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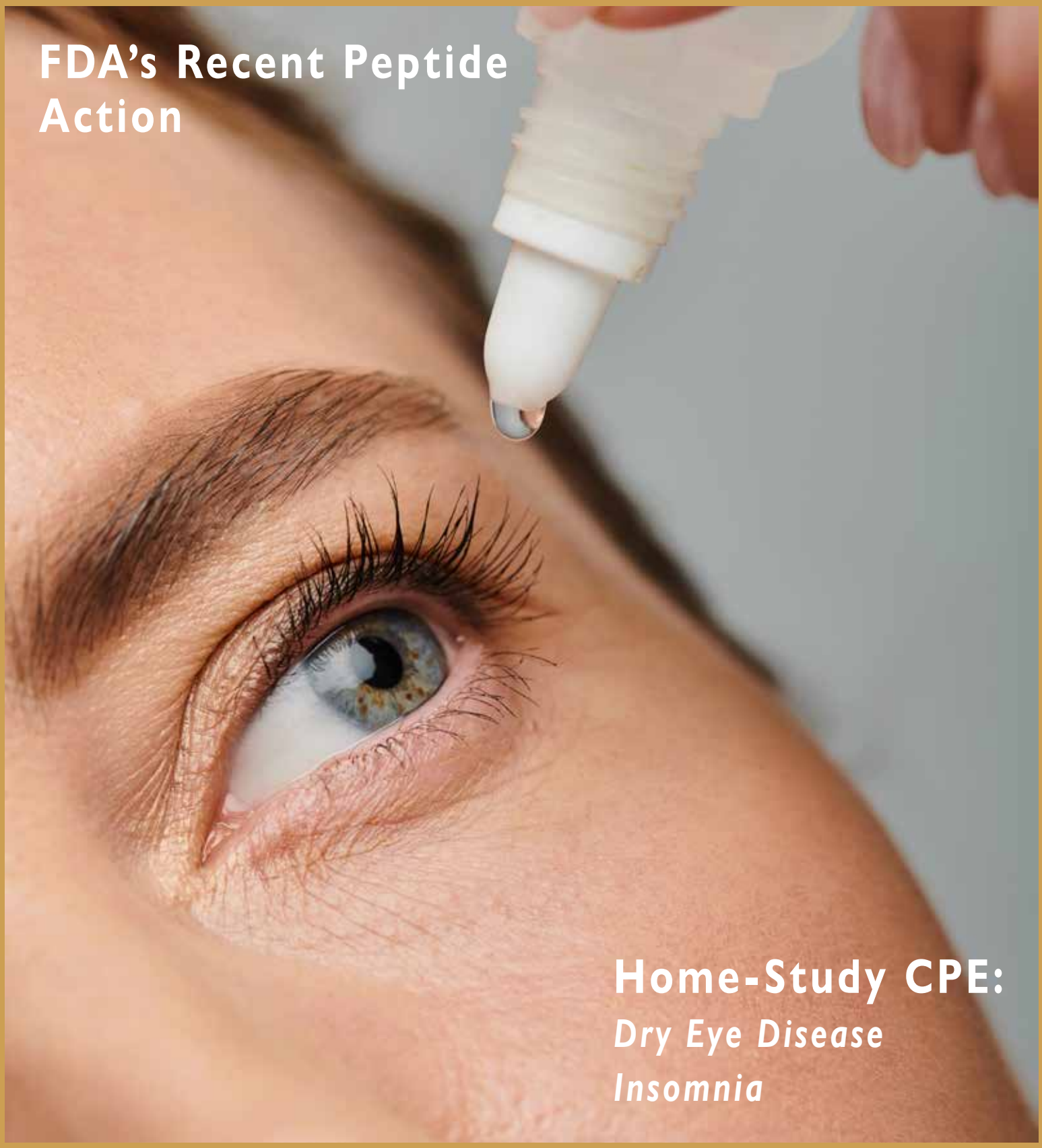

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23	NPX meeting
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6	OPA Executive Committee and Board of Trustees Meeting
10	OSHA Webinar, 9 a.m. EST
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18	Communications Committee Meeting
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24-25	340B Midwest Regional Conference & Expo
27	NPX Meeting

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Sustained Relevance of Professional Associations

Sara Kilpatrick

Healthcare is changing at a pace that can feel difficult to keep up with. New technologies continue to emerge. Regulations shift. Payment models change. Patient expectations continue to grow. At the same time, pharmacy professionals are taking on new responsibilities and expanding the ways they care for their communities.

With so much change, it's worth asking an important question: what remains constant?

For me, one of those constants is the value of professional associations. As OPA looks ahead to its 150th anniversary in 2029, it's easy to assume the organization will always be here. The reality is that associations don't endure simply because they've been around for a long time. They thrive because generations of volunteers and leaders have invested their time, expertise, and ideas to ensure pharmacy has a strong, unified voice.

> *"There will always be a need to exchange ideas, tackle common challenges, advocate for patients, and learn from one another."*

While the issues facing pharmacy today are very different than they were 25, 50, and 100 years ago, the necessity for a place where people can come together has never gone away. There will always be a need to exchange ideas, tackle common challenges, advocate for patients, and learn from one another. That sense of continuity is one of the reasons OPA has remained relevant for nearly 150 years.

I've spent most of my career working with membership associations, and regardless of the profession they represented, I found they all served the same purpose: bringing people together to accomplish what they could not accomplish alone.

That principle is especially true in pharmacy. No single employer, practice setting, educational institution, government agency, or individual practitioner can solve every challenge facing today's healthcare environment. Meaningful progress depends on bringing together people with different experiences to share perspectives, debate ideas, and work toward practical solutions.

I've seen that firsthand during my first eight months at OPA. Whether I'm meeting with community pharmacists, health-system leaders, educators, students, technicians, employers, or policymakers, the conversations always come back to the same goal: improving patient care while strengthening the future of pharmacy. The settings may differ, but the commitment is consistent.

It's also important to remember that an association is not simply its staff, office, or programs. The members are the association. OPA's greatest strength is the members who volunteer as leaders, serve on committees, mentor future practitioners, identify emerging issues, share their expertise, and help shape the direction of pharmacy in Ohio. OPA provides the structure for those efforts, but the impact comes from individuals who are willing to contribute.

A recent example is OPA's ongoing work with our Compounding Special Interest Group following changes to Ohio Medicaid coverage for compounded topical pain creams. Members with firsthand expertise helped identify the impact on patients and pharmacy practice, allowing OPA to bring meaningful information to discussions with the Ohio Department of Medicaid. While that work continues, it demonstrates what an association does best: bringing together the right people, elevating frontline expertise, and ensuring decision-makers hear directly from those affected.

As healthcare continues to change, the role of professional associations and member contributions will only become more important. Whether that means serving on a committee, participating in advocacy, attending an event, or simply sharing your perspective, every interaction strengthens pharmacy's collective voice. OPA's history reflects generations of individuals who chose to get involved, and its future will be shaped by those who continue to invest in the success of the profession.

Volume XLIV, No. 7

Dry Eye Disease

Karen L. Kier, PhD, MSc, R.Ph., BCPS, BCACP, CTTS, FASHP, FCCP

Dr. Kier has no relevant financial relationships with ineligible companies to disclose.

Goal. Pharmacists should be able to recommend and counsel patients on lifestyle modifications, over-the-counter products, and prescription therapies to help alleviate the symptoms of dry eye disease.

Objectives. At the completion of this activity, the participant will be able to:

1. recognize the prevalence, risk factors, and pathophysiology of dry eye disease (DED);
2. differentiate aqueous-deficient dry eye from evaporative dry eye and recognize mixed disease;
3. identify common medications and systemic diseases that contribute to DED;
4. recall evidence-based nonpharmacologic and pharmacologic treatment options; and
5. identify counseling for proper use of artificial tears, prescription therapies, eyelid hygiene, and lifestyle modifications.

Introduction

Dry eye disease (DED) is a common eye condition that is complex and multifactorial. DED is responsible for the majority of visits to eye specialists. An exact prevalence of the disease is difficult to obtain, but estimates place DED around 20-30 million Americans, with higher numbers reported globally.

The Tear Film and Ocular Surface Society Dry Eye Workshop II defines DED as "a multifactorial disease of the ocular surface characterized by a loss of homeostasis of the tear film, and accompanied by ocular symptoms, in which tear film instability and hyperosmolarity, ocular surface inflammation and damage, and neurosensory abnormalities play etiological roles."

This chronic disease has typically been treated with artificial tears to relieve the ocular surface by providing lubrication. Artificial tears provide temporary relief and are considered an essential part of therapy for patients, but they do not address underlying causes or modify the disease process. The chronic ocular surface inflammation and damage are the targets for drug therapy to prevent long-term damage to the eye.

In December of 2002, cyclosporine ophthalmic emulsion was FDA-approved to manage DED as the first disease-modifying therapy. Since then, the FDA has approved an additional seven prescription medications for managing patients with DED. Some of these drugs have different mechanisms of action and provide alternatives for patients who may not respond to an initial therapy. At the time of writing, several investigational drugs are in the pipeline for future therapy options.

Pharmacists can play a vital role in helping patients understand their prescription and nonprescription medications, and are uniquely qualified to identify potential medication-induced causes of DED. By understanding risk factors and lifestyle modifications, pharmacists can counsel patients on ways to reduce the impact of DED on their health.

Risk Factors for DED

Some common risk factors for DED include age over 50 years due to diminishing tear production and quality. Females are more likely to suffer from DED, primarily due to hormonal fluctuations, which can result from pregnancy, oral contraceptive use, perimenopause, and menopause. Prolonged screen time decreases active blinking, which reduces tear production. Other lifestyle risk factors can include sleep deprivation, poor blink habits, and contact lens use. Environmental factors can include air conditioning, low humidity, wind exposure, smoke, air pollution, allergies, and high altitudes. Underlying autoimmune diseases and certain medications can be contributing factors.

Types of DED

There are three types of DED including evaporative dry

eye and aqueous-deficient dry eye. Some patients may experience a mixed version, which includes both. The most common form of DED is evaporative dry eye with about 82-85% of patients presenting with this type. The aqueous-deficient form represents about 12-14% of cases. It is not uncommon for patients to present with the mixed form of DED. Evaporative dry eye usually responds to initial nonpharmacologic treatments, while the aqueous-deficient form often requires prescription therapy.

Pathophysiology of DED

There are several pathways to consider when evaluating a cause for DED. The normal tear film combines three interdependent layers to provide protection for the eye. The outer layer is the lipid layer, secreted by the meibomian glands to help prevent tear evaporation. The middle layer is the aqueous component secreted by the lacrimal glands and is responsible for hydration and defense. It provides oxygen and nutrients to the cornea, while washing away debris. This layer contains antimicrobial enzymes to reduce infections. The inner layer is mucous secreted by conjunctival goblet cells to anchor tears to the eye surface. The glycocalyx is the carbohydrate coating consisting of glycoproteins and glycolipids that covers the surface of the cornea and conjunctiva to protect the eye from physical and chemical damage. It is the anchor holding tear layers to the eye. Damage to the glycocalyx can result in DED as the tear film becomes unstable, resulting in dry spots, inflammation, and friction to the eye surface.

Tear instability and ocular surface inflammation create a vicious cycle resulting in the chronic nature of DED. Hyperosmolarity results with rapid tear evaporation when the lipid layer is disturbed and can result when the aqueous layer is insufficient in producing enough hydration. The hyperosmolarity creates stress to the ocular surface resulting in intracellular pathway signaling that produces proinflammatory cytokines. This can destabilize the tear film and cause damage to the eye surface. The level of inflammation and stress to the eye can be measured via biomarkers within the tears, including cytokines and metalloproteinases, that indicate an immune response.

Neurosensory abnormalities are part of the complex nature of DED pathophysiology. A common, yet more recently identified, finding in patients with DED is a change in corneal sensitivity. This neuropathy can be detected even in the absence of ocular surface or tear abnormalities. More research is needed to understand the neuropathic component's relationship in treating DED.

Meibomian gland dysfunction is another common cause of DED, particularly in the evaporative type. Poor functioning or clogging of the gland results in a disruption of the lipid layer. This dysfunction can often be seen in mixed DED patients.

