

<ul style="list-style-type: none"><li>Electronic copy is controlled under document control procedure. Hard copy is uncontrolled &amp; under responsibility of beholder.</li><li>It is allowed ONLY to access and keep this document with who issued, who is responsible and to whom it is applicable.</li><li>Information security code: <input checked="" type="checkbox"/> Open <input type="checkbox"/> Shared -Confidential <input type="checkbox"/> Shared-Sensitive <input type="checkbox"/> Shared-Secret</li></ul>	<ul style="list-style-type: none"><li>النسخة الإلكترونية هي النسخة المضبوطة وفق إجراء ضبط الوثائق. النسخ الورقية غير مضبوطة وتقع على مسؤولية حاملها.</li><li>يسمح بالوصول وباحتفاظ بهذه الوثيقة مع مصدرها أو مع المسؤول عن تطبيقها أو مع المطبق عليهم.</li><li>تصنيف امن المعلومات: <input checked="" type="checkbox"/> بيانات مفتوحة <input type="checkbox"/> مشارك -خاص <input type="checkbox"/> مشارك -حساس <input type="checkbox"/> مشارك -سري</li></ul>
--	--

# DHA TELEHEALTH CLINICAL GUIDELINES FOR VIRTUAL MANAGEMENT OF SWOLLEN EYELID – 40

## Version 1

Issue date: 27/07/2021

Effective date: 27/09/2021

Health Policies and Standards Department  
Health Regulation Sector (2021)

## INTRODUCTION

Dubai Health Authority (DHA) is the responsible entity for regulating, licensing and monitoring health facilities and healthcare professionals in the Emirate of Dubai. The Health Regulation Sector (HRS) is an integral part of DHA and was founded to fulfil the following overarching strategic objectives:

Objective #1: Regulate the Health Sector and assure appropriate controls are in place for safe, effective and high-quality care.

Objective #2: Position Dubai as a global medical destination by introducing a value-based, comprehensive, integrated and high-quality service delivery system.

Objective #3: Direct resources to ensure happy, healthy and safe environment for Dubai population.

## ACKNOWLEDGMENT

This document was developed for the Virtual Management of Swollen Eyelid in collaboration with Subject Matter Experts. The Health Policy and Standards Department would like to acknowledge and thank these professionals for their dedication toward improving the quality and safety of healthcare services.

### The Health Regulation Sector

### Dubai Health Authority

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>4</b>
<b>DEFINITIONS/ABBREVIATIONS</b>	<b>5</b>
<b>1. BACKGROUND</b>	<b>6</b>
<b>2. SCOPE</b>	<b>7</b>
<b>3. PURPOSE</b>	<b>7</b>
<b>4. APPLICABILITY</b>	<b>7</b>
<b>5. CAUSES</b>	<b>7</b>
<b>6. MANAGEMENT</b>	<b>21</b>
<b>7. CONDITIONS THAT PRESENT WITH EYELID SWELLING</b>	<b>21</b>
<b>8. DIAGNOSTIC APPROACH</b>	<b>21</b>
<b>9. REFERRAL CRITERIA</b>	<b>21</b>
<b>REFERENCES</b>	<b>23</b>
<b>APPENDICES</b>	<b>24</b>

## EXECUTIVE SUMMARY

Telehealth is based on Evidence Based Practice (EBP) which is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient.

It means integrating individual clinical expertise with the best available external clinical evidence and guidelines from systematic research.

EBP is important because it aims to provide the most effective care virtually, with the aim of improving patient outcomes. As health professionals, part of providing a professional service is ensuring that practice is informed by the best available evidence.

This guideline is presented in the format comprising of clinical history/symptoms, differential diagnosis, investigations and management. Identification of 'Red Flags' or serious conditions associated with the disease is an essential part of this telehealth guideline as it aids the physician to manage patients safely and appropriately by referrals to ER, family physicians or specialists for a face to face management.

## DEFINITIONS/ABBREVIATIONS

**Virtual Clinical Assessment:** Is the evaluation of the patient's medical condition virtually via telephone or video call consultations, which may include one or more of the following: patient medical history, physical examination and diagnostic investigations.

**Patient:** The person who receives the healthcare services or the medical investigation or treatment provided by a DHA licensed healthcare professional.

