what are protozoa?

They are unicellular eukaryotes capable of some form of motility. Protozoa feed on organic material, and many are parasites. *The term protozoa is considered outdated by modern biologists, but it persists in the ophthalmic literature.*

What group of individuals is at particular risk for Microsporidia conjunctivitis?

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?

Microsporidia

What sort of bug is Microsporidia?

A protozoan

Broadly speaking, what are protozoa?

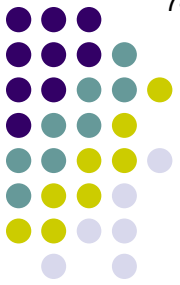
They are unicellular eukaryotes capable of some form of motility. Protozoa feed on organic material, and many are parasites. The term *protozoa* is considered outdated by modern biologists, but it persists in the ophthalmic literature.

What group of individuals is at particular risk for Microsporidia conjunctivitis?

AIDS pts

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?

Microsporidia

What sort of bug is Microsporidia?

A protozoan

Broadly speaking, what are protozoa?

They are unicellular eukaryotes capable of some form of motility. Protozoa feed on organic material, and many are parasites. **The term *protozoa* is considered outdated by modern biologists, but it persists in the ophthalmic literature.**

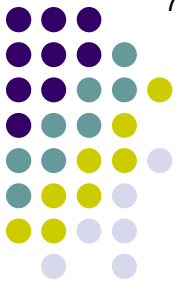
What group of individuals is at particular risk for Microsporidia conjunctivitis?

AIDS pts

What is the classic presentation of Microsporidia conjunctivitis?

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Noninfectious

Infectious

When you hear 'parasitic conjunctivitis,' what bug should come to mind?

Microsporidia

What sort of bug is Microsporidia?

A protozoan

Broadly speaking, what are protozoa?

They are unicellular eukaryotes capable of some form of motility. Protozoa feed on organic material, and many are parasites. **The term *protozoa* is considered outdated by modern biologists, but it persists in the ophthalmic literature.**

What group of individuals is at particular risk for Microsporidia conjunctivitis?

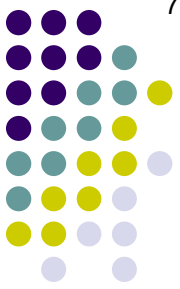
AIDS pts

What is the classic presentation of Microsporidia conjunctivitis?

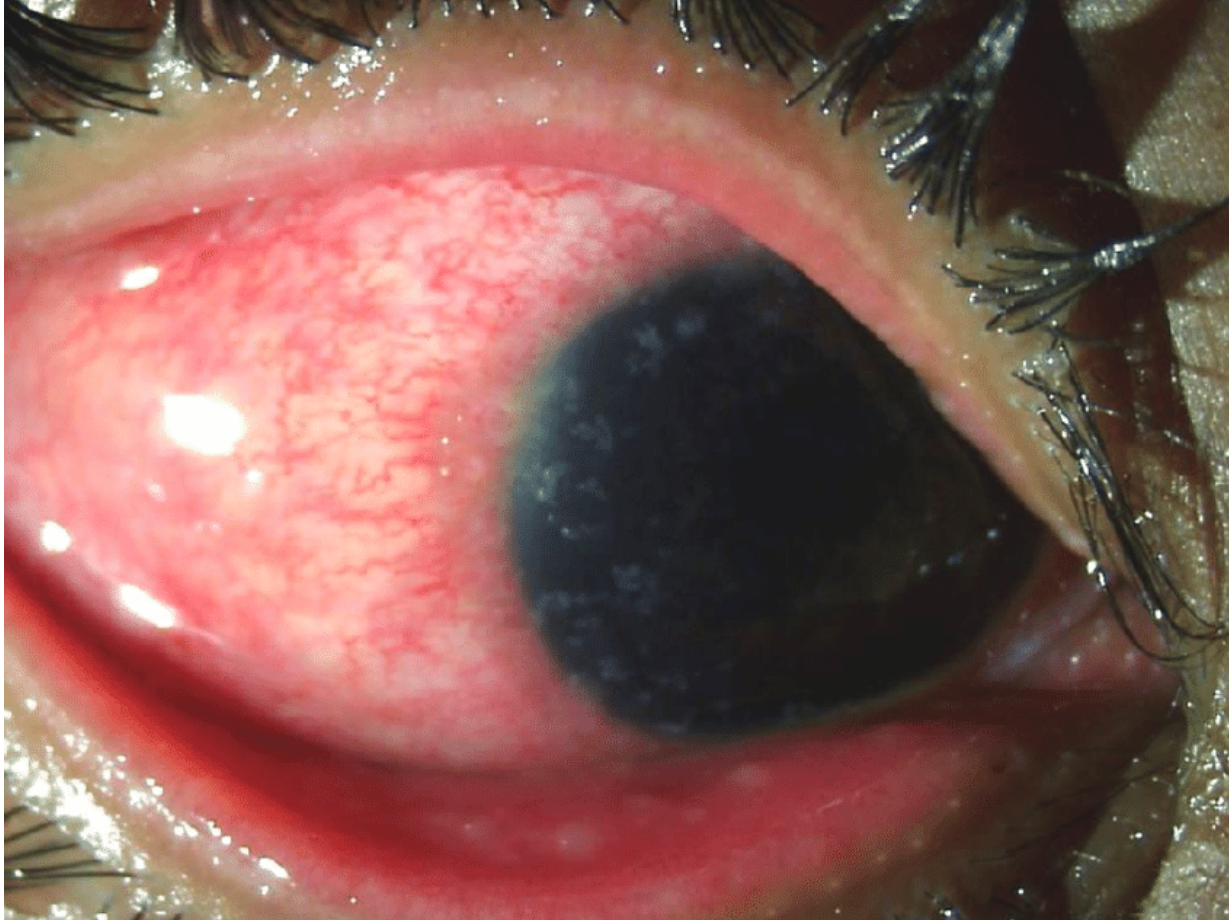
Bilateral irritation, photophobia, decreased vision, and conjunctival injection

Parasitic

We can divvy conjunctivitis many ways, including in terms of:
The nature of the inflammatory response

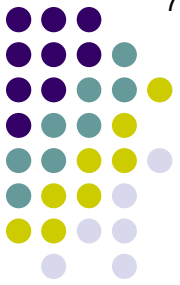
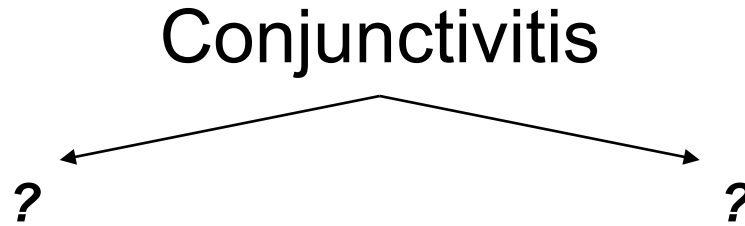


Acute/Hyperacute Conjunctivitis



Microsporidia keratoconjunctivitis

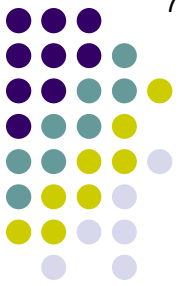
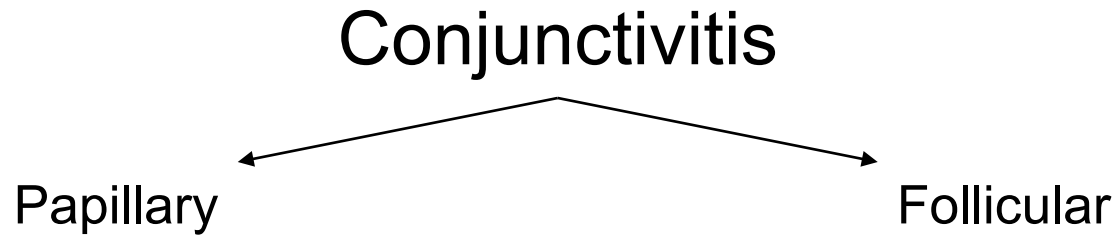
Acute/Hyperacute Conjunctivitis



Note: This part has changed!

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

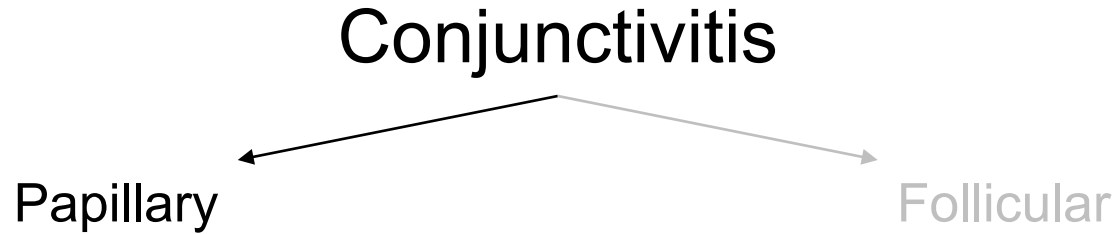
Acute/Hyperacute Conjunctivitis



Note: This part has changed!

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

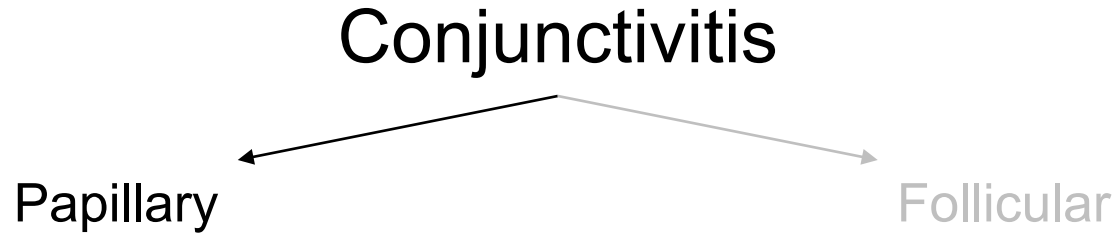
Acute/Hyperacute Conjunctivitis



What does a papillary reaction look like clinically?

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis

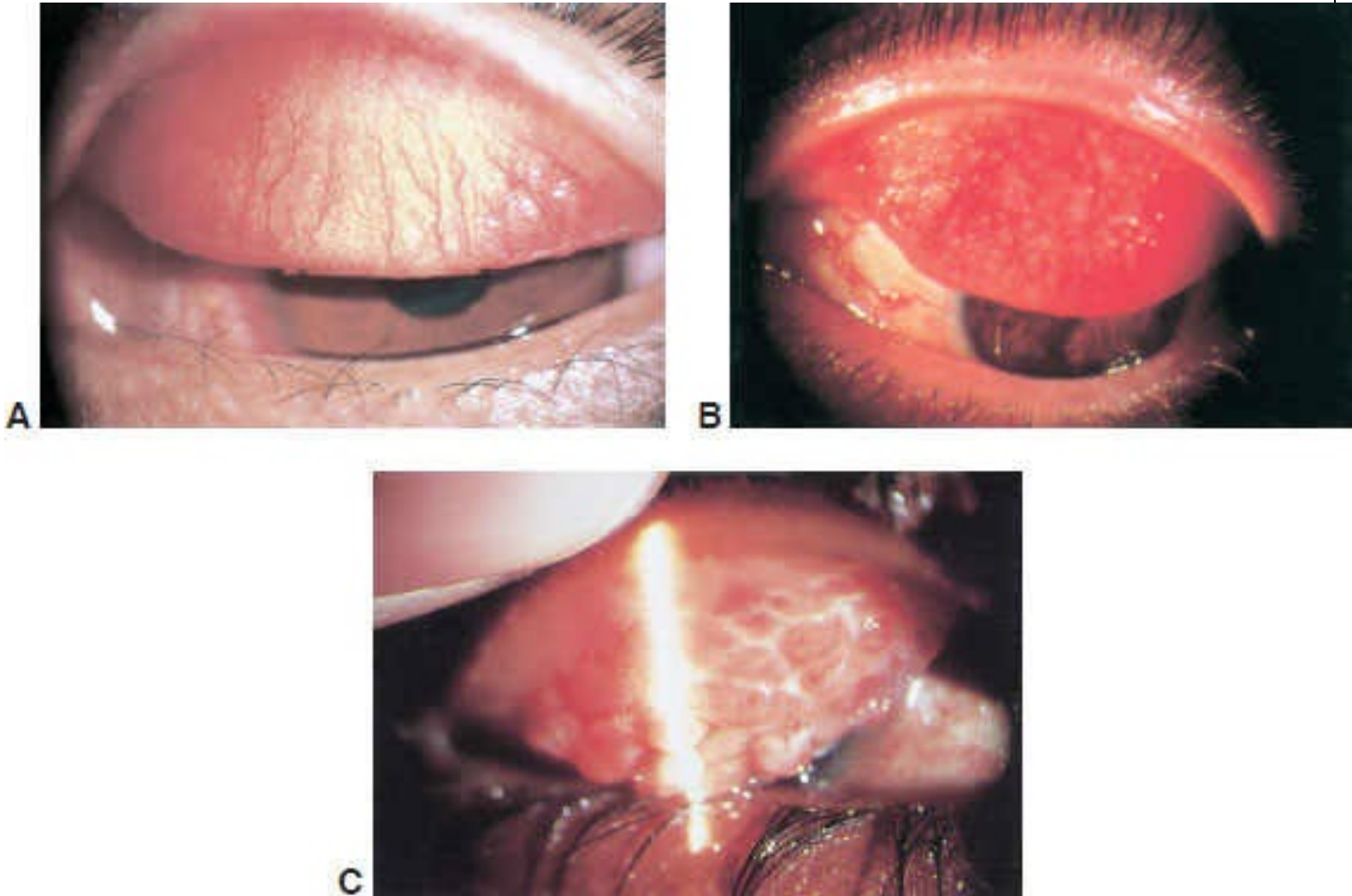
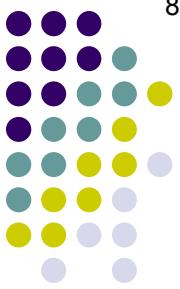


What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

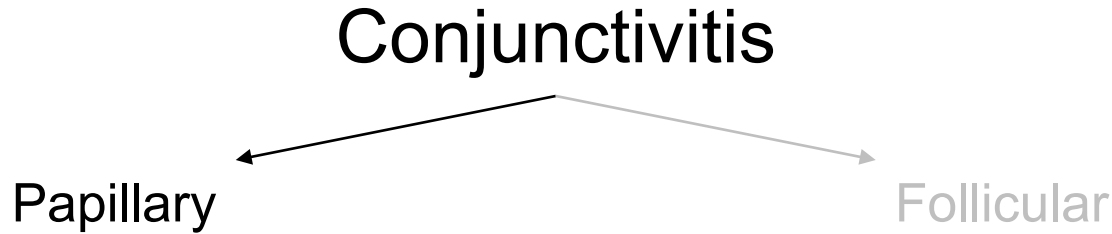
We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



Papillary conjunctivitis. **A**, Mild papillae. **B**, Moderate papillae. **C**, Marked (giant) papillae.

Acute/Hyperacute Conjunctivitis

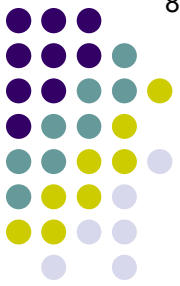


What does a papillary reaction look like clinically?

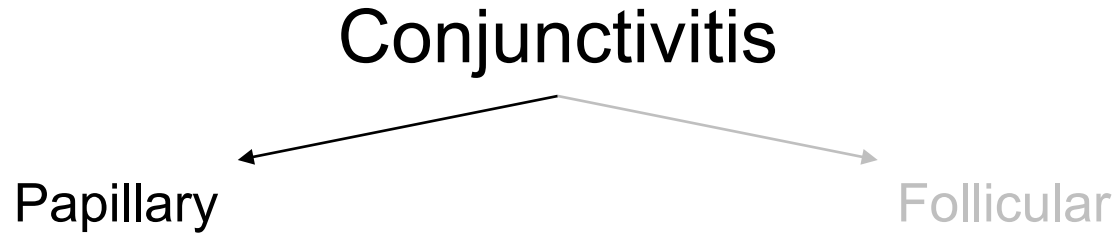
Flattened nodules—sort of a cobblestone appearance

What does it look like histologically?

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis



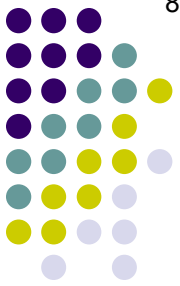
What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

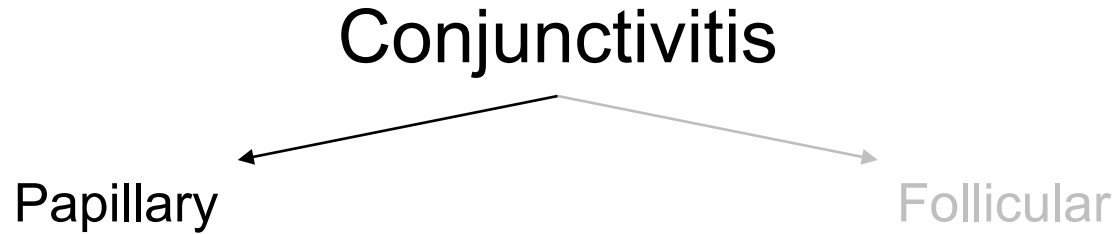
What does it look like histologically?

Each nodule contains a  core surrounded by mast cells, eos, and other inflammatory cells

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis



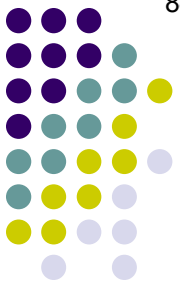
What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

What does it look like histologically?

Each nodule contains a vascular core surrounded by mast cells, eos, and other inflammatory cells

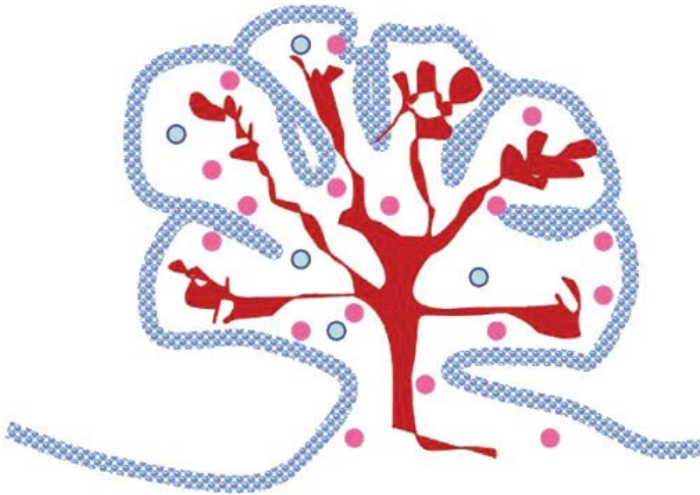
We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

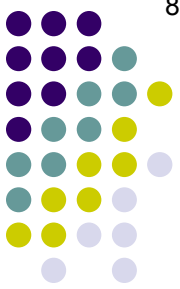


“The conj epithelium (*blue line*) extends over fine projections of blood vessels (*red*) and fibrous tissue, and the stroma contains eosinophils (*pink circles*), lymphocytes, and plasma cells (*blue circles*).”



