

# CLINICAL APPROACH TO THE CANINE RED EYE

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## References

1. Moore PA. Examination techniques and interpretation of ophthalmic findings. *Clin Tech Small Anim Pract* 2001; 16(1):1-11.
2. Ollivier FJ, Plummer CE, Barrie KP. The eye examination and diagnostic procedures. In Gelatt KN (ed): *Veterinary Ophthalmology*, 4th ed. Ames: Blackwell Publishing, 2007, pp 438-483.
3. Moore PA. Diagnosis and management of chronic corneal epithelial defects (indolent corneal ulcers). *Clin Tech Small Anim Pract* 2003; 18(3):168-177.
4. Gilger BC, Ollivier FJ, Bentley E. Section III. Diseases and surgery of the canine cornea and sclera. In Gelatt KN (ed): *Veterinary Ophthalmology*, 4th ed. Ames: Blackwell Publishing, 2007, pp 700-720.
5. Capriole KA. The cephalosporin antimicrobial agents: A comprehensive review. *J Vet Pharm Therap* 1988; 11:1-32.
6. Gosling AA, Labelle AL, Breax CB. Management of spontaneous chronic corneal epithelial defects (SCCEDs) in dogs with diamond burr debridement and placement of a bandage contact lens. *Vet Ophthalmol* 2013; 16(2):83-88.
7. Da Silva EG, Powell CC, Gionfriddo JR, et al. Histologic evaluation of the immediate effects of diamond burr debridement in experimental superficial corneal wounds in dogs. *Vet Ophthalmol* 2011; 14(5):285-291.
8. Soong HK, Farjo Q, Meyer RF, et al. Diamond burr superficial keratectomy for recurrent corneal erosions. *Brit J Ophthalmol* 2002; 86:296-298.
9. Brooks DE, Ollivier FJ. Matrix metalloproteinase inhibition in corneal ulceration. *Vet Clin N Am Small Anim Pract* 2004; 34(3):611-622.
10. Ollivier FJ, Gilger BC, Barrie KP, et al. Proteases of the cornea and precorneal tear film. *Vet Ophthalmol* 2007; 10(4):199-206.
11. Chandler HL, Gemensky-Metzler AJ, Bras ID, et al. In vivo effects of adjunctive tetracycline treatment on refractory corneal ulcers in dogs. *JAVMA* 2010; 237:378-386.
12. Baker A, Plummer CE, Szabo NJ, et al. Doxycycline levels in precorneal tear film of horses following oral administration. *Vet Ophthalmol* 2008; 11(6):381-385.
13. Bussieres M, Krohne SG, Stiles J, WM. The use of porcine small intestinal submucosa for the repair of full-thickness corneal defects in dogs, cats and horses. *Vet Ophthalmol* 2004; 7(5):352-359.
14. Hao Y, Ma DHK, Hwang DG. Identification of anti-angiogenic and anti-inflammatory proteins in human amniotic membrane. *Cornea* 2000; 19:348-352.
15. Miller PE, Pickett JP, Majors LJ, Kurzman ID. Clinical comparison of Mackay-Marg and Tono-Pen applanation tonometer in the dog. *Prog Vet Comp Ophthalmol* 1991; 1:171-176.
16. Knollinger AM, La Croix NC, Barrett PM, Miller PE. Evaluation of a rebound tonometer for measuring intraocular pressure in dogs and horses. *JAVMA* 2005; 227(2):244-248.
17. Brines C, Ben-Sholmo G. Comparison of tonometric values obtained by an experienced and inexperienced tonometrist utilizing three different tonometers in normotensive dogs and horses. *ACVO Conference Proc* 2012; 16(1):E13.
18. Gelatt K, Gum G, Barrie K, Williams W. Diurnal variations in intraocular pressure in normotensive and glaucomatous beagles. *Glaucoma* 1981; 3:21-24.
19. Aparicio CE, Marti-Suarez E, Molleda JM. Influence of corneal melanin in tonometry with tonovet rebound tonometer in dogs. *ACVO Conference Proc* 2012; 16(1):E1.
20. Strong TD, Bentley E, McLellan GJ. Intraocular pressure in dogs is influenced by the white coat effect. *ACVO Conference Proc* 2012; 16(1):E18.
21. Gibson TE, Roberts SM, Severin GA, et al. Comparison of gonioscopy and ultrasound biomicroscopy for evaluating the iridocorneal angle in dogs. *JAVMA* 2003; 223:1617-1622.
