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)