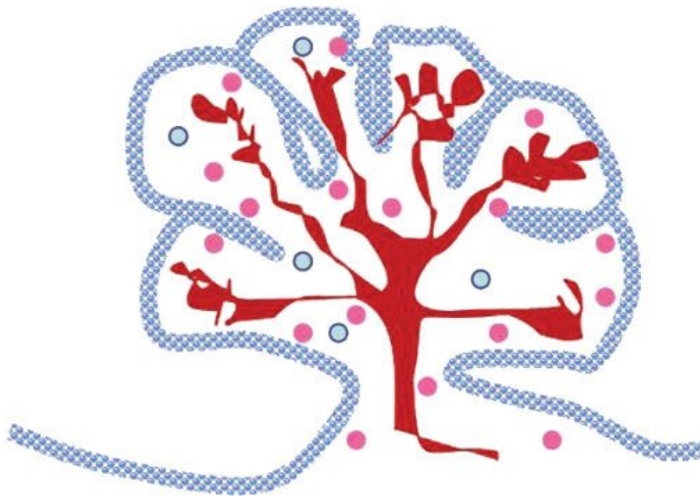
Conj papilla per the *Path* book

Acute/Hyperacute Conjunctivitis

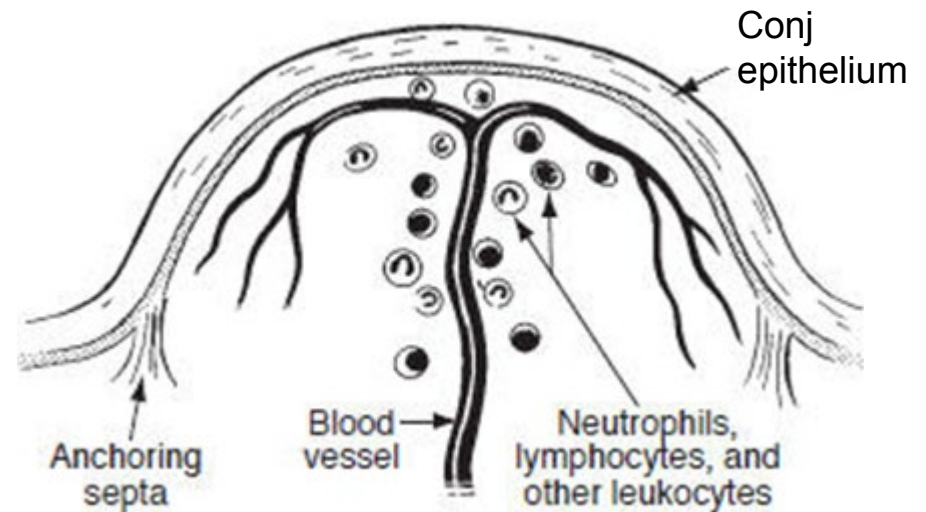


“The conj epithelium (*blue line*) extends over fine projections of blood vessels (*red*) and fibrous tissue, and the stroma contains eosinophils (*pink circles*), lymphocytes, and plasma cells (*blue circles*).”

Conj papilla per the *Cornea* book

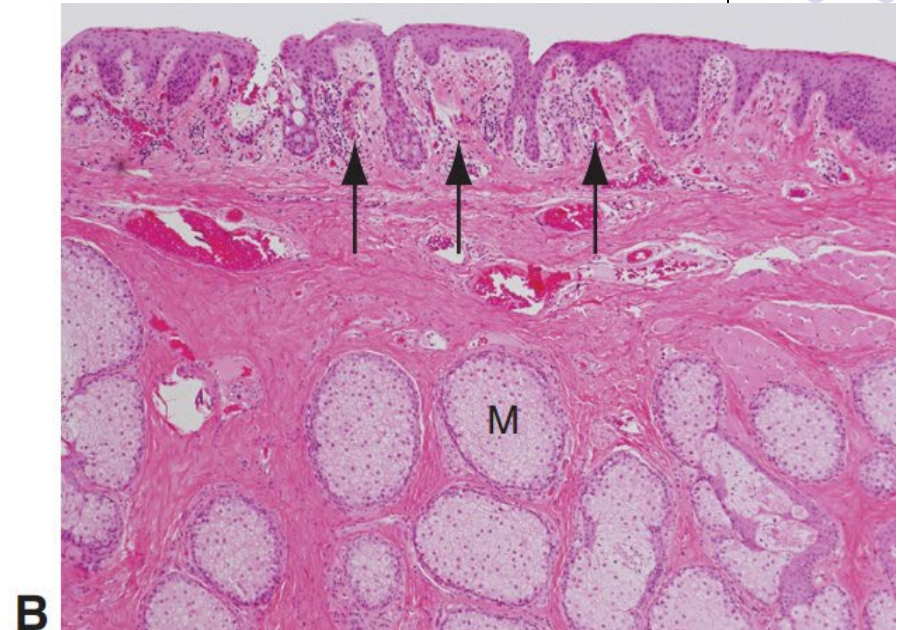
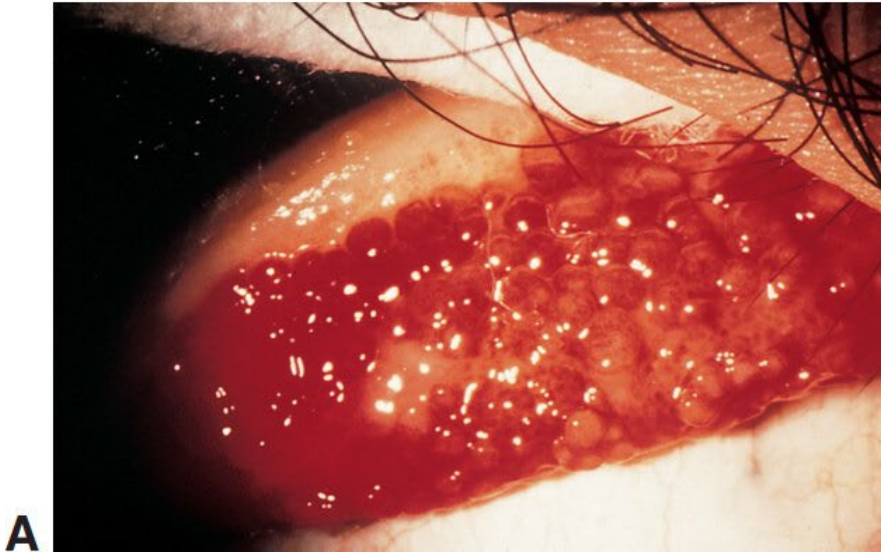


Conj papilla per the *Path* book



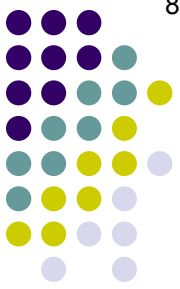
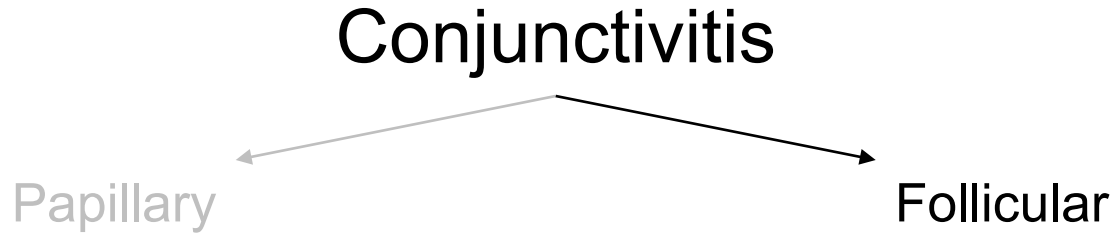
“Cross-sectional diagram of a conjunctival papilla with a central vascular tuft surrounded by acute and chronic leukocytes.”

Acute/Hyperacute Conjunctivitis



Papillary conjunctivitis. A, Clinical photograph. Papillae efface the normal palpebral conjunctival surface and form a confluent cobblestone pattern. B, Low-magnification photo-micrograph shows the characteristic closely packed, flat-topped papillae with central fibrovascular cores (*arrows*). The normal meibomian glands (M) of the tarsus are also shown.

Acute/Hyperacute Conjunctivitis



What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

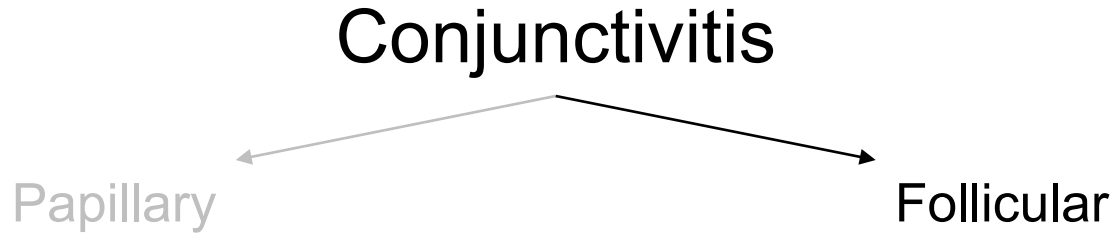
What does a follicular reaction look like clinically?

What does it look like histologically?

Each nodule contains a vascular core surrounded by mast cells, eos, and other inflammatory cells

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

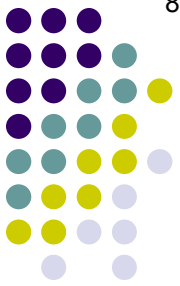
What does it look like histologically?

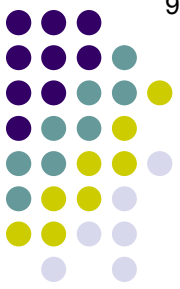
Each nodule contains a vascular core surrounded by mast cells, eos, and other inflammatory cells

What does a follicular reaction look like clinically?

Dome-shaped nodules

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

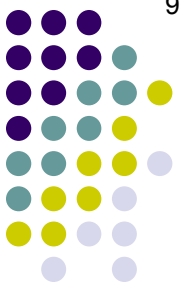




Acute/Hyperacute Conjunctivitis



Follicles (note this is the lower lid viewed from above)

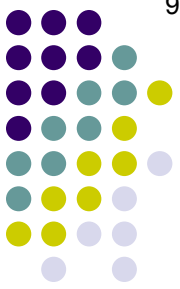
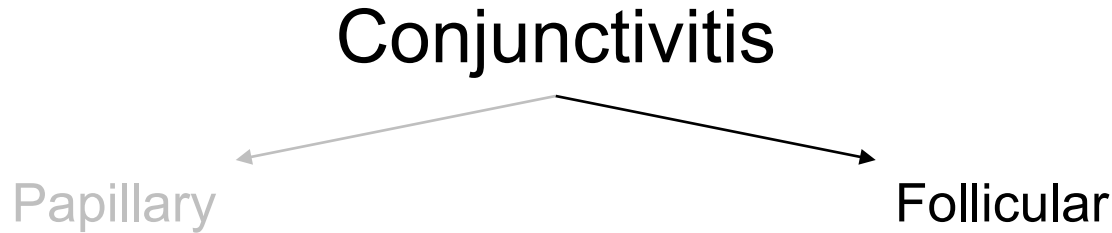


Acute/Hyperacute Conjunctivitis



Follicular conjunctivitis. **A**, Inflammation of the right eye from glaucoma medication. **B**, Right eye showing follicular conjunctivitis in the inferior fornix.

Acute/Hyperacute Conjunctivitis



What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

What does it look like histologically?

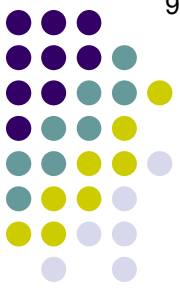
Each nodule contains a vascular core surrounded by mast cells, eos, and other inflammatory cells

What does a follicular reaction look like clinically?

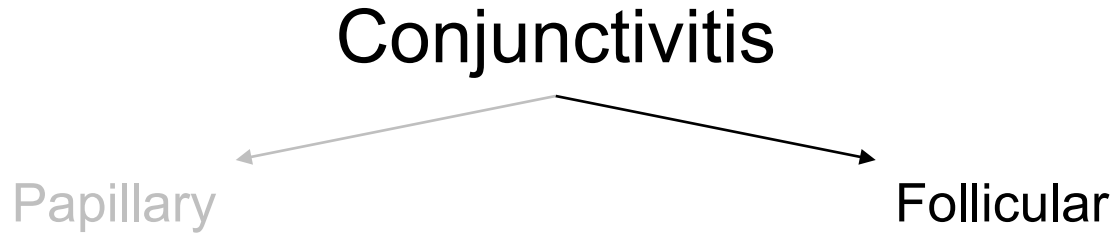
Dome-shaped nodules

What does it look like histologically?

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis



What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

What does it look like histologically?

Each nodule contains a vascular core surrounded by mast cells, eos, and other inflammatory cells

What does a follicular reaction look like clinically?

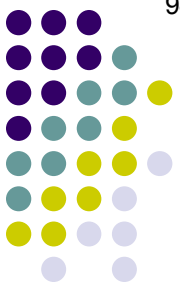
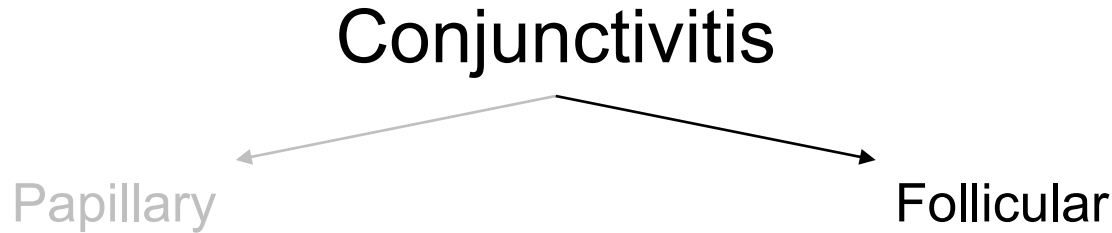
Dome-shaped nodules

What does it look like histologically?

Each nodule contains a two words

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

What does it look like histologically?

Each nodule contains a vascular core surrounded by mast cells, eos, and other inflammatory cells

What does a follicular reaction look like clinically?

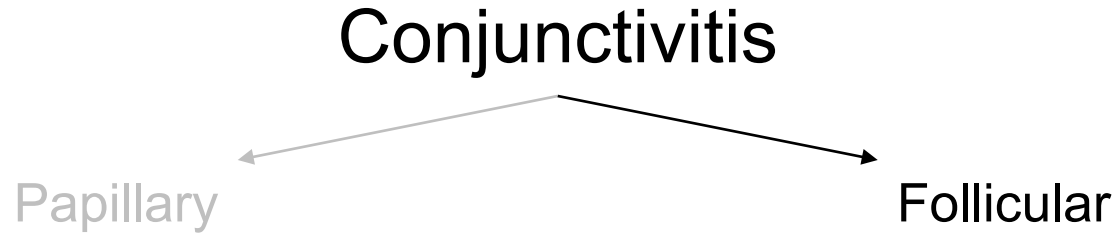
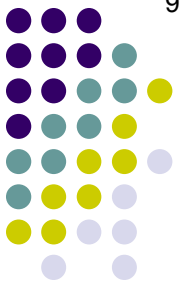
Dome-shaped nodules

What does it look like histologically?

Each nodule contains a lymphoid follicle

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

What does it look like histologically?

Each nodule contains a vascular core surrounded by mast cells, eos, and other inflammatory cells

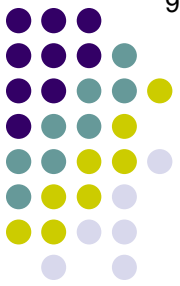
What does a follicular reaction look like clinically?

Dome-shaped nodules

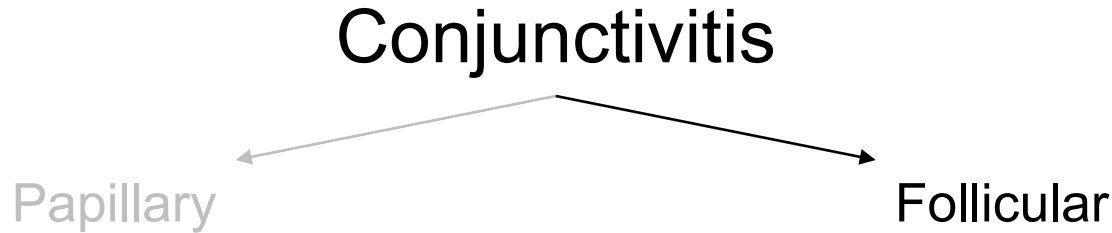
What does it look like histologically?

Each nodule contains a lymphoid follicle consisting of a [] center and its surrounding []

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis



What does a papillary reaction look like clinically?

Flattened nodules—sort of a cobblestone appearance

What does it look like histologically?

Each nodule contains a vascular core surrounded by mast cells, eos, and other inflammatory cells

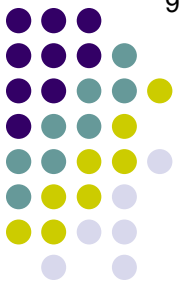
What does a follicular reaction look like clinically?

Dome-shaped nodules

What does it look like histologically?

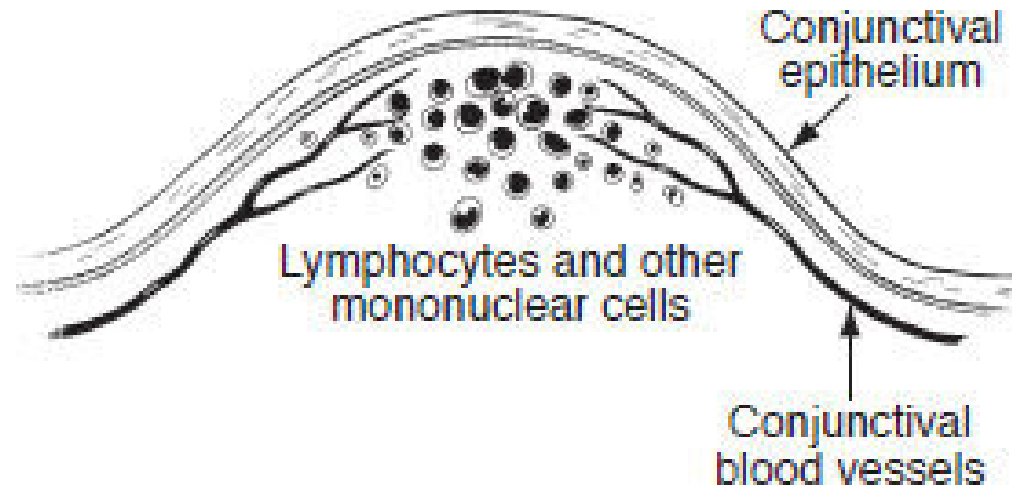
Each nodule contains a lymphoid follicle consisting of a germinal center and its surrounding corona

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conj follicle per the **Cornea** book

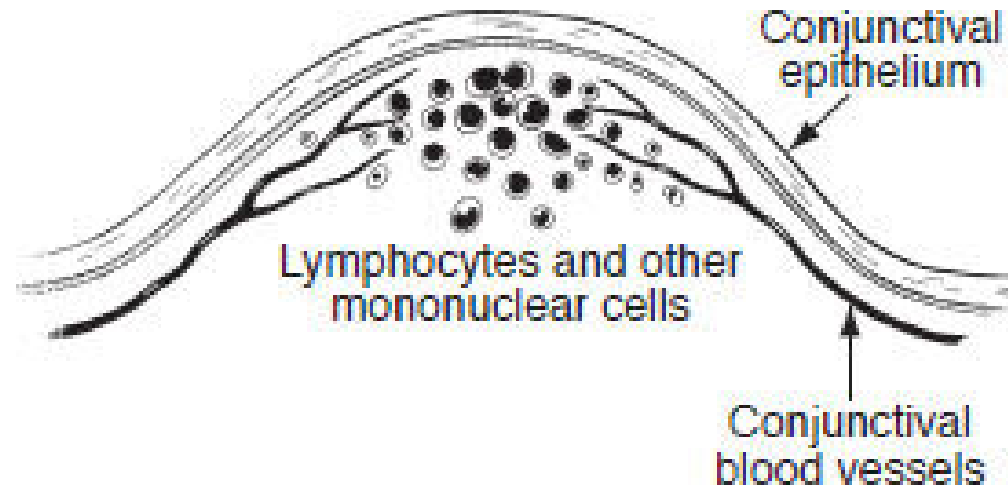


“Cross-section of a conjunctival follicle with mononuclear cells obscuring conjunctival blood vessels.”

