



Bacterial Keratitis (Initial Evaluation)

(Ratings: A: Most important, B: Moderately important, C: Relevant but not critical **Strength of Evidence:** I: Strong, II: Substantial but lacks some of I, III: consensus of expert opinion in absence of evidence for I & II)

Initial Exam History

- Ocular symptoms **(A:III)**
- Contact lens history **(A:II)**
- Review of other ocular history **(A:III)**
- Review of other medical problems and systemic medications **(A:III)**
- Current and recently used ocular medications **(A:III)**
- Medication allergies **(A:III)**

Initial Physical Exam

- Visual acuity **(A:III)**
- General appearance of patient **(B:III)**
- Facial examination **(B:III)**
- Eyelids and eyelid closure **(A:III)**
- Conjunctiva **(A:III)**
- Nasolacrimal apparatus **(B:III)**
- Corneal sensation **(A:III)**
- Slit-lamp biomicroscopy
 - Eyelid margins **(A:III)**
 - Conjunctiva **(A:III)**
 - Sclera **(A:III)**
 - Cornea **(A:III)**
 - Anterior chamber **(A:III)**
 - Anterior vitreous **(A:III)**
- Contralateral eye **(A:III)**

Diagnostic Tests

- Manage majority of community-acquired cases with empiric therapy and without smears or cultures. **(A:III)**
- Indications for smears and cultures:
 - Sight-threatening or severe keratitis of suspected microbial origin prior to initiating therapy **(A:III)**
 - A large corneal infiltrate that extends to the middle to deep stroma **(A:III)**
 - Chronic in nature **(A:III)**
 - Unresponsive to broad spectrum antibiotic therapy **(A:III)**
 - Clinical features suggestive of fungal, amoebic, or mycobacterial keratitis **(A:III)**
- The hypopyon that occurs in eyes with bacterial keratitis is usually sterile, and aqueous or vitreous taps should not be performed unless there is a high suspicion of microbial

- endophthalmitis. **(A:III)**
- Corneal scrapings for culture should be inoculated directly onto appropriate culture media to maximize culture yield. **(A:III)**. If this is not feasible, place specimens in transport media. **(A:III)**. In either case, immediately incubate cultures or take promptly to the laboratory. **(A:III)**

Care Management

- Topical antibiotic eye drops are preferred method in most cases. **(A:III)**
- Use topical broad-spectrum antibiotics initially in the empiric treatment of presumed bacterial keratitis. **(A:III)**
- For central or severe keratitis (e.g., deep stromal involvement or an infiltrate larger than 2 mm with extensive suppuration), use a loading dose (e.g., every 5 to 15 minutes for the first 1 to 3 hours), followed by frequent applications (e.g., every 30 minutes to 1 hour around the clock). **(A:III)** For less severe keratitis, a regimen with less frequent dosing is appropriate. **(A:III)**
- Use systemic therapy for gonococcal keratitis. **(A:II)**
- In general, modify initial therapy when there is a lack of improvement or stabilization within 48 hours. **(A:III)**
- For patients treated with ocular topical corticosteroids at time of presentation of suspected bacterial keratitis, reduce or eliminate corticosteroids until infection has been controlled. **(A:III)**
- When the corneal infiltrate compromises the visual axis, may add topical corticosteroid therapy following at least 2 to 3 days of progressive improvement with topical antibiotics. **(A:III)** Continue topical antibiotics at high levels with gradual tapering. **(A:III)**
- Examine patients within 1 to 2 days after initiation of topical corticosteroid therapy. **(A:III)**

* Adapted from the American Academy of Ophthalmology Summary Benchmarks, November 2010 (www.aao.org)