

PROTOCOL FOR MANAGEMENT OF DACRYOCYSTITIS

Policy authors	Rebecca Ford Ali Bodla Navpreet Dhillon Natasha Ratnaraja Yajati Ghosh
Accountable Executive Lead	Clinical Director
Approving body	Directorate Governance Group Drugs and Therapeutic Committee
Policy reference	SWBH/BMEC/Ophth/042

Overall purpose of the guideline

To provide recommendations to assist in the management of dacryocystitis.

Principle target audience

Applies to clinicians treating patients with dacryocystitis.

Application

The guideline applies to all patients including adults, children and infants.

Scope

The guideline applies to all patients including adults, children and infants.

National Guidance incorporated

n/a

DOCUMENT CONTROL AND HISTORY

Version No	Date Approved	Date of implementation	Next Review Date	Reason for change (e.g. full rewrite, amendment to reflect new legislation, updated flowchart, etc.)
1	July 2013	July 2013	July 2016	
2	July 2018	July 2018	July 2021	Full review

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1.0 Introduction

Dacryocystitis is infection of the lacrimal sac. It is associated with nasolacrimal duct obstruction, which leads to obstruction of outflow of tears and stagnation of tears, debris and bacteria in the lacrimal sac.

Acute dacryocystitis can be managed in casualty, but all patients with dacryocystitis also require oculoplastic specialist referral to deal with the underlying nasolacrimal obstruction.

2.0 Aim / Purpose

The aim of this guideline is to provide recommendations to assist in the management of dacryocystitis.

3.0 Definitions

Lacrimal sac The lacrimal sac sits in the lacrimal fossa, which is bound anteriorly by the frontal process of the maxillary bone (anterior lacrimal crest) and posteriorly by the lacrimal bone (posterior lacrimal crest). Tears enter the lacrimal sac from the canaliculi via a common opening and drain out into the nasolacrimal sac. The orbital septum attaches to the medial orbital wall at the posterior lacrimal crest, so the lacrimal sac can be considered as a preseptal structure.

Nasolacrimal duct The nasolacrimal duct has a 12 mm intra-osseous portion within the maxillary bone then a 5 mm membranous portion within the nasal mucosa. It is about 1 mm in diameter and opens into the nose under the inferior turbinate.

Pre-septal cellulitis This is infection of the skin and soft tissue of the eyelids anterior to the orbital septum. It can occasionally progress to orbital cellulitis.

4.0 Pathophysiology and Presentation

Acute dacryocystitis presents with a red, raised, tender lump in the region of the lacrimal sac. There is usually epiphora and may be a mucopurulent discharge from the punctum. There may be associated cellulitis and fever. Gram-positive bacteria are the most frequent cause (up to 80% of cases), most commonly *Staphylococcus aureus*. *Streptococcus pneumoniae* and *Haemophilus influenzae* are also seen.

Chronic dacryocystitis presents with epiphora and mucoid discharge from the punctum. There is typically a mucocoele, a painless swelling in the region of the sac. Pressure over a mucocoele usually produces reflux of mucoid material through the puncta, or directly through the skin if a fistula has developed. Causative microorganisms are different to acute dacryocystitis - *S. aureus* and *S. pneumoniae* are common causes,

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but also consider *H. influenzae* and Gram-negatives, most commonly *Pseudomonas aeruginosa* and *Klebsiella pneumoniae*.

Criteria for admission for acute dacryocystitis

Adults do not require admission for dacryocystitis unless they develop severe associated cellulitis or are systemically unwell i.e. pyrexial, feeling sick etc.

Infants with mucocoeles related to congenital nasolacrimal duct obstruction do not require antibiotics or admission, but should be referred to paediatric ophthalmology.

Acute dacryocystitis is rare in children. However, any children who are systemically unwell or pyrexial associated with dacryocystitis should be referred to the on-call paediatrician for assessment.

5.0 Management

Do not attempt to syringe the lacrimal system; this is not therapeutic and presence of dacryocystitis implies presence of nasolacrimal obstruction.

Acute Dacryocystitis

Swab any discharge and send to microbiology for microscopy, culture and sensitivities (MC&S).

First line treatment is oral antibiotics. **Co-amoxiclav** 625 mg three times a day for one week, or **clarithromycin** 500 mg twice a day for one week if penicillin allergic. Topical antibiotics are not required. If systemically unwell or suspicion of orbital cellulitis, admit for intravenous antibiotics (**ceftriaxone** 1 g twice a day). If orbital cellulitis is present, follow the existing [orbital cellulitis guidelines](#) (i.e. admit, CT scan, intra venous antibiotics).

The results of MC&S should be checked and treatment altered accordingly if necessary.

There is a role for endo-nasal dacrocystorhinostomy to drain the purulent material and establish drainage of tears at this stage.

Drainage of lacrimal sac abscess should be considered for:

- Tense, pointing abscess
- Infection not responding to antibiotics alone
- Severe pain associated with non-resolving abscess

Procedure for drainage of abscess:

If required, abscess can be drained by any suitably experienced doctor in casualty.