Signs and Symptoms of DED

The clinical presentation of DED can involve changes in sensation, discomfort, irritation, vision changes, and paradoxical tearing. The change in sensation could be described by patients as a gritty, scratchy, or foreign body sensation in the eye. Discomfort may include stinging, burning, or itching of the eyes. Irritation can result in red eyes, soreness, or sensitivity to light. Blurry vision, tired eyes, or changes in night vision could describe the visual changes patients might experience. Patients who wear contacts may report difficulty in wearing the lenses or changes in how they feel in the eye. Some individuals may confuse excessive tearing caused by the body's reflex to irritation or discomfort with paradoxical tears – tears due to an unexpected emotional response – and not associate this as a symptom of dry eyes.

Diagnosis of DED

It is important to have patients evaluated by an eyecare professional for the diagnosis of DED since it is a complex, chronic disease. Pharmacists can help with the first step of obtaining a history of signs and symptoms, disease states, medications, lifestyle and environmental risk factors. Medication-related concerns can be discussed with patients and healthcare professionals, recommending alternative therapies when available. Many of these questions are included with the Ocular Surface Disease Index tool for evaluating DED. Another tool is the Dry Eye Questionnaire-5 (DEQ-5), a simple survey asking five questions related to eye dryness, eye discomfort, and excessive tearing.

Other diagnostic tests include the Tear Film Break-Up Time, which evaluates stability of the tear film within the eye. Fluorescein dye is placed in the eye and then evaluated by blue light to identify dry spots or gaps when forming tears after blinking. A break-up time greater than 10 seconds is considered normal, with lower numbers indicating a potential for DED. The Schirmer test measures tear volume after small strips of blotting paper are placed under the lower eyelids. With eyes closed, the paper is left in for five minutes to determine the volume on the paper. An alternative is using a phenol red thread test, which measures tear volume in 15 seconds. The oil-producing meibomian glands can be evaluated using a slit lamp exam and ocular staining with lissamine green or fluorescein. This method highlights damaged cells on the surface of the cornea or conjunctiva resulting from rapid tear evaporation. Testing could also include measuring tear osmolarity or the presence of matrix metalloproteinase-9. This test can be done in-office and provides insight into the type of DED. More advanced diagnostics may be required if these earlier tests indicate DED risk.

Disease-Induced DED

Aqueous-deficient DED can be caused by autoimmune diseases such as Sjögren's Syndrome, rheumatoid arthritis (RA), and systemic lupus erythematosus (SLE). Sjögren's attacks the moisture-producing glands within the body, resulting in severe dry eyes and dry mouth which require treatment to improve health outcomes. RA can cause damage to the ocular surface of the eye and damage to the lacrimal glands, reducing tear production. SLE can cause inflammation in the lacrimal glands that changes tear production and affects the eye's blood vessels.

Scleroderma, an autoimmune disease impacting connective tissue in the body, causes a mixed form of DED by the obstruction of meibomian glands with tissue fibrosis and reduction of mucin and tear quality. Diabetes is another disease state which can result in a mixed picture of DED due to neuropathy, reduced corneal sensitivity, and reduction in blinking reflex tears.

Evaporative DED can be caused by meibomian gland dysfunction (MGD), blepharitis, rosacea, vitamin A deficiency, and thyroid eye disease. MGD is the most common form of evaporative DED and it can be congenital or occur with age. This form of DED is more common in males than females. Blepharitis is a chronic inflammation of the eyelids and eyelash follicles that results in a change in the lipid layer of tears. This change in the lipid layer causes more rapid tear evaporation and dry eye. Lotilaner ophthalmic solution (XDEMVY®) is the only FDA-approved therapy to treat blepharitis caused by Demodex mites. Ocular rosacea is another chronic inflammatory disease of the eyes and eyelids, often present in individuals with facial rosacea, which can lead to MGD. As Vitamin A is necessary for mucin formation, its deficiency can cause xerophthalmia and drying of the eyes. Membrane-bound mucin is part of the glycocalyx, while secreted mucin is free-floating in the fluid layer of the tear film. Thyroid eye disease (Graves' eye disease) is an autoimmune disorder that attacks the muscles, connective tissue, and fat around the eye resulting in chronic inflammation, eyelid retraction, and exophthalmos, or eye bulging. This retraction and bulging results in increased tear evaporation. Teprotumumab-trbw (Tepezza®) is FDA-approved to help manage thyroid eye disease.

Drug-Induced DED

Many drugs can interfere with the normal function of the eye and result in DED. Pharmacists can assist in identifying eye-related adverse effects and can suggest alternatives with little-to-no impact on the eye. In some cases, however, medications causing dry eye may be necessary without an effective alternative.

Anticholinergics, antihistamines, and decongestants are three of the more prevalent drug categories that can lead to dry eyes. **Table 1** lists some common anticholinergics encountered when patients express dry eye concerns. Many anticholinergics have suitable alternatives with less eye-related effects, depending on the condition being treated. In the analysis for evaluating alternatives, the route of administration could make a difference in selecting an agent. Inhaled and intranasal anticholinergics may offer lower systemic exposure, but could still cause

Table 1. Anticholinergic Drugs

Class	Examples
Antihistamines	Diphenhydramine
	Chlorpheniramine
	Brompheniramine
	Hydroxyzine
	Promethazine
	Loratadine
Overactive Bladder/Urinary	Oxybutynin
	Tolterodine
	Solifenacin
	Darifenacin
	Fesoterodine
	Flavoxate
	Trospium
Antidepressants	Amitriptyline
	Doxepin
	Clomipramine
	Paroxetine
	Imipramine
Antipsychotics	Clozapine
	Olanzapine
	Chlorpromazine
Respiratory	Ipratropium
	Tiotropium
	Glycopyrrolate
	Umeclidinium
	Aclidinium
Parkinson's Disease	Benztropine
	Trihexyphenidyl
GI/Motion Sickness	Scopolamine
	Dicyclomine
	Meclizine
	Dimenhydrinate
	Hyoscyamine
Ophthalmic	Atropine
Sleep Aid	Doxylamine

dry eye. For example, intranasal ipratropium is more likely to cause eye-related effects with a systemic bioavailability of up to 20%, whereas inhaled is around 7%.

Tricyclic antidepressants can have significant anticholinergic effects with amitriptyline, clomipramine, doxepin, and imipramine having the highest incident rates. These tricyclics disrupt parasympathetic nerve signals that stimulate the tear glands to produce tears. Of the selective serotonin reuptake inhibitors (SSRIs) and the serotonin-norepinephrine reuptake inhibitors (SNRIs), paroxetine is the drug with the greatest anticholinergic activity and, therefore, potential to worsen DED. Generally, SSRIs and SNRIs are considered relatively safe unless they are combined with other anticholinergic drugs.

First-generation antihistamines are well known for their significant anticholinergic properties and should be avoided in patients with DED. Antihistamines block the histamine receptor and can reduce tear production. While the second-generation antihistamines are considered a safer choice due to less anticholinergic activity, some studies have found that loratadine and desloratadine have significant anticholinergic effects, especially at doses over the daily recommended limit of 10 mg for loratadine and 5 mg for desloratadine. A European study in 2005 completed an in vivo analysis of 10 antihistamines administered per intravenous infusion in rats. The study found that desloratadine and loratadine had more impact on the cholinergic receptors when compared to diphenhydramine. The study showed no impact on the cholinergic receptors for fexofenadine and cetirizine in the rat model. While antihistamine eye drops and nasal sprays are considered to have low anticholinergic effects, they should still be considered in a medication review. The use of antihistamine eye drops in DED should be discussed with an eyecare professional before recommending.

Decongestants – whether oral, ophthalmic, or nasal – should be avoided in DED. They shrink blood vessels in the eye and reduce tear gland function. This alters the tear film stability and, ultimately, dries out the eyes. The best recommendation is to use a nondrug alternative such as a saline spray. Topical eye drops used to eliminate redness such as naphazoline, tetrahydrozoline, or phenylephrine should be avoided due to blood vessel constriction and interference with tear production. An alternative would be preservative-free artificial tears.

Oral beta-blockers used for managing cardiovascular disease can lower the fluid layer of tears by reducing fluid production within the lacrimal glands. Not all individuals will experience dry eyes with oral beta-blockers, but the drug could worsen the condition for those with DED. This effect can vary by the drug, daily dose, and dry eye risk factors present.

Since tear production is based on hydration status, and fluid for tears is primarily pulled from the bloodstream, diuretics can reduce tear production. Diuretics can impact tear film stability and the osmolarity of tear fluid with varying levels of hydration in the blood. With less fluid, diuretics change the salt-to-water ratio in the tears causing burning, inflammation, and dryness.

One of the mechanisms for the acne medication isotretinoin is shrinking of oil glands in the body, including those of the eye. This causes atrophy of the meibomian glands and reduces the lipid layer that protects the eye from dryness. Studies show a significant number of patients are not counseled by primary care providers about the impact of isotretinoin on the eye. A study in 24 subjects demonstrated meibomian gland changes within the first month of therapy, but these changes were shown to be reversible upon discontinuation of the drug. Pharmacists can include the effects of isotretinoin in their patient counseling and offer recommendations for OTC eye lubricants, if appropriate.

Hormonal therapy for women, primarily estrogen, can contribute to DED. Estrogen destabilizes the tear film by altering the balance of the meibomian glands and promoting ocular surface inflammation. The result of this disruption is evaporative dry eye. A large cohort study evaluated the use of hormone replacement therapy in 25,665 postmenopausal women and its impact on dry eye syndrome. The study found an association between estrogen therapy and an increased risk of dry eye at three years of use. The researchers noted each three-year increment of estrogen exposure increased the risk of DED by 15%. With the newest recommendations for hormone replacement therapy as a viable treatment option for perimenopause and menopause, pharmacists can provide counseling and support for potential dry eye.

A recent systematic review of the literature provided a list of other medications that can result in DED. Chemotherapy and immunotherapy for cancer treatment were mentioned as areas for healthcare professionals to evaluate risk of DED. These drugs included the taxanes, aromatase inhibitors, and epidermal growth factor receptor inhibitors. A significant number of patients develop DED when their cancer is treated with immune checkpoint inhibitors including nivolumab, durvalumab, and pembrolizumab (KEYTRUDA®). These drugs damage the exocrine glands and result in severe dry mouth and dry eyes known as the sicca effect, much like the symptoms of Sjögren's syndrome.

Other drugs have been reported in the literature as causative agents of DED, either as case reports or small sample size studies. These medications include DDP-4 inhibitors, dupilumab (Dupixent®), and lamotrigine.

Managing patients who have both DED and glaucoma can be challenging. Worsening of DED is a risk when

utilizing topical beta blockers and topical alpha agonists to treat glaucoma. Topical beta blockers decrease tear production and destabilize the ocular surface. In patients with DED and glaucoma who need a topical beta blocker, the recommendation is to use the selective agent, betaxolol. The alpha agonists pose a similar problem, causing topical vasoconstriction and disruption of the meibomian glands which results in evaporative dry eye. Patients with concurrent glaucoma and DED should be encouraged to consider nondrug therapy for glaucoma such as minimally invasive laser procedures or negative pressure devices.

Numerous ophthalmic medications contain preservatives, which can contribute to DED. For example, the common preservative benzalkonium chloride (BAK) works as a detergent to kill bacteria. Frequent or chronic use of BAK can strip the eye of surface cells, which triggers inflammation and leads to symptoms such as eye irritation, redness, and dryness. Counseling patients to avoid BAK preservative when possible is important.

Therapy

The American College of Ophthalmology provides a PDF titled "Dry Eye Syndrome Preferred Practice Pattern®" which provides evidence-based treatment recommendations. The document is reviewed and updated every five years with the next revision expected in 2028. The document can be obtained via their website, www.aao.org/ppp.

Nonpharmacologic Management

In counseling patients, some suggestions can include the use of humidifiers, avoiding direct fans to the face, smoking cessation, and using protective eyewear. The 20-20-20 rule is another method that can be useful when trying to prevent eye strain caused by screen use. The rule indicates for every 20 minutes spent looking at a screen, one should take a 20-second break to look at an object at least 20 feet away. Usually, people blink around 15 times per minute but this is cut in half when staring at screens. This rule helps relax the eye muscle and increases blinking to relubricate the eye. If in a small space without a 20-foot reach, patient can then close their eyes tightly for 20-30 seconds. Another method is to be conscious of blinking, as studies have shown a benefit with routine blinking exercises. Recent research demonstrated that intentional blinking relieves symptoms, increases film stability, and stimulates the meibomian glands to produce oils.

