A. DESCRIPTION AND CLASSIFICATION

Blepharitis, an inflammatory process (dermatitis or eczema) affecting the lid margins, the lash follicles, or the openings of the meibomian glands, can occur as either an acute or a chronic condition. It can affect vision by disrupting the surface of the cornea and the bulbar conjunctiva and may influence tear film composition.

1. **Staphylococcal Blepharitis**
   - Usually caused by *staphylococcus aureus* or *staphylococcus epidermidis* organisms, it produces a moderately acute inflammation of relatively short duration; more prevalent in warmer climates and often occurs in middle-aged females. Related hordeolum and chalazion may also occur.

2. **Seborrheic Blepharitis**
   - Part of a dermatologic condition that includes the scalp, face, and eyebrows; also called squamous blepharitis. Clinical signs include greasy, scaly lashes. Inflammation is usually minimal.

3. **Seborrheic/Staphylococcal Blepharitis**
   - Also referred to as ulcerative or mixed blepharitis, it is the least common form of blepharitis and is characterized by secondary keratoconjunctivitis, papillary and follicular hypertrophy, conjunctival injection, and mixed crusting.

4. **Meibomian Seborrheic Blepharitis**
   - Can be identified by the presence of increased meibomian and seborrheic secretions without acute inflammation. Altered meibomian secretions may lead to bulbar injection.

5. **Seborrheic Blepharitis with Secondary Meibomianitis**
   - Similar to seborrheic blepharitis, it has sporadic episodes of inflammation and meibomianitis that result in clogged meibomian glands and anterior seborrhea, producing an unstable precorneal tear film (POTF).

6. **Meibomian Keratoconjunctivitis**
   - The most severe lid margin inflammation, which typically occurs in persons in their fifties, is more common in colder climates, is frequently associated with acne rosacea, and is part of a generalized sebaceous gland dysfunction which clogs the meibomian openings.

7. **Angular Blepharitis**
   - Both the staphylococcal and the moraxella forms of angular blepharitis are located on the lid at the outer canthus.

8. **Demodicosis**
   - An inflammatory reaction to two common species of mites present in most persons over age 50 (i.e., *Demodex folliculorum*, present in hair and eyelash follicles and *Demodex brevis*, present in sebaceous and meibomian glands).

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B. RISK FACTORS FOR BLEPHARITIS

- Underlying systemic causes (e.g., viral infections)
- Seborrheic dermatitis
- Acne rosacea
- Atopic dermatitis and psoriasis
- Keratoconjunctivitis sicca

C. SIGNS, SYMPTOMS, AND COMPLICATIONS

- The signs, symptoms, and complications of blepharitis vary with the degree of inflammation (See Table 1).

D. EARLY DETECTION AND PREVENTION

Steps to prevent blepharitis are aimed toward controlling the severity of the inflammation and preventing secondary complications. In the event of exacerbation, early diagnosis and treatment can help minimize the degree of inflammation and infection.

E. EVALUATION

Includes the elements of a comprehensive eye and vision examination with particular emphasis on the following areas:

1. Patient History
   - Onset and course of condition
   - Thorough medical history
   - Effects of previous treatments and the patient’s compliance in following recommendations

2. Ocular Examination
   - External examination of the eye, including lid structure, skin texture, and eyelash appearance
   - Comparison of the eyes helps determine the severity of the inflammation
   - Biomicroscopic examination of the lid margins, the base of the lashes, and the meibomian gland orifices and their contents
   - Examination of the tear film for lipid layer abnormalities
   - Evaluation of the palpebral and bulbar conjunctiva

F. MANAGEMENT

Table 2 provides an overview of the evaluation, management, and followup of patients with blepharitis.

1. Basis for Treatment
   - Treatment of acute forms includes lid hygiene and appropriate anti-infective drugs. There is no complete cure for chronic blepharitis; aggressive therapy, as in acute forms, followed by variable amounts of continuing treatment is necessary to maintain control.