Local anaesthetic: Subcutaneous local anaesthetic is not helpful. Topical lidocaine cream 4% can be used under the occlusive dressing supplied over planned incision site (but takes about 30 minutes to have full effect). Care should also be taken to ensure that this does not enter the eye as it can be extremely irritant.

Incise with No 11 blade in the centre of the abscess, and express contents. There is no evidence to support sac washout with povidone iodine solution.

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Swab abscess contents and send for microscopy, culture and sensitivities.
Dress with a dry absorbent dressing, e.g. gauze. It is not necessary to pack the abscess cavity.

Review of acute dacryocystitis: Review in 1–2 weeks, followed by routine referral to oculoplastics, if felt clinically appropriate.

Chronic dacryocystitis

If antibiotics are indicated, suggested antibiotics are **ciprofloxacin** 500 mg twice a day by mouth *plus* **flucloraxillin** 500 mg four times a day by mouth for a week. Patients should be referred routinely to oculoplastics as long-term treatment is with dacryocystorhinostomy.

6.0 References

Ophthal Plast Reconstr Surg. 2007 Jul-Aug;23(4):302-6.

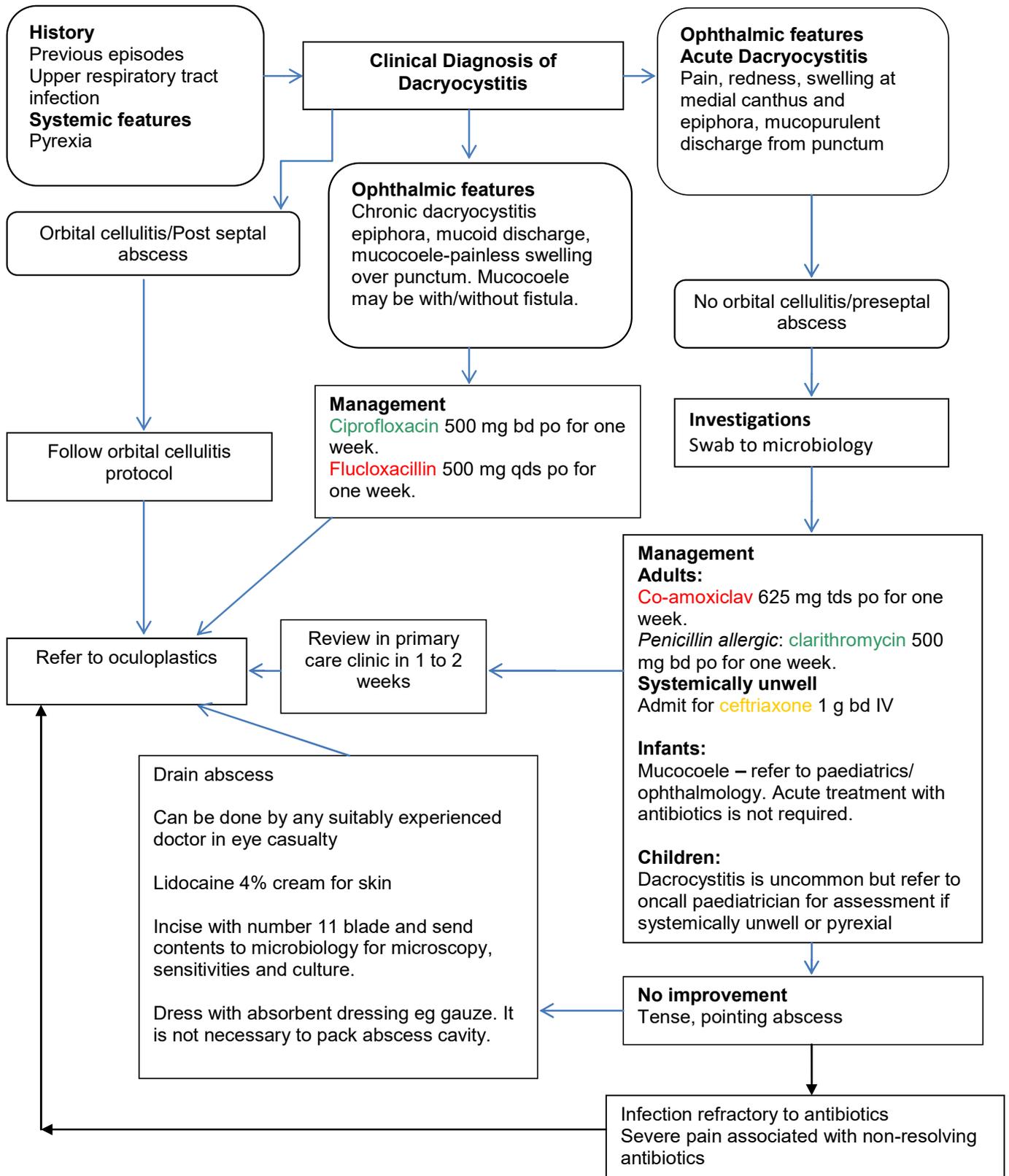
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Acquired lacrimal sac fistula after incision and drainage for dacryocystitis: a multicenter study. Barrett RV, Meyer DR; ASOPRS Acquired Lacrimal Fistula Study Group.

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Management of Dacryocystitis in Adults and Children



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