Diet can play a role in managing DED symptoms. Evidence supports a diet that is rich in omega-3 fatty acids with a reduction in ultra-processed foods. The Mediterranean diet is a prime example of this. The evidence for antioxidants is mixed, with vitamin A, C, D, and E having the strongest data for benefit by reducing oxidative stress and maintaining the integrity of the tear film. Trace minerals such as selenium, zinc, copper, iron, and manganese serve as enzymatic cofactors to reduce oxidative stress and may provide some additional benefit in treating DED. There are commercially available OTC supplements specifically for DED that include these vitamins and minerals. In addition, adequate hydration – minimum 11.5 cups total water intake (from all sources) for women and 15.5 cups for men – can improve symptoms.

Eyelid hygiene is another nonpharmacologic option for patients. This routine, when done once or twice daily, helps clean the eyelids and lashes to remove debris, excess oils, and bacteria. It involves using a clean, damp, warm (104° to 113° F) compress on the closed eye for five to 10 minutes. With clean fingers or a cotton swab, use a circular motion to gently massage the base of the eyelid. Massage down on the upper lids and upward on the lower lids. Then, apply an eye-safe cleanser, such as baby shampoo, to a cotton pad and wipe the lash line with eyes closed from the inner part of the eye to the outer part. Use a clean pad for each eye or each swipe. Rinse the eyelids with warm water and pat dry without rubbing.

OTC Products

OTC recommendations should be based on the frequency and severity of symptoms, the use of contact lenses for corrective vision, and preservative-free products. For evaporative dry eye, recommendations can include lipid-based drops with ingredients like castor oil, mineral oil, or flaxseed oil. These help to thicken the tear film and prevent evaporation of the tears. For aqueous-deficient dry eye, recommendations can be for hypotonic or low osmolarity drops that add moisture and improve volume of the tears. For more sustained relief or more severe symptoms, consider recommending long-lasting hydration products that are gels or ointments. Since these products can initially blur vision, they are best applied at bedtime. It is highly recommended to avoid BAK and other preservatives in eye drops due to risk of ocular surface damage.

Prescription Therapies

In 2002, calcineurin inhibitor cyclosporine was approved by the FDA as a 0.05% ophthalmic emulsion for DED and provided a major advance in therapy. A total of eight agents have been FDA-approved for DED, three of which contain cyclosporine as the active ingredient. **Table 2** provides a history of DED drug approvals.

The cyclosporine ophthalmic products are each administered as one drop in each eye twice daily, about 12 hours apart. These products are approved for relief of symptoms from DED by reducing ocular surface inflammation and increasing tear production. The initial cyclosporine ophthalmic product, Restasis®, had a low bioavail-

Table 2. FDA Approval History of Drugs for DED		
Year	**Generic Name**	**Brand Name**
2002	Cyclosporine	Restasis®
2016	Lifitegrast	Xiidra®
2018	Cyclosporine	Cequa®
2020	Loteprednol	Eysuvis®
2021	Varenicline Nasal	Tyrvaya®
2023	Cyclosporine	Vevye®
2023	Perfluorohexyloctane	Miebo®
2025	Acoltremon	Tryptyr®

ability so subsequent formulations have improved drug delivery to the surface of the eye. However, the original formulation acts as an emulsion and provides long-term control of inflammation. Cequa® provides a higher concentration of cyclosporine at 0.09% and uses nanomicellar technology to improve ocular penetration. It is a preservative-free option. Vevye® cyclosporine 0.1% ophthalmic solution uses a water-free technology to enhance absorption. This is formulated to reduce the stinging associated with the other cyclosporine products. There are no head-to-head clinical trials comparing the efficacy or safety of these three formulations.

Lifitegrast ophthalmic solution 5% works differently than the cyclosporine DED options by antagonizing lymphocyte function-associated antigen 1 (LFA-1). The drug prevents T-cells from attaching to the surface of the eye and blocks inflammation by thwarting cytokines from causing tissue damage, allowing for stability of the tear film. One drop is placed in each eye every 12 hours. Besides eye irritation and blurred vision, lifitegrast can cause dysgeusia or a metal taste in the mouth in 5-25% of patients. Patients should be counseled on the potential for this specific side effect.

Loteprednol etabonate ophthalmic suspension 0.25% was the first FDA-approved prescription drug for short-term flares of DED. Loteprednol is classified as a corticosteroid that can be administered as one to two drops in each eye four times per day for up to two weeks. It is highly lipid-soluble and readily penetrates cells to modulate inflammatory prostaglandins and leukotrienes. This formulation does contain BAK as a preservative. A potential side effect of loteprednol can be chemosis, which is swelling or edema of the conjunctiva. Loteprednol can increase intraocular pressure but is considered to have less effect than other corticosteroids such as prednisolone and dexamethasone ophthalmics.

Varenicline nasal spray 0.03mg per actuation is a cholinergic agonist for stimulating tear production. The activation of the trigeminal parasympathetic pathway is the mechanism for increasing tears. The drug is given as one nasal spray in each nostril every 12 hours. Adverse effects include sneezing (most commonly), coughing, and irritation of the nose and throat.

Acoltremon ophthalmic solution 0.003% is a transient receptor potential melastatin 8 (TRPM8) agonist approved to stimulate natural tear production. It is believed that the TRPM8 agonist stimulates the trigeminal parasympathetic pathway. The drug is administered as one drop in each eye every 12 hours. Approximately 50% of patients report eye pain with this drug.

Perfluorohexyloctane (PFHO) ophthalmic solution was designed to directly prevent tear evaporation. This differs from the other drugs for DED that target underlying causes, such as inflammation. It is instilled as one drop in the affected eye four times daily. It has a lower ophthalmic side effect profile compared to other agents, but it is administered more frequently throughout the day.

Selection of products for DED is dependent on the patient's symptoms, underlying causes, and severity of the disease. The clinical trials comparing these agents in patients are lacking, so it can be difficult to give preference to one agent over another based on evidence. An indirect comparison of clinical phase 3 data was statistically performed to compare cyclosporine ophthalmic to varenicline nasal spray. By using a statistical method to compare outcomes, researchers determined varenicline significantly improved tear production compared to cyclosporine. Studies evaluating cyclosporine indicated patients did not often feel a benefit, even though testing by the prescribers showed clinical response in the eye. Very few of these agents are available as generic products, which may make cost a deciding factor for some patients.

Patient Counseling

Counseling for DED drugs in drop form should include proper sterile technique for eye drop administration. The importance of hand washing and avoiding contamination of a multidose bottle should be discussed. It can be helpful to instruct on nasolacrimal occlusion following certain prescription drops, which involves gently pressing on the inner corner of the eye for one to three minutes to increase ocular bioavailability and reduce systemic exposure. Information should be provided on the use of eye drops for patients who wear contact lenses, including removal of lenses prior to adminitration and waiting for 15 minutes before replacing lenses. Storage requirements and discard-by dates are also beneficial to review.

Patient education should include nonpharmacologic management options, as well as expectations during therapy. Pharmacists can provide advice on proper eye hygiene, adequate hydration, and diet and dietary supplements with evidence for benefit in DED. Counseling on adverse reactions to ophthalmic products should include

the risk of blurred vision and irritation or burning upon instillation. Patients should be provided warning signs of serious eye complications such as infections, eye trauma, vision loss, or corneal damage and instructed to seek an eyecare professional if these occur. Adherence to medication therapy, including realistic expectations for improvement in symptoms, is an important talking point with patients. Many of these formulations, with the exception of loteprednol, may take days to weeks to see a change. Consistent use is key in improving symptoms.

Emerging Therapies and Medical Devices

The FDA has approved nondrug therapies for managing DED. These include two medical devices; one providing an intense pulsed light therapy and another operating under a thermal pulsation system. Research continues to find novel drug delivery systems for the eye to enhance penetration into eye structures. Regenerative biologics are being evaluated to find ways to regenerate ocular surface cells. Other biologic research includes autologous serum tears formed from the patient's own blood, as well as platelet-rich plasma drops for the eye. Research is evaluating novel drugs that are targeted immunomodulators and neurostimulators. Stem cell and gene therapies are other scientific areas of investigation for providing greater relief, and even a cure, for patients with DED.

Conclusion

DED is a multifactorial, chronic inflammatory disease with advances in evidence for pharmacologic and non-pharmacologic options. Pharmacists can be important contributors in identifying medications to reduce dry eye symptoms by providing education and recommendations to patients. Pharmacists can encourage medication adherence and, particularly in the outpatient setting, provide long-term follow-up to enhance health outcomes related to DED.

The author, the Ohio Pharmacists Foundation and the Ohio Pharmacists Association disclaim any liability to you or your patients resulting from reliance solely upon the information contained herein. Bibliography for additional reading and inquiry is available upon request.

This lesson is a knowledge-based CPE activity and is targeted to pharmacists and pharmacy technicians in all practice settings. Disclosure: Individuals responsible for planning OPF continuing pharmacy education activities have no relevant financial relationships with ineligible companies to disclose.

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CPE Hours: 1.5 (0.15 CEU)

The Ohio Pharmacists Foundation Inc. is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

Please turn to Correspondence Course Quiz on page 15.

opa leadership applications open

OPA invites you to submit an application for a position as an OPA Officer, District Pharmacist Trustee, or Regional Technician Trustee. Leadership in OPA will afford you the opportunity to move Ohio pharmacy forward, to contribute to OPA's planning process, to develop skills that will benefit you professionally and personally, to meet and exchange ideas with innovators in the profession, and to feel a sense of accomplishment. Exciting things are happening with the practice of pharmacy. Be a part of it, but hurry! **September 15, 2026** is the deadline to apply for leadership positions in the Ohio Pharmacists Association. Information and criteria for nominations can be found at: https://bit.ly/4vpERSm, or by using the QR code below.

opa award nominations

Tuesday, September 15, 2026 is the deadline to nominate candidates for OPA Awards.

- Bowl of Hygeia Award
- Distinguished Young Pharmacist Award
- OPA Good Government Award
- OPA Pharmacist Public Relations Award
- OPA Generation Rx Award
- OPA Technician of the Year Award (New for 2027!)
- OPA's UNDER 40 Award
- OPA Media Award

OPA will recognize the accomplishments of members throughout the state at the OPA Annual Conference, April 8-10, 2027, which will be held at the Hilton Columbus at Easton. Any OPA member may nominate any eligible member for the awards. Information about the awards and their criteria may be found on the Awards nomination form at: https://bit.ly/4akPw8z or by using the QR code below.

continuing education quiz

Program 0129-0000-26-007-H01-P/T
0.15 CEU

Name_____

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City, State, Zip_____

NABP e-Profile ID_____Birthdate_____ (MMDD)

Dry Eye Disease

1. The active ingredient of the first disease-modifying drug for DED, approved by the FDA in 2002, was:
   a. varenicline. c. cyclosporine.
   b. phenylephrine. d. lifitegrast.

2. Which of the following is a risk factor for dry eye disease?
   a. Excess screen time c. Good sleep habits
   b. Age under 40 years d. Testosterone therapy

3. The tear film's outer layer is a lipid layer secreted by:
   a. lacrimal glands. c. tear ducts.
   b. meibomian glands. d. endocrine glands.

4. Which of these secretes the tear film's aqueous component, or middle layer?
   a. Lacrimal glands c. Tear ducts
   b. Meibomian glands d. Endocrine glands

5. Which vitamin is necessary in the development of mucin for the eye?
   a. Vitamin E c. Vitamin A
   b. Vitamin D d. Vitamin B6

6. Thyroid eye disease causes a bulging of the eye, termed _____, which increases risk of DED.
   a. blepharitis c. exophthalmos
   b. rosacea d. lacrimal extension

7. The SSRI or SNRI that has significantly more anticholinergic activity then the rest of the two classes is:
   a. doxepin. c. duloxetine.
   b. fluoxetine. d. paroxetine.