## ABBREVIATIONS

<b>BCC</b>	:	Basal Cell Carcinoma
<b>DHA</b>	:	Dubai Health Authority
<b>EBP</b>	:	Evidence Based Practice
<b>ER</b>	:	Emergency Room
<b>HRS</b>	:	Health Regulation Sector
<b>SCC</b>	:	Squamous Cell Carcinoma

## 1. BACKGROUND

### 1.1. Introduction

- 1.1.1. Swollen eyelids cause a puffy appearance to the eyes. Causes of swollen eyelids include fluid retention, allergies, eye infections and eye injuries
- 1.1.2. Swelling of the eyelids also can be a sign of serious, potentially sight-threatening problems, such as orbital cellulitis, Graves' disease and ocular herpes.
- 1.1.3. Swollen eyelids may or may not be painful, and one or both eyes can be affected.

### 1.2. Common Symptoms

- 1.2.1. Swollen eyes usually are accompanied by one or more of the following:
  - a. Eye irritation, such as an itchy or scratchy sensation
  - b. Sensitivity to light (photophobia)
  - c. Watery eyes
  - d. Eye discharge
  - e. Obstructed vision (depending on the extent of the swelling)
  - f. Redness of the eyelid
  - g. Red eyes and inflammation of the conjunctiva
  - h. Eyelid dryness or flaking

- i. Pain (particularly when swollen eyelids are caused by infection).

## 2. SCOPE

- 2.1. Telehealth services in DHA licensed Health Facilities.

## 3. PURPOSE

- 3.1. To support the implementation of Telehealth services for patients with complaints of Swollen Eyelid in Dubai Health Authority (DHA) licensed Health Facilities

## 4. APPLICABILITY

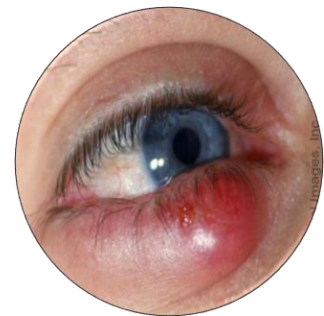
- 4.1. DHA licensed physicians and health facilities providing Telehealth services.
- 4.2. Exclusion for Telehealth services are as follows
  - 4.2.1. Emergency cases where immediate intervention or referral is required
  - 4.2.2. Prescribe Narcotics, Controlled or Semi-Controlled medications`

## 5. CAUSES

### 5.1. Styes

- 5.1.1. External hordeola arise from glands in the eyelash follicle or lid-margin (gland of Zeis and gland of Moll).

- 5.1.2. Internal hordeola are caused by inflammation of the meibomian gland, resulting in swelling just under the conjunctival side of the eyelid.



- 5.1.3. *Staphylococcus aureus* is the pathogen implicated in most cases, but hordeola can also be sterile.
- 5.1.4. Risk factors:
- a. Underlying skin conditions that affect the eyelids (eg, rosacea and seborrheic dermatitis) are prone to having frequent episodes of hordeolum.
  - b. Eye makeup, particularly eye makeup contaminated by bacteria, can cause hordeola by clogging and inflaming gland pores.
- 5.1.5. Diagnosis – is based on the typical clinical appearance of the lesion.
- 5.1.6. Can be made via video consultation
- 5.1.7. Via high resolution photographs
- Style - abscess is present below the lash line.
- 5.1.8. Treatment
- a. Most hordeola resolve spontaneously over several days and do not require specific intervention.
  - b. They can be managed with warm compresses, which are placed on the face for about 15 minutes four times per day, in order to facilitate drainage.



- c. Massage and gentle wiping of the affected eyelid after the warm compress can also aid in drainage.
- d. Patients should discontinue eye makeup to support healing.
- e. If, despite management with warm compresses, the lesion does not reduce in size within one to two weeks, the patient should be referred to an ophthalmologist for face to face consultation.
- f. Little evidence that treatment with topical antibiotics and/or glucocorticoids promotes healing; Patients who have frequent hordeola in the setting of rosacea-associated blepharitis and who do not achieve adequate improvement with warm compresses and mechanical removal of lid margin debris may respond to a topical antibiotic/corticosteroid ointment combination. Such patients should be managed by an ophthalmologist because of the potential ocular complications associated with long-term topical glucocorticoid use.