2. Available Treatment Options
   - Lid hygiene (e.g., warm, moist compresses, commercial lid scrub)
   - Scalp and eyebrow hygiene (selenium antidandruff shampoo)
   - Tear supplements to alleviate symptoms and re-establish ocular surface integrity
   - Antibiotic eyedrops or ointment (e.g., erythromycin, bacitracin, polymyxin-bacitracin, gentamicin, tobramycin) to control infection
   - Massage/expression of meibomian glands
   - Topical antibiotic/steroid ointment or oral tetracycline/doxycycline for meibomianitis

3. Patient Education
   - Discuss causes, rationale for treatment, and expected results
   - Stress importance of active participation in treatment of chronic forms
   - Encourage patient compliance
   - Give specific instructions and realistic expectations
   - Reinforce importance of followup schedule

4. Prognosis and Followup
   - Followup visits may be as frequent as every few days, then tapering off to once or twice a year after stabilization has occurred
   - First acute staphylococcal episode can be expected to resolve completely in absence of other lid or systemic abnormalities
   - Chronic forms may be controlled with daily hygiene and topical medication, and, if indicated, courses of systemic medication
<table>
<thead>
<tr>
<th>Condition</th>
<th>Symptoms</th>
<th>Signs</th>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcal Blepharitis</td>
<td>Ocular irritation/itching; Foreign body sensation; Lids sticking together</td>
<td>Lid swelling; Erythema of lid margins; Scaly collaret at base of lashes; Staining, erosion, and infiltrates in lower third of cornea</td>
<td>Bacterial conjunctivitis; Hordeolum; Chalazion; Trichiasis; Madarosis; Ectropion; Entropion</td>
</tr>
<tr>
<td>Seborrheic Blepharitis</td>
<td>Mild forms often symptom free; Possible burning, stinging, itching</td>
<td>Greasy, foamy scales at base of cilia; Hyperemia of anterior lid margins</td>
<td>Tear film instability; Periods of exacerbation</td>
</tr>
<tr>
<td>Seborrheic/ Staphylococcal Blepharitis</td>
<td>Mild to moderate inflammation of lids</td>
<td>Papillary and follicular hypertrophy; Conjunctival injection; Mixed lid crusting</td>
<td>Secondary keratoconjunctivitis; Frequent exacerbation</td>
</tr>
<tr>
<td>Meibomian Seborrheic Blepharitis</td>
<td>Itching, tearing, burning sensation</td>
<td>Sudsy, foamy tears; Dilated meibomian gland openings and increased secretions with acute inflammation; Conjunctival injection</td>
<td>Tear film instability</td>
</tr>
<tr>
<td>Seborrheic Blepharitis with Secondary Meibomianitis</td>
<td>Dry eye symptoms</td>
<td>Blocked, inflamed meibomian glands; Lipid secretions of toothpaste consistency; Unstable tear film</td>
<td>Anterior seborrhea</td>
</tr>
<tr>
<td>Meibomian Keratoconjunctivitis</td>
<td>Severe inflammation of lid margin</td>
<td>Blocked meibomian gland openings; Unstable tear film</td>
<td>Acne rosacea</td>
</tr>
<tr>
<td>Angular Blepharitis</td>
<td>Inflammation of lids at outer canthus</td>
<td>Lids dry and scaly, or whitish frothy discharge</td>
<td>Tear film instability</td>
</tr>
<tr>
<td>Demodicosis</td>
<td>Often symptom free; Possible burning, itching, crusting of lid margin; Loss of lashes</td>
<td>Cuffing at base of lashes; Microscopic presence of mites</td>
<td>Granulomas in eyelid</td>
</tr>
<tr>
<td>Type of Patient</td>
<td>Frequency of Evaluation</td>
<td>History</td>
<td>Slit Lamp Biomicroscopy</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>---------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Staphylococcal Blepharitis</td>
<td>Twice a week until cleared, then as necessary</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Seborrheic Blepharitis</td>
<td>Weekly until stable, then as necessary</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Seborrheic/Staphylococcal Blepharitis</td>
<td>Twice a week until controlled, then every 6 mo or as necessary</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Meibomian Seborrheic Blepharitis</td>
<td>Twice a week until stable, then as part of preventive care</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Seborrheic Blepharitis with Secondary Meibomianitis</td>
<td>Twice a week until stable (up to 8 wks), then as part of preventive care</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Meibomian Keratoconjunctivitis</td>
<td>Twice a week until stable (up to 2 wks), then as part of preventive care</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Adapted from Figure 3 in the Optometric Clinical Practice Guideline of the Patient with Ocular Surface Disorders.

Legend:

gtt    Drops
h.s.   Bedtime
p.r.n.  As necessary
q.d.   Daily

t.i.d.  Three times per day
ung.   Ointment