8. What is the mechanism by which isotretinoin causes DED?
   a. Change in hydration status
   b. Atrophy of meibomian glands
   c. Shrinking of oil glands
   d. Fibrosis of tear ducts

9. Immune checkpoint inhibitors can cause severe dry mouth and dry eyes. This condition is known as:
   a. sicca syndrome. c. serotonin syndrome.
   b. evaporative excess. d. myopia.

10. Which preservative in eye drops has been known to strip surface cells of the eye?
   a. Hydrocellulose c. Benzalkonium chloride
   b. Methylcellulose d. Calcium chloride

11. Eyelid hygiene should be performed how often for best results?
   a. 1-2 times per day c. 3-4 times per week
   b. 1-2 times per week d. Twice a week for 6 months

12. When is the best time to apply long-acting ophthalmic gels or ointments?
   a. First thing in the morning upon waking
   b. When symptoms are at their worst
   c. 6 hours after waking up
   d. At bedtime

13. Which drug works by antagonizing LFA-1?
   a. Cyclosporine c. Loteprednol
   b. Lifitegrast d. Acoltremon

14. Which of the following drugs is a corticosteroid for short-term use in DED?
   a. Cyclosporine c. Loteprednol
   b. Lifitegrast d. PFHO

15. The receptor agonist that stimulates natural tear production is:
   a. lifitegrast. c. acoltremon.
   b. loteprednol. d. PFHO.

Completely fill in the lettered box corresponding to your answer.

1. [a] [b] [c] [d]	6. [a] [b] [c] [d]	11. [a] [b] [c] [d]
2. [a] [b] [c] [d]	7. [a] [b] [c] [d]	12. [a] [b] [c] [d]
3. [a] [b] [c] [d]	8. [a] [b] [c] [d]	13. [a] [b] [c] [d]
4. [a] [b] [c] [d]	9. [a] [b] [c] [d]	14. [a] [b] [c] [d]
5. [a] [b] [c] [d]	10. [a] [b] [c] [d]	15. [a] [b] [c] [d]

❑ For best pricing, use the QR code to submit your answers online for immediate grading and upload to the CPE Monitor.
❑ I am enclosing $10 for this quiz; check payable to Ohio Pharmacists Association. Return quiz to Correspondence Course, OPA, 2674 Federated Blvd., Columbus, OH 43235-4990 or fax to 614.389.4582.

1. Rate this lesson: (Excellent) 5 4 3 2 1 (Poor)
2. Did it meet each of its objectives (p. 7)? ❑ yes ❑ no
   If no, list any unmet_____
3. Was the content balanced and without commercial bias?
   ❑ yes ❑ no If no, why?_____
4. Did the program meet your educational/practice needs?
   ❑ yes ❑ no
5. How long did it take you to read this lesson and complete the quiz? _____
6. Comments/future topics welcome.

To receive CPE credit, your quiz must be received no later than July 15, 2029. A passing grade of 80% must be attained. Only current OPA members may receive CPE credit for this lesson.

ohio pharmacy catalyst summit

Jessica Hatton, PharmD, BCACP, Shannon Steele, R.Ph., MSc, Jennifer Rodis, PharmD, FAPhA

Ohio has been at the forefront of practice change for decades. Through innovation in patient models of care across settings, as well as progress in healthcare policy, Ohio has historically supported the evolution of pharmacist training to align with scope of practice. With movement forward in recent years, as well as areas for further growth, leaders within the state proposed a summit to examine trends, challenges, and opportunities. Priorities were identified in order to guide strategies that would enhance patient access to pharmacy care over the next three to five years. This paper describes the findings of The Catalyst Summit held June 2025 in Dayton, Ohio and hosted by CareSource, a Medicaid Managed Care Organization.

The event brought together more than 90 stakeholders from across the state representing multiple areas of pharmacy practice:

- Academia: administrators, faculty, postgraduate trainees and students
- Managed care professionals (payors)
- Drug pricing experts
- Legislative advocates
- National and State pharmacy association representatives
- Pharmacy ancillary services and vendors
- Pharmacy benefit managers
- Pharmacists representing community pharmacy (chain and independent), health-system, ambulatory care and FQHCs
- State agency representatives

The Catalyst Summit kicked off with a welcome address and session on emerging forces that could reshape pharmacy over the next several years, including Artificial Intelligence (AI), digital tools, and fast-moving therapeutic pipelines. The remainder of the Catalyst Summit was divided into four core topics:

- Pharmacy Practice
- Pharmacy Legislative and Regulatory Landscape
- Drug Pricing and Reimbursement
- Patient and Provider Engagement

Participants were randomly assigned to small work groups based on practice area, position, and professional experience. The intent was to bring differing perspectives together and ignite meaningful dialogue on the four core topics.

Each session began with a moderator-led panel discussion featuring experts in each core topic area. Participants then brainstormed individually, writing their ideas on sticky notes, and discussed ideas in both small group and full Catalyst Summit group settings. They worked to identify barriers and opportunities, action steps, and key measures of success for each topic before summarizing in a large, full-forum discussion. A participant at each table documented notes from small group and large group discussions.

Following the event, sticky and table notes were analyzed by the writing team to identify recurring themes and key takeaways that would inform next steps to support practice growth in Ohio. AI tools, including Microsoft Copilot and Chat GPT, were used to summarize notes taken during the day.

Session #1: Pharmacy Practice

Panel Summary: Discussion focused on innovative payor-pharmacy collaborations, integration of technology and AI into practice, and the role of pharmacists in advancing public health initiatives. Key strategies were highlighted on sustainability, enhanced payor partnerships, and aligning reimbursement models with pharmacists' clinical value and quality metrics.

Opportunities to Advance the Practice of Pharmacy

- Workforce optimization with technician roles elevated
- Technology-enhanced workflows
- Emphasis on billing, business management, and payor engagement in pharmacy school curricula

Barriers to Overcome: Difficulties include scaling innovations and acting with urgency. Novel models of care and payment models are emerging; challenges exist with administrative barriers, budgets, and capacity for expansion. There is need to 'stop the sinking ship' of ongoing pharmacy closures and increasing pharmacy deserts linked to lack of fair dispensing reimbursement.

Priorities and Strategies to Advance Practice

- Optimize the pharmacy workforce: Expand technician roles so pharmacists can focus on clinical and patient-centered services.

- Advance sustainable payment models: Advocate for value-based reimbursement structures and stronger payor partnerships that reward outcomes, streamline administrative processes, and encourage patient engagement.
- Leverage technology to enhance efficiency: Collaborate with technology partners to reduce documentation burden, improve interoperability, and support data-driven care.
- Expand access through innovative care models: Support and scale tele-pharmacy and other flexible delivery systems that extend pharmacists' reach to underserved populations. Advance and scale models that address public health issues and roles aligned with pharmacists' high level of clinical training.
- Embed business and policy competencies in education: Integrate billing, credentialing, and payor engagement training into pharmacy curricula to prepare future practitioners for evolving practice environments.

Measuring Success
- Increased numbers of pharmacists providing services beyond dispensing and billing for those services
- Improved clinical measures (blood pressure, hemoglobin A1C, medication adherence)
- Decreased hospitalizations, urgent care, and emergency visits

Session #2: Pharmacy Legislative and Regulatory Landscape

Panel Summary: Discussion focused on provider status, reimbursement for clinical services, and federal and state-based strategies. The conversation examined how pharmacists are recognized and compensated from the Centers for Medicare & Medicaid Services (CMS), Medicaid, and commercial payors, as well as persistent barriers faced.

Policy Opportunities
- Pharmacy benefit manager (PBM) reform: curbing patient-steering and setting reimbursement floors
- Scope of practice: goal is 'standard of care' pharmacy regulatory model and expansion to billing allowances beyond Medicaid
- Removing referrals and consult agreements as legal requirements for pharmacists billing as providers in Ohio Medicaid

Barriers to Overcome: There is a lack of united advocacy and consistent messaging across the state.

Priorities and Strategies for Policy Change
- Build coalitions on key policy issues: This includes elimination of consult agreements and referral for Ohio Medicaid payment, scope expansion through adoption of a 'standard of care' pharmacy model, and PBM reform.
- Engage legislators and advocate: Ongoing dialogue that is unified among pharmacists and organizations across Ohio is essential for reform. Participation by legislators and regulatory bodies in future Summits is key.
- Provide cohesive messaging and public education: Address public misconceptions and educate on the services a pharmacist is trained to provide, beyond dispensing.

Measuring Success
- Removal of the consult agreement and referral requirements from the Ohio legislation for Medicaid billing
- Adoption of 'standard of care' practice framework with expanded scope of practice
- Reimbursement reform with PBMs

Session #3: Drug Pricing and Reimbursement

Panel Summary: Discussions explored shifts in pricing transparency, the influence of PBMs, and the balance between cost control and patient access. Administrative and financial pressures facing community pharmacies were highlighted, along with the challenges payors face in balancing affordability with outcomes. New and innovative models were highlighted such as cost-plus, value-based, direct-to-consumer, and others that reward quality and outcomes.

Drug Pricing and Reimbursement Opportunities
- PBM reform in Ohio
- Creation of payor-based (government, commercial, and employer) and regional programs
- Alternative pricing models and membership-based pharmacies

Barriers to Overcome: These include PBM contracting issues and low reimbursement rates; unpredictability and lack of transparency related to drug rebates; increasing variability in National Average Drug Acquisition Cost (NADAC) reporting, and concerns if mandated across all pharmacy types; and discount card programs.

Priorities and Strategies to Address Financial Pressures
- Enhance pricing transparency: Increase visibility into PBM practices, rebate structures, and payment flows to ensure fair and accountable reimbursement.
- Reform reimbursement frameworks: Transition from fee-for-dispensing to value-based models that recognize pharmacists' contributions to clinical outcomes and patient care.
- Promote equity in cost benchmarks: Explore tiered reimbursement by pharmacy type, apply appropriate and fair NADAC methodologies, and address inequities associated with group purchasing arrangements.
- Encourage innovative pricing approaches: Support alternative payment models—such as membership-based or subscription pharmacy models—that improve affordability and sustainability.

Measuring Success: Monitor pharmacy closures, pharmacy deserts, and improvements in metrics for pharmacy staffing adequacy.

Session #4: Patient and Provider Engagement

Panel Summary: Discussion explored performance data, health literacy, and emerging engagement trends and how they reshape expectations for pharmacies. Highlighted were skills and competencies future pharmacists will need to thrive in a consumer-driven healthcare environment, opportunities to learn from other industries to drive patient engagement, and barriers limiting provider integration.

Opportunities Identified: Strengthen digital infrastructure for relationship building with healthcare payors, providers and patients.

Barriers to Overcome: These include limitations of current communication pathways between pharmacists and prescribers, lack of community pharmacist access to electronic health records and portal

messaging, limited patient understanding of services a pharmacist can provide, and limited patient empowerment to advocate for access to pharmacist-provided care.

Priorities and Strategies to Enhance Engagement

- Invest in digital infrastructure: These tools (e.g., EHR portals, kiosks, messaging systems) are essential to share data across stakeholders.
- Promote direct pharmacist-patient interaction: Market pharmacist services from multiple stakeholders to ensure mutual patients/members understand services and personalized care pharmacists provide to support improved health and outcomes.
- Empower patients: Education and shared decision-making through pharmacist-provided care will give patients confidence in managing their medication therapy and improving their health.
- Leverage tools for engagement: Use social media and behavioral science for outreach.

Measuring Success: Evaluate collaborative pathways forged in the digital space for pharmacists in the healthcare team, including direct patient communication and care.

Key Takeaways and Next Steps

The primary theme discussed throughout the day was the need to improve payment for both dispensing medications and providing clinical services by pharmacists. Key priorities included PBM restructuring and enhancing pharmacist billing practices, particularly by addressing the current limitation of required referral and consult agreements under Ohio Medicaid billing rules. Other important policy areas of focus were expansion of scope of practice and innovative pharmacy models, such as tele-pharmacy. Additionally, several practice advancement topics were prioritized, including optimizing the workforce through technology integration and expanded technician roles, as well as providing education and training for student pharmacists on business practices like billing. Advocacy efforts aimed at patients, payors, regulators and lawmakers to highlight the value of pharmacist care were also emphasized.

