DOS AND DON'TS OF IPL THERAPY

A brief guide to safe and effective treatment for patients with OSD.

BY JESSILIN QUINT, OD, MBA, MS, FAAO

Intense pulsed light (IPL) therapy has been making waves in the eye care industry over the past decade, as many eye care providers are embracing this technology and incorporating it into their services. IPL therapy uses different wavelengths of light to target underlying inflammation and effectively treat conditions such as ocular surface disease (OSD), ocular rosacea, meibomian gland dysfunction (MGD), hordeolum, and chalazion.

In this article, I offer a few dos and don'ts to help ensure you are making the most of IPL technology in treating your patients with OSD.

THE DOS

Set Clear Expectations

Although IPL therapy is an effective treatment for many variations of OSD, it is not a magic bullet. Dry eye is multifactorial, which means patients may need various treatment modalities to truly improve their symptoms and clinical appearance. Therefore, it is not advantageous to promise patients that IPL therapy alone will take care of all their symptoms, as they often require additional treatments, such as microblepharoexfoliation, thermal pulsation, or pharmacologic prescriptions.

Not only will many patients require adjunct therapy, but they will also likely need to undergo multiple IPL sessions and ongoing maintenance treatments to keep their symptoms at bay. We've been trained to start patients with four IPL treatment sessions initially, when in reality sometimes more severe cases need six, eight, or even more initial treatments. Be sure to set clear expectations to help patients understand the dry eye journey ahead of them. The best approach is to under-sell and over-deliver.

Use Caution With Darker Skin Types

Not every patient is a candidate for IPL therapy. Its mechanism of action is to target pigment (ie, melanocytes), so eye care providers need to be careful when treating patients with darker skin types, as their skin contains more melanin and, thus absorbs more light energy during IPL treatments. This leads to a higher risk of hyperpigmentation, hypopigmentation, burns, and scarring.

I do not use IPL therapy in my office on patients who have a Fitzpatrick skin type higher than V. For skin types IV and V, I exercise extreme caution and perform a patch test before proceeding with full IPL treatment. The patch test allows me to assess the skin's response and determine

whether IPL is a safe and effective treatment option for the patient.

Although it is tempting to use the back of the hand as a patch test location, I avoid this area because this skin is often very different from the skin on the face. I prefer to do a patch test on the upper cheek, close to the hairline, to obtain a true assessment of how patients will respond to IPL therapy and to minimize the visibility of the patch if they have a less-than-positive result. It is imperative to discuss the potential risks of IPL therapy with patients and to obtain written consent before every IPL treatment.

Use Eye Shields

Many schools of thought exist regarding whether to treat the eyelids in IPL therapy protocol. Preliminary results from a study by Martínez-Hergueta et al suggest that IPL therapy applied directly on the eyelids without a corneal shield can be safe and effective in the treatment of MGD.[1] Chung et al investigated the subjective and objective outcomes after IPL treatment and meibomian gland expression on the upper and lower eyelids compared with those after IPL treatment on the lower eyelid alone in patients with moderate-to-severe MGD and found that additional IPL treatment on the upper eyelid using a protective device was safe and led to greater improvement.[2] Regardless, all patients must wear laser-grade eye protection during treatment. If the eyelids are not being treated directly, laser-grade goggles or sticker shields are adequate to protect the patient; however, if you are treating the eyelids, metal laser corneal shields should be used. Many of these corneal shields come with a peg that acts as a handle for easy removal, but the peg often gets in the way and can be annoying to work around. Pegless corneal shields are available, which generally come with a plunger (similar to what is used with scleral lenses) that allows for easy removal.

THE DON'TS

Don't Treat Melasma

Melasma is a skin condition characterized by dark, irregular patches of pigment on the skin of the face. The hyperpigmented areas are caused by an overproduction of melanin in the skin due to various genetic, hormonal, or inflammatory factors. Although the primary symptom of melasma is hyperpigmentation and it can often look similar to hyperpigmentation from sun exposure, it is not the same condition, and IPL therapy can potentially make melasma worse by triggering an inflammatory response. Generally, hyperpigmentation is very focused, and melasma presents as broad patches with areas of clearing.

Don't Let Telangiectasia Dictate Clinical Success

IPL therapy can feel like a magic eraser for telangiectasia. Although these superficial vessels do sometimes go away after treating the skin with IPL therapy, they may not disappear entirely, and they may even return. Chasing the disappearance of telangiectasia vessels as the treatment endpoint or measure of success with IPL therapy is limiting and fails to provide a full clinical picture from an OSD standpoint. IPL's mechanism of action—and what makes it effective as a dry eye treatment—is that it causes coagulation of hemoglobin, which stops the spread of inflammatory mediators. A patient can still experience significant clinical improvement in OSD, even if their telangiectasia vessels do not resolve entirely.

Better endpoints to measure the success of IPL therapy include Standardized Patient Evaluation of Eye Dryness score, corneal and lid margin appearance, and conjunctival and corneal staining results.

Don't Skip Education on Sun Protection

A contraindication for IPL therapy is having a tan or sunburn. Although patients should always wear sunscreen, it is especially important for them to do so in between IPL treatments to avoid disrupting or delaying treatments. This naturally presents an opportunity for eye care providers and staff to talk with patients about using mineral-based sunscreen that is broad spectrum and, thus a better option for those with OSD.[3] Take the time to explain to patients why sunscreen and the

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AT A GLANCE

- Intense pulsed light (IPL) therapy uses different wavelengths of light to target underlying inflammation and effectively treat conditions such as ocular surface disease (OSD), ocular rosacea, meibomian gland dysfunction, hordeolum, and chalazion.
- Caution should be exercised when using IPL therapy on patients with darker skin types, as their skin contains more melanin and, thus absorbs more light energy during treatments.
- A patient can experience significant clinical improvement in their OSD after IPL therapy even if their telangiectasia vessels do not go away entirely.

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ingredients in these products matter, and remind them to apply sunscreen to their eyelids and to reapply multiple times throughout the day.

This is also a great opportunity for your eye care office to start selling sunscreen products if you do not already. Selling sunscreen in-office creates an additional revenue stream and allows patients to purchase exactly what you recommend without having to make a separate trek to the store (and potentially buy a product with lower quality ingredients).

A GREAT OPTION WHEN USED APPROPRIATELY

IPL therapy is an advantageous tool for treating patients with OSD. By being mindful of these dos and don'ts, eye care providers can maximize their success with this technology. ■

1. Martínez-Hergueta MC, Alió del Barrio JL, Canto-Cerdan M, Amesty MA. Efficacy and safety of intense pulsed light direct eyelid application. *Scientific Reports*. 2022;12:15592.
2. Chung HS, Han YE, Lee H, Kim JY, Tchah H. Intense pulsed light treatment of the upper and lower eyelids in patients with moderate-to-severe meibomian gland dysfunction. *Int Ophthalmol*. 2023;43(1):73-82.
3. Quint J. The sunscreen-eye health connection. *Modern Optometry*. 2020;3(4):47-49.

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- Financial disclosures: Consultant (Alcon, Allergan, Bausch + Lomb, Dompé, Tarsus)