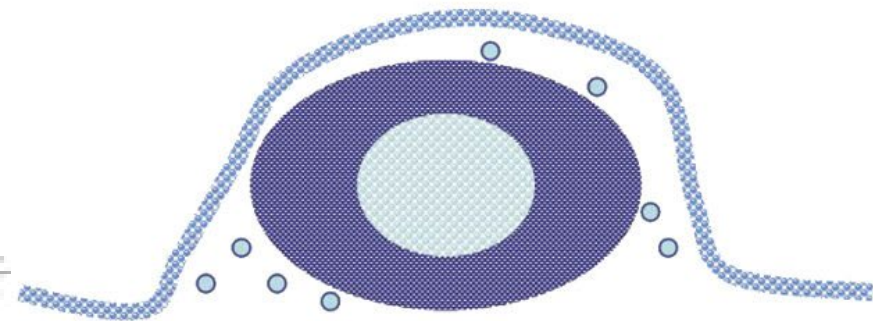
Acute/Hyperacute Conjunctivitis



Conj follicle per the **Cornea** book



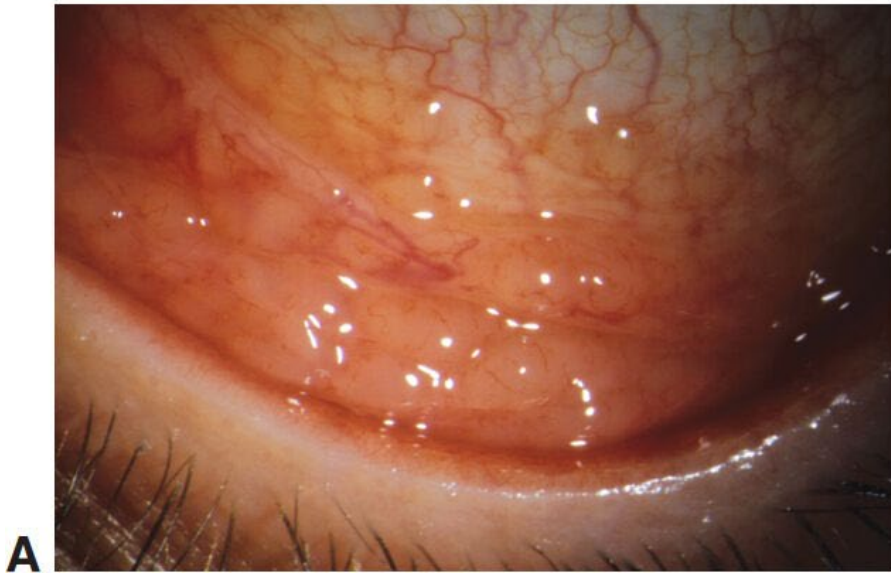
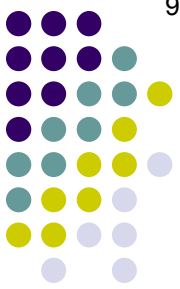
“The conj epithelium (*blue line*) overlies lymphoid follicles in the superficial stroma that have a paler germinal center surrounded by a darker corona (*central pale blue surrounded by purple*). The surrounding stroma contains lymphocytes and plasma cells (*small blue circles*).”



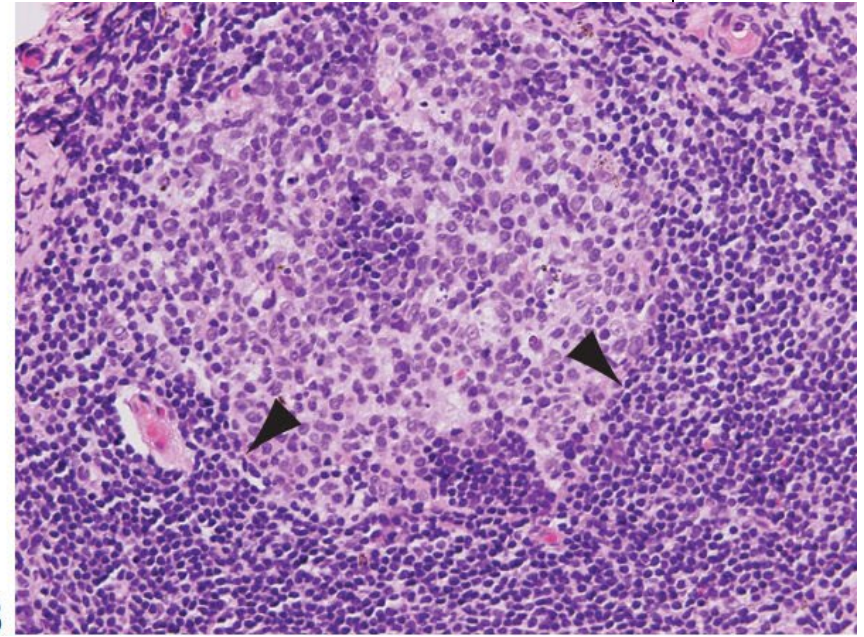
Conj follicle per the **Path** book

“Cross-section of a conjunctival follicle with mononuclear cells obscuring conjunctival blood vessels.”

Acute/Hyperacute Conjunctivitis



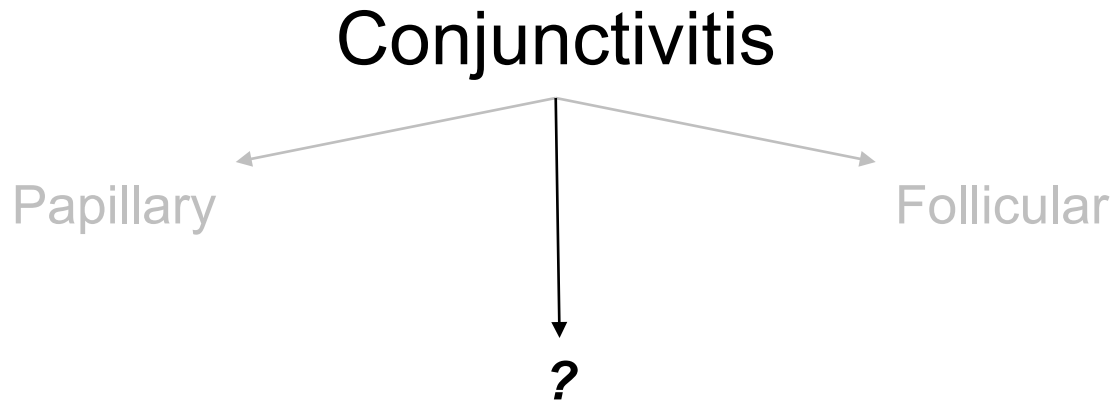
A



B

Follicular conjunctivitis. A, Clinical photograph showing follicles, which occur only in the fornix. B, High-magnification photomicrograph shows a lymphoid follicle and the boundary between the germinal center and the mantle zone (*arrowheads*). Note the paler, relatively larger, immature lymphocytes in the germinal center compared with the darker, small, mature lymphocytes in the corona.

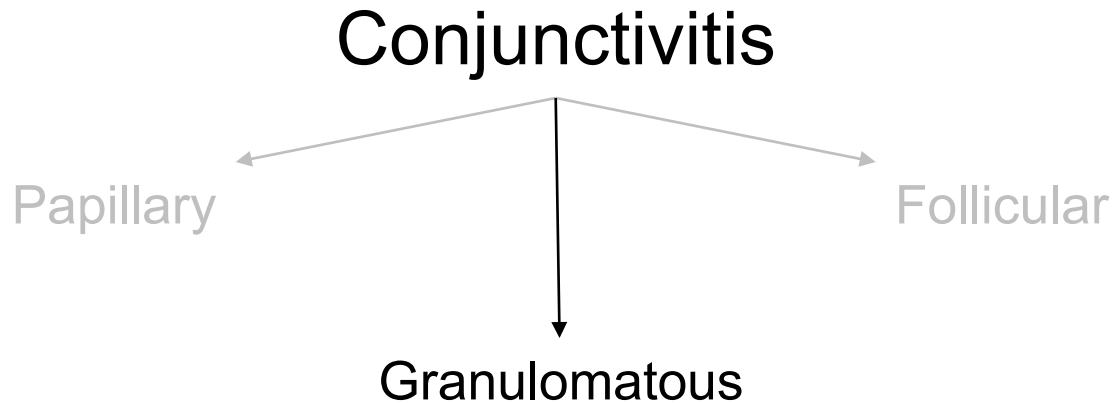
Acute/Hyperacute Conjunctivitis



There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis

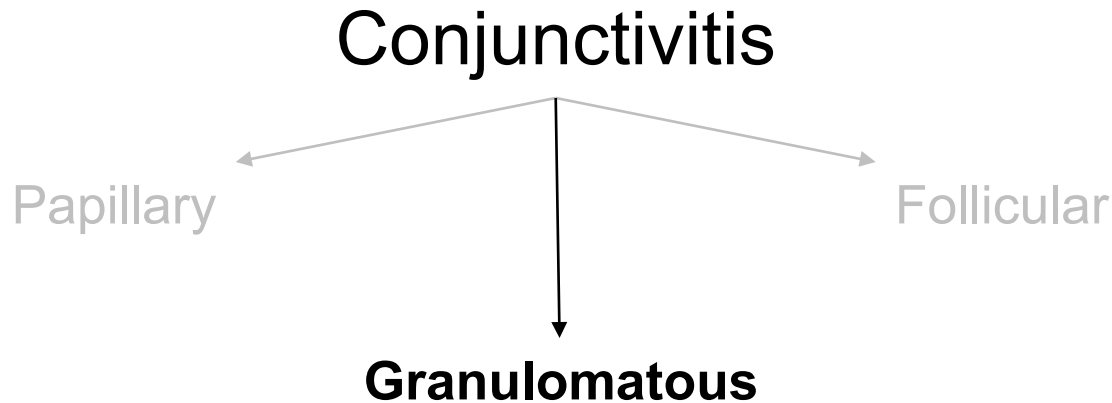


There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?

Granulomatous conjunctivitis

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis

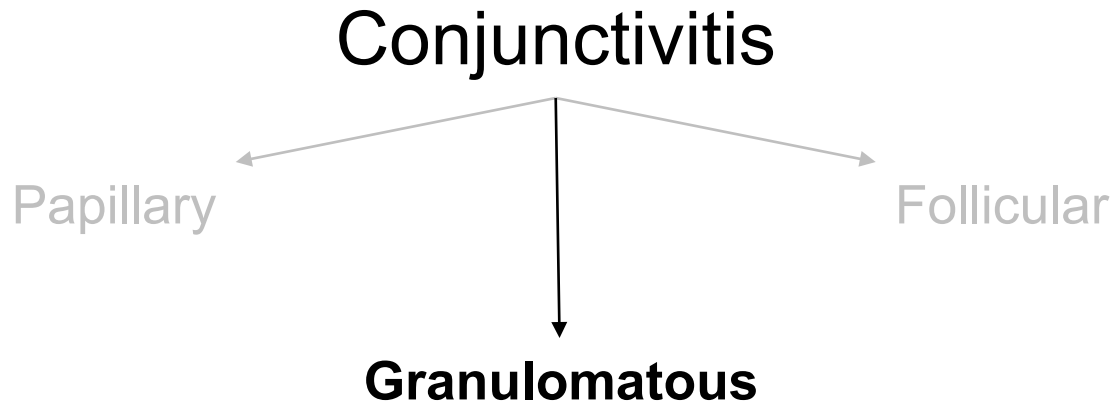


What is a granuloma?

There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?
Granulomatous conjunctivitis

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



What is a granuloma?

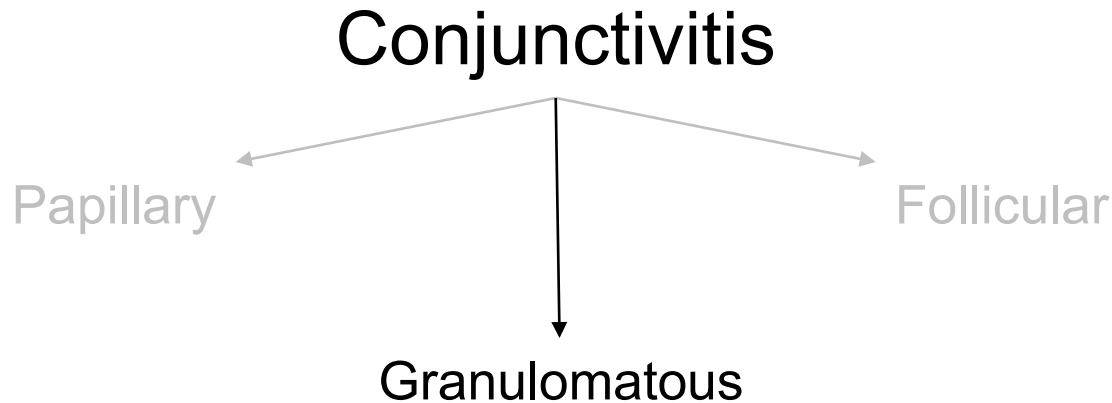
A nodular aggregate of inflammatory material

There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?

Granulomatous conjunctivitis

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



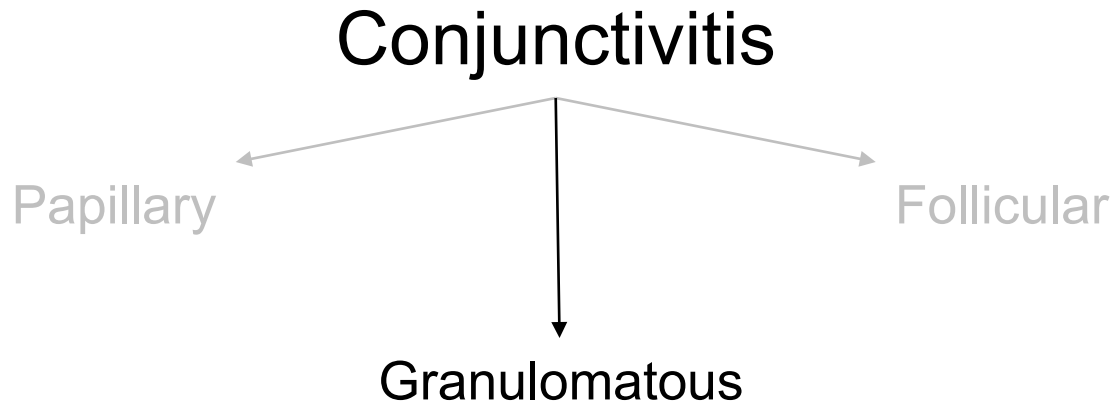
There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?

Granulomatous conjunctivitis

Is granulomatous conjunctivitis a commonly-encountered clinical entity?

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



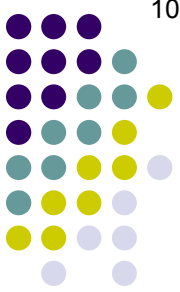
There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?

Granulomatous conjunctivitis

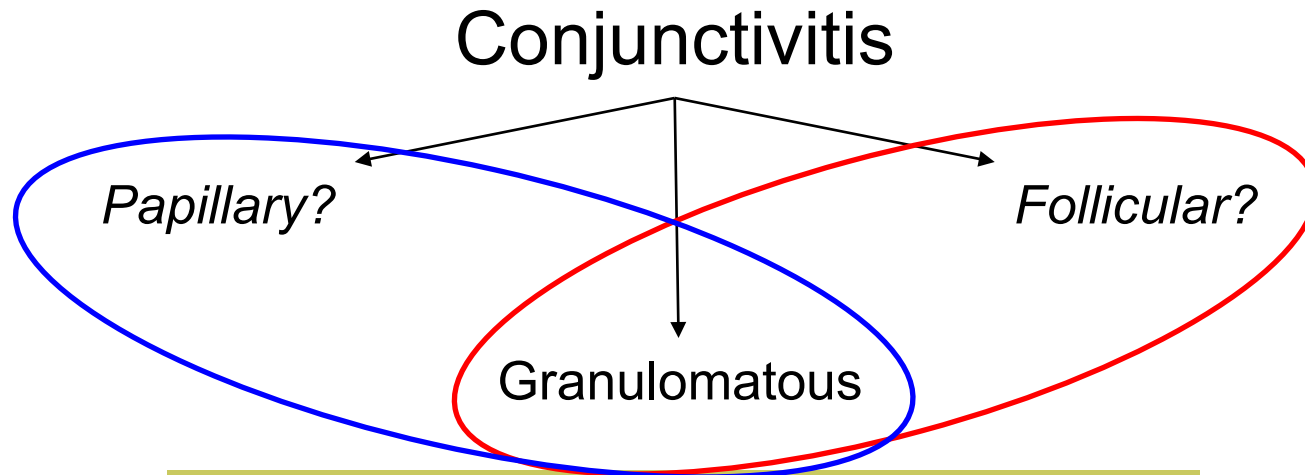
Is granulomatous conjunctivitis a commonly-encountered clinical entity?

No, it is vastly less common than its papillary and follicular cousins

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis



Clinically speaking, does granulomatous conjunctivitis look more like papillary conjunctivitis, or follicular conjunctivitis?

There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?

Granulomatous conjunctivitis

Is granulomatous conjunctivitis a commonly-encountered clinical entity?

No, it is vastly less common than its papillary and follicular cousins

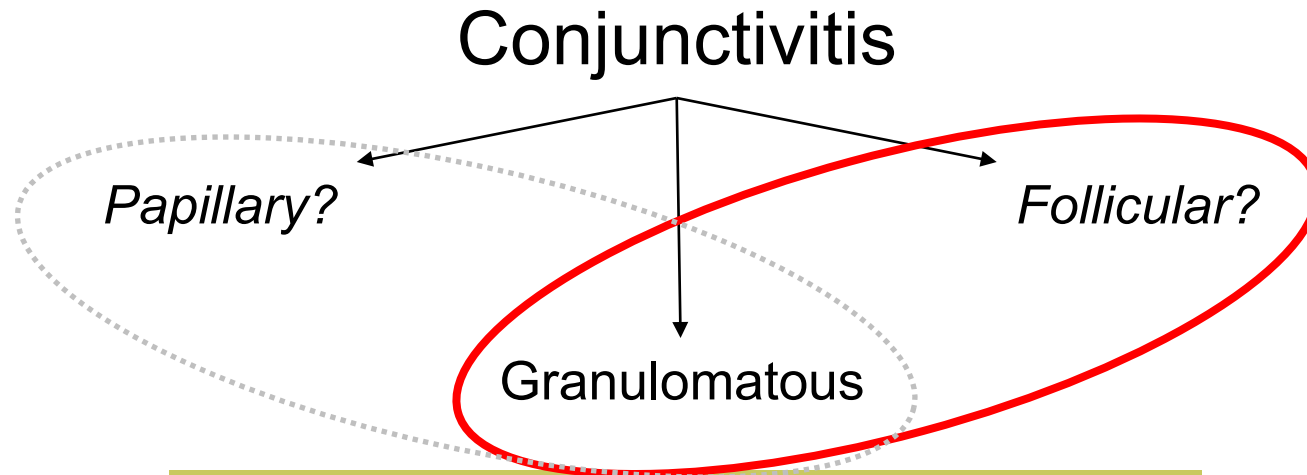
Granulomatous dz is divvied into two subtypes—what are they?

Caseating and noncaseating

We can divvy conjunctivitis many ways, including in terms of:
The **histology** of the inflammatory response



Acute/Hyperacute Conjunctivitis



Clinically speaking, does granulomatous conjunctivitis look more like papillary conjunctivitis, or follicular conjunctivitis?
Follicular

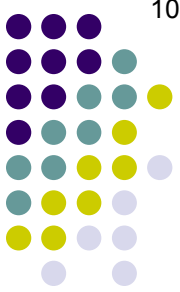
There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?