This statewide summit garnered renewed momentum for forward-thinking practice change in Ohio. A follow-up survey invited participants to join leadership and work groups aligned with core themes. A steering team with diverse representation will guide action on priorities and plan future gatherings of work groups and statewide events. Joint efforts will include building coalitions on top policy issues to capitalize on shared investments, enhancing patient access to pharmacist-provided care in Ohio.

Looking ahead: Planning for action steps based upon the 2025 Ohio Pharmacy Catalyst Summit will be held as a morning workshop at the *OPA Innovation Summit: Midyear Reimagined* meeting on November 6, 2026, at Ohio Northern University in Ada, Ohio. Look for additional details soon as planning continues for this next opportunity to advance pharmacy practice, collaboration, and innovation across the state.

Uniform Multistate Pharmacy Jurisprudence Exam

Steven W. Schierholt, Esq., Executive Director

The National Association of Boards of Pharmacy (NABP) recently developed a new jurisprudence exam: the Uniform Multistate Pharmacy Jurisprudence Exam or UMPJE. The UMPJE is now available, starting with the 2026 graduating class. The Ohio Board of Pharmacy has adopted the UMPJE as an exam that meets the licensure requirements for a pharmacist by examination (OAC 4729:1-2-01). Beginning October 1, 2026, the UMPJE is the only acceptable jurisprudence exam in Ohio. Eleven other states have also adopted the UMPJE, which paves the way for easier licensure portability and transfers.

If someone you know is an applicant taking the UMPJE, the Board has developed, and will require them to complete, a brief online review of pharmacy laws and rules specific to Ohio. This course is available on-demand and can be completed at any time during the licensure process prior to license issuance. The course will be approximately 60 minutes in length and must be completed by each applicant individually. A maximum of three (3) attempts will be allowed once an applicant has graduated.

It is also important to note that effective March 5, 2024, any reciprocal applicant who has not successfully passed any state or jurisdiction's MPJE or an approved state law examination will be required to take the Ohio MPJE or UMPJE in lieu of completing the reciprocity course/hearing. Approved state law examinations are Arkansas, California, and Puerto Rico.

For more information, please see the full guidance posted to the Board's website at www.pharmacy.ohio.gov/newgrad. If you have additional questions, please email licensing@pharmacy.ohio.gov and Board staff will reply as quickly as possible.

Thank you for all that you do to keep Ohioans safe and healthy.

November 2: Ohio Board of Pharmacy Application Deadline

OPA Recommendation Process: Each year, OPA solicits applications from interested members and makes recommendations to the Governor for upcoming Board of Pharmacy vacancies. OPA's recommendations help inform the appointment process. There may be additional information requested from applicants during the process.

For more information or to apply click here: https://bit.ly/4b2CaOj or scan QR code at right.

Lobbyist Michelle Fitzgibbon

Senate Advances Key Pharmacy Priorities

As the Ohio General Assembly races toward summer recess, the pace of activity at the Statehouse has accelerated significantly. With legislators eager to move priority legislation before returning home for the summer and preparing for the upcoming campaign season, the pharmacy profession has seen several major victories in recent weeks.

Most notably, two Ohio Pharmacists Association priorities have advanced through the Ohio Senate with overwhelming bipartisan support: **Senate Bill 230** and **Senate Bill 160**.

Senate Bill 230 Passes Senate 31-2

Following extensive testimony and stakeholder discussions, Senate Bill 230 passed the Ohio Senate by a vote of 31-2, demonstrating strong support for expanding patient access to pharmacist-provided care.

Sponsored by Senator Mark Romanchuk, Senate Bill 230 authorizes pharmacists to screen, test, and provide treatment for certain respiratory health conditions under a statewide protocol developed by the State Board of Pharmacy.

Under the bill, pharmacists would be authorized to:

- screen and test patients for influenza, COVID-19, RSV, and strep throat;
- initiate treatment for influenza, COVID-19, and strep throat when appropriate; and
- refer patients for additional care when warranted.

The bill applies to patients five years of age and older and allows pharmacists to conduct screenings, order and administer laboratory and diagnostic tests, evaluate results, and initiate appropriate treatment under a statewide protocol.

Equally important, Senate Bill 230 establishes reimbursement parity by requiring commercial insurers, public employee benefit plans, and Medicaid to reimburse pharmacists for covered healthcare services they are authorized to provide, in the same manner as other healthcare providers furnishing equivalent services.

This legislation represents a significant opportunity to improve patient access to timely care, particularly in underserved and rural communities where pharmacists are often the most accessible healthcare professionals.

The bill now moves to the Ohio House of Representatives, where OPA will continue advocating for its passage.

Senate Bill 160 Protects Patients from Mid-Year Medication Changes

The Senate also passed Senate Bill 160 by a unanimous 33-0 vote, demonstrating broad bipartisan support for protecting patients from disruptive mid-year prescription drug coverage changes. The legislation addresses the growing concern of non-medical prescription drug switching during a plan year. Under Senate Bill 160, health plans generally would be prohibited from making mid-year formulary changes that negatively impact patients by:

- increasing patient cost-sharing for a medication;
- moving a medication to a higher cost-sharing tier;
- removing a medication from the formulary; or
- imposing new utilization management requirements, such as prior authorization, during the plan year.

The bill includes limited exceptions related to drug safety concerns, product discontinuation, and certain significant price increases. It also preserves the use of generic and interchangeable biological products when appropriate.

For patients managing chronic conditions, consistency and continuity of therapy are critical. Senate Bill 160 helps ensure that treatment decisions made between patients and their healthcare providers are not disrupted by unexpected mid-year coverage changes.

Advocacy Remains Critical

While the Senate passage of both bills represents significant progress, neither bill has crossed the finish line. Both measures must continue through the legislative process before being signed into law.

As lawmakers prepare to leave Columbus for summer recess, legislative activity will continue to ebb and flow throughout the remainder of the year. The May primary and November general election create a compressed legislative calendar, making it even more important for pharmacists to remain engaged and responsive when advocacy opportunities arise.

The overwhelming support for Senate Bills 230 and 160 reflects the credibility pharmacists have built with legislators through years of relationship-building, patient care, and grassroots advocacy. As these bills move through the House, OPA will continue working with lawmakers and stakeholders to advance policies that improve patient access, strengthen the profession, and recognize pharmacists as essential members of Ohio's healthcare team.

Thank you for your continued engagement and advocacy. Your voice continues to make a difference.

thank you 2026 exhibitors and sponsors

OPA hosted the 2026 Annual Trade Show at the Hilton Columbus at Easton on Friday, April 10. With the new Thursday through Saturday Annual Conference schedule, the Trade Show also introduced new times for vendor interactions. Show hours were offered only on Friday during the breakfast, lunch and mid-afternoon times. The Show attracted more than 60 vendors and 700 attendees.

Pictured above: Student pharmacists visit the exhibit of new OPA vendor and Bronze Sponsor, andhealth.

Pictured right: Attendees visited the exhibit of new Gold Sponsor, hims & hers, to learn about their products, services, and opportunities.

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Many sponsors support the OPA Annual Conference

OPA sponsors were excited to interact with more than 700 Annual Conference attendees at the Hilton Columbus at Easton on April 9-11, 2026. We'd like to thank the following organizations for their support.

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Pictured above: During the Trade Show hours on Friday, Dr. Sam Stitzel discussed residency opportunities at University Hospital with student pharmacists attendees.

Pictured below: Many attendees visited the vendors' exhibits to learn about products and services between continuing education sessions.

Volume XLIV No. 8

Prescribing a Better Night's Sleep

Danielle N. Keller, R.Ph., PharmD

Dr. Keller has no relevant financial relationships with ineligible companies to disclose.

Goal. The goal of this lesson is to provide a review of the importance of quality sleep and appropriate medications to use in the treatment of insomnia.

Objectives. At the completion of this activity, the participant will be able to:

1. identify the stages of the sleep cycle and their importance in the body's restoration process;
2. recognize the effect that lack of sleep may have on concomitant disorders; and
3. review appropriate treatment options for individuals diagnosed with insomnia.

Introduction

Sleep plays an important role in our daily routine. This period of rest is essential to maintaining homeostasis by improving cognitive function, promoting muscle and tissue repair, and regulating the immune system. Those who experience inadequate sleep, whether a reduction in time or quality, are at an increased risk of developing serious health conditions, such as diabetes, hypertension and depression.

Sleep Cycle

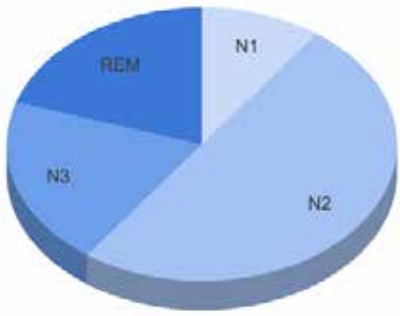
While sleeping, the body takes turns cycling through two phases of sleep known as non-rapid eye movement (NREM) and rapid eye movement (REM). NREM is classified by the deepness of sleep one experiences and can be broken down into three stages: N1, N2 and N3. N1 is the lightest and shortest stage of sleep which generally lasts up to seven minutes and occurs as one is falling asleep. When the body reaches N2, or light sleep, its muscles begin to relax leading to a drop in blood pressure, respiration rate, brain activity and body temperature. A majority of the time spent asleep is in the N2 stage. This state of relaxation helps transition into N3, where the body has reached deep, or slow-wave, sleep. In this phase, the cerebral cortex produces signals, known as delta waves, that are responsible for synthesizing the restoration of bodily processes. It is important to note that this stage of sleep is where sleep terrors, nocturnal enuresis, and sleepwalking occur due to a quick shift from light to deep sleep. This disorder of arousal causes the motor functions of the body to awaken while the individual remains unconscious.

A person typically reaches REM sleep about 60-90 minutes after falling asleep. This phase of the sleep cycle is characterized by dreaming, as well as an increase in brain activity, eye movement and heart rate. All muscles in the body become temporarily paralyzed with the exception of the eyes and diaphragmatic muscles that aid in breathing. Time spent in REM typically increases with each cycle of sleep throughout the night and is important to maximize cognitive function and enhance memory. The recommended duration of sleep and the number of sleep cycles each night varies based on patient age, but most adults will complete four to six cycles throughout the night. According to the CDC, newborns should receive approximately 15 hours of sleep each night whereas teenagers require at least eight hours and adults need at least seven hours of sleep. While babies need the most sleep, they do not complete as many sleep cycles as an adult because their periods of sleep are shorter and more interrupted. Not getting enough sleep can compromise physical health, mental clarity and overall productivity during the day.

Sleep Disorders

The International Classification of Sleep Disorders (ICSD) is a standardized guideline that helps clinicians diagnose sleep disorders. There are currently six classes of sleep disorders, which include insomnia, sleep-related breathing disorders, central disorders of hypersomnolence, circadian rhythm sleep-wake disor-

Table 1. Phases of the Sleep Cycle



ders, parasomnias and sleep-related movement disorders. This discussion will focus on the pathophysiology and treatment options associated with insomnia. With such high prevalence in society, it is important to recognize confounding variables that may be impacting one's sleep in order to appropriately manage symptoms and provide accurate treatments.

Insomnia Background

Insomnia is a common sleep disorder which chronically affects 10% of adults worldwide. An online survey conducted in 2024 by the American Academy of Sleep Medicine found that approximately 12% of the US population has been diagnosed with insomnia. Insomnia is defined by the *Journal of Clinical Sleep Medicine* as the inability to fall asleep, stay asleep or a reduction in the quality of sleep one may experience. The duration of symptoms determine whether the patient has transient (less than one week), acute (a few weeks) or chronic insomnia (lasting more than three months). For a diagnosis of insomnia to be established, the ICSD states the disturbance and associated daytime symptoms are not solely due to another sleep disorder, medical disorder, mental disorder, or medication/substance use.