#### 5.1.9. Complication

- a. Preseptal cellulitis is an uncommon complication of hordeolum. It typically presents with unilateral ocular pain, eyelid swelling, and erythema. Details are presented below

## 5.2. Chalazion

5.2.1. Typically presents as a painless localized eyelid swelling. Examination of the inner eyelid reveals a nontender rubbery nodule.



5.2.2. Chalazia are caused by obstruction of Zeis or meibomian glands. Hordeola sometimes transform into chalazia after the inflammation resolves.

5.2.3. Diagnosis – is based on the typical clinical appearance of the lesion.

- a. Can be made via video consultation
- b. Via high resolution photographs

A nodular lesion is present on the upper eyelid.

Chalazia and hordeola can have a similar appearance however, chalazia tend to be painless and are less erythematous

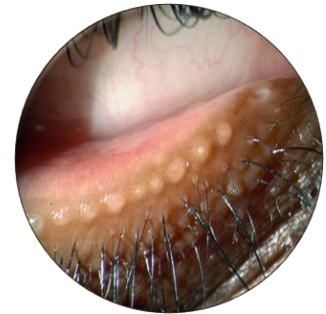
### 5.2.4. Treatment

- a. Small chalazia often resolve without intervention over days to weeks.
- b. For larger lesions, draining can be facilitated by using warm compresses placed on the face for about 15 minutes four times per day.

- c. Antibiotics are not indicated since chalazion is a granulomatous condition.
- d. Patients with persistent lesions should be referred to an ophthalmologist for incision and curettage or glucocorticoid injection.
- e. Persistent or recurring lesions, especially if unilateral, should be assessed histopathologically for possible basal cell, sebaceous cell, or meibomian gland carcinoma

### 5.3. Blepharitis

- 5.3.1. Blepharitis is inflammation at the base of the eyelashes that can be chronic or acute, and is associated with dry eyes, seborrheic dermatitis, rosacea, and Demodex mite infestation.



- 5.3.2. Symptoms are often worse in the morning.
- 5.3.3. Posterior blepharitis...Lower eyelid with characteristic posterior lid inflammation and oily white plugs visible at the meibomian gland openings.
- 5.3.4. Diagnosis
- a. Can be made via video consultation
  - b. Via high resolution photographs

c. May require a specialist referral for face to face consultation

d. Symptoms usually include:

- Watery eyes
- Red eyes
- A gritty, burning or stinging sensation in the eyes
- Eyelids that appear greasy
- Itchy eyelids
- Red, swollen eyelids
- Flaking of the skin around the eyes
- Crusted eyelashes upon awakening
- Eyelid sticking
- More frequent blinking
- Sensitivity to light
- Eyelashes that grow abnormally (misdirected eyelashes)
- Loss of eyelashes

5.3.5. Treatment: Mild to moderate symptoms — For patients with mild to moderate symptoms, management consists of

a. Warm compresses - Patients should be advised to soak a wash cloth in warm (not scalding) water and place it over the eyes. As the wash

cloth cools, it should be rewarmed and replaced for a total of 5 to 10 minutes of soaking time. Warm compresses should be applied two to four times a day if the patient has symptoms and at a decreased frequency in the maintenance phase.

- b. Lid massage - Lid massage should be performed immediately following application of a warm compress. Either the wash cloth that was used for the compress or a clean fingertip should be used to gently massage the edge of the eyelid towards the eye with a gentle circular motion.
- c. Lid washing - Patients with accumulation of debris on the eyelashes may benefit from gentle washing of the eyelid margins following the use of a warm compress. Either warm water or very dilute baby shampoo can be placed on a clean wash cloth, gauze pad, or cotton swab. The patient should then be advised to gently clean along the lashes and lid margin to remove the accumulated material with care to avoid contacting the ocular surface. If shampoo is used, thorough rinsing is recommended. Vigorous washing should be avoided, as it may cause more irritation.

- d. Artificial tears – Tears Naturele/ Hypotears/ Refresh - 1-2 drops  
into eye(s) as needed to relieve symptoms

5.4. Dacryoadenitis/dacryocystitis

- 5.4.1. Dacryoadenitis is inflammation of the lacrimal glands, whereas dacryocystitis is inflammation of the lacrimal sac in the inferior lid.