Granulomatous conjunctivitis

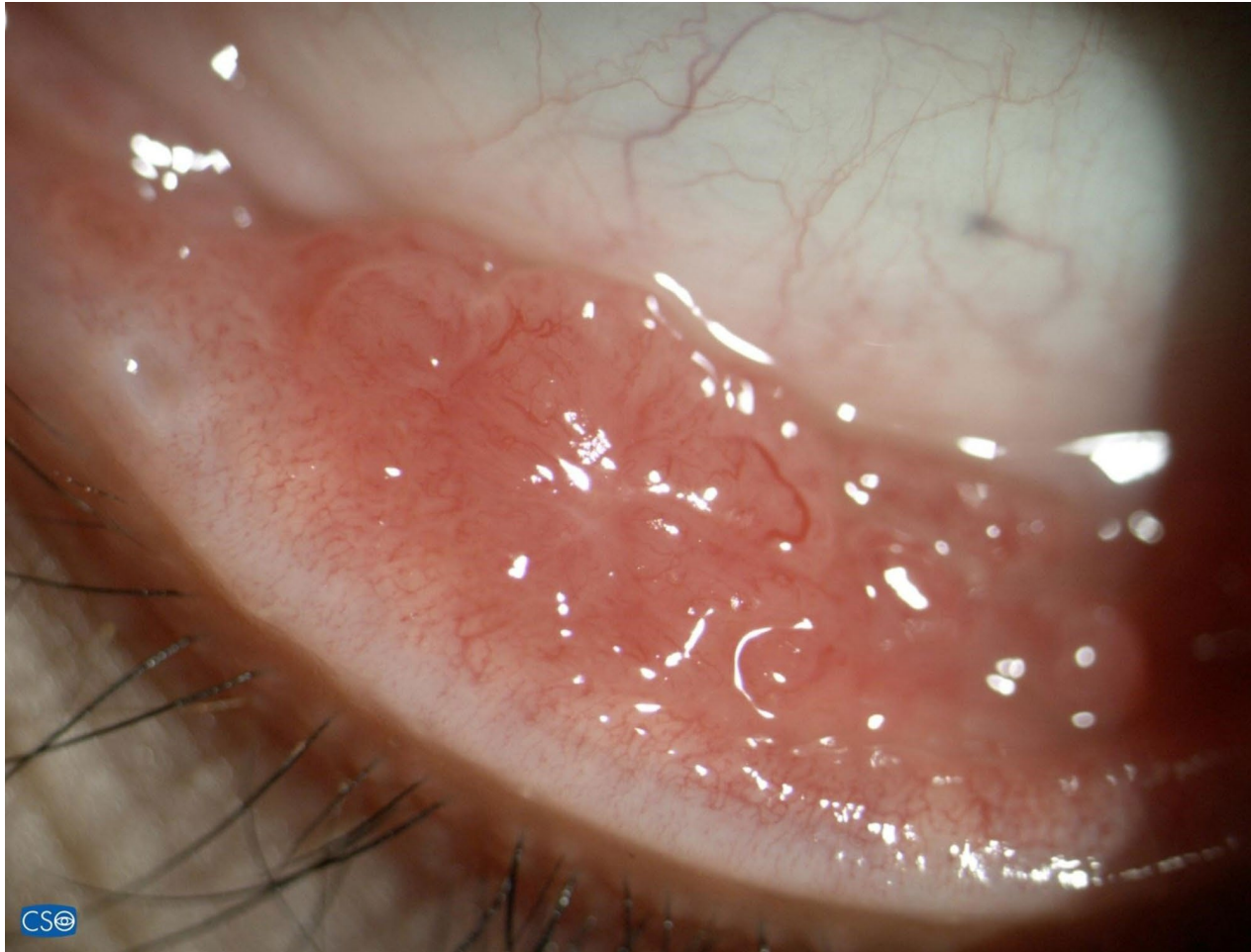
Is granulomatous conjunctivitis a commonly-encountered clinical entity?
No, it is vastly less common than its papillary and follicular cousins

Granulomatous dz is divided into two subtypes—what are they?
Caseating and noncaseating

We can divvy conjunctivitis many ways, including in terms of:
The **histology** of the inflammatory response

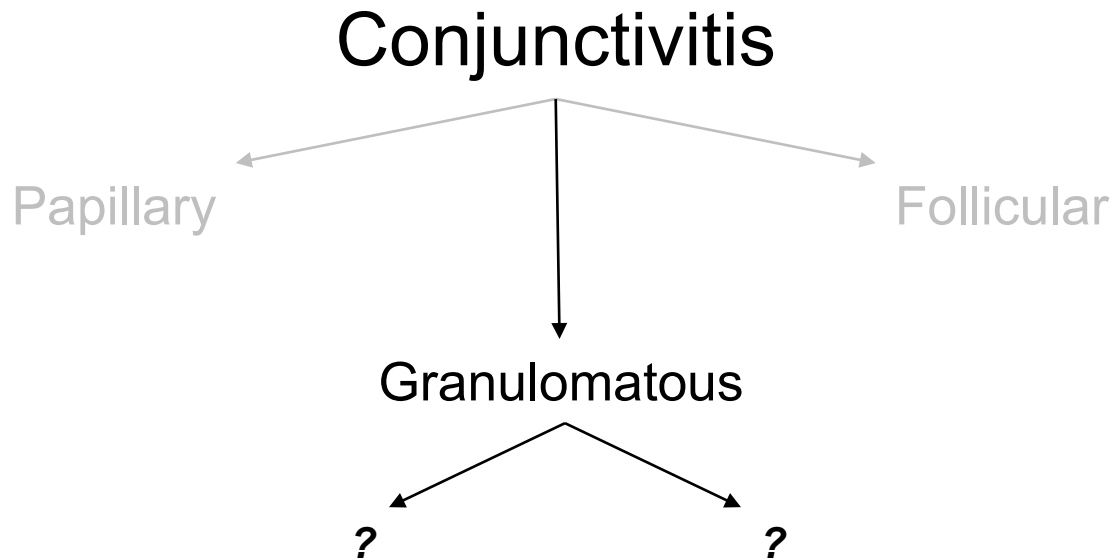


Acute/Hyperacute Conjunctivitis



Granulomatous conjunctivitis looking all follicular

Acute/Hyperacute Conjunctivitis



There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?

Granulomatous conjunctivitis

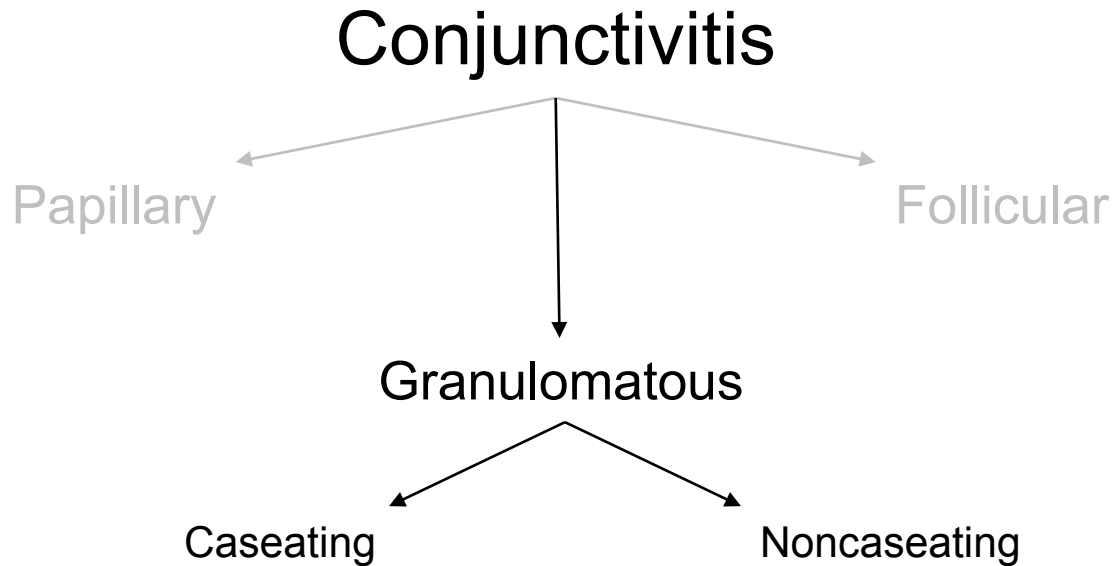
Is granulomatous conjunctivitis a commonly-encountered clinical entity?

No, it is vastly less common than its papillary and follicular cousins

Granulomatous dz is divvied into two subtypes—what are they?

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



There's a third histology we must address. You are very familiar with it, but perhaps not in the context of conjunctivitis. What is it?

Granulomatous conjunctivitis

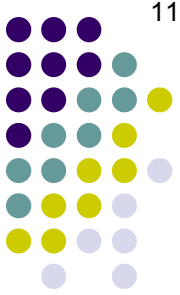
Is granulomatous conjunctivitis a commonly-encountered clinical entity?

No, it is vastly less common than its papillary and follicular cousins

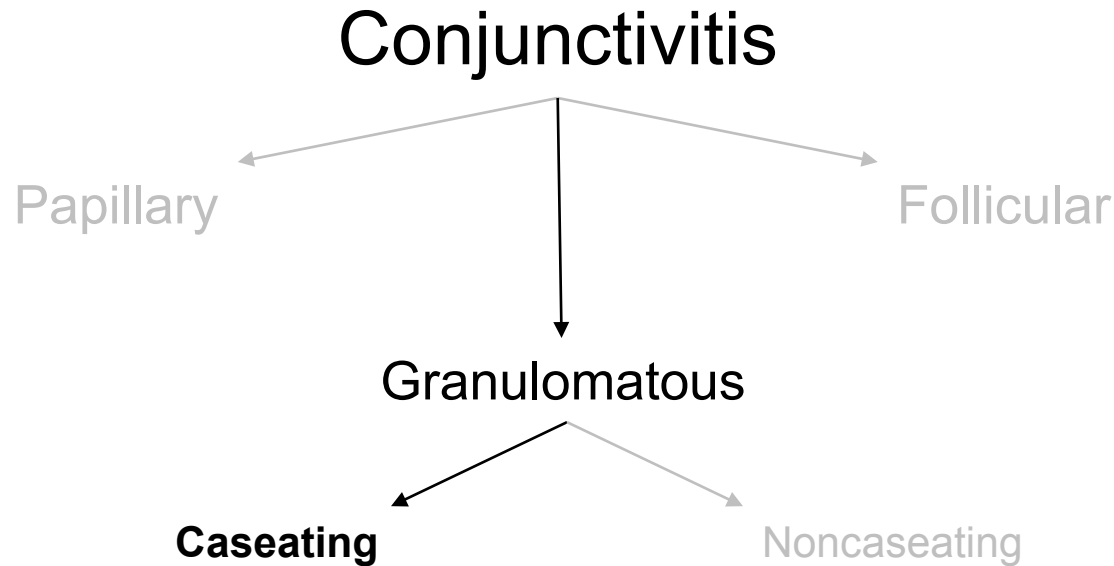
Granulomatous dz is divvied into two subtypes—what are they?

Caseating and noncaseating

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

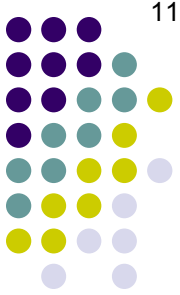


Acute/Hyperacute Conjunctivitis

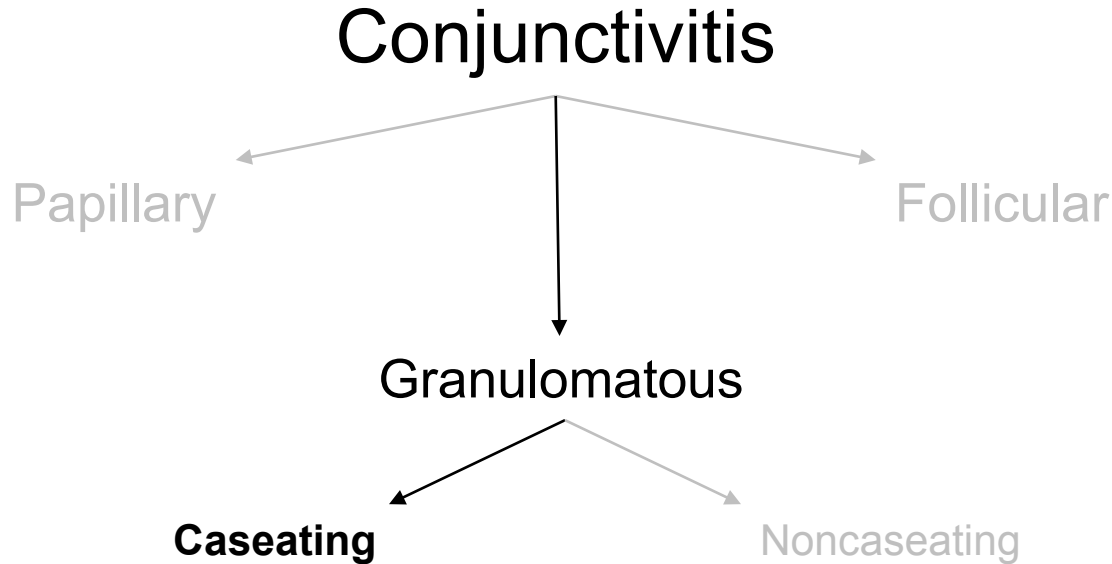


What does it mean to say a granuloma is 'caseating'?

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

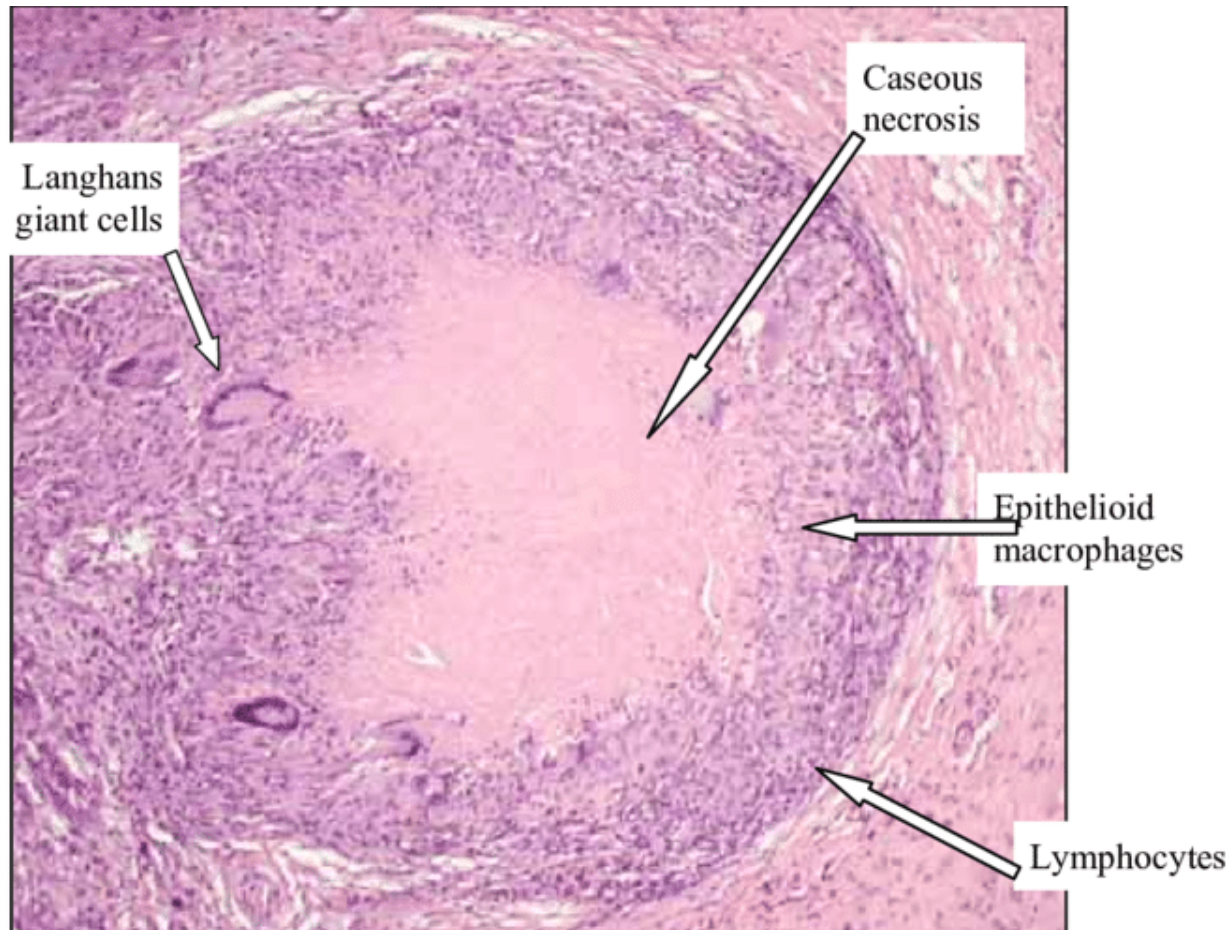


What does it mean to say a granuloma is 'caseating'?

It means the center is necrotic

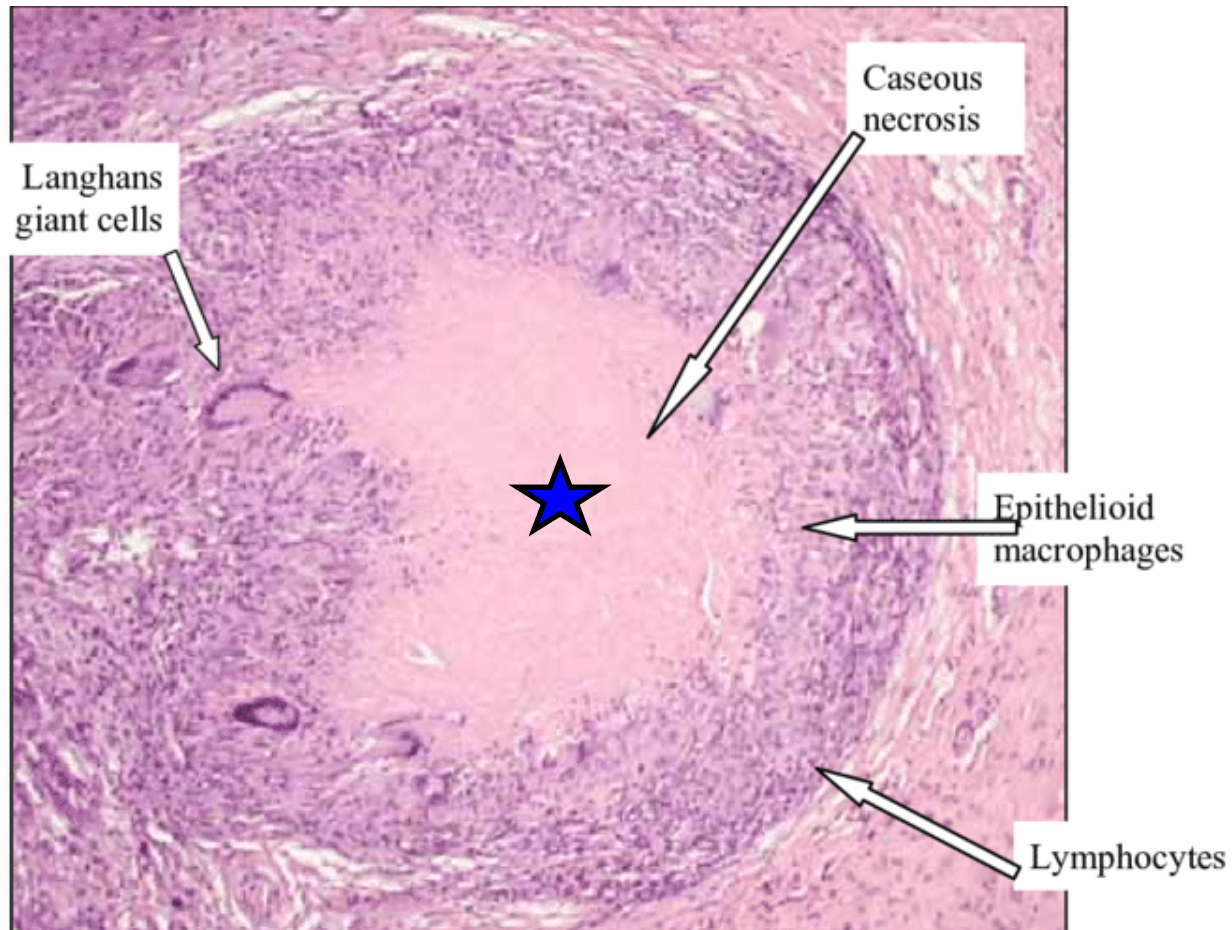
We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



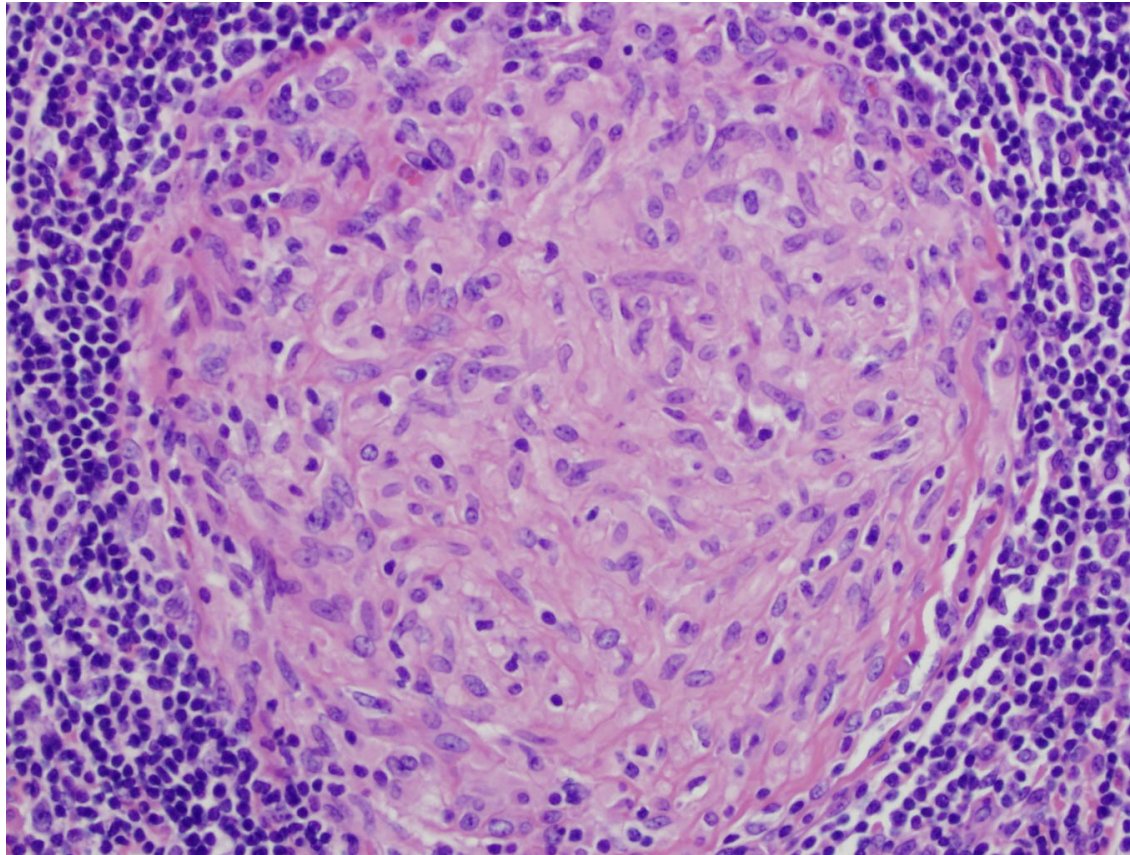
A well-formed granuloma containing epithelioid macrophages, with a rim of lymphocytes and several giant cells can be seen.