22. Bentley E, Miller PE, Dithl KA. Use of high-resolution ultrasound as a diagnostic tool in veterinary ophthalmology. *JAVMA* 2003; 223:1617-1622.
23. Miller PE. Glaucomas. *Slatter's Fundamentals of Veterinary Ophthalmology*, 4th ed. Philadelphia: Saunders Elsevier, 2008, pp 249-250.
24. Lorimer DW, Hakanson NE, Pion PD, Meredith RE. The effect of intravenous mannitol or oral glycerol on intraocular pressure in dogs. *Cornell Vet* 1989; 79:249-258.
25. Netland PA. Calcium channel blockers in glaucoma therapy. *Ophthalmol Clin N Am* 1997; 10:357-364.
26. Whelan NC, Welch P, Pace A, Brienza CA. A comparison of the efficacy of topical brinzolamide and dorzolamide alone and in combination with oral methazolamide in decreasing normal canine intraocular pressure. *Vet Ophthalmol* 2011; 30:80.
27. Plummer CE, MacKay EO, Gelatt KN. Comparison of the effects of topical administration of a fixed combination of dorzolamide-timolol to monotherapy with timolol or dorzolamide on IOP, pupil size, and heart rate in glaucomatous dogs. *Vet Ophthalmol* 2006; 9:245.
28. Gelatt KN, MacKay EO. Effect of different dose schedules of latanoprost on intraocular pressure and pupil size in the glaucomatous beagle. *Vet Ophthalmol* 2001; 4:283-288.
29. Skorobohach BJ, Ward DA, Hendrix DVH. Effects of oral administration of methazolamide on intraocular pressure and aqueous humor flow rate in clinically normal dogs. *Am J Vet Res* 2003; 64:183-187.
30. KN Gelatt, MacKay EO. Changes in intraocular pressure associated with topical dorzolamide and oral methazolamide in glaucomatous dogs. *Vet Ophthalmol* 2001; 4:61-67.
31. EB Laminack, KE Myrna, PA Moore. The effect of topical carbonic anhydrase inhibitors versus the combination of topical and systemic carbonic anhydrase inhibitors in the treatment of primary glaucoma in dogs. *Invest Ophthalmol Vis Sci* 2012; 53:5013 (abstract).
32. EB Laminack, KE Myrna, PA Moore. The effect of topical carbonic anhydrase inhibitor monotherapy versus combination of topical and systemic therapy in the treatment of secondary glaucoma in dogs. *Vet Ophthalmol* 2012; 16:13.
33. Sapienza JS, van der Woerd A. Combine transscleral diode laser cyclophotocoagulation and Ahmed gonioplasty in dogs with primary glaucoma: 51 cases (1996-2004). *Vet Ophthalmol* 2005; 8:121-127.
34. Lutz EA, Sapienza JS. Diode endoscopic cyclophotocoagulation in pseudophakic and aphakic dogs with secondary glaucoma. *Vet Ophthalmol* 2009; 12:398.
35. Lutz EA, Sapienza JS. Combined diode endoscopic cyclophotocoagulation and Ex-pres shunt gonioplasty in four cases of canine glaucoma. *Vet Ophthalmol* 2009; 12:396.
36. Bras ID, Webb TE, Wyman M, et al. Diode endoscopic cyclophotocoagulation in canine and feline glaucoma. *Vet Ophthalmol* 2005; 8:449.
37. Miller PE, Schmidt GM, Vainisi SJ, et al. The efficacy of topical prophylactic antiglaucoma therapy in primary closed angle glaucoma in dogs: A multicenter clinical trial. *JAHA* 2000; 36(5):431-438.
38. Miller PE. *Uvea. Slatter's Fundamentals of Veterinary Ophthalmology*, 4th ed. Philadelphia: Saunders Elsevier, 2008, pp 214-220.
39. McKinnon NJ, Wiechert S, Wang C, et al. Evaluation of intravenous meloxicam in controlling experimental intraocular inflammation. *Vet Ophthalmol* 2011; 14:406.
40. Payen G, Pepin-Richard C, Bonnaire Y, Chahory S. Evaluation of aqueous concentration and ocular effects of firocoxib following aqueocentesis-induced anterior uveitis in dogs. *Vet Ophthalmol* 2011; 14:413.
41. Maggs D, Miller P, Ofri R. *Uvea. Slatter's Fundamentals of Veterinary Ophthalmology*, 5th ed. Philadelphia: Saunders Elsevier, 2012, p 205.
42. Martin CL. Anterior uvea and anterior chamber. *Ophthalmic Disease in Veterinary Medicine*. London, UK: Manson Publishing, 2010, p 313.