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Dear provider of pharmaceutical services,

As a provider of pharmaceutical services, you are in a critical position to educate patients regarding their conditions and both pharmacologic and non-pharmacologic therapies that may be appropriate for them. Dry eye disease (DED) may be a common cause for patients to seek counseling in your pharmacy. Attached you will find a summary regarding DED and prevention and management strategies for this common condition.

For more information, you can visit the websites of the American Academy of Ophthalmology (<https://www.aao.org>) or the American Optometric Association (<https://www.aoa.org>), or other trustworthy reference of your preference.

Remember that medical literature is dynamic and is continuously changing as new scientific knowledge is developed. We exhort the frequent revision of treatment guidelines to assure that your recommendations are consistent with the most actualized information.

On PharmPix we are compromised with the health and wellness of our insured. It is our priority to offer high quality services and to promote practices for health promotion and diseases prevention. If you have any doubt or wish to have more information regarding this document, you can call us to 787-522-5252, extension 137.

Regards,

Clinical Department

DRY EYE DISEASE (DED)

DED is a common multifactorial disease of the tears and ocular surface that results in ocular discomfort and has the potential for visual disturbance and damage to the ocular surface. DED is also referred to as dry eye syndrome, keratoconjunctivitis sicca, or dysfunctional tear syndrome.

Causes

DED is caused either by a decreased tear production or due to a production of tears of a poor quality (which evaporate quickly). It is believed that both mechanisms may be present in many patients.

Risk factors

Advanced age	Female gender	Hormonal changes
Systemic diseases†	Use of contact lenses	Use of certain systemic medications‡‡
Use of certain ophthalmic medications‡	Nutritional deficiencies*	Decreased corneal sensation
Ophthalmic surgery		Low-humidity environments

†Examples of conditions: Diabetes mellitus, Parkinson disease

‡‡Examples of systemic medications: antihistamines, anticholinergics, estrogens, isotretinoin, selective serotonin receptor antagonists, amiodarone, nicotinic acid

‡Especially ophthalmic medications containing preservatives

* Example of nutritional deficiency: Vitamin A deficiency

Symptoms

Although the majority of the patient's present eye irritation with discomfort, symptoms vary among patients. Common reported symptoms include the following:

- Dryness
- Red eyes
- General irritation
- Gritty sensation
- Burning sensation
- Foreign body sensation
- Paradoxical excessive tearing
- Light sensitivity
- Blurred vision

Prevention strategies for DED

The American Optometric Association make the following recommendations for patients with DED to prevent or reduce episodes of dry eye:

Avoid becoming dehydrated by drinking plenty of water each day, if not on a fluid-restricted diet.	Blink regularly, or take breaks when reading or staring at a computer screen or another electronic devices for extended periods of time.
Consult an eye care provider about the use of nutritional supplement containing essential fatty acids, which may help decrease dry eye symptoms in some patients.	Increase the humidity in the air at home and work.
When outdoors, always wear sunglasses, especially ones with wraparound frames, to decrease exposure to drying winds and the sun.	

Treatment

The goal of treatment for DED is to restore or maintain the normal amount of tears in the eye to

minimize dryness and related discomfort and to maintain eye health.

Treatment of DED involve the use of both non-pharmacologic and pharmacologic therapies.

Non-pharmacologic therapies:

- Avoidance or removal of the offending agent when feasible, including environmental coping strategies
- Eyelid therapy including eyelid hygiene
- Application of warm compresses

Pharmacologic therapies:

- Artificial tears
 - Artificial tears are available without prescription and come in various dosage forms (e.g. liquid, gel and, ointment). In addition, preservative-free products are available and often more recommended given that patients with DED may have inflammatory reactions to preservatives.
 - The recommended dose is generally one to two drops into the affected eye(s) as needed to relieve symptoms.
- Non-medicated ophthalmic ointments

Pharmacist role

Pharmacist can help DED patients in:

- Educating regarding their condition.
- Assessing whether self-treatment is appropriate or not.
- Referring to seek medical care when warranted. – Patients with severe episodes of DED, red or painful eyes, or signs of ocular infection should always be encouraged to seek medical care from an ophthalmologist. Care by an ophthalmologist will ensure proper treatment and decreases the incidence of further damage.
- Recommending over-the-counter (OTC) products for DED, when self-treatment is appropriate. – Patients using OTC products

should also be advised to seek medical care from an ophthalmologist for suggestions for alternative therapies (e.g. prescription medications) if the dry eye symptoms do not improve or worsen after self-treatment with OTC products.

References:

- Dry eye disease. Uptodate.com. Retrieved from https://www.uptodate.com/contents/dry-eye-disease?search=dry%20eye%20disease&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1#H2
- Dry Eye. Retrieved 19 November 2019, from <https://www.aoa.org/patients-and-public/eye-and-vision-problems/glossary-of-eye-and-vision-conditions/dry-eye>
- Getting a Clear View: A Guide to Products for Preventing and Managing Dry Eye Disease. (2018). Retrieved from <https://www.pharmacytimes.com/publications/issue/2018/may2018/getting-a-clear-view--a-guide-to-products-for-preventing-and-managing-dry-eye-disease>