What is the #1 bacterium in CL-related K ulcer?
What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*

What is the #1 risk factor for *Acanthamoeba* keratitis? *CL wear*

What are the three main culprits in fungal keratitis, and what is the topical antifungal of choice for each?

- **Fusarium:** Topical natamycin
- **Aspergillus and Candida:** Topical ampho

What simple maneuver can increase topical antifungal corneal penetrance?

- Scrape off the epithelium

What role does geography play in fungal keratitis?

- *Fusarium* is more common in the South;
- *Aspergillus and Candida* in the North

What is the most common misdiagnosis of early *Acanthamoeba* keratitis?

- HSV keratitis. Early *Acanthamoeba* keratitis is limited to the epithelium and is very often dendritic in appearance; only late does a ring infiltrate appear

What is the classic association with AIDS? How is it treated?

- *Microsporidia*; topical fumagillin

What is the treatment for *Acanthamoeba* keratitis? What is the time course?

- There are multiple options; a good choice is topical chlorhexidine + propamidine. Epithelial disease can be cured in a mere 3-4 months; stromal disease requires 8-12 months.

What slow-growing, fastidious organisms can produce a nonsuppurative infiltrate with intact overlying epithelium?

- *Mycobacteria; α-hemolytic strep* (causes crystallin keratopathy)

*Acanthamoeba* can be diagnosed via confocal in vivo microscopy (cysts will be seen in the stroma)

Infectious keratitis: Short answers
What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
What is the #1 risk factor for *Acanthamoeba* keratitis?
What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*

What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**
Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
- What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**

More specifically, does sleeping in rigid-gas permeable CLs increase the risk of contracting *acanthamoeba*?
Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
- What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**

*More specifically, does sleeping in rigid-gas permeable CLs increase the risk of contracting acanthamoeba?*

**Yes**
Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
- What is the #1 risk factor for *Acanthamoeba* keratitis? CL wear

More specifically, does sleeping in rigid-gas permeable CLs increase the risk of contracting *acanthamoeba*? Yes

What about sleeping in soft CLs?
Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
- What is the #1 risk factor for *Acanthamoeba* keratitis? CL wear

More specifically, does sleeping in rigid-gas permeable CLs increase the risk of contracting *acanthamoeba*? Yes

What about sleeping in soft CLs? No
What is the #1 bacterium in CL-related K ulcer? \textit{Pseudomonas}

What is the #1 risk factor for \textit{Acanthamoeba} keratitis? \textit{CL wear}

What are the three main culprits in fungal keratitis?

- fungus 1
- fungus 2
- fungus 3

\textbf{Infectious keratitis: Short answers}
What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*

What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**

What are the three main culprits in fungal keratitis?
- *Fusarium*
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What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*

What is the #1 risk factor for *Acanthamoeba* keratitis? *CL wear*

What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?

- *Fusarium*: Topical…
- *Aspergillus* and *Candida*: Topical…

**Infectious keratitis: Short answers**
Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
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- **Fusarium**: Topical...natamycin
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If you want to add a PO antifungal for:
- **Fusarium** and **Aspergillus**:
  -- **Ketoconazole**
- **Candida**:
  -- **Fluconazole**
Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
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What role does geography play in fungal keratitis?

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In what key way might the presenting complaint of an *Acanthamoeba* keratitis patient differ from that of an HSV keratitis patient?

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*In what key way might the presenting complaint of an Acanthamoeba keratitis patient differ from that of an HSV keratitis patient?*

The patient with *Acanthamoeba* keratitis will complain of pain that seems out of proportion to the clinical picture, while the HSV keratitis patient will have less pain than would be expected given the appearance of the cornea.
Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? **Pseudomonas**
- What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**
- What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
  - *Fusarium*: Topical...natamycin
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**In what key way might the presenting complaint of an Acanthamoeba keratitis patient differ from that of an HSV keratitis patient?**
The patient with *Acanthamoeba keratitis will complain of pain* that seems out of proportion to the clinical picture, while the HSV keratitis patient will have **less** pain than would be expected given the appearance of the cornea.

**Why is Acanthamoeba keratitis exceptionally painful?**
**Infectious keratitis: Short answers**

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
- What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**
- What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
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*In what key way might the presenting complaint of an Acanthamoeba keratitis patient differ from that of an HSV keratitis patient?*

The patient with **Acanthamoeba keratitis will complain of pain** that seems out of proportion to the clinical picture, while the HSV keratitis patient will have **less** pain than would be expected given the appearance of the cornea.