There are a multitude of factors that may impact the overall quality of one's sleep. These include, but are not limited to, substance abuse, depression, age, work schedules, and genetic predispositions. Certain medications may also have an impact on sleep. Stimulants, high doses of steroids, antidepressants, and decongestants can directly cause insomnia or lead to a disruption in sleep. To prevent patients from losing sleep, most of these medications are advised to be taken in the morning. While diuretics do not directly cause insomnia, if taken later in the day or closer to bedtime, they can cause patients to wake periodically throughout the night to urinate. Prescription drug counseling can have a profound effect on patients' medication use and minimization of adverse effects.

Nonpharmacologic Treatment

The first-line treatment option for this common sleep disorder is Cognitive Behavioral Therapy for Insomnia (CBT-I). CBT-I is a psychological treatment designed to identify and work through mental and behavioral stressors that impact a patient's quality of sleep. A treatment plan is formulated by psychologists or other medical professionals that allows the patient to change their thinking or behavioral patterns. It is important to remember that CBT-I treatments are individualized to meet the needs of each patient but may include similar concepts. For instance, many CBT-I programs focus on sleep hygiene techniques. In order to receive quality sleep, it is recommended that patients stop drinking caffeine a few hours before bedtime, limit screen time, remove distractions, and regulate body temperature. Some common strategies to regulate temperature include maintaining a bedroom temperature between 60-67 degrees (F), using breathable bedding, and layering with thinner blankets.

Sleep Restriction Therapy (SRT) is designed to measure the amount of time spent in bed versus the amount of time spent sleeping in order to enhance sleep efficiency and reduce insomnia. For individuals who spend more time in bed awake than they do asleep, SRT could be beneficial in removing negative associations with bedtime and retraining the body's sleep routine. Stimulus control focuses on the body's circadian rhythm to establish consistent sleep/wake times. This form of therapy recommends against napping, but does favor going to bed when you feel tired at the end of the day. Allowing the body to develop, and adhere to, a routine can establish consistency in sleep schedule and reinforce its importance.

Patients should also assess their consumption of caffeine, as this has been found to negatively impact sleep. The FDA recommends a maximum caffeine intake of 400 mg per day for adults, which equates to approximately three 12-ounce cups of coffee. While this is the amount that is broadly deemed safe, it is not a universal rule for everyone. Medications, comorbidities and patient weight may impact caffeine sensitivity, leading to lower tolerance and increased health risk. Certain energy drinks, such as Red Bull, Monster, Ghost and Alani, have emerged in recent years with marketing or rebranding as cleaner and healthier energy alternatives. However, these products are only required to follow the umbrella of safe practices for beverages and may have varying degrees of caffeine among their products or contain additional caffeine content due to botanical additives. Beyond insomnia, excessive caffeine can result in increased heart rate, palpitations, and anxiety, while rapid consumption may result in seizures or even death.

Alcohol intake has been linked to insomnia and should be addressed in patients pursuing proper sleep hygiene. Despite its sedative effect, which may lead to faster onset of sleep, alcohol can trigger rebound insomnia as it is metabolized. These night-time awakenings fragment the sleep cycle as REM sleep is reduced, resulting in less restorative rest. Consuming alcohol subjects individuals to an increased risk of developing chronic health conditions, as well as addiction, but – for those who do drink – the FDA recommends limiting men to two drinks per day and women to one drink per day.

Smoking is another modifiable risk factor for insomnia. Nicotine is a stimulant that binds to nicotinic acetylcholine receptors of the brain, causing a release of dopamine. Increased dopamine in the nucleus accumbens leads to feelings of reward, pleasure and reinforced behaviors. When these receptors become desensitized, tolerance develops. According to a review of studies conducted by Grigoriou et al. (2024), smoking was found to be harmful in regard to quality of sleep, leading to increased tobacco cravings and decreased success rate of cessation. Those who smoke at least one pack per day experience disturbances in sleep due to nicotine cravings and those interruptions can be linked to withdrawal, anxiety, irritability, and increased cravings. This addictive, cyclical pattern often causes patients to relapse which, in turn, negatively affects long-term health. Treatment options to reduce cravings and aid in cessation include varenicline, bupropion SR, nicotine patches, nicotine lozenges, chewing gum, inhalers or nasal sprays.

Patients may benefit from keeping a sleep journal and documenting the amount of sleep obtained each night. Recent technology has improved among multiple platforms, enabling consumers to readily measure their quality and duration of sleep. Smart watches, rings and Sleep Number® beds evaluate the individual's heart rate, breathing, and number of movements throughout the night. They then calculate a score and will divide the total duration of sleep into time spent in each sleep cycle. These programs trend data and create displays to visually enhance the information gathered. Other forms of technology

allow users to set a designated bedtime, during which notifications will be silenced and the colors on the electronic device become warmer to promote better sleep.

Pharmacologic Treatment

According to the 2008 Clinical Guideline for the Evaluation and Management of Chronic Insomnia in Adults, initiation of treatment should be considered when one's symptoms are impacting their quality of life and activities of daily living. Treatment goals for insomnia are to 1) increase quality of sleep, 2) prevent disturbances in sleep, and 3) improve functionality throughout the day.

For individuals experiencing transient or acute insomnia, over-the-counter (OTC) medications may be an option for management. Products such as diphenhydramine (Benadryl®) and doxylamine (Unisom®) are first-generation antihistamines that help reduce sleep onset latency, defined as the time it takes a person to transition from full wakefulness to sleep. The recommended dose of these products are each 25 to 50 mg by mouth thirty minutes prior to bedtime. Benadryl® and Unisom® can cause up to six hours of sedation but should be used with caution as they may also cause dry mouth, constipation, difficulty urinating and blurred vision. Patients should not take these medications and operate heavy machinery. Exclusions to self-treatment include age less than 12 years old or greater than 65 years old, pregnancy, increasing occasions of nighttime awakenings, or chronic insomnia.

Supplements have also been shown to be effective in treating short-term sleep issues. Melatonin is a hormone that is secreted by the pineal gland. Two enzymes within the pineal gland, AA-NAT and ASMT, are essential in the derivation of melatonin from serotonin. Once this process has been completed, melatonin is then released into systemic circulation. The synthesis of melatonin occurs overnight in response to darkness, regardless of being awake or asleep, to assist in regulating the natural circadian rhythm. Supplementing this hormone 30 to 60 minutes prior to bedtime jumpstarts the process and enables the patient to fall asleep faster. Potency may vary across products as these supplements are not FDA-approved. Any OTC product used to treat short-term insomnia should only be used for a few days on top of non-pharmacologic modifications. If symptoms do not improve, a healthcare provider should be seen to make adjustments as necessary.

For patients experiencing chronic insomnia, prescription medications are the mainstay of treatment. These medications are typically reserved for patients who still experience symptoms despite OTC treatments, behavioral therapy and lifestyle modifications. Prescription drug selection is dependent upon the type of sleep impairment the patient is experiencing, patient preference, and concurrent use of other medications.

Medications for Sleep Onset Insomnia

Sleep onset latency typically ranges from 10 to 20 minutes in most individuals. For those experiencing sleep onset insomnia, it takes greater than 30 minutes – sometimes up to two or more hours – to fall asleep at least three nights per week. To combat this condition, medications have been developed to shorten the amount of time it takes to fall asleep and enter into the N1 stage of the sleep cycle.

Ramelteon (Rozerem®) is a melatonin receptor agonist that is FDA-approved to treat sleep onset latency. The typical, and maximum, daily dose is 8 mg by mouth 30 minutes prior to bedtime. This medication should not be administered directly following the ingestion of a high-fat meal as it will delay its absorption and onset of action. Ramelteon is metabolized by CYP1A2 enzymes and is contraindicated in combination with CYP1A2 inhibitors such as fluvoxamine due to extreme increases in drug concentration and, subsequently, increased risk of toxicities. The most common side effects of ramelteon include somnolence, fatigue, dizziness, nausea, and exacerbated insomnia. Use should be avoided in children, geriatric patients, and patients with severe hepatic impairment. While it is unknown if ramelteon causes birth defects or harm during pregnancy, it is found in breastmilk and ingestion by infants can lead to increased side effects, such as somnolence and reduced milk intake. It is advised that mothers who breastfeed should pump and discard their breastmilk during therapy and for 25 hours following the last ingested dose.

Zaleplon (Sonata®) is a nonbenzodiazepine hypnotic agent that binds the benzodiazepine site of the GABA-A receptor complex to enhance inhibitory effects of the GABA neurotransmitter, resulting in hyperpolarization and reduced neuronal excitability. It is FDA-approved to treat sleep onset latency and short-term insomnia. The recommended dose for adults is 10 mg by mouth immediately before bedtime, while geriatric patients should not exceed 5 mg nightly due to its hypnotic effects. This medication should not be administered with, or directly following, the ingestion of a high-fat meal as it will delay its absorption and onset of action. The most common side effects of zaleplon include drowsiness, paresthesia, impaired coordination, and abnormal thoughts or behaviors. Zaleplon is a Schedule IV controlled substance and has the potential to be abused and cause dependence. This medication has a black box warning (BBW) for complex sleep behaviors such as sleep-walking, which may lead to death, and is contraindicated in patients who have previously exhibited this behavior. No renal dosing adjustments need to be made, but patients who have hepatic impairment should not exceed 5 mg nightly. It is not recommended for use in pregnancy or breastfeeding.

Triazolam (Halcion®) is a benzodiazepine that is FDA approved for the short-term treatment of sleep onset insomnia and should only be used for seven to 10 days. The recommended adult dose for insomnia is 0.25 mg before bedtime; however, patients may take up to 0.5 mg if the lower dose is insufficient. Geriatric patients should start at 0.125 mg nightly but may increase up to a maximum of 0.25 mg, if needed. Use in children is not recommended. The most common side effects of triazolam are drowsiness, headache, dizziness, nausea and vomiting, as well as impaired coordination. Those who take this medication should not drive or operate heavy machinery. Triazolam is a schedule IV controlled substance that has the potential to be abused and cause dependence. Upon discontinuation, patients are advised to gradually taper off the medication instead of abruptly stopping to minimize its withdrawal effects. Triazolam carries a BBW for coadministration with opioids as it can increase the risk of respiratory depression, sedation, coma and death. Because triazolam crosses the blood-brain barrier and is present in breastmilk, it is strongly recommended to

Table 2. Recommended Starting Doses for the Treatment of Insomnia in Adults Under Age 65	
Sleep Onset Insomnia	
ramelteon	8 mg
zaleplon	10 mg
triazolam	0.25 mg
zolpidem (IR)	5 mg (women) 10 mg (men)
Sleep Maintenance Insomnia	
trazodone	50 mg
doxepin	6 mg
zolpidem (ER)	6.25 mg (women) 12.5 mg (men)
Sleep Onset + Sleep Maintenance Insomnia	
temazepam	15 mg
eszopiclone	1 mg

avoid use in those who are pregnant or breastfeeding. Neonates born to mothers who used this medication are at risk of experiencing dependence and complications from withdrawal.

Medications for Sleep Maintenance Insomnia

Sleep maintenance insomnia is a disruption in sleep that occurs throughout the night. Individuals living with this condition are subject to multiple awakenings that negatively impact sleep quality. ***Trazodone*** (Desyrel®) is a serotonin receptor antagonist and reuptake inhibitor (SARI) that is commonly used off-label for the treatment of insomnia. Originally designed for the treatment of major depressive disorder (MDD), post-marketing surveillance found that trazodone causes increased somnolence, thus enabling its multipurpose use. Trazodone is typically initiated at a lower dose and titrated upward based on clinical response, ranging from 50 mg - 400 mg nightly. It is contraindicated within 14 days of monoamine oxidase inhibitor (MAOI) use due to increased risk of developing serotonin syndrome. All antidepressants carry a BBW for suicidal ideation and behavior in pediatric, adolescent, and young adult patients. If a younger patient is prescribed trazodone for insomnia, careful medical supervision is essential. Despite its increased prevalence, trazodone is not currently recognized as a treatment option for insomnia by the Academy of Sleep Medicine or the FDA.