Acute/Hyperacute Conjunctivitis

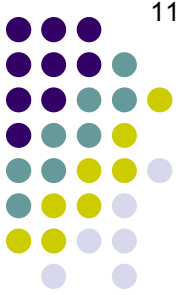


A well-formed granuloma containing epithelioid macrophages, with a rim of lymphocytes and several giant cells can be seen. Centrally, caseous necrosis is apparent as amorphous pink material. (What you're looking for on a test Q to make a caseating/noncaseating call.)

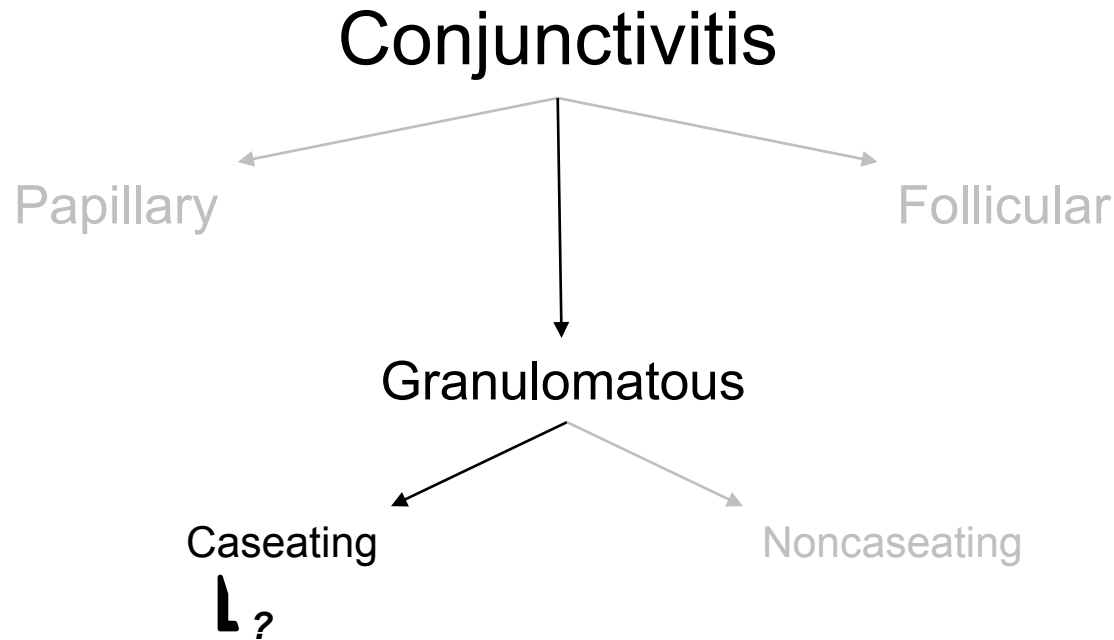
Acute/Hyperacute Conjunctivitis



Noncaseating granuloma. Note the absence of central amorphous material.



Acute/Hyperacute Conjunctivitis



What does it mean to say a granuloma is 'caseating'?

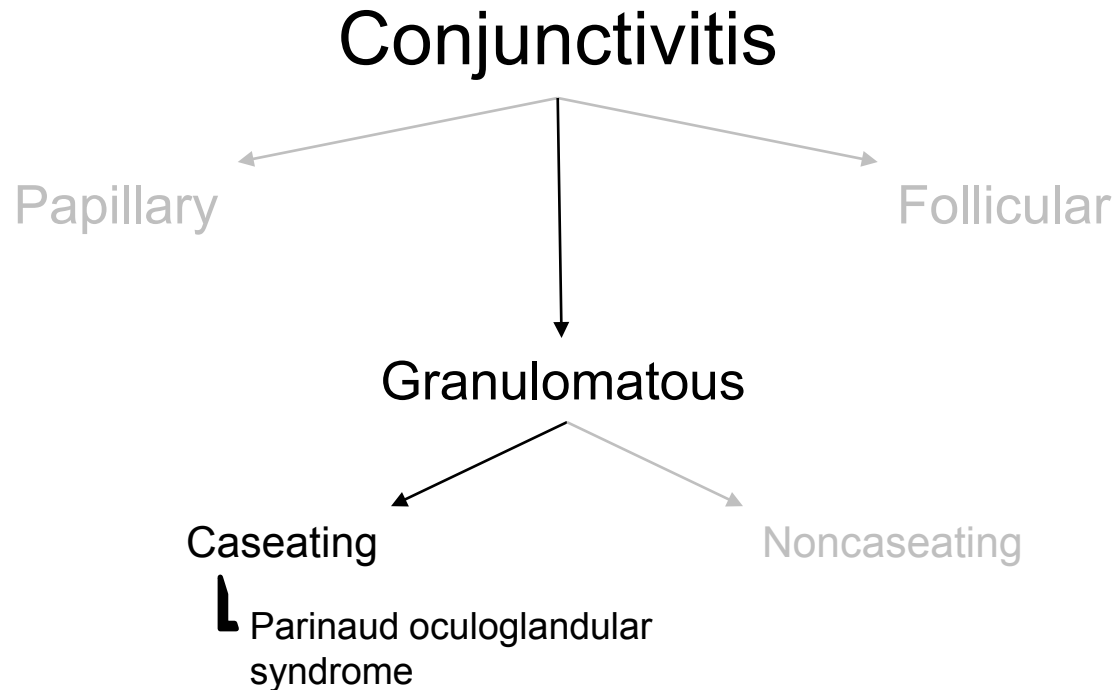
It means the center is necrotic

What is the classic cause of caseating granulomatous conjunctivitis?

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis



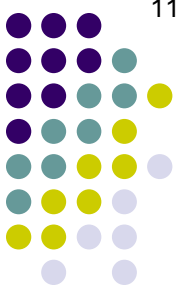
What does it mean to say a granuloma is 'caseating'?

It means the center is necrotic

What is the classic cause of caseating granulomatous conjunctivitis?

Infection, esp Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

A

uni- vs
bilateral

granulomatous conjunctivitis is one of two hallmarks of POS.

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

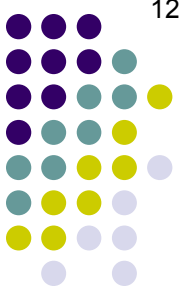
Follicular

A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

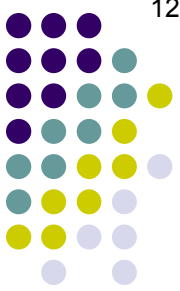
Follicular

*A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.
What is the other?*

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

*A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.
What is the other?*

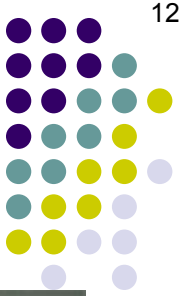
Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

What is the classic cause of caseating granulomatous conjunctivitis?

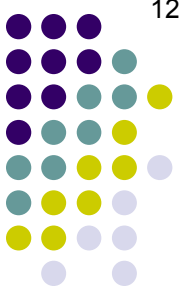
Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



Parinaud oculoglandular syndrome. **A**, Marked follicular reaction in the lower fornix. **B**, Massive enlargement of submandibular lymph node on the affected right side.



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

*A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.
What is the other?*

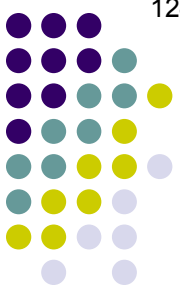
Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

What bug is the classic cause of POS?

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.

What is the other?

Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

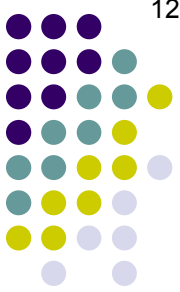
What bug is the classic cause of POS?

Bartonella henslae

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.

What is the other?

Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

What bug is the classic cause of POS?

Bartonella henslae

What is the other classic ocular manifestation of Bartonella?

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.

What is the other?

Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

What bug is the classic cause of POS?

Bartonella henslae

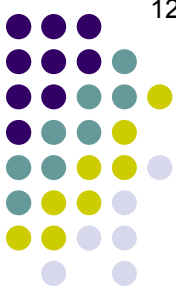
What is the other classic ocular manifestation of Bartonella?

Neuroretinitis

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

*A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.
What is the other?*

Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

What bug is the classic cause of POS?

Bartonella henslae

What is the other classic ocular manifestation of Bartonella?

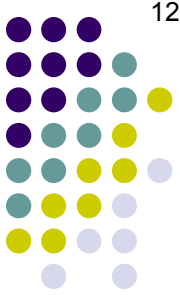
Neuroretinitis

What is the classic macular manifestation of Bartonella neuroretinitis?

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

*A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.
What is the other?*

Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

What bug is the classic cause of POS?

Bartonella henslae

What is the other classic ocular manifestation of Bartonella?

Neuroretinitis

What is the classic macular manifestation of Bartonella neuroretinitis?

Exudate that takes on a  shape

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

*A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.
What is the other?*

Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

What bug is the classic cause of POS?

Bartonella henslae

What is the other classic ocular manifestation of Bartonella?

Neuroretinitis

What is the classic macular manifestation of Bartonella neuroretinitis?

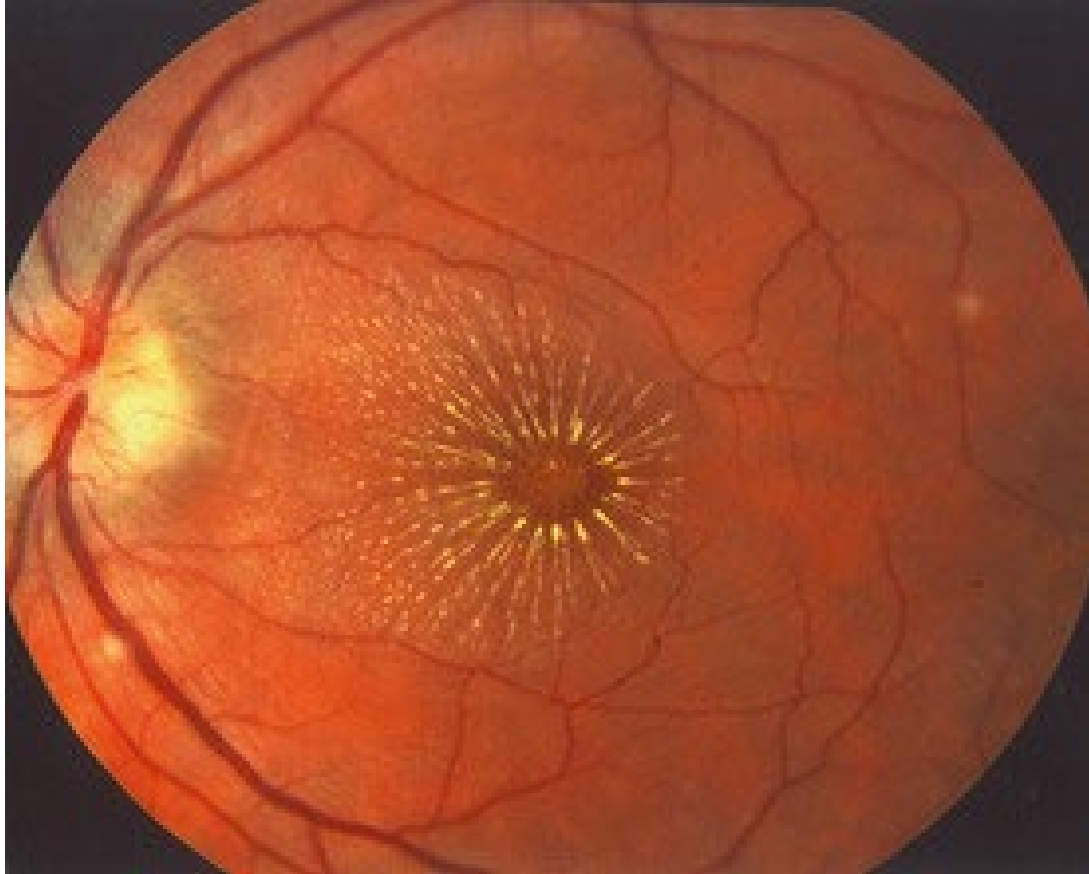
Exudate that takes on a star shape

What is the classic cause of caseating granulomatous conjunctivitis?

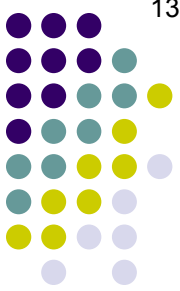
Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis



Parinaud oculoglandular syndrome: Optic disc edema and a macular star



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

A unilateral granulomatous conjunctivitis is one of two hallmarks of POS. What is the other?

Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

What is the mechanism by which the pt acquires a Bartonella infection?

What is the classic macular manifestation of Bartonella neuroretinitis?

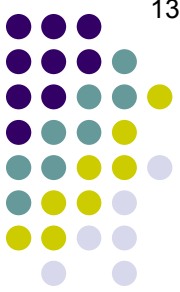
Exudate that takes on a star shape

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

A unilateral granulomatous conjunctivitis is one of two hallmarks of POS. What is the other?

Preauricular and/or submandibular lymphadenopathy ipsilateral to the affected eye

What is the mechanism by which the pt acquires a Bartonella infection?

A cat scratch

What
Bartonella

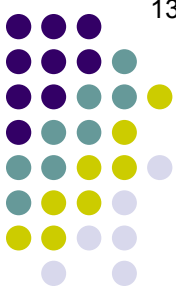
What
Neuroretinitis

What is the classic macular manifestation of Bartonella neuroretinitis?
Exudate that takes on a star shape

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

*A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.
What is the other?*

*Preauricular and/or submandibular lymphadenopathy ipsilateral to the
affected eye*

*What is the mechanism by which the pt acquires a
Bartonella infection?*

A cat scratch

POS and neuroretinitis are both subtypes of what condition?

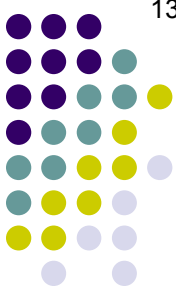
*What is the classic macular manifestation of **Bartonella neuroretinitis**?*

Exudate that takes on a star shape

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Papillary

Follicular

*A unilateral granulomatous conjunctivitis is one of two hallmarks of POS.
What is the other?*

*Preauricular and/or submandibular lymphadenopathy ipsilateral to the
affected eye*

*What is the mechanism by which the pt acquires a
Bartonella infection?*

A cat scratch

POS and neuroretinitis are both subtypes of what condition?

Cat scratch disease

*What is the classic macular manifestation of **Bartonella neuroretinitis**?*

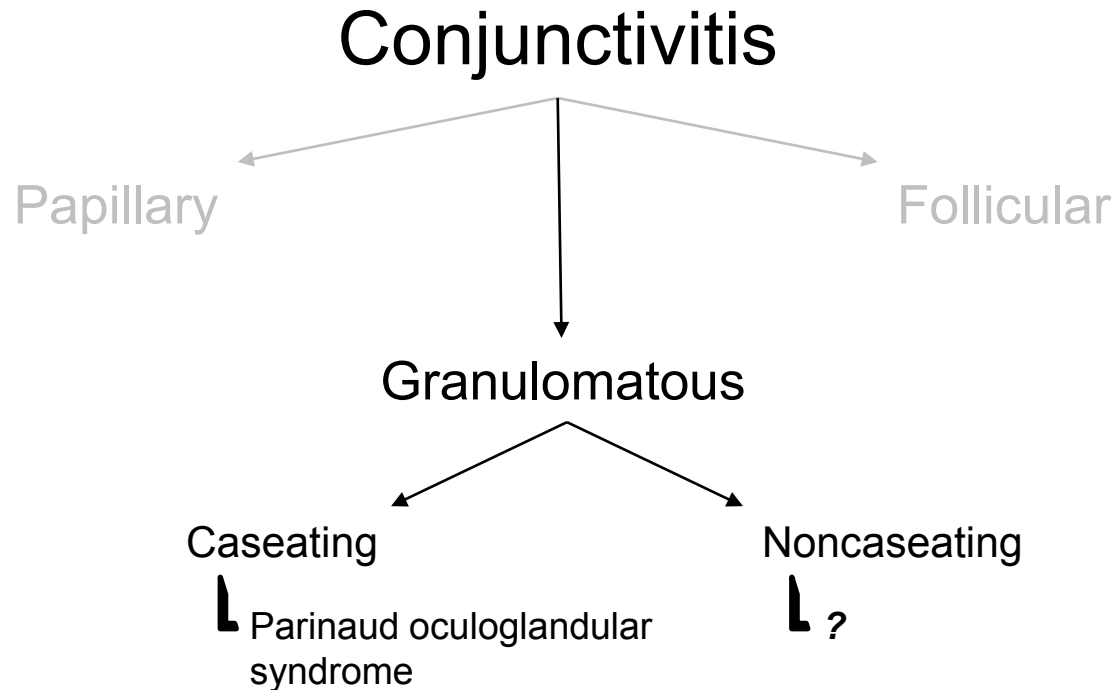
Exudate that takes on a star shape

What is the classic cause of caseating granulomatous conjunctivitis?

