

# Chloramphenicol Topical

## Newborn use only

2019

<b>Alert</b>	Eye ointment remains in the eye for longer than eye drops and may be the preferred dose form.
<b>Indication</b>	Treatment of acute bacterial conjunctivitis
<b>Action</b>	Bacteriostatic. Acts by inhibition of protein synthesis, interfering with the transfer of activated amino acids from soluble RNA to ribosomes.
<b>Drug Type</b>	Broad spectrum antibiotic
<b>Trade Name</b>	Chloromycetin, Chlorsig
<b>Presentation</b>	Chloramphenicol 0.5% contains 5 mg/mL
<b>Dosage/Interval</b>	<p>Ointment:</p> <p style="padding-left: 20px;">Apply 3 to 4 times a day in the affected eye and continue for 48 hours after clinical resolution.</p> <p style="padding-left: 20px;">Severe infection: May need more often at the discretion of the treating team.</p> <p>DROPS:</p> <p style="padding-left: 20px;">Severe infection: Apply 1 drop every 2 hours in the affected eye for 48 hours and reduce frequency with controlling of infection.</p> <p style="padding-left: 20px;">Less severe infection: Apply 3 to 4 times a day in the affected eye</p> <p style="padding-left: 20px;">Continue for 48 hours after clinical resolution</p> <p>Drops and Ointment combination:</p> <p style="padding-left: 20px;">Apply drops during the day as above</p> <p style="padding-left: 20px;">Apply ointment once at night</p> <p style="padding-left: 20px;">Continue for 48 hours after clinical resolution.</p>
<b>Maximum daily dose</b>	
<b>Route</b>	TOPICAL ONLY
<b>Administration</b>	<p>Avoid contact between tip of container and infant's eyes.</p> <p>Eye ointment: Hold eye open and administer eye ointment between the lower lid and the eye.</p> <p>Eye drop: After administering eye drop, gently press against the lacrimal duct (inner corner of eye) to reduce systemic absorption. The eye pouch will be full after a single drop. If other eye drop(s) need to be administered, wait 5 minutes between drops.</p>
<b>Monitoring</b>	
<b>Contraindications</b>	History of hypersensitivity to chloramphenicol or any other component of the medication.
<b>Precautions</b>	Family history of blood disorders
<b>Drug Interactions</b>	
<b>Adverse Reactions</b>	<p>Local irritation e.g. burning, swelling, redness; impaired corneal healing; superinfection; hypersensitivity including sensitisation, urticaria, rash, fever, angioedema, anaphylaxis, blood dyscrasia (rare).</p> <p>Acute hepatitis was reported in an adult following topical chloramphenicol therapy for conjunctivitis.</p> <p>Bone marrow hypoplasia, including aplastic anaemia and death, has been rarely reported following local application of chloramphenicol.</p> <p>Overgrowth of non-susceptible organisms.</p>
<b>Compatibility</b>	No information
<b>Incompatibility</b>	No information
<b>Storage</b>	<p>Eye drop: Store unopened bottle at 2–8°C. Once opened, bottle may be stored at &lt;25°C for 28 days. Protect from light.</p> <p>Eye Ointment: Store below 25°C. Discard 28 days after opening. Protect from light.</p>
<b>Special Comments</b>	
<b>Evidence summary</b>	<p><b>Efficacy</b></p> <p>Chloramphenicol inhibits bacterial protein synthesis [1]. It is bacteriostatic, with a relatively broad spectrum against most Gram-positive and Gram-negative bacteria. Uncommon occurrences of acquired resistance are caused by enzyme inactivation.</p> <p><b>Topical treatment of bacterial conjunctivitis versus placebo:</b></p> <p>Sheikh et al [2] performed a meta-analysis on the efficacy of topical antibiotics for acute bacterial conjunctivitis. Study participants were aged one month or older. Topical antibiotics</p>