*Why is Acanthamoeba keratitis exceptionally painful?*

Because the bug has a propensity for perineural invasion, resulting in a condition known as **radial keratoneuritis**.
In what key way do the dendrites of *Acanthamoeba* keratitis differ from those of *HSV* keratitis?
Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
- What is the #1 risk factor for *Acanthamoeba* keratitis? *CL wear*
- What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
  - *Fusarium*: Topical...natamycin
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- What simple maneuver can increase topical antifungal corneal penetrance? *Scrape off the epithelium*
- What role does geography play in fungal keratitis? *Fusarium* is more common in the South; *Aspergillus* and *Candida* in the North
- What is the most common misdiagnosis of early *Acanthamoeba* keratitis? *HSV keratitis*. Early *Acanthamoeba* keratitis is limited to the epithelium and is very often dendritic in appearance; only late does a ring infiltrate appear

**In what key way do the dendrites of Acanthamoeba keratitis differ from those of HSV keratitis?**

HSV dendrites usually have terminal bulbs, whereas Acanthamoeba dendrites don’t. Be sure to evaluate any dendritic keratitis carefully for the presence/absence of terminal bulbs!

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If you want to add a PO antifungal for:

- *Fusarium* and *Aspergillus*: Ketoconazole
- *Candida*: Fluconazole
What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*

What is the #1 risk factor for *Acanthamoeba* keratitis? CL wear

What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
- *Fusarium*: Topical...natamycin
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What simple maneuver can increase topical antifungal corneal penetrance? Scrape off the epithelium

What role does geography play in fungal keratitis? *Fusarium* is more common in the South; *Aspergillus* and *Candida* in the North

What is the most common misdiagnosis of early *Acanthamoeba* keratitis? HSV keratitis. Early *Acanthamoeba* keratitis is limited to the epithelium and is very often dendritic in appearance; only late does a ring infiltrate appear

What keratitis bug is the classic association with AIDS?

If you want to add a PO antifungal for:
- *Fusarium* and *Aspergillus*: Ketoconazole
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Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
- What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**
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- What keratitis bug is the classic association with AIDS? **Microsporidia**

If you want to add a PO antifungal for:
- *Fusarium* and *Aspergillus*: **Ketoconazole**
- *Candida*: **Fluconazole**
**Infectious keratitis: Short answers**

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
- What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**
- What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
  - **Fusarium**: Topical...natamycin
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- What keratitis bug is the classic association with AIDS? How is it treated? **Microsporidia**

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If you want to add a PO antifungal for:

- **Fusarium** and **Aspergillus**: **Ketoconazole**
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Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
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- What keratitis bug is the classic association with AIDS? How is it treated? **Microsporidia. Topical fumagillin**

If you want to add a PO antifungal for:
- *Fusarium* and *Aspergillus*: **Ketoconazole**
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Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? **Pseudomonas**
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  - *Fusarium*: Topical…natamycin
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- What keratitis bug is the classic association with AIDS? How is it treated? **Microsporidia. Topical fumagillin**
- What is the treatment for *Acanthamoeba* keratitis?

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- *Fusarium* and *Aspergillus*: **Ketoconazole**
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Infectious keratitis: Short answers

- What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*
- What is the #1 risk factor for *Acanthamoeba* keratitis? *CL wear*
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  - *Fusarium*: Topical...*natamycin*  
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- What simple maneuver can increase topical antifungal corneal penetrance? *Scrape off the epithelium*
- What role does geography play in fungal keratitis? *Fusarium* is more common in the South; *Aspergillus* and *Candida* in the North
- What is the most common misdiagnosis of early *Acanthamoeba* keratitis? HSV keratitis. Early *Acanthamoeba* keratitis is limited to the epithelium and is very often dendritic in appearance; only late does a ring infiltrate appear
- What keratitis bug is the classic association with AIDS? How is it treated? *Microsporidia*. Topical fumagillin
- What is the treatment for *Acanthamoeba* keratitis? There are multiple options; a good choice is topical chlorhexidine + propamidine.

If you want to add a PO antifungal for:  
--*Fusarium* and *Aspergillus*: *Ketoconazole*  
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What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*

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What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
- **Fusarium:** Topical...natamycin
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What is the treatment for *Acanthamoeba* keratitis? What is the time course? **There are multiple options; a good choice is topical chlorhexidine + propamidine.**
What is the #1 bacterium in CL-related K ulcer? **Pseudomonas**

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What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
- **Fusarium**: Topical...natamycin
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What is the most common misdiagnosis of early **Acanthamoeba** keratitis? **HSV keratitis**. Early **Acanthamoeba** keratitis is limited to the epithelium and is very often dendritic in appearance; only late does a ring infiltrate appear

What keratitis bug is the classic association with AIDS? How is it treated? **Microsporidia**. **Topical fumagillin**