Parinaud oculoglandular syndrome (POS)

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

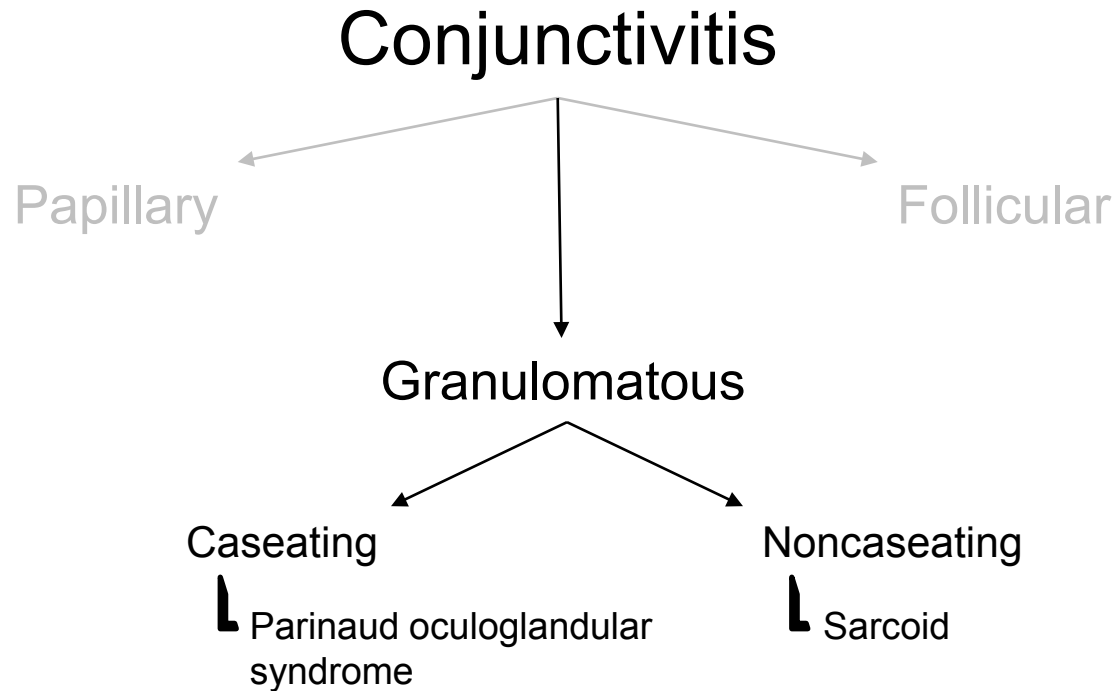
Acute/Hyperacute Conjunctivitis



*What is the classic cause of **noncaseating** granulomatous conjunctivitis?*

We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

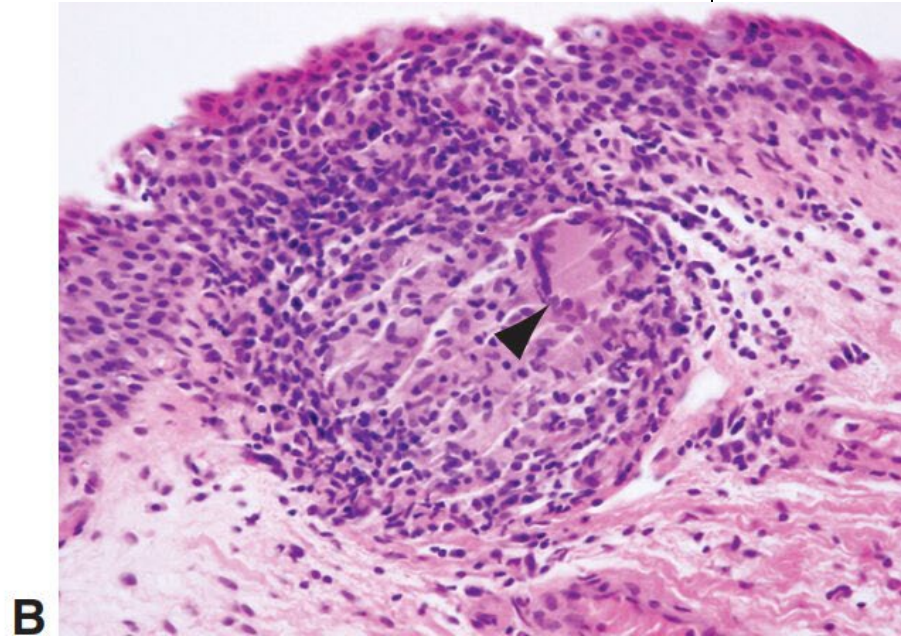
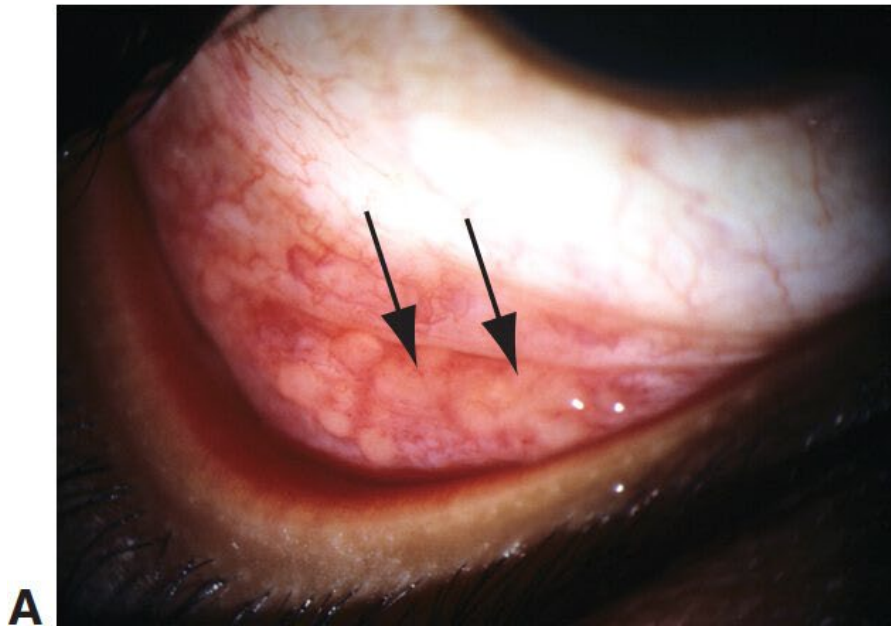
Acute/Hyperacute Conjunctivitis



What is the classic cause of **noncaseating** granulomatous conjunctivitis?
Sarcoidosis

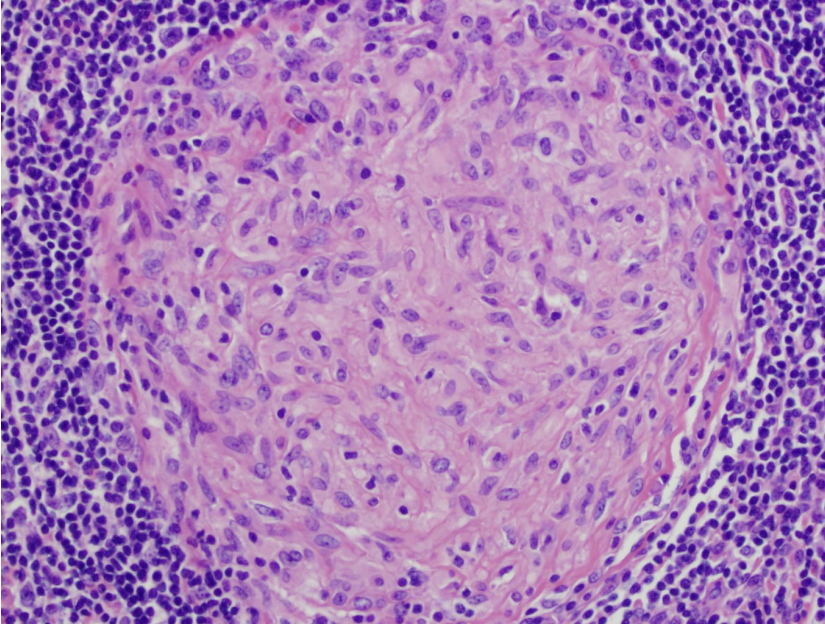
We can divvy conjunctivitis many ways, including in terms of:
The histology of the inflammatory response

Acute/Hyperacute Conjunctivitis

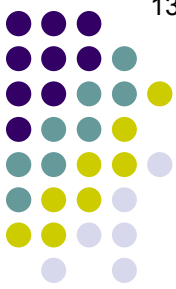


Sarcoidosis. A, Clinical photograph shows granulomas (*arrows*) of the conjunctiva in a patient with sarcoidosis. B, Histology shows a noncaseating granuloma with pale-staining histiocytes, including a multinucleated giant cell (*arrowhead*). Note the small cuff of lymphocytes and plasma cells.

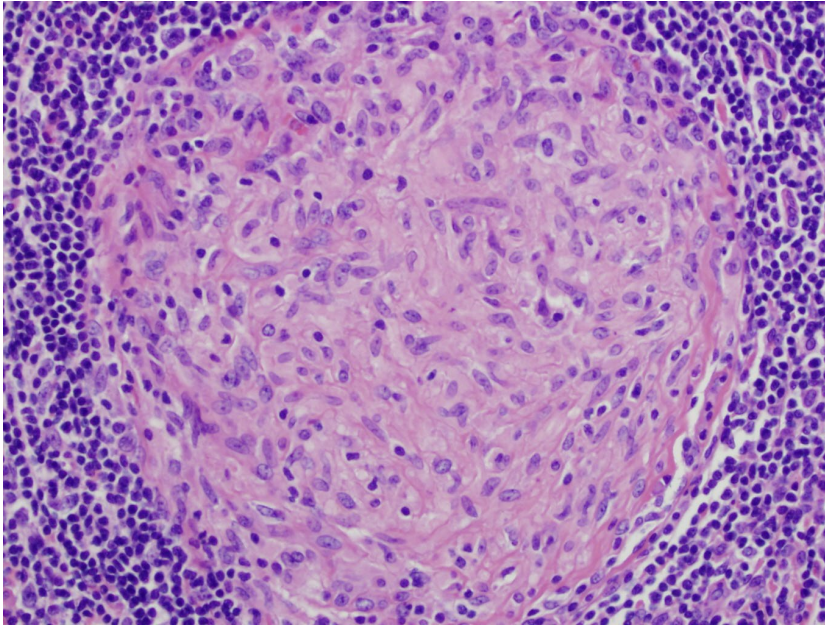
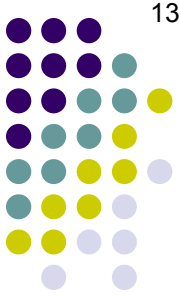
Acute/Hyperacute Conjunctivitis



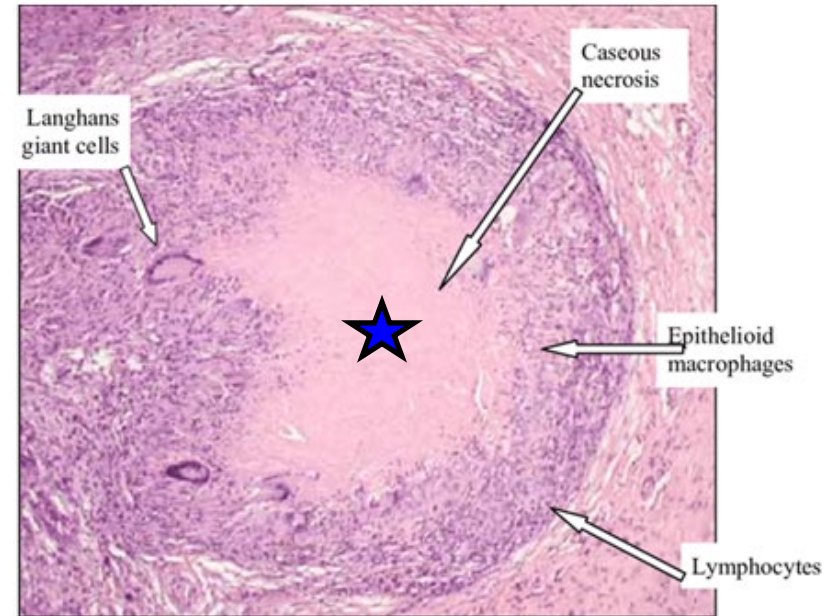
If you're shown a **noncaseating**
conj granuloma, think ***sarcoid***



Acute/Hyperacute Conjunctivitis

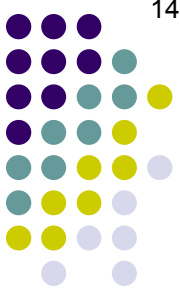
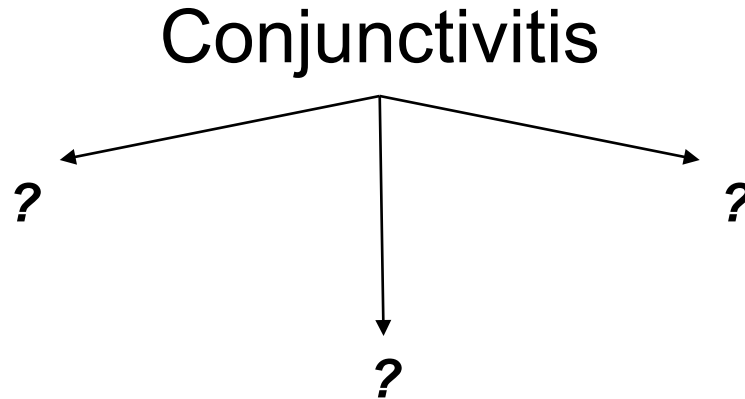


If you're shown a **noncaseating** conj granuloma, think *sarcoid*



But if you're shown a **caseating** conj granuloma, think *infection* (esp POS)

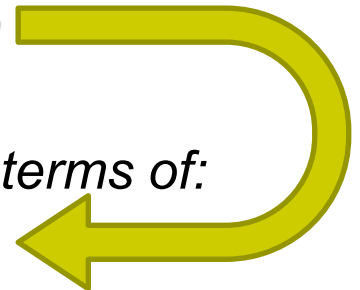
Acute/Hyperacute Conjunctivitis



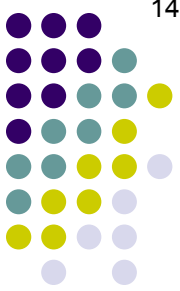
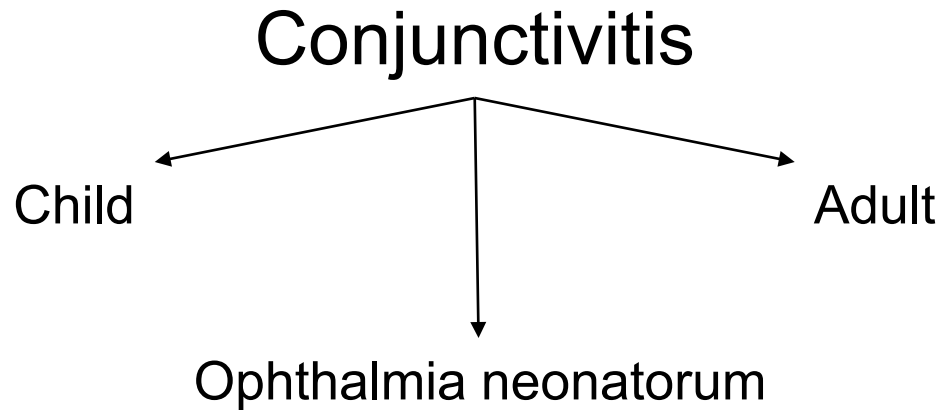
Note: This part changed again

We can divvy conjunctivitis many ways, including in terms of:

The age of the pt



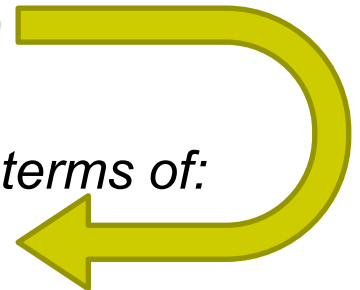
Acute/Hyperacute Conjunctivitis

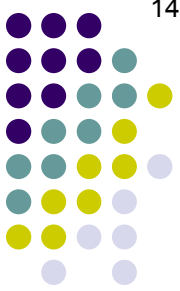


Note: This part changed again

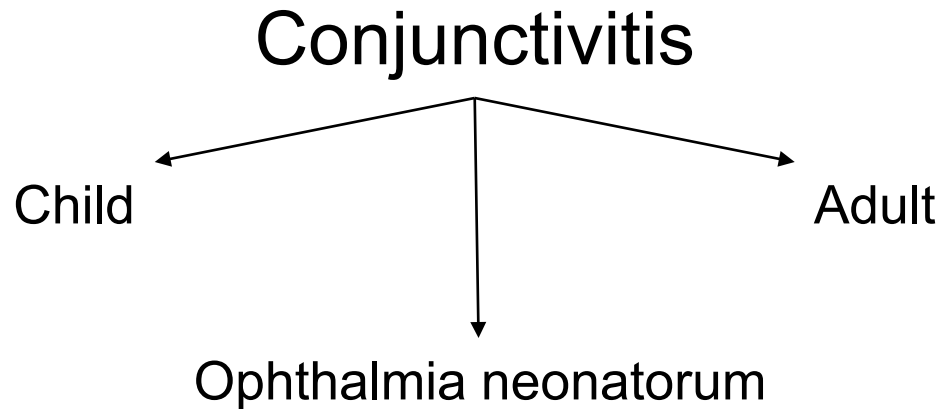
We can divvy conjunctivitis many ways, including in terms of:

The age of the pt



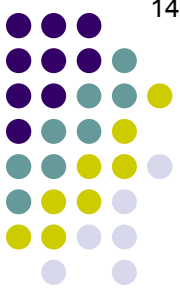


Acute/Hyperacute Conjunctivitis

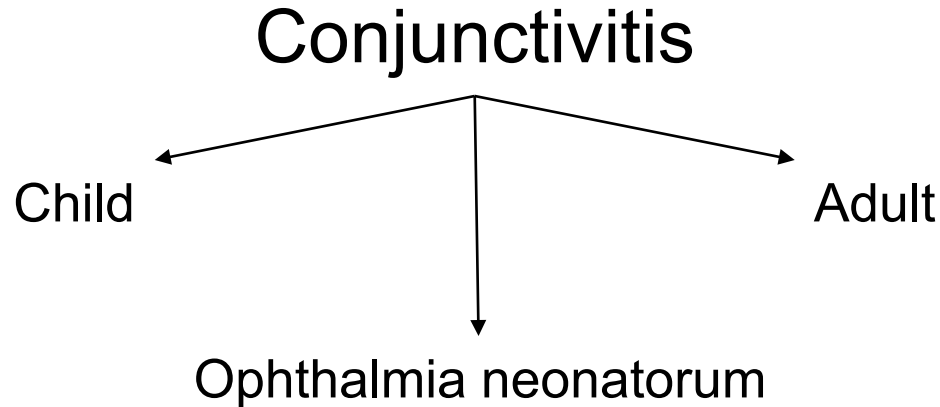


What is the most common sort of conjunctivitis in kids?

We can divvy conjunctivitis many ways, including in terms of:
The age of the pt

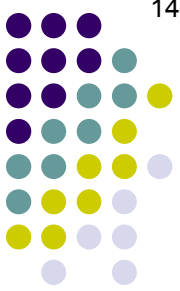


Acute/Hyperacute Conjunctivitis

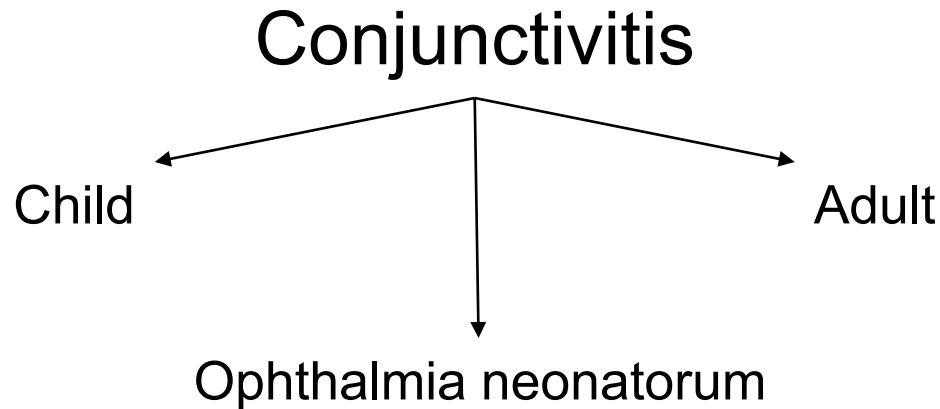


What is the most common sort of conjunctivitis in kids?
Bacterial, specifically and

We can divvy conjunctivitis many ways, including in terms of:
The age of the pt

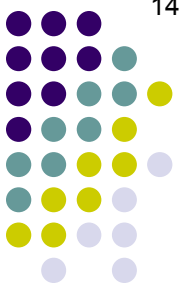


Acute/Hyperacute Conjunctivitis

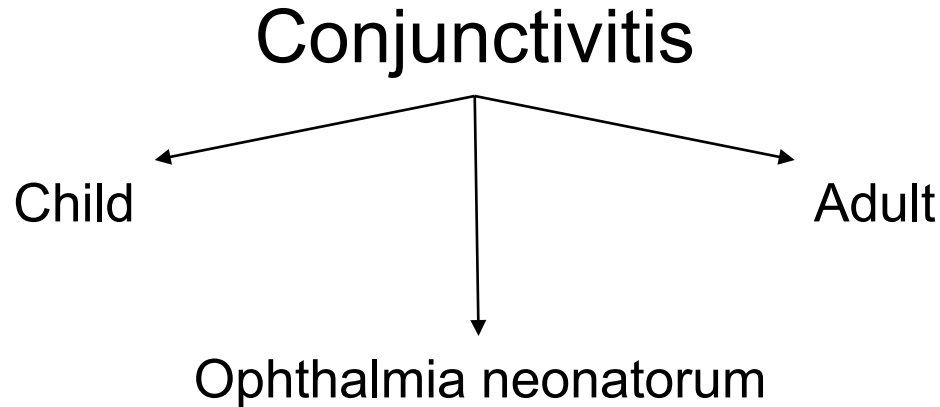


What is the most common sort of conjunctivitis in kids?
Bacterial, specifically *H flu* and *Strep pneumo*

We can divvy conjunctivitis many ways, including in terms of:
The age of the pt



Acute/Hyperacute Conjunctivitis



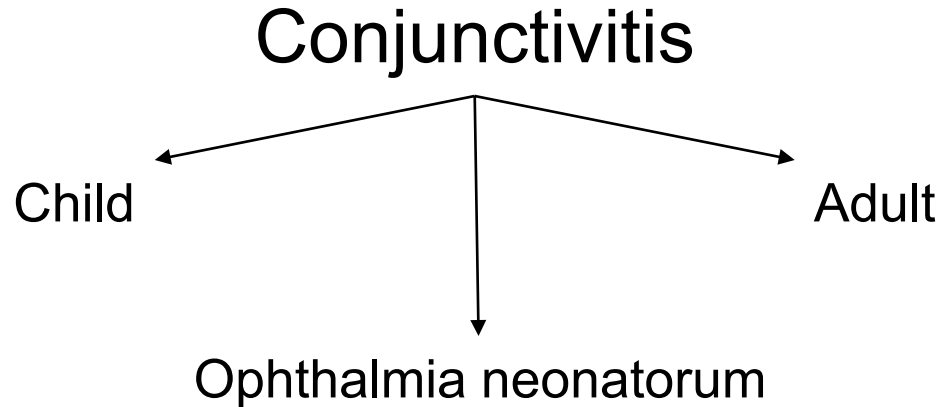
What is the most common sort of conjunctivitis in kids?
Bacterial, specifically *H flu* and *Strep pneumo*

What is the most common sort of conjunctivitis in adults?

