

Veterinary Eye Serum

Common Clinical Applications & Typical Administration Frequencies

Educational reference for veterinarians • Frequency should always be individualized to diagnosis, severity, response, and concurrent therapy.

How to use this guide

Topical serum is best supported as an adjunct for corneal surface disease, especially when antiprotease activity is needed. The most clearly described intensive protocols are for deep, complicated, infected, or melting ulcers. For many chronic or supportive applications, a single serum-specific dose interval has not been established. Where dosing is not standardized, the chart provides a practical frequency estimate based on similar ocular-surface conditions, published treatment patterns, and common clinical use.

Frequency Shorthand

q1h	q2h	q4h	q6h	BID	QID
every 1 hour	every 2 hours	every 4 hours	every 6 hours	twice daily	four times daily

1. Corneal Ulcers & Acute Corneal Surface Disease

Condition	Typical serum frequency	Clinical role / interpretation	Evidence level
Superficial uncomplicated corneal ulcer / abrasion	Not standardized; often q4–6h when used as adjunctive support	Routine uncomplicated ulcers do not always require serum. Frequency should increase if infection, stromal loss, or melting develops.	Limited published research
Deep or complicated corneal ulcer	q2h initially; taper as clinical control improves	Used as antiprotease and biologic surface support alongside antimicrobial therapy and correction of the underlying complicating factor.	Published clinical guidance
Melting ulcer / keratomalacia	q1–2h initially; q2h is a common small-animal protocol	High-frequency antiprotease support. Equine hospital protocols may use autologous serum q1h. Taper only as malacia and stromal loss come under control.	Published clinical guidance
Infected corneal ulcer	q2h initially when used for antiprotease support	Serum is adjunctive; it does not replace culture-directed topical antimicrobials when infection is present.	Published clinical guidance
Indolent ulcer / SCCED / “Boxer ulcer”	Not standardized; often 3–8×/day after debridement	Serum may be used as postoperative/supportive therapy, but debridement/diamond-burr or other definitive treatment addresses the epithelial adhesion defect. Controlled evidence has not shown a clear healing advantage for serum alone.	Limited published research
Corneal trauma / epithelial defect	Not standardized; often q4–6h for uncomplicated defects; q1–2h if melting	Treat the actual lesion present. Trauma with stromal loss or infection should be managed as a complicated ulcer rather than as simple surface irritation.	Limited published research

Condition	Typical serum frequency	Clinical role / interpretation	Evidence level
Persistent epithelial defect / neurotrophic keratitis	Not standardized; often q4–6h for active epithelial defects	Serum may provide trophic surface support, but veterinary dosing evidence is sparse. Frequent re-evaluation and treatment of the underlying neurologic or exposure problem are important.	Limited published research
Post-operative corneal healing	Not standardized; often 3–8×/day; q1–2h if melting is present	Used after keratectomy, grafting, or other corneal procedures at the surgeon's discretion for biologic and antiprotease support.	Published surgical guidance

2. Dry Eye & Chronic Ocular-Surface Disorders

Condition	Typical serum frequency	Clinical role / interpretation	Evidence level
Keratoconjunctivitis sicca (KCS / Dry Eye) — canine	Not standardized; often 2–4×/day; tear replacement may be q2–6h	Serum may supplement the ocular surface, but it should not be presented as a replacement for tear-stimulant therapy such as cyclosporine or tacrolimus when those are indicated.	Limited published research
Exposure keratopathy / lagophthalmos / brachycephalic ocular-surface disease	Not standardized; often 3–6×/day for surface support	Address eyelid conformation, exposure, tear-film deficiency, and any ulceration. If an ulcer becomes complicated or melting, move to an intensive ulcer protocol.	Limited published research
Pigmentary keratitis	Not standardized; often BID–QID for surface support	Serum does not remove established pigment or correct the primary cause. Management focuses on chronic irritation, exposure, tear-film disease, and eyelid/conformation issues.	Limited published research
Immune-mediated keratitis / chronic superficial keratitis (pannus)	Not standardized; often BID–QID when used for concurrent surface disease	Serum is not a substitute for immunomodulatory therapy. It may be used only as supportive ocular-surface therapy when a concurrent epithelial defect or tear-film problem exists.	Limited published research
Corneal edema	Not standardized; often BID–QID when used for concurrent surface injury	Serum is not a primary treatment for endothelial dysfunction or intraocular causes of edema. Use, if any, is directed at concurrent surface injury.	Limited published research

3. Feline Applications

Condition	Typical serum frequency	Clinical role / interpretation	Evidence level
FHV-1 keratitis / herpetic epithelial ulceration	Not standardized; often q4–6h for epithelial defects; q1–2h if secondary melting develops	Serum is supportive only and does not treat herpesvirus. Antiviral therapy remains condition-specific. Stromal ulceration suggests secondary bacterial involvement and requires more aggressive management.	Limited published research
Feline corneal ulcer	Not standardized; often q4–6h if uncomplicated; q1–2h for keratomalacia	As in dogs, frequency is driven by depth, infection, and proteolysis rather than by species alone.	Limited published research
Chronic conjunctivitis	Not standardized; often BID–QID for surface support	Identify infectious, inflammatory, tear-film, or anatomic causes. Serum should not be positioned as primary therapy for conjunctivitis.	Limited published research

