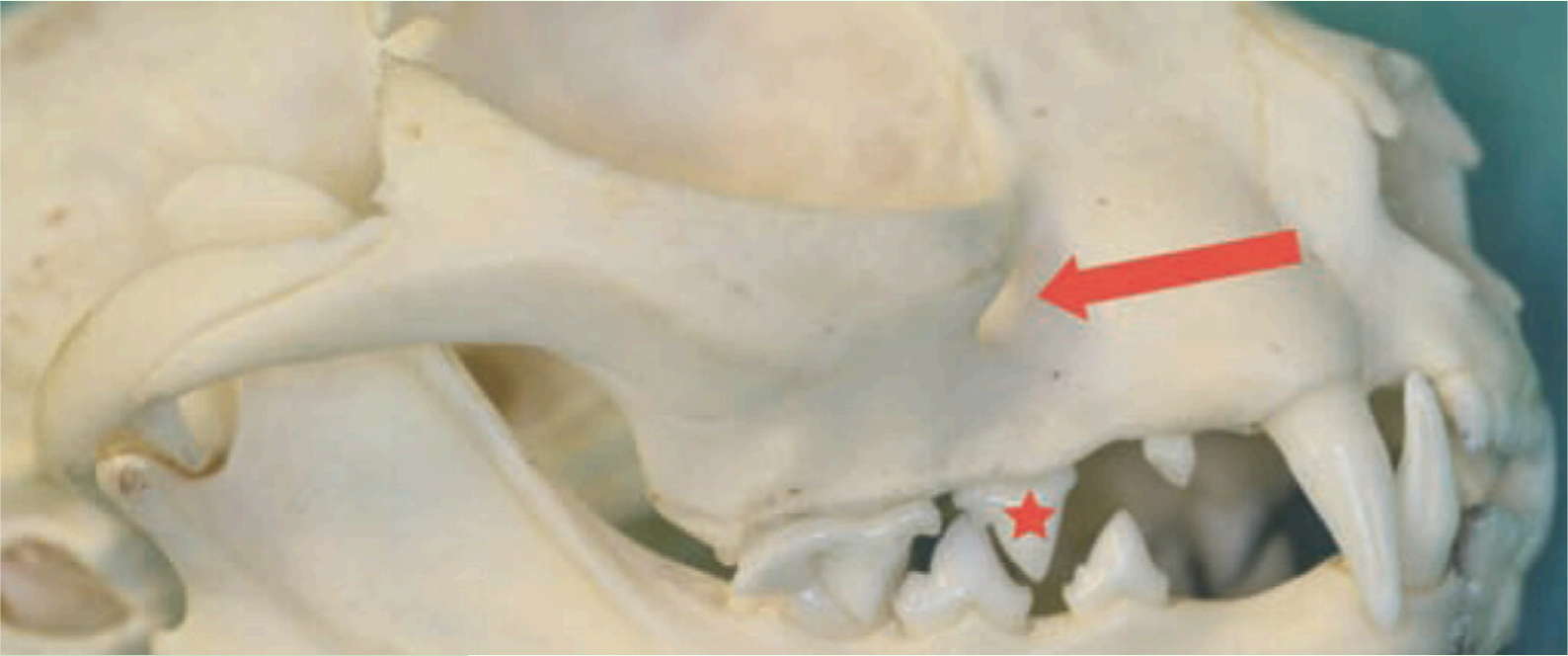


— March 2026 —

Melbourne Eye Vet

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Iatrogenic Globe Penetration in Feline Dentistry = High Risk of Losing an Eye!

This edition of the newsletter serves as cautionary advice against performing maxillary dental nerve blocks in feline patients.