- 5.4.2. Both conditions can be caused by viruses or bacteria.

- 5.4.3. Bacterial infections tend to be tenderer to palpation than viral infections. Staphylococcus, Streptococcus, and gram-negative organisms are common pathogens.

- 5.4.4. Clinically, these processes may mimic preseptal cellulitis.

- 5.4.5. Diagnosis – Requires referral to ophthalmologist for a face to face consultation.

5.5. Periorbital (preseptal)/Orbital Cellulitis

- 5.5.1. Preseptal (periorbital) and orbital cellulitis are infections of the soft tissues of the orbit. The orbital septum separates the preseptal and orbital spaces.



5.5.2. Classically, local skin trauma allows infection of the preseptal tissues, whereas extravasation of a sinus infection is associated with infection posterior to the orbital septum. The ethmoid sinus and the wafer-thin lamina papyracea are often the sources of orbital cellulitis. Bacterial superinfection can occur over a viral process.

5.5.3. Etiology

- a. The most common causes of these infections are Staphylococcus, Streptococcus, and Haemophilus.
- b. Immunization against Haemophilus influenzae type b has substantially reduced the incidence of infection with Haemophilus.

5.5.4. Clinical history:

- a. Preseptal and orbital cellulitis can present with edema around the orbit, fever, and the patient's report of eye pain.

5.5.5. Diagnosis – Requires referral to ophthalmologist for a face to face consultation.

5.5.6. Management: Management consists of antibiotic therapy directed against *S. aureus* and streptococcus

5.6. Basal cell carcinoma (BCC)

5.6.1. BCC is the most common malignant tumor of the eyelid, accounting for 85 to 90% of all such malignancies.

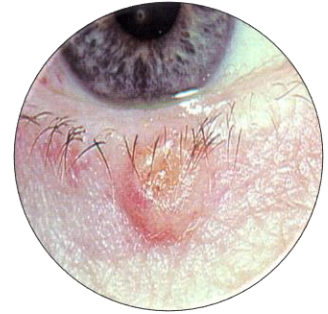
5.6.2. Risk factors:

- a. It usually arises in fair-skinned individuals with a history of prolonged sun exposure.
- b. It may be associated with basal cell nevus syndrome (Gorlin-Goltz Syndrome) or xeroderma pigmentosum, particularly in younger patients.

5.6.3. Clinical Presentation:

- a. BCCs are slow-growing, firm, painless, pearly, indurated lesions. There may be associated telangiectasia. Sometimes there is a loss of lashes associated with the lesions.
- b. BCCs are locally invasive but only rarely metastasize. However, neglected tumors can grow to large size and invade as deeply as bone.

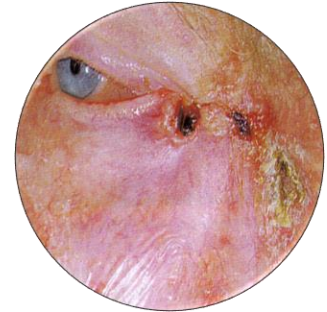
5.6.4. Diagnosis – Which is suspected by clinical appearance of the lesion, should be confirmed by incisional biopsy and requires referral to specialist ophthalmologist for a face to face consultation.



5.7. Squamous cell carcinoma (SCC)



- 5.7.1. SCC of the eyelid is much less common than BCC but is faster growing and more likely to metastasize. SCC can arise de novo or from preexisting actinic keratosis.

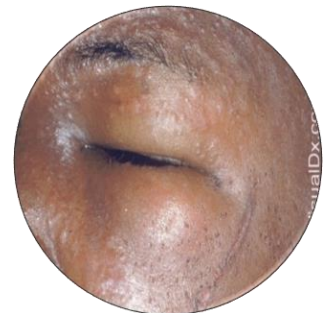


- 5.7.2. Most eyelid SCCs are found on the lower lid, with a propensity for the lid margin.
- 5.7.3. Like BCC, prolonged sun exposure is a risk factor for this malignancy. SCCs present as slow-growing crusted nodules or plaques with everted edges.
- 5.7.4. Unlike BCCs, SCCs do not show surface telangiectasia.
- 5.7.5. Diagnosis – Which is suspected by clinical appearance of the lesion, should be confirmed by incisional biopsy and requires referral to specialist ophthalmologist for a face to face consultation.

