



ACTIVE EXTERNAL INFECTION

- blepharitis significant risk factor for endophthalmitis following IVT
- Active external infection = higher bacterial load, sub-optimal antisepsis with cleaning and draping
- **Any active external infection including blepharitis should be treated prior to IVI**

Lyall DA, Tey A, Foot B, Roxburgh ST, Viridi M, Robertson C, et al: Post-intravitreal anti-VEGF endophthalmitis in the United Kingdom: incidence, features, risk factors, and outcomes.

Eye (Lond) 2012;26:1517-1526



DISINFECTION

Povidone Iodine

- effectively reduces bacterial load in conjunctival fornices
- broad spectrum antimicrobial activity
- fast kill time (30-120 seconds for 2.5-10% concentration)
- non-toxic in vitreous

Chlorhexidine gluconate 0.1% as alternative

Mino de Kaspar H, Chang RT, Singh K, Egbert PR, Blumenkranz MS, Ta CN: Prospective randomized comparison of 2 different methods of 5% povidone-iodine applications for anterior segment intraocular surgery. Arch Ophthalmol 2005;123:161–165.



DISINFECTION

SKIN?

- No lid scrub
- Eyelid skin disinfection did not show any additional reduction in bacterial counts compared to conjunctival disinfection alone

Conclusion:

- Iodine 5% to conjunctival fornix
- No evidence to support routine cleaning of eyelid skin

PERIOPERATIVE ANTIBIOTICS



- In theory lowers bacterial load
- but also encourages resistance
- Meta-analysis: 174159 IVTs – no direct evidence that antibiotics lower endophthalmitis rates after IVT
- **Conclusion: Not recommended**

Benoist d'Azy C, Pereira B, Naughton G, Chiambaretta F, Dutheil F: Antibioprophylaxis in prevention of endophthalmitis in intravitreal injection: a systematic review and meta-analysis. PLoS One 2016;11:e0156431.

LID SPECULUM

- Lid closure during procedure may contaminate needle with lid organisms
- No evidence to prove that speculum is better than manual retraction with cotton tip or finger

Conclusion: Any effective way to avoid lid closure during the procedure is justified, as there are insufficient data to support the use of one specific technique.



GLOVES, DRAPING

GLOVES:

- WHO guidelines on hand hygiene in Healthcare
- Institutional hand hygiene policy
- Gold standard
- **Conclusion: Gloves and hand wash before and after**

DRAPE:

- No evidence
- **Conclusion: Drape is optional**

BILATERAL INJECTIONS

- Each injection as separate procedure
- Reglove, redrape, reclean
- Fresh set and instruments, including speculum



FACE MASKS AND SPEAKING

- Most common cause of endophthalmitis post IVT is *Streptococcus* sp
 - Which is only 7% of conjunctival isolates
 - Likely from oral dispersion
- Wearing masks or remaining silent leads to significantly fewer culture colonies on culture plates
- Patient talking leads to significantly more colonies on culture

Conclusion: Mask up and speak as little as possible

Doshi RR, Leng T, Fung AE: Reducing oral flora contamination of intravitreal injections with face mask or silence. Retina 2012; 32:473–476.

Wen JC, McCannel CA, Mochon AB, Garner OB: Bacterial dispersal associated with speech in the setting of intravitreal injections. Arch Ophthalmol 2011;129:1551–1554

SUMMARY

Recommended

- Appropriate environment: Clean procedure room or OT
- Topical administrations of 5% povidone-iodine over at least 30 s into the conjunctival sac.
Chlorhexidine for patients with local irritation due to povidone-iodine
- Speculum, or some form of lid restraint
- Gloves
- Face masks and silence
- Bilateral injections as separate procedures

Not recommended:

- Perioperative antibiotics
- Lid scrub
- Skin cleaning with iodine not essential
- Drape optional