Condition	Typical serum frequency	Clinical role / interpretation	Evidence level
Post-operative corneal healing	Not standardized; often 3–8×/day; adjust to procedure and healing	Supportive use after corneal procedures; increase intensity if malacia or stromal loss is present.	Published surgical guidance
Symblepharon / scarring risk after ocular injury	Not standardized; often q4–6h when used for concurrent epithelial injury	Management may require frequent lubrication, mechanical separation, surgical care, and treatment of the inciting disease. Serum can be considered supportive when the corneal surface is compromised.	Limited published research

4. Equine Applications

Condition	Typical serum frequency	Clinical role / interpretation	Evidence level
Superficial corneal ulcer	Not standardized; often q4–6h; increase if complications develop	Monitor closely because equine ulcers can progress rapidly. Treatment intensity should match depth, infection, and proteolysis.	Limited published research
Complicated / stromal / melting corneal ulcer	q1–2h initially; q1h is used in some hospital protocols	A classic setting for intensive topical serum as an antiprotease adjunct. Frequently administered through a subpalpebral lavage system in hospitalized or difficult-to-treat horses.	Published clinical guidance
Post-surgical corneal healing	Not standardized; often 3–8×/day	Frequency depends on procedure, corneal stability, and whether active proteolysis is present.	Published surgical guidance
Conjunctival inflammation or injury	Not standardized; often BID–QID for surface support	Treat the underlying cause and determine whether the cornea is involved. Corneal ulceration changes the treatment intensity.	Limited published research
Equine recurrent uveitis (ERU)	Not standardized; often BID–QID if concurrent corneal-surface disease warrants serum	ERU is an intraocular inflammatory disease. Topical serum should not be represented as primary therapy for uveitis; any role is adjunctive and generally directed at concurrent corneal-surface disease.	Limited published research

5. Practical Frequency Framework

Clinical situation	Typical frequency framework	Key point
Chronic ocular-surface support / KCS	Not standardized; often BID–QID	Increase based on dryness and ocular-surface disease; tear replacement may be q2–6h.
Routine non-melting corneal surface defect	Not standardized; often q4–6h	Adjunctive surface support; increase frequency if infection, stromal loss, or melting develops.
Complicated / infected ulcer	q2h initially	Use alongside appropriate antimicrobial and other ulcer therapy.
Active melting / keratomalacia	q1–2h initially	High-frequency antiprotease support; reassess frequently.
Post-operative corneal support	Not standardized; often 3–8×/day	Procedure- and surgeon-dependent; increase if proteolysis is present.

Important note

These frequencies are intended as practical clinical reference ranges rather than a universal SeroLube dosing schedule. Where serum-specific dosing is not standardized, the listed frequency is an educated clinical estimate based on analogous ocular-surface conditions, published treatment patterns, and common topical-use cadence. The 2026 systematic review of veterinary serum eye drops similarly notes that optimal dosing, concentration, and indication protocols remain insufficiently standardized.

Selected References

1. Today's Veterinary Practice. *Clinical Approach to the Canine Red Eye*. Topical protease inhibitors such as autologous serum are applied every 2 hours until corneal malacia and stromal loss are controlled. <https://todaysveterinarypractice.com/ophthalmology/clinical-approach-to-the-canine-red-eye/>
2. Henriksen ML. Clinical management of superficial complicated corneal ulcerations in the horse. *Equine Veterinary Education*. Published equine hospital protocol includes autologous serum every 1 hour. AAEP-hosted PDF.
3. VCA Animal Hospitals. *Keratoconjunctivitis Sicca (KCS) or Dry Eye in Dogs*. Tear replacement is commonly administered every 2–6 hours depending on need and severity. <https://vcahospitals.com/know-your-pet/keratoconjunctivitis-sicca-kcs-or-dry-eye-in-dogs>
4. American College of Veterinary Ophthalmologists. *Dry Eye (Keratoconjunctivitis Sicca)*. Tear-stimulant medications are typically administered 2–3 times daily; lubricating drops may be used concurrently. <https://www.acvo.org/common-conditions-1/2018/2/2/dry-eye-keratoconjunctivitis-sicca>
5. VCA Animal Hospitals. *Serum, Autologous: Ophthalmic*. Describes topical autologous serum as an extra-label therapy used for corneal ulcers in animals. <https://vcahospitals.com/know-your-pet/serum-autologous-ophthalmic>
6. Today's Veterinary Practice. *Diagnosis and Treatment of Indolent Corneal Ulcers*. Notes that topical serum is well tolerated in canine SCCEDs but did not reduce re-epithelialization time in the cited study. <https://todaysveterinarypractice.com/ophthalmology/indolent-corneal-ulcers>
7. IVIS. *Eye — Current Techniques in Small Animal Surgery*. Postoperative topical serum frequency varies from 3–8 times daily depending on the case.
8. Yogo N, et al. *Serum Eye Drops for Canine Corneal Disease: A Systematic Review of Epithelial Repair and Clinical Outcomes*. *Veterinary Ophthalmology*. 2026. Concludes serum is a safe, biocompatible adjunct but optimal veterinary preparation, dosing, and indications remain insufficiently standardized.
9. University of Melbourne Equine Guidelines. *Ophthalmology*. Equine melting-ulcer guidance lists serum/EDTA every 2–4 hours, supporting intensive antiprotease use in complicated corneal ulceration. <https://science.unimelb.edu.au/avpg/equine-guidelines/ophthalmology>