We can divvy conjunctivitis many ways, including in terms of:
The age of the pt



Acute/Hyperacute Conjunctivitis



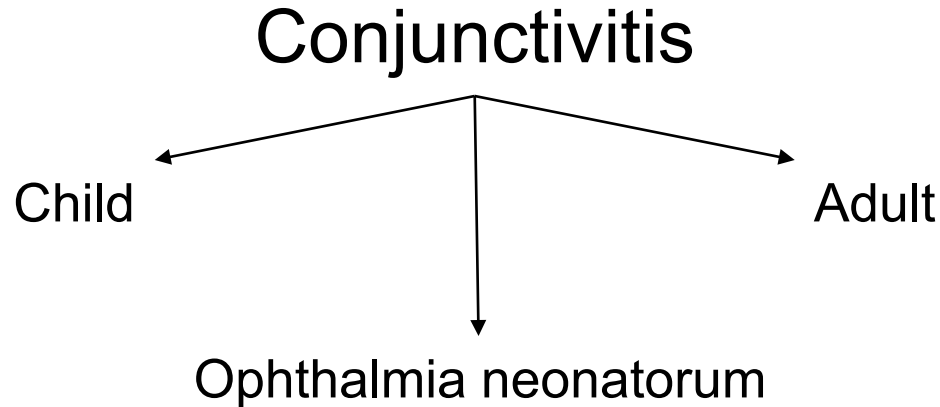
What is the most common sort of conjunctivitis in kids?
Bacterial, specifically *H flu* and *Strep pneumo*

What is the most common sort of conjunctivitis in adults?
Viral, specifically and

We can divvy conjunctivitis many ways, including in terms of:
The age of the pt



Acute/Hyperacute Conjunctivitis



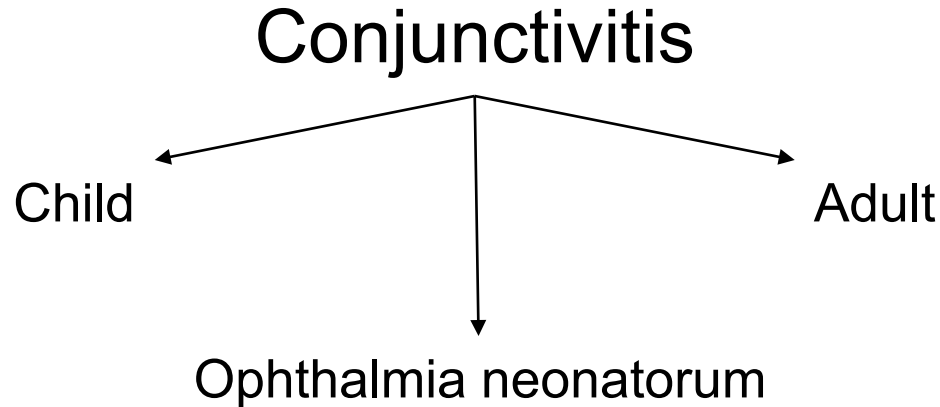
What is the most common sort of conjunctivitis in kids?
Bacterial, specifically *H flu* and *Strep pneumo*

What is the most common sort of conjunctivitis in adults?
Viral, specifically adeno and HSV

We can divvy conjunctivitis many ways, including in terms of:
The age of the pt



Acute/Hyperacute Conjunctivitis

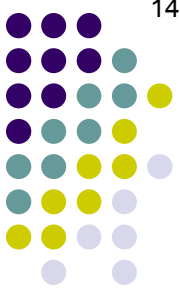


What is the most common sort of conjunctivitis in kids?
Bacterial, specifically *H flu* and *Strep pneumo*

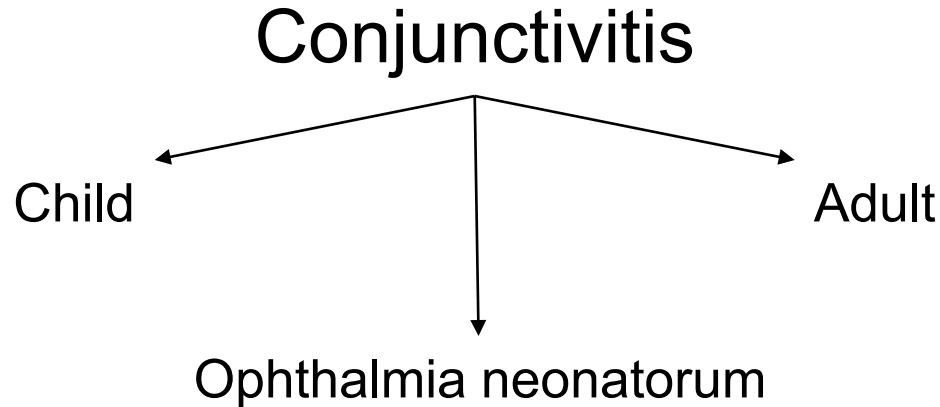
What is the most common sort of conjunctivitis in adults?
Viral, specifically *adeno* and *HSV*

To what does the term ophthalmia neonatorum refer?

We can divvy conjunctivitis many ways, including in terms of:
The age of the pt



Acute/Hyperacute Conjunctivitis



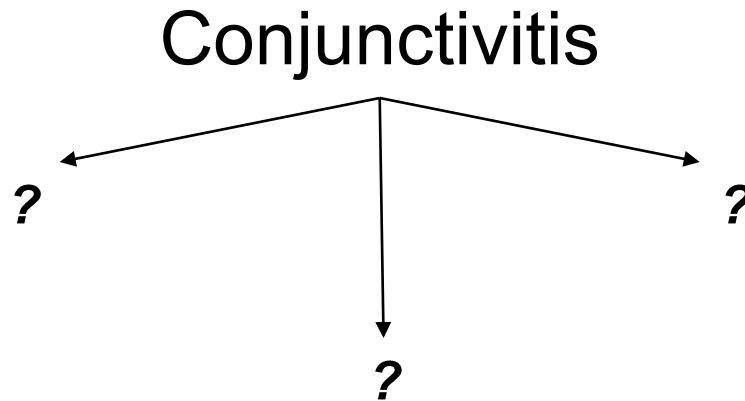
What is the most common sort of conjunctivitis in kids?
Bacterial, specifically *H flu* and *Strep pneumo*

What is the most common sort of conjunctivitis in adults?
Viral, specifically *adeno* and *HSV*

To what does the term ophthalmia neonatorum refer?
To conjunctivitis in the first month of life (see set K1)

We can divvy conjunctivitis many ways, including in terms of:
The age of the pt

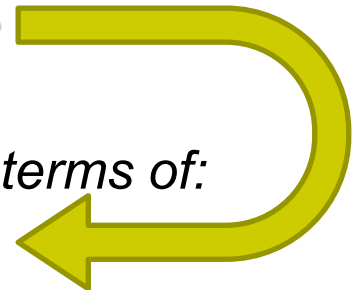
Acute/Hyperacute Conjunctivitis



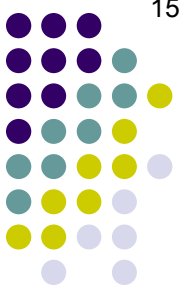
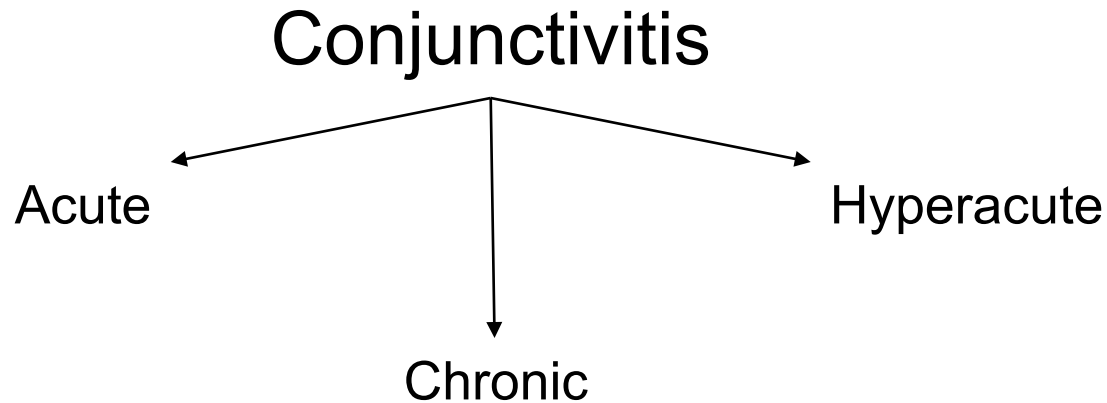
Last time

We can divvy conjunctivitis many ways, including in terms of:

The nature of the response



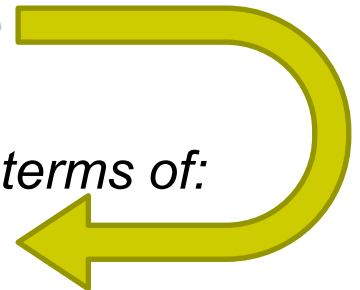
Acute/Hyperacute Conjunctivitis



Last time

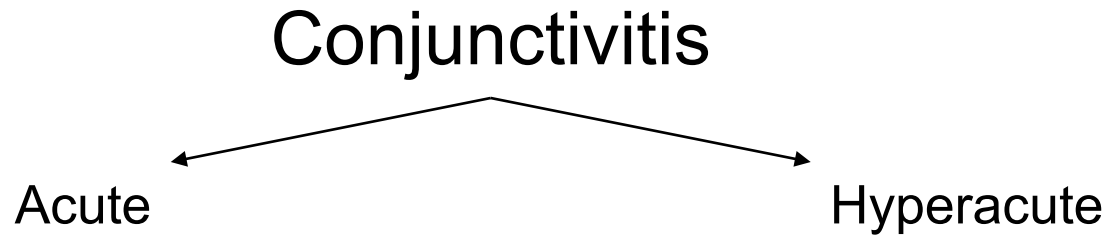
We can divvy conjunctivitis many ways, including in terms of:

The nature of the response





Acute/Hyperacute Conjunctivitis

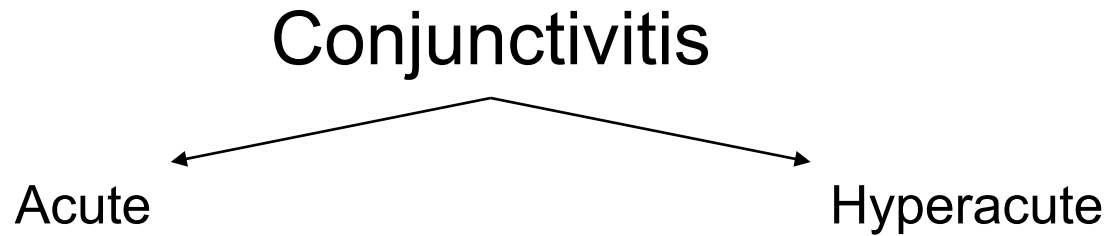


In terms of presentation, what two factors differentiate between acute and hyperacute conjunctivitis?

?

?

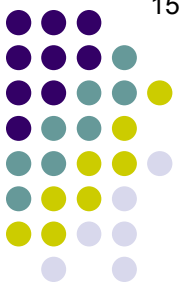
Acute/Hyperacute Conjunctivitis

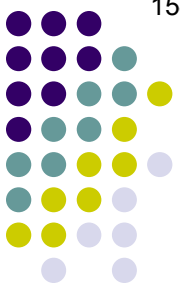


In terms of presentation, what two factors differentiate between acute and hyperacute conjunctivitis?

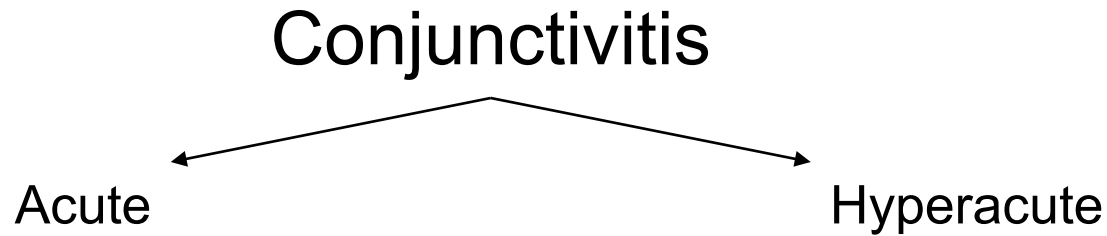
Course of onset

Severity

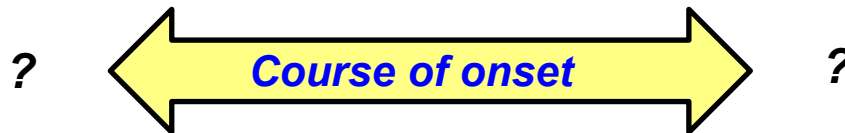




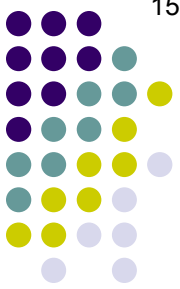
Acute/Hyperacute Conjunctivitis



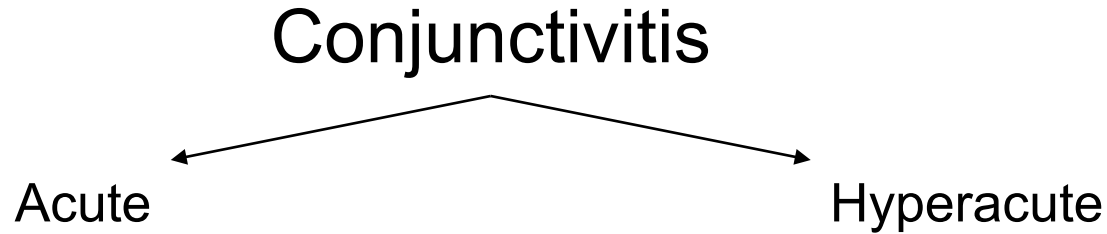
In terms of presentation, what two factors differentiate between acute and hyperacute conjunctivitis?



What constitutes an acute vs hyperacute course of onset?



Acute/Hyperacute Conjunctivitis



In terms of presentation, what two factors differentiate between acute and hyperacute conjunctivitis?



What constitutes an acute vs hyperacute course of onset?



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

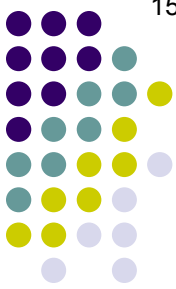
Hyperacute

In terms of presentation, what two factors differentiate between acute and hyperacute conjunctivitis?



Severity

To what does severity refer here?



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

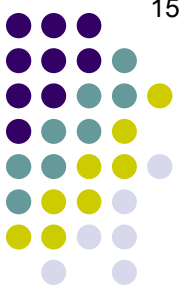
Hyperacute

In terms of presentation, what two factors differentiate between acute and hyperacute conjunctivitis?

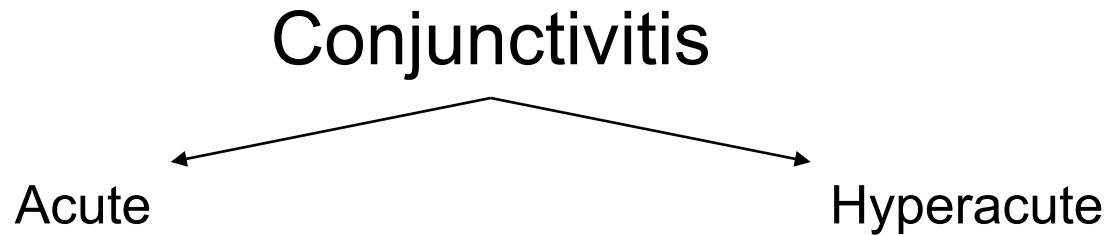


Severity

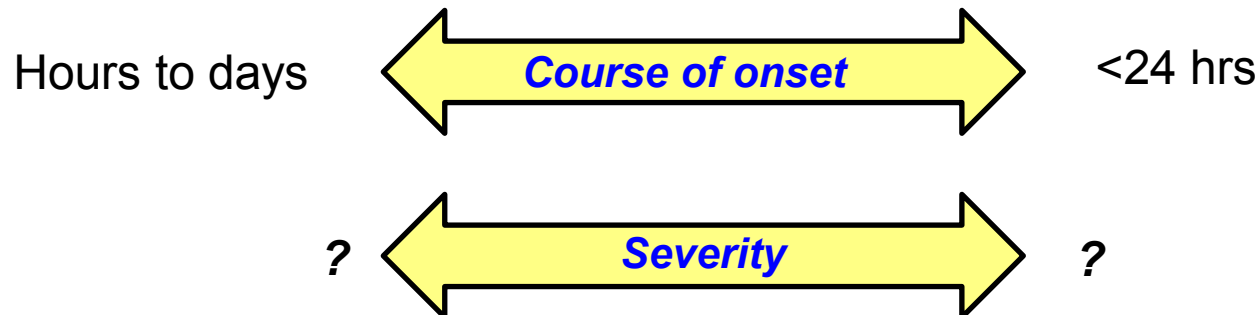
To what does severity refer here?
To the amount of purulent discharge
and the extent of conj chemosis



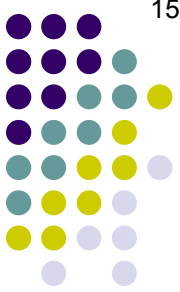
Acute/Hyperacute Conjunctivitis



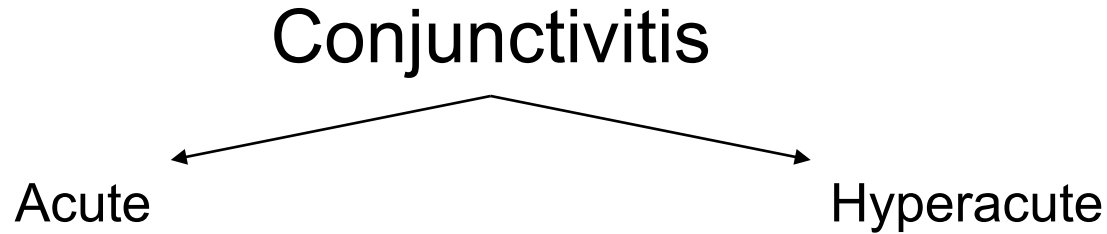
In terms of presentation, what two factors differentiate between acute and hyperacute conjunctivitis?



