Acute post-operative endophthalmitis

Decision tree for the first 48 hours after cataract surgery or an intravitreal injection

1 Suspect it

Pain, worsening vision, red eye, **hypopyon**, vitritis or loss of red reflex, usually days 1 to 7 after surgery or 2 to 5 days after injection. Treat as an emergency: same day.

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2 Assess within the hour

- Record vision accurately (HM vs PL decides the next step), IOP, slit lamp, wound and IOL.
- **B-scan** if no fundal view: vitreous opacities, retinal detachment, choroidal detachment.

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3 Decide by vision (Endophthalmitis Vitrectomy Study)

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Light perception only

Immediate pars plana vitrectomy with intravitreal antibiotics.

(EVS: 3 times more likely to reach 6/12 than tap and inject.)

Hand movements or better

Vitreous tap (and AC tap) with intravitreal antibiotics the same day.

Many surgeons now offer early small-gauge vitrectomy at lower thresholds.

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4 Inject (typical doses; follow your unit protocol)

- **Vancomycin 1 mg/0.1 mL** (Gram-positive) and **ceftazidime 2.25 mg/0.1 mL** (Gram-negative), in separate syringes.
- Beta-lactam allergy: **amikacin 0.4 mg/0.1 mL** instead of ceftazidime.
- Send samples for Gram stain, culture and sensitivity, and PCR where available.

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5 Supportive treatment

- Topical antibiotic, cycloplegic and steroid (start steroid once antibiotics are in).
- Intravitreal dexamethasone and systemic antibiotics: practice varies; EVS found no benefit from systemic antibiotics.

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6 Review at 24 to 48 hours

Worse (more pain, hypopyon, loss of view): **repeat intravitreal antibiotics guided by culture, or vitrectomy**.
Improving: continue and taper topical treatment.

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7 Prevent the next one

Povidone-iodine 5% in the sac (10% on skin), lid and lash isolation, and intracameral antibiotic (cefuroxime or moxifloxacin).