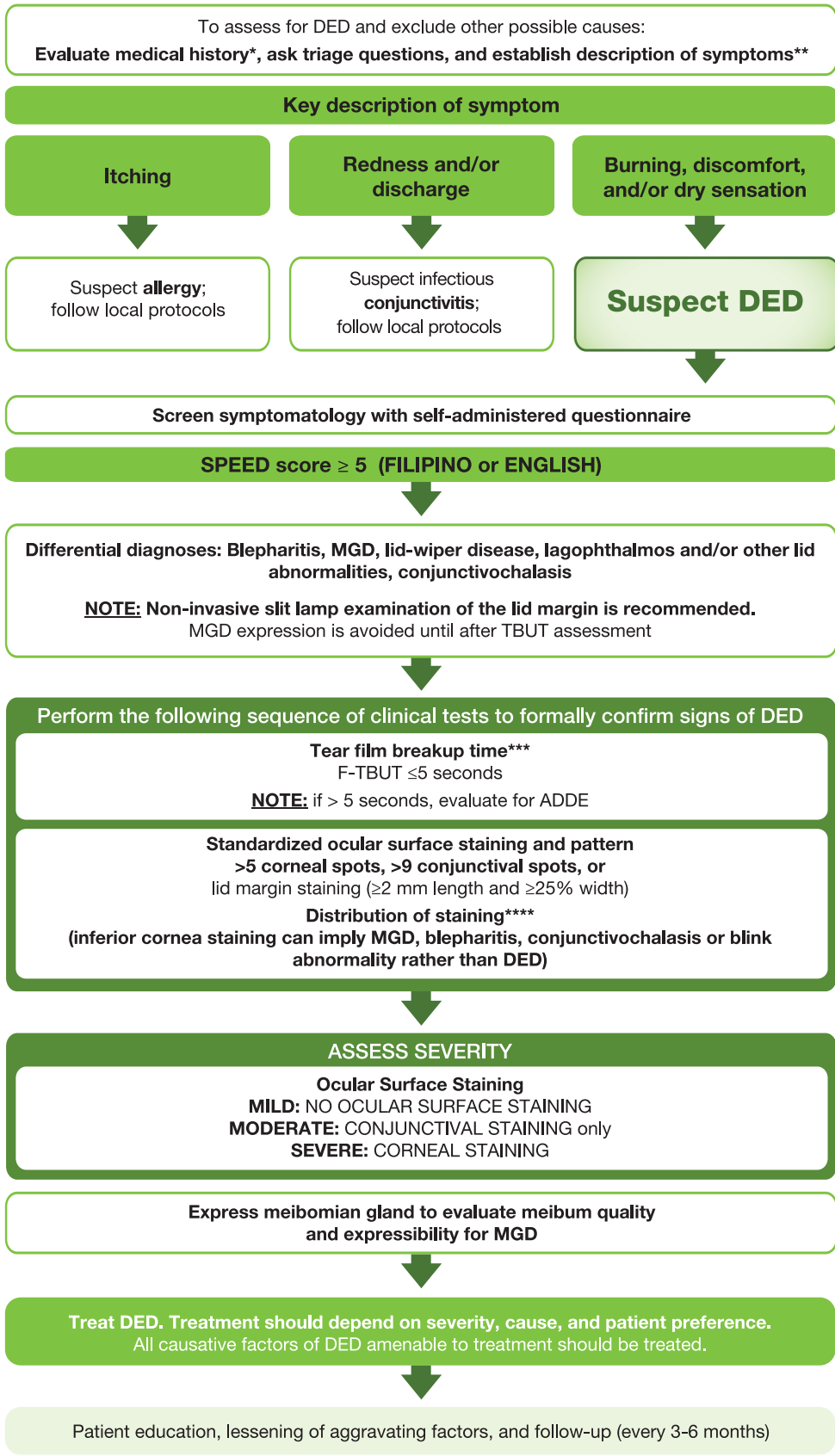


DRY EYE DISEASE CLINICAL PATHWAYS

MINIMUM PATHWAY



*Major risk factors that increase likelihood of DED

- Female or middle-aged (postmenopausal or older)
- Laser eye surgery or cataract surgery
- Excessive screen time (e.g., computer work)
- Radiation therapy
- Associated medical conditions – Sjögren’s syndrome, rheumatoid arthritis, lupus, scleroderma, thyroid disorders, Stevens-Johnson syndrome, toxic epidermal necrolysis, vitamin A deficiency
- Associated medications – antihistamines, decongestants, HRT, antidepressants, acne meds, contraceptives, or meds for Parkinson’s disease








**Further symptoms

- Foreign body sensation
- Mild itching
- Chronic eye fatigue
- Blurred vision (or fluctuation of vision)
- Watery eyes or moist sensation
- Light sensitivity (photophobia)
- Presence of stringy mucus
- Difficulty with night-time driving
- Difficulty wearing contact lenses
- Eye redness

***Instructions on how to do F-TBUT

1. Do not put any eye drops on the eye.
2. Use whole sterile fluorescein strip.
3. Put 2 to 3 drops of sterile saline solution on the strip.
4. Shake off excess saline immediately.
5. Briefly touch the moist strip to the lower lid margin of each eye.
6. Ask patient to blink a few times.