## 5.8. Allergies

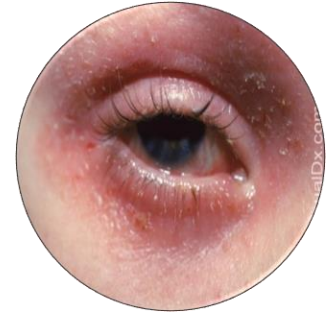
- 5.8.1. Contact dermatitis is reactive erythema and edema caused by irritating agents contacting the skin.

- 5.8.2. Symptoms:



- a. Dermatitis on the eyelids causes inflammation of the thin, sensitive skin around the eyes.
- b. The eyelids become irritated, swollen, dry, and reddened. It can affect one or both of the eyes.
- c. If this condition persists, the eyelids can become thickened in a process called lichenification.
- d. When caused by an irritant or allergen, symptoms typically occur within a few hours or days of contact with a trigger substance. Symptoms should subside when the trigger substance is removed
- e. Where possible, it is helpful to identify and avoid contact irritants and allergens that can cause flare-ups. These can include:
  - certain makeup brands
  - sunscreens
  - perfumes
  - swimming goggles
  - eye drops
  - false eyelashes
  - contact lens solution
  - airborne allergens

5.8.3. Atopic dermatitis of the eyelid with raised, scaled plaques. Management of Atopic Dermatitis includes:



- a. Moisturize. Moisturizing creams can relieve dryness and itching. A wide range of creams is available with and without prescription. They are most effective for treating mild dermatitis.
- b. Use calcineurin inhibitors. This medication is used to treat inflammatory disorders, including atopic dermatitis and psoriasis. It can be applied as cream or taken orally. It should be used with caution, as it may suppress immune function.
- c. Use corticosteroids. Steroid-based creams can be applied directly to the eyelids to treat inflammation and reduce dryness. For widespread cases of dermatitis or eczema, corticosteroids can be taken in tablet form. The strength of the medication depends on the severity of the symptoms

## 5.9. Ocular herpes

5.9.1. Herpes zoster ophthalmicus is an infection with the varicella zoster virus. It most commonly affects the frontal nerve branch of the fifth cranial nerve.

5.9.2. Clinical Features

- a. Like those found elsewhere on the body, herpes zoster lesions involve the dermal tissue, leading to erythematous macules, papules, and vesicles.
- b. Lesions are typically distributed on the forehead and upper eyelid, and do not cross the midline. Hutchinson sign is the presence of vesicles on the nose and may indicate a higher risk of ocular involvement.

5.9.3. Cutaneous complications: include ptosis, lid scarring, entropion, ectropion, depigmentation, and necrosis.

5.9.4. Treatment

- a. Requires referral to ophthalmologist for a face to face consultation for assessment of cornea and vision.

5.10. Medication effects

5.10.1. Medications such as glucocorticoids are known to cause periorbital cutaneous inflammation. Other drugs, including allopurinol,

cephalosporins, corticosteroids, and valproic acid (Depakene), have reported associations with Stevens-Johnson syndrome and toxic epidermal necrolysis, both of which lead to erythema, edema, and erosions of the eyelid. Dermatology and possible ophthalmology consultations are warranted for aggressive care of these conditions.

## **6. MANAGEMENT**

- 6.1. Refer to APPENDIX 2 for Virtual Management of Swollen Eyelid Algorithm

## **7. CONDITIONS THAT PRESENT WITH EYELID SWELLING**

- 7.1. Refer to APPENDIX 3 for Conditions that present with Eyelid Swelling

## **8. DIAGNOSTIC APPROACH**

- 8.1. Refer to APPENDIX 4 for Diagnostic Approach to Swollen Red Eyelid

## **9. REFERRAL CRITERIA**

- 9.1. Refer to Family Physician/Specialist
- 9.1.1. If the eye swelling doesn't go away after treatment for 1 week
  - 9.1.2. If condition gets worse and affecting vision and /or associated complaints of bleeding
  - 9.1.3. Swelling with associated severe redness/ blurring of vision
  - 9.1.4. The redness or swelling spreads to the cheek or other parts of your face