	<p>were of benefit in improving early clinical (day two to five) (RR 1.36, 95% CI 1.15 to 1.61) and microbiological (RR 1.55, 95% CI 1.37 to 1.76) remission rates, as well as late clinical (days six to 10) (RR 1.21, 95% CI 1.10 to 1.33) and microbiological (RR 1.37, 95% CI 1.24 to 1.52) cure rates. By day six to 10, 41% (95%CI 38 to 43) of cases had resolved in those receiving placebo. No serious outcomes were reported. A single trial compared the effect of 0.5% chloramphenicol (1 drop in the affected eye every 2 hours for first 24 hours and 4 times a day until 48 hours after the clinical resolution) versus placebo (boric acid/borax) [3] in children aged 6 months to 12 years with infective conjunctivitis in primary care. There was no significant difference in clinical cure by day 7 (83% for placebo versus 86% with chloramphenicol), with seven (4%) children with chloramphenicol and five (3%) with placebo having further conjunctivitis episodes within 6 weeks. Adverse events were uncommon (2% in each group). [LOE II] Fukuda et al 2002 reported chloramphenicol eye drop treatment of elderly patients with methicillin resistant staphylococcus aureus (MRSA) ocular surface infections had an efficacy rate of 81% [4]. [LOE IV]</p> <p><b>Topical chloramphenicol versus other antibiotic for bacterial conjunctivitis:</b> Normann et al 2002, in an RCT compared 1% fusidic acid twice a day versus 0.5% chloramphenicol eye drops six times a day in 456 neonates with a clinical diagnosis of acute bacterial conjunctivitis. Clinical cure rate was not significantly different (62.2% with fusidic acid versus 64.7% with chloramphenicol). Clinical compliance was better with fusidic acid (90.7% versus 78.0%).</p> <p>A review identified five trials that compared chloramphenicol versus fusidic acid eye drops in patients with bacterial conjunctivitis [5]. Three of the five studies reported no difference in effectiveness between the two preparations with both drugs performing equally well [6-8]. Two studies undertaken in less-developed countries showed fusidic acid to be far more effective but the cure rate with chloramphenicol was low, suggesting resistance or different causal agents [9, 10]. [LOE II, GOR C]</p> <p>Fusidic acid eye drops are not available in Australia.</p> <p><b>Safety</b> Adverse effects were uncommon in trials of topical eye drops [2]. Aplastic anaemia [11, 12], erythema multiforme [13] and drug-induced hepatitis [14] have been reported associated with use of topical chloramphenicol, although all are rare and causality uncertain [1]. Chloramphenicol is not effective for the prevention or treatment of gonococcal or chlamydia ophthalmia neonatorum and may mask clinical signs and delay the diagnosis of gonococcus and chlamydia [15-18].</p> <p><b>Conclusion:</b> Most children presenting with acute infective conjunctivitis in primary care will get better without topical antibiotic treatment. Moreover, failure of clinical cure is frequent with chloramphenicol. Treatment should be guided by microbiological testing including for chlamydia and gonococcus if clinically indicated or in areas of increased prevalence prior to initiation of eye drops.</p>
<p><b>References</b></p>	<ol style="list-style-type: none"> <li>1. Robert PY, Adenis JP. Comparative review of topical ophthalmic antibacterial preparations. <i>Drugs</i>. 2001;61:175-85.</li> <li>2. Sheikh A, Hurwitz B, van Schayck CP, McLean S, Nurmatov U. Antibiotics versus placebo for acute bacterial conjunctivitis. <i>Cochrane database of systematic reviews</i> (Online). 2012;9:CD001211.</li> <li>3. Rose PW, Harnden A, Brueggemann AB, Perera R, Sheikh A, Crook D, Mant D. Chloramphenicol treatment for acute infective conjunctivitis in children in primary care: A randomised double-blind placebo-controlled trial. <i>Lancet</i>. 2005;366:37-43.</li> <li>4. Fukuda M, Ohashi H, Matsumoto C, Mishima S, Shimomura Y. Methicillin-resistant <i>Staphylococcus aureus</i> and methicillin-resistant coagulase-negative <i>Staphylococcus</i> ocular surface infection: Efficacy of chloramphenicol eye drops. <i>Cornea</i>. 2002;21:S86-S9.</li> <li>5. Griffiths P. What type of eye drops should be given to a toddler with conjunctivitis? <i>British journal of community nursing</i>. 2003;8:364-8.</li> <li>6. Horven I. Acute conjunctivitis. A comparison of fusidic acid viscous eye drops and chloramphenicol. <i>Acta Ophthalmologica</i>. 1993;71:165-8.</li> </ol>

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