****Ocular Surface Staining

Pattern	Example
	Viral conjunctivitis Trauma Toxicity
	Blepharconjunctivitis Lagophthalmos Trichiasis
	Dry eye disease Exposure Neurotrophic keratopathy
	Superior limbic keratoconjunctivitis Foreign body under eyelid Trichiasis
	Superior limbic keratoconjunctivitis
	Contact lens
	Mechanical Meibomian gland dysfunction

SOURCE: Cosar CB and Sridhar M. Clinical signs in cornea and ocular surface. *Indian J Ophthalmol* 2018;66:202-6.

DED: dry eye disease
F-TBUT: fluorescein tear breakup time
MGD: meibomian gland dysfunction

SPEED: Standardized Patient Evaluation of Eye Dryness Questionnaire
HRT: Hormone Replacement Therapy
ADDE: Aqueous-deficient Dry Eye

Developed by the Philippine Dry Eye Disease Consensus Working Group of the Philippine Cornea Society, Inc. October 2022

OPTIMUM PATHWAY

After an initial working impression of DED in the Minimum Pathway, this Optimum Pathway will help you identify the subtype of DED and formulate targeted treatment options.

Reassess major etiological causes of DED to determine underlying components

Etiological causes for Evaporative DE

- Meibum deficiency (or MGD)
- Eyelid abnormalities
- Low blink rate
- Drug-induced (e.g. isotretinoin)
- Contact lens wear
- Topical drug preservatives
- Environmental factors (e.g., low humidity, allergy)

Etiological causes for Decreased wettability/mucin-deficient DE

- Contact lens wear
- Topical drug preservatives
- Stevens–Johnson syndrome
- Ocular cicatricial pemphigoid
- MGD
- Blepharitis
- Vitamin A deficiency
- Graft-versus-host disease

Etiological causes for Aqueous Deficiency DE

- Sjögren's syndrome dry eye
 - Primary
 - Secondary
- Non-Sjögren dry eye
 - Lacrimal deficiency or gland duct obstruction
 - Reflex block
 - Systemic drugs

Mixed type DE • Patients with DED may have a combination of aqueous-deficient, evaporative, and mucin-deficient type DE

Reassess or perform clinical tests to classify DED – results characterize DED subtypes (EDE, ADDE, and decreased wettability dry eye)

ADDE

- Schirmer's test (with anesthesia) ≤ 5 mm in 5 minutes
- Tear meniscus height by slit-lamp examination or imaging machine
 - 0.2 mm (mild),
 - 0.1 mm (moderate)
 - 0.0 mm (severe)

Tear breakup pattern: Area break, Line break

EDE

- May or may not have MGD
- Check for lid margin disease and meibum quality/expressibility
- F-TBUT ≤ 5 seconds

Tear breakup pattern: Random break

Decreased wettability/mucin-deficient DE

- F-TBUT ≤ 5 seconds

Tear breakup pattern: Spot break, Dimple break, or Line break/Random break with rapid expansion

Treat DED. Tackle each of the multiple components and tailor according to DED subtype. All causative factors of DED amenable to treatment should be treated.

Patient education, lessening of aggravating factors, and follow-up (not longer than every 3 to 6 months)

Summary of treatment recommendations for DED*



Initial treatment

- Ocular lubricant as the first line of treatment
- Choice of various types of lubricants such as sodium hyaluronate (or HA), HPMC, CMC, and PEG
- Non-preserved ocular lubricants to minimize preservative-induced toxicity (if to be used > 6x a day)
- Lifestyle and environmental modification



For inflammation (with ocular surface staining)

- Prescription of topical corticosteroids (**4x a day for 2 to 4 weeks only**)
- Prescription of topical non-glucocorticoid immunomodulatory drugs (such as cyclosporine A), and maintained for the long-term (**as long as necessary**)



For mucin deficiency

- Topical mucin secretagogues (such as diquafosol)
- Oral antioxidants



For tear preservation

- Punctal occlusion
- Moisture chamber spectacles/goggles
- Overnight treatments (such as ointment or moisture chamber devices)



For MGD

- Lid hygiene and warm compress
- Consider lipid-containing ocular lubricants

- Physical heating and expression of the meibomian glands (including device-assisted therapies), intense pulsed light therapy (if available)
- Oral macrolide or tetracycline antibiotics

CAUTION WITH STEROID USE

Continued steroid therapy requires careful patient monitoring of potential adverse events, such as increased intraocular pressure/glaucoma, cataracts, and opportunistic infections.

*Availability and access to treatments may vary. One or more options concurrently within each category can be considered, in order to tackle all treatable components of DED. Options within a category are not ranked according to importance and may be equally valid. Each treatment option should be considered in accordance with the level of evidence available at the time management is initiated.
ADDE: Aqueous-deficient Dry Eye; EDE: Evaporative Dry Eye; CMC: Carboxymethyl Cellulose; HA: Hyaluronic Acid; HPMC: Hydroxypropyl Methylcellulose; PEG: Polyethylene Glycol