Doxepin (Silenor®) is a tricyclic antidepressant that is FDA-approved for the treatment of anxiety, MDD, and sleep maintenance insomnia. The dosage form of this medication is relative to the treatment indication. For insomnia, tablets are the preferred formulation with available strengths of 1 mg, 3 mg, and 6 mg. Recommended starting (and maximum) dose in adults is 6 mg, taken 30 minutes before bedtime. This medication is approved in children ages 12 and older, but is recommended to use with caution due to risk of suicidal ideation. Doxepin is included on the American Geriatrics Society Beers Criteria due to its strong anticholinergic properties and increased risk of sedation, so a starting dose of 3 mg is recommended in adults over 65. Use is contraindicated in patients who have a history of urinary retention or a history of glaucoma. Other adverse effects of this medication include drowsiness, hypotension, dry mouth, dizziness and blurred vision.

Temazepam (Restoril™) is a benzodiazepine hypnotic agent that is FDA-approved for the short term treatment of both sleep onset and sleep maintenance insomnia. The typical adult starting dose is 15 mg taken 30 minutes before bedtime, but may range from 7.5 mg to 30 mg depending on the condition and patient-specific factors, such as age. For geriatric patients, the starting dose is 7.5 mg nightly due to increased fall risk. As with other benzodiazepines, it is important that this medication be tapered off slowly to prevent withdrawal symptoms. Temazepam has a BBW for coadministration with opioids as it can increase the risk of respiratory depression, sedation, coma and death. Common adverse effects of this medication include drowsiness, headache, nausea, lethargy and diarrhea. Temazepam is contraindicated for use in pregnant women as it can cause fetal harm and increase the risk of dependence upon birth. It was found that a small percentage of temazepam was present in breastmilk; however, due to its short half-life, the traceable amount is not believed to cause infant harm. It is recommended that the dose be taken after the last nighttime feeding and the child should be monitored for increased somnolence and poor weight gain. There is no evidence to suggest safe use in neonates, infants, children or adolescents.

Eszopiclone (Lunesta™) is another non-benzodiazepine hypnotic agent and GABA-A receptor positive modulator that is FDA-approved to decrease sleep latency and improve sleep maintenance. The starting dose of this medication is 1 mg taken immediately before bedtime, with potential titration up to a maximum of 3 mg nightly. Patients should plan to receive at least seven to eight hours of sleep before taking this medication due to its prolonged half-life. Patients over 65 years of age and those with hepatic impairment should not exceed 2 mg nightly due to slower elimination of the drug and increased concern for adverse effects. The most common adverse effects include headache, somnolence, dizziness, unpleasant taste, dry mouth, and rash. There are insufficient data to support the use of eszopiclone in pregnancy and lactation; therefore, its use should be limited to those in which other treatment options are inadequate. Patients should not take this medication following the consumption of a large, high-fat meal as it delays absorption and overall efficacy. Alcohol should be avoided while taking this medication. It is recommended to skip the dose of eszopiclone if alcohol is being consumed during the same evening due to risk of increased central nervous system depression.

Zolpidem (Ambien®) is also a GABA-A positive modulator that is FDA-approved for the treatment of both sleep onset and sleep maintenance insomnia. It is available in both immediate and extended-release formulations, with immediate-release tablets indicated for sleep latency and extended-release tablets indicated for sleep maintenance. For treatment of sleep latency insomnia, the starting dose is 5 mg for women and 10 mg for men to be taken before bedtime. In the treatment of sleep maintenance, it is recommended for women to start at 6.25 mg nightly and men at 12.5 mg nightly. This medication has a BBW for complex sleeping behaviors, such as sleep-walking or sleep-driving, which can lead to physical injury and death. Patients experiencing such behaviors are to discontinue the medication

and seek medical attention immediately. Adverse effects of zolpidem are found to be duration-dependent. For short-term use of four weeks or less, drowsiness, dizziness, headache, and diarrhea are among the most prominent effects. With long-term use, typically three to six months or longer, visual disturbances, daytime cognitive impairment, rebound insomnia with missed doses, and addiction become more common. Long-term use of zolpidem has been linked with dementia in older adults, possibly due to accelerated beta amyloid accumulation. Zolpidem is not recommended for use in pregnancy, especially late in the third trimester, as it can cause severe respiratory depression and somnolence in neonates. For those who are breastfeeding, it is recommended to pump and discard breastmilk for 23 hours after dose administration to prevent ingestion by the child.

Temazepam and the nonbenzodiazepine "Z drugs" – zaleplon, eszopiclone and zolpidem – are all schedule IV controlled substances with the potential for dependency and abuse. It is recommended that these medications be taken at the lowest effective dose for the shortest duration necessary. Providers and pharmacists should monitor the Ohio Automated Rx Reporting System (OARRS) for drug diversion and to coordinate patient care.

Conclusion

Insomnia is a sleep disorder that can significantly impact patient health and wellbeing. Changes in sleeping patterns and behaviors can be linked to factors including environmental stressors, medications, use of electronics before bed, or chemical imbalances in the brain. Whether addressing insomnia of sleep onset or sleep maintenance, treatment depends on a variety of considerations such as age, current medications, comorbidities and previous treatments. Guidelines recommend nonpharmacologic interventions as first-line therapy, such as improving sleep hygiene habits, CBT-I, sleep restriction therapy, and sleep journaling. With timely diagnosis and individualized treatment, patients are able to achieve a better night's sleep, allowing the body to undergo essential restorative processes that improve overall quality of life.

The author, the Ohio Pharmacists Foundation, and the Ohio Pharmacists Association disclaim any liability to you or your patients resulting from reliance solely upon the information contained herein. Bibliography for additional reading and inquiry is available upon request.

This lesson is a knowledge-based CPE activity and is targeted to pharmacists and pharmacy technicians in all practice settings. Disclosure: Individuals responsible for planning OPF continuing pharmacy education activities have no relevant financial relationships with ineligible companies to disclose.

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CPE Hours: 1.0 (0.1 CEU)

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Please turn to Correspondence Course Quiz on page 31.

2026 opa long range planning meeting highlights

Cathy Kuhn, R.Ph., PharmD, FAPhA

OPA's 2026 Long Range Planning (LRP) meeting, held May 14 and 15 at the OPA Office, was facilitated by OPA Immediate Past President, Dana Wilkerson. Participants included President Nick Newman, President-Elect Jeff Steckman, Vice President Kristen Sobota;, and District Board Trustees Kelsey Lindsley, Micah Sobota, Sarah Priestle, Jason Bester, Michelle Magyer, Julie Cymbola, Hope Hill, Magdi Awad, Colin Ecker, and Chris Paxos;, Student Trustees Cadence Carpenter (ONU) and, Marissa Mitchell (OSU). OPF Board members in attendance included President Debra Parker, Sarah Adkins, Marialice Bennett, Steve Burson, Karen Kier, Dan Krinsky, Sue Paul, Max Peoples, and Tim Ulbrich. Committee and Workgroup Chairs and Co-Chairs in attendance included Megan Hull and Olivia Kinney (Communications), Michael Murphy and Brittany Bates (Legal & Regulatory), Hope Hill and Jessica Hinson (Member Engagement & Experience), Regann Rutschilling (NPX), Ariel Williams, Andrew Faiella, and Jen Sabatino (Practice Advancement and Innovation), and Adrean Jones and Emily Burke (Technician Membership). Faculty Liaisons Jessica Hinson (ONU) and Brianne Porter (OSU) were also in attendance to collaborate with Student Trustees. OPA Past Presidents in attendance included Steve Burson, Dave Boyer, Cathy Kuhn, Debra Parker, Bob Schmoll, Marc Sweeney, and Logan Yoho. Lastly, OPA staff were represented by Sara Kilpatrick, Cathy Kuhn, Janice Johnson, Myriam Shaw Ojeda, Zach Sparks, Shea Swick, Briana Wukovich, and OPA Lobbyist Michelle Fitzgibbon.

The 2026 LRP meeting focused on the future direction of the Association by revisiting OPA's mission, core values, and goals. The current mission of the Ohio Pharmacists Association is to invest in and empower Ohio pharmacists in every setting as the medication expert. In pursuit of the mission, the Association will be innovative, inclusive, collaborative, and solution-oriented (core values). The current goals of the association are:

- **Advocate**: to be the voice of pharmacists and pharmacy personnel to protect and advance the profession;
- **Cultivate**: to cultivate passion and foster professional fulfillment for pharmacists and pharmacy personnel;
- **Strengthen**: to strengthen pharmacy practice to optimize medication use;
- **Inspire**: to inspire pharmacists and pharmacy personnel to be valued and connected members; and
- **Align**: to align operational resources to facilitate the mission and vision of the Association.

There was much discussion regarding whether the mission, core values, and goals reflected the direction and priorities of the profession and are inclusive of the Association's membership, which includes pharmacy technicians and student pharmacists. There was also discussion to add "member-driven" as a core value and create a vision statement, which OPA does not currently have.

The proposed changes to the mission, core values, and goals will be further discussed when bylaws amendments are formally introduced at the House of Delegates meeting during the 2027 OPA Annual Conference & Trade Show.

Attendees reviewed and refreshed OPA's strategies to achieve goals, celebrated successes, and discussed which ones to bring forward for the next year. OPA's Board of Trustees, Committees, and Workgroup are the cornerstone of member engagement in our work. Attendees identified and prioritized SMART goals for the Board of Trustees and each committee and workgroup that will support and advance OPA's mission and goals.

Thanks to all who took time away from their practices to attend this important meeting. Great ideas for moving OPA forward on several fronts were generated. The next step will be for President Nick Newman and Immediate Past President Dana Wilkerson to work with the Executive Committee, Board of Trustees, and OPA staff to finalize goals and to engage the OPA and OPF Boards, committees, and workgroups to champion their respective goals throughout the year.

FDA's Recent Peptide Action Is Not a Green Light for Compounding Pharmacies

Dae Lee, Pharm.D., Esq., CPBS and Lucas Morgan, Esq.

Recent public statements about the U.S. Food and Drug Administration's (FDA) action on certain peptides have caused confusion for many in the compounding space. Some are reading the announcement as a broad reopening of the market for peptide compounding. That reading is too aggressive and could create real risk for pharmacies.

The accurate reading and view is more restrained. The FDA appears to have taken a procedural step involving certain peptide nominations. That does not mean compounding pharmacies now have a free pass to compound every peptide identified in the public discussion. It also does not mean the legal and regulatory concerns surrounding these substances have disappeared.

At a high level, the announcement suggests that certain peptides are being removed from Category 2 after the relevant nominations were withdrawn, and that several of those substances may still be presented to the Pharmacy Compounding Advisory Committee for further review. That distinction matters. A procedural removal from one category is not the same thing as a final agency determination that a bulk drug substance is appropriate for routine compounding under Section 503A.

That is the core point. A change in status within the FDA's interim framework does not automatically create a legal safe harbor for pharmacies. Nor does it erase the safety, quality, sourcing, and clinical support concerns that have historically made peptide compounding a flashpoint. Many of these requirements are well established, "black letter law" and do not change simply because they are tied to peptides.

For compounding pharmacies, the practical message is straightforward. This development may signal that the FDA is willing to revisit or reevaluate certain substances and that change is on the horizon. That is meaningful. But meaningful does not mean settled. It certainly does not mean pharmacies should start advertising, dispensing, or scaling peptide offerings based on social media posts, screenshots, or industry chatter.

The real risk is that some pharmacies will treat this as a market signal rather than a regulatory development. That would be a mistake. In this industry, aggressive interpretation often gets pharmacies into trouble before the law has actually changed. The excitement comes first. The marketing follows. Then come questions from regulators, wholesalers, boards of pharmacy, payors, or federal enforcement agencies.

The more responsible approach is substance-specific analysis. Pharmacies should not lump all peptides together and assume they stand on the same footing. The regulatory path, historical safety concerns, route of administration, sourcing questions, and likelihood of future FDA scrutiny may differ from one substance to another.

This is also an operational issue. A pharmacy that rushes into peptide compounding based on incomplete information may create vendor risk, billing risk, advertising risk, and licensure risk. Marketing materials, website language, patient communications, telehealth relationships, fulfillment practices, and sourcing records all become relevant once a product line is launched.

None of this means the FDA's action lacks significance. It does have significance. It suggests their position is not entirely static and that certain peptide-related issues remain under active consideration. But that future possibility should not be mistaken for present certainty.

For now, the right takeaway is caution. Not panic. Not celebration. Caution. Pharmacies should review each substance individually, confirm where it actually stands, monitor FDA and advisory committee activity, keep promotional activity restrained, and make sure sourcing, formulation, and recordkeeping issues are fully vetted before moving forward.