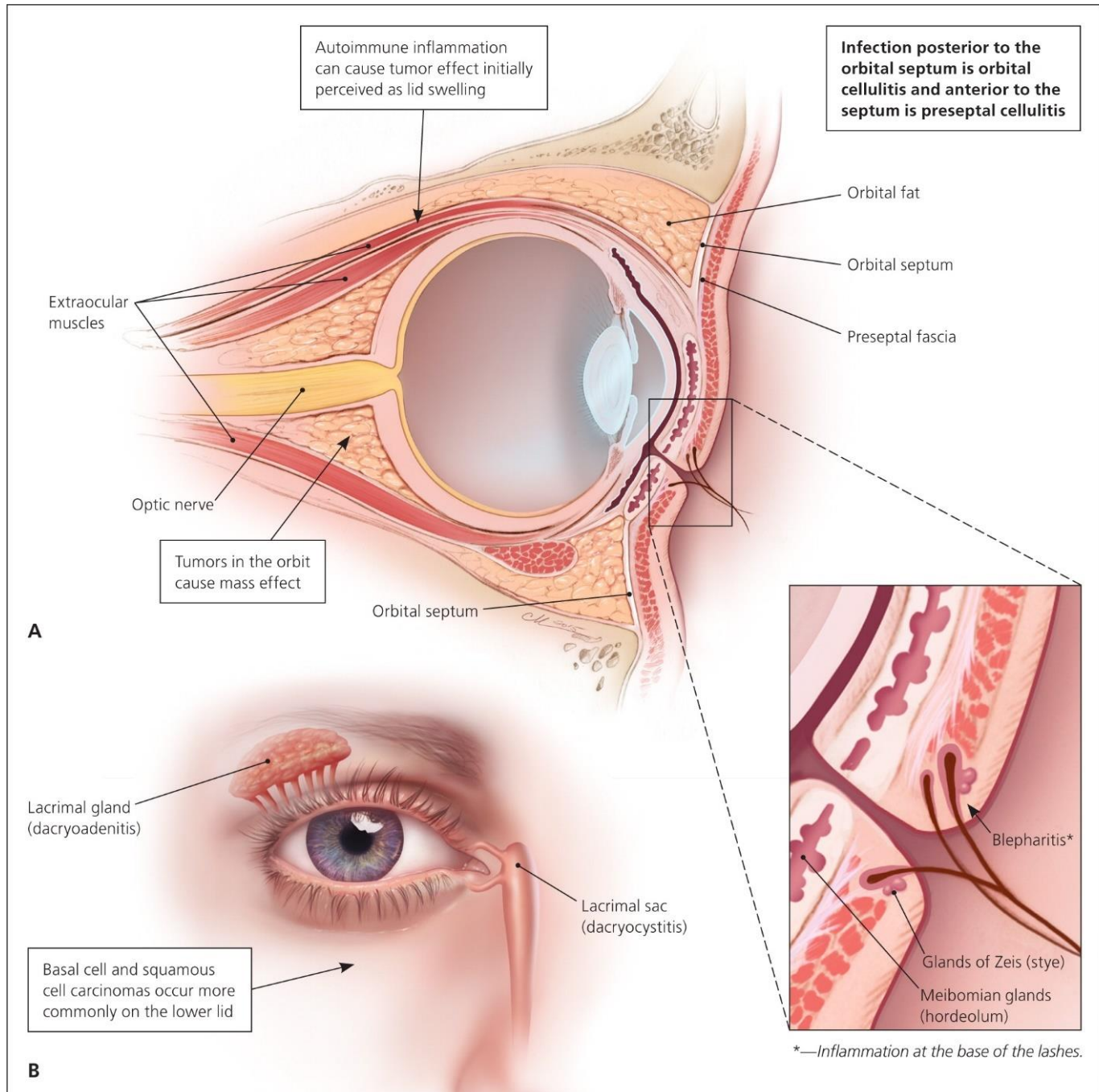
- 9.1.5. Severe eye redness, pain, or light sensitivity
- 9.1.6. Uncertain diagnosis or concern for malignancy
- 9.1.7. Severe or refractory symptoms with poor response to standard management
- 9.1.8. Swelling due to trauma
- 9.1.9. Painless insidious onset