- There is a risk of severe complications following routine feline dentistry due to direct penetration of the globe.
- This typically happens during maxillary tooth extractions or transoral nerve blocks (maxillary and infraorbital).
- Dr Volk's case series documented 13 affected cats in Australia and New Zealand between 2014 and 2018. Please [click here to read the full paper!](#)



Anatomical Risks

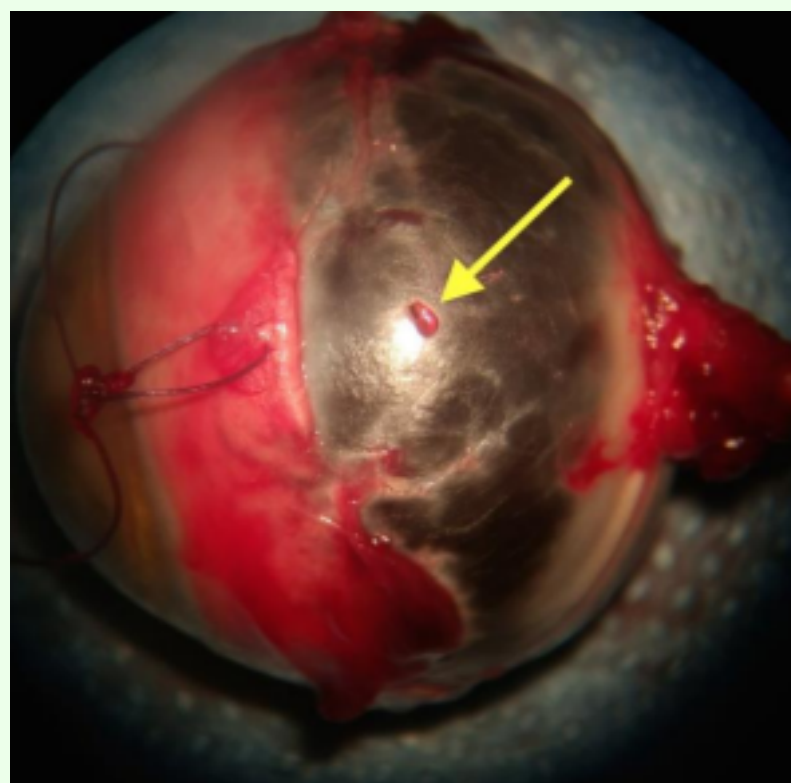
- **Proximity:** The distance from the feline maxillary fourth premolar tooth root apex to the globe is only 1.6 to 2.8 mm in cats!
- **Vulnerability:** Accidental globe puncture through the infraorbital canal can occur during routine dental procedures (blocks and extractions).
- **Block Technique:** The transoral technique involves advancing a needle dorsally, caudal to the molar tooth toward the maxillary foramen - putting the eye at direct risk!

Immediate emergency referral to a veterinary ophthalmologist is recommended for any suspected globe penetration!



Clinical Presentation

- **Onset:** Symptoms manifest 0 to 14 days post procedure with a median onset of 1.5 days.
- **Ocular Signs:** Blepharospasm, hyperaemia, scleral injection, aqueous flare, fibrin or haemorrhage in the anterior chamber, miosis, and vision loss.
- **Histopathology:** it is possible and has been documented to find scleral penetration sites, lens capsule rupture, phacoclastic uveitis, and endophthalmitis.





Prognosis and Outcomes

- **Visual Outcome:** Permanent blindness is unfortunately the primary result.
- **Response to Treatment:** Medical management often yields poor results; persistent inflammation is common.
- **Enucleation Rate:** 54% of cases require surgical removal (enucleation) of the globe.
- **Mortality:** Severe ocular disease has resulted in elective euthanasia in feline patients.

Recommendations

- **Protocol:** Avoid transoral maxillary nerve blocks in feline patients.
- **Surgical Precision:** Exercise extreme caution during maxillary tooth extractions to prevent accidental ocular penetration.
- **Technique Selection:** Use safer analgesia options or regional anesthesia techniques for the feline maxilla; ensure clinicians are acutely aware of this specific anatomical risk in feline patients
- **Specialist Referral:** Immediate emergency referral to a veterinary ophthalmologist is recommended for any suspected globe penetration so appropriate assessment and medical treatment can be commenced.

Other literature on the topic:

- Perry R, Moore D, Scurrill E. **Globe penetration in a cat following maxillary nerve block for dental surgery.** J Feline Med Surg. 2015 <https://pmc.ncbi.nlm.nih.gov/articles/PMC11383097/>
- Pumphrey SA *et al.* **Iatrogenic ocular trauma associated with infraorbital block performed for rhinoscopy in a cat: case report and preliminary imaging findings.** JFMS Open Rep 2021 <https://pubmed.ncbi.nlm.nih.gov/33996139/>



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