In this area, pharmacies do themselves no favors by being early if early also means exposure. The wiser course is to wait for clearer regulatory footing and act only when the substance-specific analysis supports it. That approach may be less exciting, but it is far more defensible.

Innovations in Action in an Independent Pharmacy

Clara Botros, R.Ph., PharmD & Salem Mattar, PharmD Candidate 2028

Independent community pharmacies continue to redefine their role within the healthcare system by providing accessible, patient-centered services that extend beyond traditional dispensing. Through innovative clinical programs, preventive care initiatives, and personalized medication management, community pharmacists are uniquely positioned to improve health outcomes while strengthening access to care.

As a PGY1 pharmacy resident through The Ohio State University Community-based Residency Program with a practice site at Uptown Pharmacy in Westerville, Ohio, I have experienced firsthand how independent pharmacies serve as vital healthcare destinations. Residency training in the community setting focuses on developing clinical, operational, and leadership skills that prepare pharmacists to provide comprehensive patient care. Through direct patient interaction, collaboration with healthcare providers, and community outreach initiatives, residents contribute to both individual and population health outcomes.

One of the most impactful services I have learned during residency training is point-of-care testing (POCT). Community pharmacies increasingly use POCT to expand access to timely clinical assessment. At Uptown Pharmacy, services such as blood pressure monitoring, hemoglobin A1c testing, and INR monitoring allow pharmacists to identify uncontrolled disease states, assess therapy effectiveness, and provide prompt counseling or referral when necessary. Blood pressure monitoring provides immediate awareness of cardiovascular risk and enables counseling on lifestyle modifications or need for further evaluation. Hemoglobin A1c testing supports discussions around glycemic control, medication adherence, and treatment goals for patients with diabetes or prediabetes. INR monitoring for patients on warfarin provides rapid results that guide dosing decisions and help prevent thromboembolic or bleeding complications. The ability to test, interpret, and counsel within a single encounter highlights the expanding role of pharmacists as accessible healthcare providers.

Compounding is another cornerstone of independent community pharmacy practice and a key component of my residency training. It allows pharmacists to meet individualized patient needs that cannot be addressed by commercially available products. A major focus of the compounding practice is hormone replacement therapy, with formulations tailored to each patient's hormonal needs, dosage form preference, and tolerability. The pharmacy also prepares medications for patients with excipient allergies, those requiring alternative routes of administration, and those needing commercially unavailable doses. The compounding lab serves as a learning environment for APPE students, providing hands-on experience in non-sterile compounding, quality assurance, and regulatory standards, including USP 795 and USP 800. This experience reinforces the precision and clinical judgment required to deliver individualized patient care at a high level.

Another key service offered at Uptown Pharmacy is medication synchronization, an innovative approach that improves adherence and simplifies medication management for patients. Approximately 50% of patients are currently enrolled in the program, reflecting its strong integration into workflow and patient care. Through this service, patients are proactively contacted about one week before their refill due date to confirm medication needs and coordinate refill requests in advance. This process reduces gaps in therapy, minimizes unnecessary pharmacy visits, and creates consistent opportunities for pharmacists and technicians to assess adherence and identify medication-related concerns before they escalate. Medication synchronization improves inventory management by creating more predictable medication demand, allowing for better forecasting and more precise ordering. It also supports sustainability of pharmacy services by improving workflow efficiency and helping to align pharmacist-led care with value-based healthcare priorities. These efficiencies allow pharmacies to better capture the clinical value of adherence-focused interventions while maintaining high-quality patient care.

One of the most impactful services provided by Uptown Pharmacy is its robust immunization program. Uptown holds the distinction of being the first pharmacy in Ohio to administer vaccines, reflecting its long-standing dedication to advancing the role of pharmacists in public health. The immunization clinic was first established in the late 1990s and led by Max Peoples, whose leadership helped lay the foundation for the program's continued expansion. That commitment continues today as Uptown continues to grow this service across multiple clinics and assisted living facilities, helping to serve the community each fall and throughout the year. The impact extends well beyond the pharmacy walls. As a resident working alongside pharmacy students and interns, I have had the privilege of participating in off-site vaccination clinics across Columbus, Cincinnati, Dayton, and Westerville. These outreach initiatives allow pharmacists to meet patients where they are, breaking down barriers to preventive care and reinforcing the pharmacist's role as a frontline public health provider.

Independent community pharmacies continue to demonstrate their value to the communities they serve. Through services such as immunizations, point-of-care testing, medication synchronization, and compounding, pharmacists are improving access to care and enhancing patient outcomes. My residency training has reinforced the impact pharmacists can have when practicing at the top of their licensure and has highlighted the critical role independent community pharmacies play in shaping the future of healthcare.

news from our colleges

The Ohio State University

Ohio State's College of Pharmacy's Advocacy Collaborative recently organized a letter-writing initiative in support of Ohio Senate Bill 230, currently under consideration in the Ohio Senate. The campaign resulted in 20 handwritten letters of support submitted by PharmD students of all classes. This effort highlights a shared commitment to expanding healthcare access as pharmacists are one of the most accessible healthcare providers, and a step towards pharmacists practicing at the top of their license.

University of Findlay

The University of Findlay College of Pharmacy recently completed a unique international Advanced Pharmacy Practice Experience in Japan in partnership with Kyushu University. Four student pharmacists, Sofia Bendorf, Charlotte Heiser, Brady Bland, and Benjamin Buathier, participated in the experience under the guidance of faculty members Dr. Lauren Forsythe and Dr. Nira Kadakia.

Throughout the rotation, students engaged in educational and cultural experiences that expanded their understanding of global healthcare systems, pharmacy practice, and patient care. Students documented their experiences through reflective blogs, highlighting lessons learned, professional growth, and cultural immersion. The experience provided valuable insight into international pharmacy practice while strengthening students' global perspectives and cultural competency. The College of Pharmacy is proud of these students and faculty members for representing the University of Findlay and advancing global learning opportunities within pharmacy education.

Featured OPA 2026-27 Student Trustees

Northeast Ohio Medical University

Juliana Michael

"I am a PharmD candidate at NEOMED, Class of 2028. Originally from Northeast Ohio, I earned my Bachelor of Science in Biology before pursuing pharmacy. I am actively involved in student leadership as APhA-ASP President, PediaWhales President, and Phi Lambda Sigma Treasurer. I have pharmacy internships at both Rainbow Babies & Children's Hospital and NEOvations Telehealth Pharmacy, which have strengthened my passion for pediatric and ambulatory care pharmacy. Outside of pharmacy, I enjoy spending time with family and friends and traveling. As an OPA Student Trustee, my goal is to amplify student voices, strengthen engagement, and inspire the next generation of pharmacy leaders."

Ohio Northern University

Cadence Carpenter

"I am from St. Marys, Ohio, and work at my hometown institution, Joint Township District Memorial Hospital. Attending Ohio Northern University, where I am also pusuing a minor in psychology, I am involved in ONU's chapter of APhA-ASP as Vice President of Policy, American Society of Consultant Pharmacists (ASCP) as Historian, and independent research studies. In my spare time, I enjoy thrifting and frequenting the local markets. My goals for OPA are to connect with all seven schools of pharmacy in Ohio and increase collaboration across the state."

University of Toledo

Sydney Button

"I am from Newport, Michigan and proud to represent the University of Toledo where I am pursuing a B.S. in Pharmaceutical Sciences with a minor in Chemistry, along with my PharmD. Outside of OPA, I serve as an Executive Event Planner for our pharmacy student council, Vice President of Policy for our APhA-ASP chapter, and an Oncology pharmacy intern at the Dana Cancer Center at UTMC. In my free time, I play both indoor and beach volleyball, enjoy going to heated work out classes, and love cooking! As an OPA student trustee, I aim to keep University of Toledo pharmacy students informed about developments in pharmacy."

Cedarville University	***Matt Devitto***
Ohio State University	***Marissa Mitchell***
University of Cincinnati	***Ryan Ballou***
University of Findlay	***Kimberly Le***

Deceased Pharmacists & Pharmacy Technicians

- Lucille E. Jones, R.Ph., 86, Akron, May 1
- Robert "Bob" Nicewander, R.Ph., 88, Massillon, May 8
- Sonia Fox, R.Ph., 97, Loveland, May 9
- Robert Lee Zimmer, R.Ph., PharmD, 36, Columbus, May 9
- Jacob A. Worthington, R.Ph., PharmD, 30, North Olmsted, June 20
- Raymond "Ray" P Denuit, R.Ph., 74, Oak Hill, June 23
- Brenda Cottrill, RPhT, 79, Logan, May 6
- Myrna Virginia Hudak, CPhT, 60, Riverside, June 12
- Mary Ann Zevorich, RPhT, 67, Canton, June 12
- Diana Leach, RPhT, 84, Circleville, June 22

continuing education quiz

Program 0129-0000-26-008-H01-P/T
0.1 CEU

Name_____

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City, State, Zip_____

NABP e-Profile ID_____Birthdate_____ (MMDD)

Prescribing a Better Night's Sleep

1. What are the two main phases of the sleep cycle?
   a. NREM and REM
   b. N2 and N3
   c. N1 and REM
   d. Rest and Relaxation

2. In which phase of the sleep cycle does one typically spend the most amount of time?
   a. N1
   b. N2
   c. N3
   d. REM

3. This phase of the sleep cycle is responsible for dreaming and causes rapid-eye movement.
   a. NREM
   b. N3
   c. REM
   d. None of the above

4. Chronic insomnia is defined as experiencing difficulty sleeping for at least _____.
   a. three nights.
   b. one week.
   c. one month.
   d. three months.

5. What is the first-line, nonpharmacologic treatment option for patients experiencing chronic insomnia?
   a. CBT-I
   b. Trazodone
   c. Sleep Number® bed
   d. Melatonin

6. Which medication should not be taken following a large or high-fat meal due to delayed absorption?
   a. Donepezil
   b. Triazolam
   c. Ramelteon
   d. Diphenhydramine

7. Which of the following medications carries a BBW for complex sleep behaviors?
   a. Doxylamine
   b. Trazodone
   c. Temazepam
   d. Zaleplon

8. What is the maximum daily dose of doxepin for the treatment of insomnia in adults?
   a. 1 mg
   b. 3 mg
   c. 6 mg
   d. 75 mg

9. What is the initial recommended dose for women taking zolpidem for sleep maintenance insomnia?
   a. 6.25 mg
   b. 5 mg
   c. 10 mg
   d. 12.5 mg

10. Which of the following conditions would most likely warrant a dose adjustment when treating insomnia?
   a. Hypertension
   b. CKD
   c. Hepatic impairment
   d. Type II diabetes

Completely fill in the lettered box corresponding to your answer.

1.	[a]	[b]	[c]	[d]	6.	[a]	[b]	[c]	[d]
2.	[a]	[b]	[c]	[d]	7.	[a]	[b]	[c]	[d]
3.	[a]	[b]	[c]	[d]	8.	[a]	[b]	[c]	[d]
4.	[a]	[b]	[c]	[d]	9.	[a]	[b]	[c]	[d]
5.	[a]	[b]	[c]	[d]	10.	[a]	[b]	[c]	[d]

❑ For best pricing, use the QR code to submit your answers online for immediate grading and upload to the CPE Monitor.

❑ I am enclosing $10 for this quiz; check payable to Ohio Pharmacists Association. Return quiz to Correspondence Course, OPA, 2674 Federated Blvd., Columbus, OH 43235-4990 or fax to 614.389.4582.

1. Rate this lesson: (Excellent) 5 4 3 2 1 (Poor)
2. Did it meet each of its objectives (p. 7)? ❑ yes ❑ no
   If no, list any unmet_____
3. Was the content balanced and without commercial bias?
   ❑ yes ❑ no If no, why?_____
4. Did the program meet your educational/practice needs?
   ❑ yes ❑ no
5. How long did it take you to read this lesson and complete the quiz? _____
6. Comments/future topics welcome.

To receive CPE credit, your quiz must be received no later than July 15, 2029. A passing grade of 80% must be attained. Only current OPA members may receive CPE credit for this lesson.

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