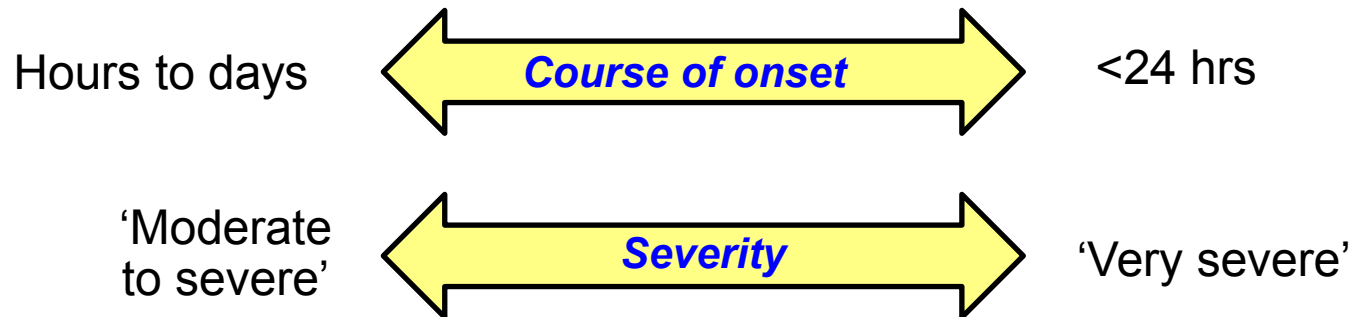
What constitutes acute vs hyperacute severity?



Acute/Hyperacute Conjunctivitis



In terms of presentation, what two factors differentiate between acute and hyperacute conjunctivitis?



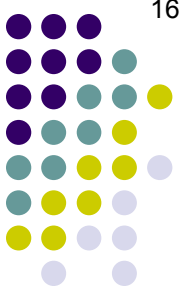
What constitutes acute vs hyperacute severity?



Acute/Hyperacute Conjunctivitis



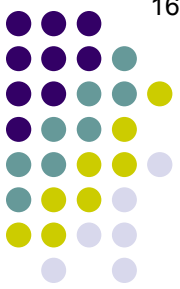
Acute bacterial conjunctivitis



Acute/Hyperacute Conjunctivitis



Hyperacute bacterial conjunctivitis



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

- 1)

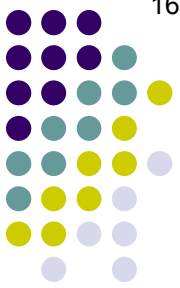
specific bug

 #1
- 2)

ditto

 Less severe
- 3)

ditto ditto



Acute/Hyperacute Conjunctivitis

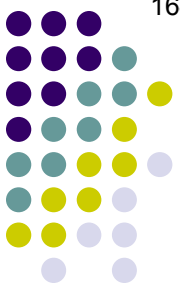
Conjunctivitis

Acute

Hyperacute

Bugs:

- 1) *S pneumo*: #1
- 2) *S aureus*: Less severe
- 3) *H flu*



Acute/Hyperacute Conjunctivitis

Conjunctivitis

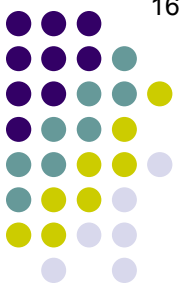
Acute

Hyperacute

Bugs:

- 1) **S pneumo**: #1
- 2) **S aureus**: Less severe
- 3) **H flu**
--?
--?

} *Who is at risk for H flu conjunctivitis?*



Acute/Hyperacute Conjunctivitis

Conjunctivitis

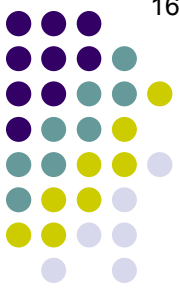
Acute

Hyperacute

Bugs:

- 1) *S pneumo*: #1
- 2) *S aureus*: Less severe
- 3) *H flu*

--Kids with dz (two words)
 --Adults with two words dz } *Who is at risk for H flu conjunctivitis?*



Acute/Hyperacute Conjunctivitis

Conjunctivitis

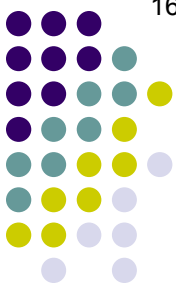
Acute

Hyperacute

Bugs:

- 1) **S pneumo**: #1
- 2) **S aureus**: Less severe
- 3) **H flu**

--Kids with **otitis media**
--Adults with **chronic lung dz** } *Who is at risk for H flu conjunctivitis?*



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

- 1) **S pneumo**: #1
- 2) **S aureus**: Less severe
- 3) **H flu**

--Kids with **otitis media**

--Adults with **chronic lung dz**

Who is at risk for H flu conjunctivitis?

Cultures/stains needed?

--

yes/no/maybe so



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

- 1) *S pneumo*: #1
- 2) *S aureus*: Less severe
- 3) *H flu*

--Kids with *otitis media*

--Adults with *chronic lung dz*

Who is at risk for *H flu conjunctivitis*?

Cultures/stains needed?

--No, unless:

- 1)
- 2)
- 3)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

- 1) **S pneumo**: #1
- 2) **S aureus**: Less severe
- 3) **H flu**

--Kids with **otitis media**

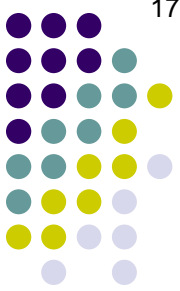
--Adults with **chronic lung dz**

} *Who is at risk for H flu conjunctivitis?*

Cultures/stains needed?

--**No**, unless:

- 1) **debilitated**
- 2) **immunocompromised**
- 3) **unresponsive to treatment**



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

- 1) **S pneumo**: #1
- 2) **S aureus**: Less severe
- 3) **H flu**

--Kids with **otitis media**

--Adults with **chronic lung dz**

Who is at risk for H flu conjunctivitis?

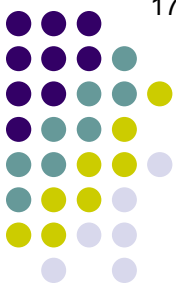
Cultures/stains needed?

--**No**, unless:

- 1) **debilitated**
- 2) **immunocompromised**
- 3) **unresponsive to treatment**

Treatment:

--drop (has good *H flu* coverage)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

- 1) *S pneumo*: #1
- 2) *S aureus*: Less severe
- 3) *H flu*

--Kids with *otitis media*

--Adults with *chronic lung dz*

Who is at risk for *H flu* conjunctivitis?

Cultures/stains needed?

--No, unless:

- 1) *debilitated*
- 2) *immunocompromised*
- 3) *unresponsive to treatment*

Treatment:

--Polytrim (has good *H flu* coverage)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

- 1) *S pneumo*: #1
- 2) *S aureus*: Less severe
- 3) *H flu*

--Kids with *otitis media*

--Adults with *chronic lung dz*

Who is at risk for *H flu* conjunctivitis?

Cultures/stains needed?

--No, unless:

- 1) *debilitated*
- 2) *immunocompromised*
- 3) *unresponsive to treatment*

Treatment:

--Polytrim (has good *H flu* coverage)

--Consider PO abx if *H flu* in kids

(to prevent dz/dz)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

- 1) *S pneumo*: #1
- 2) *S aureus*: Less severe
- 3) *H flu*

--Kids with *otitis media*

--Adults with *chronic lung dz*

Who is at risk for *H flu* conjunctivitis?

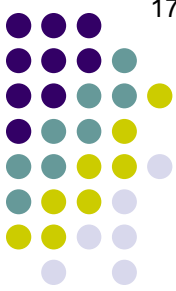
Cultures/stains needed?

--No, unless:

- 1) *debilitated*
- 2) *immunocompromised*
- 3) *unresponsive to treatment*

Treatment:

- Polytrim (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent *otitis/pharyngitis*)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) ***S pneumo***: #1
- 2) ***S aureus***: Less severe
- 3) ***H flu***
 - Kids with **otitis media**
 - Adults with **chronic lung dz**

Cultures/stains needed?

--**No**, unless:

- 1) **debilitated**
- 2) **immunocompromised**
- 3) **unresponsive to treatment**

Treatment:

- Polytrim** (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)

Hyperacute

Bugs:

- 1) **?**
- 2) **?**



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) *S pneumo*: #1
- 2) *S aureus*: Less severe
- 3) *H flu*
 - Kids with *otitis media*
 - Adults with *chronic lung dz*

Cultures/stains needed?

- No**, unless:
- 1) **debilitated**
 - 2) **immunocompromised**
 - 3) **unresponsive to treatment**

Treatment:

- Polytrim** (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent *otitis/pharyngitis*)

Hyperacute

Bugs:

- 1) *N gonorrhea*
- 2) *N meningitidis* (much less common)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) ***S pneumo***: #1
- 2) ***S aureus***: Less severe
- 3) ***H flu***
 - Kids with **otitis media**
 - Adults with **chronic lung dz**

Cultures/stains needed?

--**No**, unless:

- 1) **debilitated**
- 2) **immunocompromised**
- 3) **unresponsive to treatment**

Treatment:

- Polytrim** (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)

Hyperacute

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--**?**



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) ***S pneumo***: #1
- 2) ***S aureus***: Less severe
- 3) ***H flu***
 - Kids with **otitis media**
 - Adults with **chronic lung dz**

Cultures/stains needed?

--**No**, unless:

- 1) **debilitated**
- 2) **immunocompromised**
- 3) **unresponsive to treatment**

Treatment:

- Polytrim** (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)

Hyperacute

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--**Yes**



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) ***S pneumo***: #1
- 2) ***S aureus***: Less severe
- 3) ***H flu***
 - Kids with **otitis media**
 - Adults with **chronic lung dz**

Cultures/stains needed?

- No**, unless:
- 1) **debilitated**
 - 2) **immunocompromised**
 - 3) **unresponsive to treatment**

Treatment:

- Polytrim** (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)

Hyperacute

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--**Yes**

Treatment:

--**If no corneal involvement:**

Inpt or Outpt? Med + route?



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) ***S pneumo***: #1
- 2) ***S aureus***: Less severe
- 3) ***H flu***
 - Kids with **otitis media**
 - Adults with **chronic lung dz**

Cultures/stains needed?

- No**, unless:
- 1) **debilitated**
 - 2) **immunocompromised**
 - 3) **unresponsive to treatment**

Treatment:

- Polytrim** (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)

Hyperacute

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--**Yes**

Treatment:

- If no corneal involvement:*
Outpatient w/ 1g Rocephin IM x 1



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) ***S pneumo***: #1
- 2) ***S aureus***: Less severe
- 3) ***H flu***
 - Kids with **otitis media**
 - Adults with **chronic lung dz**

Cultures/stains needed?

- No**, unless:
- 1) **debilitated**
 - 2) **immunocompromised**
 - 3) **unresponsive to treatment**

Treatment:

- Polytrim** (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)

Hyperacute

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--**Yes**

Treatment:

--*If no corneal involvement:*

Outpatient w/ 1g Rocephin IM x 1

--*If with corneal involvement:*

Inpt or Outpt? Med + route?



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) ***S pneumo***: #1
- 2) ***S aureus***: Less severe
- 3) ***H flu***
 - Kids with **otitis media**
 - Adults with **chronic lung dz**

Cultures/stains needed?

- No**, unless:
- 1) **debilitated**
 - 2) **immunocompromised**
 - 3) **unresponsive to treatment**

Treatment:

- Polytrim** (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)

Hyperacute

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--**Yes**

Treatment:

- If no corneal involvement:
Outpatient w/ 1g Rocephin IM x 1
- If with corneal involvement:
Inpatient, 1g Rocephin IV q12° x 3d



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) *S pneumo*: #1
- 2) *S aureus*: Less severe
- 3) *H flu*
 - Kids with otitis media
 - Adults with chronic lung dz

Cultures/stains needed?

- No, unless:
- 1) debilitated
 - 2) immunocompromised
 - 3) unresponsive to treatment

Treatment:

- Polytrim (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids (to prevent otitis/pharyngitis)

Hyperacute

Bugs:

- 1) *N gonorrhea*
- 2) *N meningitidis* (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d

When ulcerative keratitis develops in gonococcal conjunctivitis, where is the ulcer likely to be located?



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Bugs:

- 1) *S pneumo*: #1
- 2) *S aureus*: Less severe
- 3) *H flu*
 - Kids with otitis media
 - Adults with chronic lung dz

Cultures/stains needed?

- No, unless:
- 1) debilitated
 - 2) immunocompromised
 - 3) unresponsive to treatment

Treatment:

- Polytrim (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids (to prevent otitis/pharyngitis)

Hyperacute

Bugs:

- 1) *N gonorrhea*
- 2) *N meningitidis* (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d

When ulcerative keratitis develops in gonococcal conjunctivitis, where is the ulcer likely to be located?
In the corneal **periphery**, ie, they develop PUK



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

But gonococcus is a venereal disease. How does it get in the eye?

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

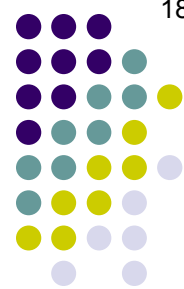
Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d

--Polytrim (has good *H flu* coverage)

--Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

*But gonococcus is a venereal disease. How does it get in the eye?
Seriously?*

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--**Yes**

Treatment:

--*If no corneal involvement:*

Outpatient w/ 1g Rocephin IM x 1

--*If with corneal involvement:*

Inpatient, 1g Rocephin IV q12° x 3d

--Polytrim (has good *H flu* coverage)

--Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

*But gonococcus is a venereal disease. How does it get in the eye?
Seriously?*

OK then, if we're talking STDs here, should we be concerned about other 'love bugs'?

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

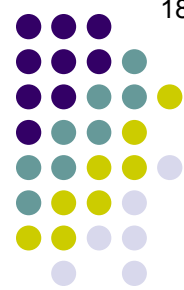
Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d

--Polytrim (has good *H flu* coverage)

--Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

*But gonococcus is a venereal disease. How does it get in the eye?
Seriously?*

OK then, if we're talking STDs here, should we be concerned about other 'love bugs'?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent [redacted] infection.

- Polytrim (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent otitis/pharyngitis)

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

*But gonococcus is a venereal disease. How does it get in the eye?
Seriously?*

OK then, if we're talking STDs here, should we be concerned about other 'love bugs'?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent Chlamydial infection.

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d

--Polytrim (has good *H flu* coverage)

--Consider PO abx if *H flu* in kids
(to prevent **otitis/pharyngitis**)



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

*But gonococcus is a venereal disease. How does it get in the eye?
Seriously?*

OK then, if we're talking STDs here, should we be concerned about other 'love bugs'?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent Chlamydial infection.

What implication does this have for managing GC conjunctivitis?

- Polytrim (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent otitis/pharyngitis)

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

*But gonococcus is a venereal disease. How does it get in the eye?
Seriously?*

OK then, if we're talking STDs here, should we be concerned about other 'love bugs'?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent Chlamydial infection.

What implication does this have for managing GC conjunctivitis?

In addition to Rocephin for the GC, they should receive an empirical dose of PO [redacted]

--Polytrim (has good *H flu* coverage)

--Consider PO abx if *H flu* in kids
(to prevent otitis/pharyngitis)

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d
(plus [redacted] PO 'just in case')



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

*But gonococcus is a venereal disease. How does it get in the eye?
Seriously?*

OK then, if we're talking STDs here, should we be concerned about other 'love bugs'?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent Chlamydial infection.

What implication does this have for managing GC conjunctivitis?

In addition to Rocephin for the GC, they should receive an empirical dose of PO zithromycin

- Polytrim (has good *H flu* coverage)
- Consider PO abx if *H flu* in kids
(to prevent otitis/pharyngitis)

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d
(plus azithromycin PO 'just in case')



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

*But gonococcus is a venereal disease. How does it get in the eye?
Seriously?*

OK then, if we're talking STDs here, should we be concerned about other 'love bugs'?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent Chlamydial infection.

What implication does this have for managing GC conjunctivitis?

In addition to Rocephin for the GC, they should receive an empirical dose of PO zithromycin

--Polytrim (has good *H flu* coverage)

--Consider PO cxy if *H flu* in kids

(to

In addition to antibiotics, what therapeutic maneuver should be performed?

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--**Yes**

Treatment:

--*If no corneal involvement:*

Outpatient w/ 1g Rocephin IM x 1

--*If with corneal involvement:*

Inpatient, 1g Rocephin IV q12° x 3d
(plus azithromycin PO 'just in case')



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

*But gonococcus is a venereal disease. How does it get in the eye?
Seriously?*

OK then, if we're talking STDs here, should we be concerned about other 'love bugs'?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent Chlamydial infection.

What implication does this have for managing GC conjunctivitis?

In addition to Rocephin for the GC, they should receive an empirical dose of PO zithromycin

--Polytrim (has good *H flu* coverage)

--Consider PO cxy if *H flu* in kids

(to

In addition to antibiotics, what therapeutic maneuver should be performed?
Copious irrigation with normal saline to remove inflammatory debris, cells, and proteases from the ocular surface

Bugs:

- 1) ***N gonorrhea***
- 2) ***N meningitidis*** (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Outpatient w/ 1g Rocephin IM x 1

--If with corneal involvement:

Inpatient, 1g Rocephin IV q12° x 3d
(plus azithromycin PO 'just in case')



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

But gonococcus is a venereal disease. How does it get in the eye?
Seriously?

OK then, if we're talking STDs here, should we be concerned about other **love bugs**?
Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent **Chlamydial** infection.

What implication does this have for GC conjunctivitis?

In addition to Rocephin, pts should receive an empirical dose of PO azithromycin.

--Polytrim (has good *H flu* coverage)

--Consider PO ceph if *H flu* in kids

(to

In addition to antibiotics, what therapeutic maneuver should be performed?
Copious irrigation with normal saline to remove inflammatory debris, cells, and proteases from the ocular surface

Bugs:

- 1) **N gonorrhea**
- 2) ~~N meningitidis~~ (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Rocephin IM x 1
Corneal involvement:
Rocephin IV q12° x 3d
(plus azithromycin PO 'just in case')



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

But gonococcus is a venereal disease. How does it get in the eye?
Seriously?

OK then, if we're talking STDs here, should we be concerned about other **love bugs**?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent **Chlamydial** infection.

What implication does this have for GC conjunctivitis?

In addition to Rocephin, pts should receive an empirical dose of PO azithromycin.

--Polytrim (has good *H flu* coverage)

--Consider PO cxy if *H flu* in kids

(to

In addition to antibiotics, what therapeutic maneuver should be performed?
Copious irrigation with normal saline to remove inflammatory debris, cells, and proteases from the ocular surface

Bugs:

1) **N gonorrhea**

2) ~~N meningitidis~~ (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Rocephin IM x 1
Corneal involvement:
Rocephin IV q12° x 3d
(plus azithromycin PO 'just in case')



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

But gonococcus is a venereal disease. How does it get in the eye?
Seriously?

OK then, if we're talking STDs here, should we be concerned about other **love bugs**?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent **Chlamydial** infection.

What implication does this have for GC conjunctivitis?

In addition to Rocephin, pts should receive an empirical doxycycline.

--Polytrim (has g

--Consider PO ch

(to In addition to
Copious irrig
and protease

For completeness' sake: The Cornea book lists five sexually-transmitted causes of conjunctivitis (**not** including the very rare N meningitidis).

What are the other three?

--Chlamydia

--*Neisseria gonorrhoeae*

--?

--?

--?

Bugs:

1) **N gonorrhea**

2) ~~N meningitidis~~ (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Rocephin IM x 1

olvement:

Rocephin IV q12° x 3d

In PO 'just in case')

performed?

ris, cells,



Acute/Hyperacute Conjunctivitis

Conjunctivitis

Acute

Hyperacute

Bugs:

But gonococcus is a venereal disease. How does it get in the eye?
Seriously?

OK then, if we're talking STDs here, should we be concerned about other **love bugs**?

Yes—about 1/3 of pts with GC conjunctivitis will have a concurrent **Chlamydial** infection.

What implication does this have for GC conjunctivitis?

In addition to Rocephin, pts should receive an empirical doxycycline.

--Polytrim (has g

--Consider PO ch

(to In addition to
Copious irrig
and protease

For completeness' sake: The Cornea book lists five sexually-transmitted causes of conjunctivitis (**not** including the very rare N meningitidis).

What are the other three?

--Chlamydia

--*Neisseria gonorrhoeae*

--Syphilis

--HSV

--HIV

Bugs:

1) **N gonorrhea**

2) ~~N meningitidis~~ (much less common)

Cultures/stains needed?

--Yes

Treatment:

--If no corneal involvement:

Rocephin IM x 1

olvement:

Rocephin IV q12° x 3d

In PO 'just in case')

performed?

ris, cells,