

## In dogs with uncomplicated corneal ulcers, do antibacterial eye drops reduce the risk of infection?

A Knowledge Summary by

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ISSN: 2396-9776

Published: 17 Nov 2021

in: The *Veterinary Evidence* journal Vol 6, Issue 4

DOI: <https://doi.org/10.18849/ve.v6i4.389>

Reviewed by: Kazuya Oikawa (BVSc PhD) and Constance  
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Next Review Date: 07 Dec 2022

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### PICO question

In dogs with uncomplicated corneal ulcers does treatment with prophylactic antibacterial eye drops reduce the risk of secondary infection when compared to no treatment with prophylactic antibacterial eye drops?

### Clinical bottom line

### Category of research question

Treatment

### The number and type of study designs reviewed

Zero

### Strength of evidence

Zero

### Outcomes reported

None

### Conclusion

There were no published papers found to address the PICO

### [How to apply this evidence in practice](#)

The application of evidence into practice should take into account multiple factors, not limited to: individual clinical expertise, patient's circumstances and owners' values, country, location or clinic where you work, the individual case in front of you, the availability of therapies and resources.

Knowledge Summaries are a resource to help reinforce or inform decision making. They do not override the responsibility or judgement of the practitioner to do what is best for the animal in their care.

## Clinical Scenario

You are presented with a 4 year old, female spayed dog of mixed breed with an acute onset of epiphora and blepharospasm of the right eye. Ocular exam and fluorescein staining reveal a superficial corneal ulcer, which has not received any treatment prior to diagnosis. The dog's owner has already spent more money than she would like just for the exam and wants to know whether the recommended antibacterial drops are necessary.

## The evidence

There was no peer-reviewed evidence that met the inclusion criteria to summarise.

## Appraisal, application and reflection

In dogs with uncomplicated corneal ulcers, the administration of prophylactic topical ophthalmic antibacterials is well documented and recommended in textbooks on veterinary ophthalmology as the standard of care (Maggs et al., 2018); for the purpose of this Knowledge Summary, an uncomplicated corneal ulcer was defined as a new onset superficial corneal ulcer. Despite this recommendation, there have been no studies to demonstrate a significant difference in infection rates in affected dogs receiving prophylactic topical ophthalmic antibacterials compared to dogs that do not. However, the potential negative impacts of not

treating uncomplicated corneal ulcers with topical ophthalmic antibacterials could be significant, possibly resulting in secondary ocular infections, melting deep corneal ulcers, and may eventually lead to loss of vision or loss of the eye. Therefore, unless robust evidence is established to refute the current dogma, it is recommended that practitioners continue to uphold the current standard of care.

## Methodology Section

Search Strategy	
Databases searched and dates covered:	CAB Abstracts on OVID Platform; 1973–2020 PubMed on NCBI Platform; 1950–2020
Search terms:	CAB Abstracts and PubMed: ((dogs) AND (((corneal ulcer) OR (keratitis)) OR (corneal abrasion))) AND (((treatment) OR (therapy)) OR (ophthalmic solutions)) OR (antibiotic)
Dates searches performed:	7 Dec 2020

Exclusion / Inclusion Criteria	
Exclusion:	Articles not available in English, clinical review articles, book chapters, articles not available for review
Inclusion:	Articles relevant to the PICO (involving uncomplicated corneal ulcers that were treated to resolution)

Search Outcome					
Database	Number of results	Excluded – Did not address the PICO	Excluded – Not English language	Excluded – Non-canine	Total relevant papers
CAB Abs	331	223	97	11	0
PubMed	391	335	33	23	0
Total relevant papers when duplicates removed					0

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## REFERENCES

1. Maggs, D. J., Miller, P. E. & Ofri, R. (2018). *Slatter's Fundamentals of Veterinary Ophthalmology* (6th ed.). Elsevier.

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