## REFERENCES

1. Ghosh, C. and Ghosh, T. (2019). *Eyelid lesions*. [online] Uptodate.com. Available at: <https://www.uptodate.com/contents/eyelid-lesions?search> [Accessed 19 Oct. 2019].
2. Robert Thomas Carlisle and Digiovanni, J. (2015). Differential Diagnosis of the Swollen Red Eyelid. *American Family Physician*, [online] 92(2), pp.106–112. Available at: <https://www.aafp.org/afp/2015/0715/p106.html> [Accessed 19 Oct. 2019].

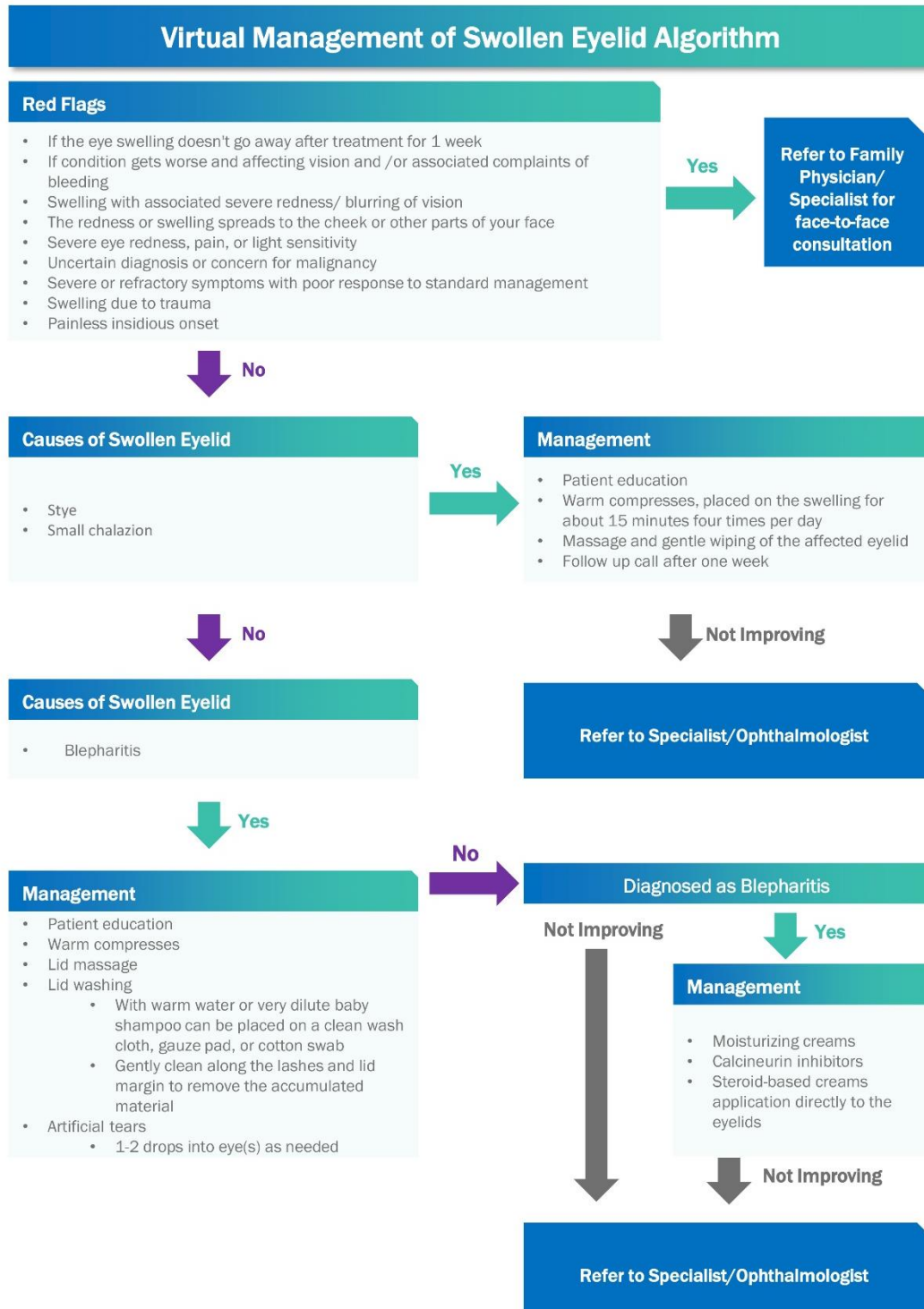
## APPENDICES

### APPENDIX 1 – (A) ANATOMY OF ORBIT AND EYELID WITH ASSOCIATED PATHOLOGIC .





## APPENDIX 2 – VIRTUAL MANAGEMENT OF SWOLLEN EYELID ALGORITHM



### APPENDIX 3 - CONDITIONS THAT PRESENT WITH EYELID SWELLING

<i>DISEASE</i>	<i>PATHOPHYSIOLOGY</i>	<i>SIGNS AND SYMPTOMS</i>
Superficial skin processes		
Atopic dermatitis	Skin manifestation of systemic allergic sensitivity	Raised, dry plaque
Basal cell carcinoma	Neoplastic changes	Raised, umbilicated lesion with overlying telangiectasia
Capillary hemangioma	Localized growth of capillaries	Flat or raised well-circumscribed erythema; increases in size with crying
Contact dermatitis	Local reaction to irritative agent	Irritation, erythema, and edema
Herpes zoster ophthalmicus	Varicella zoster virus infection	Vesicles with surrounding erythema, possible bacterial superinfection; distributed unilaterally on forehead and upper eyelid in a dermatome
Periorbital ecchymosis ("black eye")	Blunt trauma to orbit resulting in disruption of blood vessels	Ecchymosis increasing in size over 48 hours, then slowly improving
Squamous cell carcinoma	Neoplastic changes	Painless erythematous flaky plaques, nodules, or ulcers
Inflammatory eyelid processes		

<i>DISEASE</i>	<i>PATHOPHYSIOLOGY</i>	<i>SIGNS AND SYMPTOMS</i>
Blepharitis	Inflammation of the base of the eyelashes and/or distal aspects of the eyelids; inflammation of the lacrimal gland	Irritated lid edges or eyelash
