



Blepharitis (inflammation of the lid margins)

<p>Aetiology</p>	<p>Anterior marginal blepharitis (also known as Anterior Lid Margin Disease, ALMD)</p> <ul style="list-style-type: none"> • bacterial (usually staphylococcal) <ul style="list-style-type: none"> - caused by (1) direct infection, (2) reaction to staphylococcal exotoxin or (3) allergic response to staphylococcal antigen • seborrhoeic (disorder of the ciliary sebaceous glands of Zeis) <p>Posterior marginal blepharitis (also known as Posterior Lid Margin Disease, PLMD)</p> <ul style="list-style-type: none"> • Meibomian gland dysfunction <ul style="list-style-type: none"> - bacterial lipases break down Meibomian lipids - Meibomian secretion becomes abnormal both chemically and physically - tear film becomes unstable <p>Mixed anterior and posterior marginal blepharitis <i>All of these conditions are typically bilateral, and chronic or relapsing</i> A significant association has been found between <i>Demodex</i> mite infestation and blepharitis (see evidence base)</p>
<p>Predisposing factors</p>	<p>Dry eye disease present in:</p> <ul style="list-style-type: none"> • 50% of people with staphylococcal blepharitis • 25-40% of people with seborrhoeic blepharitis <p>Seborrhoeic blepharitis</p> <ul style="list-style-type: none"> • seborrhoeic dermatitis (for example, of the scalp) <p><i>Demodex folliculorum</i></p> <ul style="list-style-type: none"> • an ectoparasite that occurs normally in the lash follicles <p>Long-term contact lens wear Ocular rosacea (posterior marginal blepharitis)</p>
<p>Symptoms</p>	<p>Blepharitis may be asymptomatic. However, when present, the symptoms of Anterior marginal blepharitis, Posterior marginal blepharitis and Mixed anterior and posterior marginal blepharitis are similar:</p> <ul style="list-style-type: none"> • ocular discomfort, soreness, burning, itching • mild photophobia • symptoms of dry eye including blurred vision and contact lens intolerance
<p>Signs</p>	<p>Anterior marginal blepharitis (staphylococcal)</p> <ul style="list-style-type: none"> • lid margin hyperaemia • lid margin swelling • crusting of anterior lid margin (scales at bases of lashes) • misdirection of lashes • loss of lashes (madarosis) • recurrent styes and (rarely) chalazia • conjunctival hyperaemia • aqueous tear deficiency • secondary signs include: punctate epithelial erosion over lower third of cornea; marginal keratitis; phlyctenulosis; neovascularisation and pannus; mild papillary conjunctivitis <p>Anterior marginal blepharitis (seborrhoeic)</p> <ul style="list-style-type: none"> • lid margin hyperaemia • oily or greasy deposits on lid margins • conjunctival hyperaemia