What is the treatment for **Acanthamoeba** keratitis? What is the time course? **There are multiple options**; a good choice is topical chlorhexidine + propamidine. **Epithelial disease can be cured in a mere 3-4 months; stromal disease requires 8-12 months.**
**Infectious keratitis: Short answers**

- What is the #1 bacterium in CL-related K ulcer? **Pseudomonas**
- What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**
- What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
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- What keratitis bug is the classic association with AIDS? How is it treated? **Microsporidia**. Topical fumagillin
- What is the treatment for *Acanthamoeba* keratitis? What is the time course? There are multiple options; a good choice is topical chlorhexidine + propamidine. Epithelial disease can be cured in a mere 3-4 months; **stromal disease requires 8-12 months.**

**In fact, topical therapy is often ineffective in deep stromal Acanthamoeba infections, which may require PK (coupled with antiamoebic meds) to rid the host of infection.**
What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*

What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**

What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
- **Fusarium**: Topical… *natamycin*
- **Aspergillus** and **Candida**: Topical… *ampho*

What simple maneuver can increase topical antifungal corneal penetrance? **Scrape off the epithelium**

What role does geography play in fungal keratitis? *Fusarium* is more common in the South; *Aspergillus* and *Candida* in the North

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What is the treatment for *Acanthamoeba* keratitis? What is the time course? **There are multiple options; a good choice is topical chlorhexidine + propamidime. Epithelial disease can be cured in a mere 3-4 months; stromal disease requires 8-12 months.**

Which form of infectious keratitis can be diagnosed definitively without stains, culture or biopsy, and how?

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*If you want to add a PO antifungal for:*
- **Fusarium** and **Aspergillus**: *Ketoconazole*
- **Candida**: *Fluconazole*
What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*

What is the #1 risk factor for *Acanthamoeba* keratitis? **CL wear**

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- **Fusarium:** Topical...*natamycin*
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What simple maneuver can increase topical antifungal corneal penetrance? **Scrape off the epithelium**

What role does geography play in fungal keratitis? **Fusarium is more common in the South; Aspergillis and Candida in the North**

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What is the treatment for *Acanthamoeba* keratitis? What is the time course? **There are multiple options; a good choice is topical chlorhexidine + propamidine. Epithelial disease can be cured in a mere 3-4 months; stromal disease requires 8-12 months.**

Which form of infectious keratitis can be diagnosed definitively without stains, culture or biopsy, and how? **Acanthamoeba can be diagnosed via confocal in vivo microscopy (cysts will be seen in the stroma)**

**Infectious keratitis: Short answers**

If you want to add a PO antifungal for:
- **Fusarium and Aspergillis:** *Ketoconazole*
- **Candida:** *Fluconazole*
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What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?

- **Fusarium**: Topical…natamycin
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What simple maneuver can increase topical antifungal corneal penetrance? **Scrape off the epithelium**

What role does geography play in fungal keratitis? **Fusarium** is more common in the South; **Aspergillus and Candida** in the North

What is the most common misdiagnosis of early *Acanthamoeba* keratitis? **HSV keratitis**. Early *Acanthamoeba* keratitis is limited to the epithelium and is very often dendritic in appearance; only late does a ring infiltrate appear.

What keratitis bug is the classic association with AIDS? How is it treated? **Microsporidia**. Topical fumagillin

What is the treatment for *Acanthamoeba* keratitis? What is the time course? There are multiple options; a good choice is topical chlorhexidine + propamidine. Epithelial disease can be cured in a mere 3-4 months; stromal disease requires 8-12 months.

Which form of infectious keratitis can be diagnosed definitively without stains, culture or biopsy, and how? **Acanthamoeba** can be diagnosed via confocal in vivo microscopy (cysts will be seen in the stroma).
What is the #1 bacterium in CL-related K ulcer? *Pseudomonas*

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What are the three main culprits in fungal keratitis? What is the topical antifungal of choice for each?
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If you want to add a PO antifungal for:
- **Fusarium** and **Aspergillus:** Ketoconazole
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What medium is used when culturing for *Acanthamoeba*?
- Non-nutrient agar with E. coli overlay

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What constitutes a positive 'culture'?
When placed on such a culture plate, the mobile trophozoite form of the ameoba will respond by grazing its way around the plate in the process leaving observable trails in the agar

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*You are treating a corneal ulcer with topical antibiotic X. The ulcer seems to be improving, but when the culture & sensitivities report arrives, it indicates that the bug is not susceptible to X. Should you change antibiotics?*

*Probably not. Most C&S determinations are based on antibiotic concentrations achievable in serum via systemic administration, not antibiotic concentrations in the cornea achievable via drops—which may be vastly higher. Clinical response, not C&S results, is the standard against which corneal ulcer management should be judged.*
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