Chalazion	Noninfectious obstruction of meibomian tear gland	Discrete mass within the lid present for two or more weeks
Dacryoadenitis	Inflammation of the lacrimal gland	Circumscribed tender mass in upper outer lid; if advanced, may appear as the diffuse inflammation of preseptal cellulitis
Dacryocystitis	Inflammation of the lacrimal sac and duct	Tender mass at the medial aspect of the lower eyelid; if advanced, may appear as the diffuse inflammation of preseptal cellulitis
Hordeolum or sty	Hordeolum: infection of the meibomian (sebaceous) glands  Stye: infection of the sweat gland (gland of Zeis) of the eyelid	Papule or furuncle at distal lid margin
Local infections		

<i>DISEASE</i>	<i>PATHOPHYSIOLOGY</i>	<i>SIGNS AND SYMPTOMS</i>
Orbital cellulitis	Infection of the soft tissues within the orbit, posterior to the orbital septum, often due to spread from local sinus disease	Red, swollen, tender eyelid; extraocular movements limited because of pain or muscle edema; vision changes, diplopia; in children, fever and ill appearance
Preseptal cellulitis	Infection of lid tissues around the orbit, often with local skin defect	Red, swollen, tender eyelid; full extraocular movements; no vision changes
Mass effect from the orbit		
Autoimmune orbital mass effect	Edema and inflammation of ocular muscles	Subacute onset bilateral proptosis, possible limited extraocular movements
Cavernous sinus thrombosis	Thrombosed superior ophthalmic vein and cerebral veins	Headache, vomiting, vision changes, stupor
Endophthalmitis	Inflammation of the globe, often caused by penetrating trauma	Vision loss
Orbital neoplasm	Tumor effect causing proptosis and affecting ocular muscle function and nerve function	Subacute onset, unilateral, painless proptosis

## APPENDIX 4 – DIAGNOSTIC APPROACH TO SWOLLEN RED EYE