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	<ul style="list-style-type: none"> • aqueous tear deficiency <p>Anterior marginal blepharitis (<i>Demodex</i>)</p> <ul style="list-style-type: none"> • lid margin hyperaemia • ‘Cylindrical dandruff’: characteristic clear sleeve (collarette) covers base of lash, extending further up lash than flat staphylococcal rosettes • persistent infestation of the lash follicles may lead to misalignment, trichiasis or madarosis <p>Posterior marginal blepharitis</p> <ul style="list-style-type: none"> • thick and/or opaque secretion at Meibomian gland orifices, making it difficult or impossible to express by finger pressure • foam in the lower tear film meniscus (due to excess tear film lipid) • plugging of duct orifices with abnormal lipid leading to dilatation of glands and formation of microliths and chalazia • conjunctival hyperaemia • aqueous tear deficiency, unstable pre-corneal tear film • secondary signs include: punctate epithelial erosion over lower third of cornea; marginal keratitis; scarring; neovascularisation and pannus; mild papillary conjunctivitis
Differential diagnosis	<ul style="list-style-type: none"> • Allergy • Dermatoconjunctivitis medicamentosa (see Clinical Management Guideline on Conjunctivitis Medicamentosa) • Dacryocystitis • Parasitic infestation (e.g. <i>Phthirus pubis</i> infestation) • Preseptal cellulitis • Herpes (simplex or zoster)
Management by Optometrist	
Practitioners should recognise their limitations and where necessary seek further advice or refer the patient elsewhere	
Non pharmacological	<p>Lid hygiene is first line of management regardless of type of blepharitis (GRADE*: Level of evidence = low, Strength of recommendation = strong). Lid hygiene measures wipe away bacteria and deposits from lid margins, mechanically express the lid glands and lead to improved signs and symptoms in the majority of individuals. There is limited evidence to support the effectiveness of commercial products over traditional lid hygiene methods.</p> <p>Alternative lid hygiene methods:</p> <ul style="list-style-type: none"> • using diluted baby shampoo (1:10) or sodium bicarbonate solution with a swab or cotton bud, patient cleans lid margins (but not beyond the muco-cutaneous junction). Carry out twice daily at first; reduce to once daily as condition improves. Use firm pressure with swab or cotton bud so as to express glands • commercial products e.g. dedicated lid cleaning solutions or impregnated wipes <p>Warm compresses to loosen collarettes and crusts (GRADE*: Level of evidence = low, Strength of recommendation = strong).</p> <p>Advise the avoidance of cosmetics, especially eye liner and mascara</p> <p>Advise patient to return/seek further help if symptoms persist</p>

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	<p><i>Complete eradication of the blepharitis may not be possible, but long-term compliance with these measures should reduce symptoms and minimise the number and severity of relapses</i></p>
Pharmacological	<p>If infection is present, and after deposit removal:</p> <ul style="list-style-type: none"> antibiotic ointment (e.g. chloramphenicol) twice daily; place in eyes or rub into lid margin with fingertip. If lid hygiene and topical antibiotic treatment fails (GRADE*: Level of evidence = low, Strength of recommendation = weak). consider prescribing a systemic tetracycline, such as oxytetracycline, doxycycline or minocycline (contraindicated in pregnancy, lactation & children under 12 years; various adverse effects have been reported). Such treatment will need to be continued for several weeks or months and the dosage may need to be varied from time to time. (GRADE*: Level of evidence= low, Strength of recommendation= weak). <p>Consider <i>Demodex</i> blepharitis if characteristic 'cylindrical dandruff' present at roots of eyelashes or if blepharitis is refractory to treatment. <i>Demodex</i> mites can be dose-dependently killed by daily lid scrub with 50% tea tree oil (see evidence base), but this should be undertaken only by experienced practitioners as such preparations are toxic to the ocular surface (GRADE*: Level of evidence = low, Strength of recommendation = weak).</p> <p>Management of aqueous tear deficiency, if also present:</p> <ul style="list-style-type: none"> see Clinical Management Guideline on Tear Deficiency
Management Category	<p>B2: Alleviation/palliation: normally no referral B1: initial management followed by routine referral if adequate trial (six weeks of therapy) does not produce sufficient response. Consider co-management with GP or Ophthalmologist</p>
Possible management by Ophthalmologist	
	<p>Oral drugs of the tetracycline family or other systemic antibiotics Anti-<i>Demodex</i> therapy Newer diagnostic and therapeutic strategies</p>
Evidence base	
	<p>* GRADE: Grading of Recommendations, Assessment, Development and Evaluation</p> <p><i>Sources of evidence</i> Lindsley K, Matsumura S, Hatf E, Akpek EK. Interventions for chronic blepharitis. Cochrane Database of Systematic Reviews 2012, Issue 5. Art. No.: CD005556</p> <p>Zhao YE1, Wu LP, Hu L, Xu JR. Association of Blepharitis with <i>Demodex</i>: A Meta-analysis. Ophthalmic Epidemiology 2012;19(2),95-102</p>