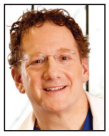
Device-Based Approaches to Acne and Rosacea

Leading dermatologists share pearls on device-based acne and rosacea treatments.

BY DENISE MANN, EDITOR-AT-LARGE

Lasers and lights have an important and growing role to play in reducing the erythema and telangiectasia of rosacea and in the treatment of acne and acne scars. These devices may be used alone or in conjunction with topical and oral therapies to address the various signs and symptoms of these common skin conditions. Especially when paired with topical or systemic therapies, energy-based devices may help reduce the appearance of redness more quickly and allow for more prolonged remissions.

Ahead, experts share some of their favorite approaches to device-based management of red faces.



Get to the Root Causes

"First-line treatments for acne include topical agents. I typically recommend a comedolytic, such as a retinoid, to be applied in the evening, and a topical antibiotic, such as clindamycin with or without benzoyl peroxide. I would add oral antibiotics to the list of what I refer to as first-line treatments.

Second-line treatments, such as alpha hydroxy acid peels (actually these are treatments as nothing really "peels") and home blue lights to target porphyrins in acne bacteria (such as the Tria Blue light), are not covered by insurance and are adjuvants to first-line therapies as generally they cause no side effects.

Third- or fourth-line therapies include isotretinoin and the pulsed dye laser (PDL) due to cost. The PDL improves red acne scars and I believe it helps suppress acne temporarily (controlled studies of the PDL in acne are needed). The newer PDL should enable more rapid treatments, lowering cost, and perhaps increasing the utility of this device for treating acne.

However, for rosacea, I think the PDL is first-line because it's the only treatment that removes the root cause of rosacea: the extra veins one acquired from the sun. All the other treatments for rosacea aim to prevent these hyperproliferated veins from causing flushing or for treating the pimples associated with rosacea. The PDL removes the cause of these symptoms and is therefore first-line for treating rosacea."

—Eric Bernstein, MD
Director, Laser Surgery and Cosmetic Dermatology Centers, Ardmore, PA

Alternating Options

"My go-to devices for rosacea are pulsed dye laser (Candela Vbeam Prima) and intense pulsed light (Lumenis M22). I often will alternate these two treatments to get the best results. This allows me to get to vasculature of different depths and vessel size without the need for purpuric settings.

I will stagger these treatments every four to six weeks until redness reduction has plateaued. To maximize topical therapy, I will have patients use Rhofade (oxymetazoline, Allergan) in between laser treatments. However, they stop application three days prior to each treatment.

If there is an acniform or demodex component to the patient's presentation, I will have them use daily a compounded topical consisting of azelaic acid 15%, ivermecton 1%, and metronidazole 1%."

—Gilly Munavalli, MD, MHS, FACMS
Medical Director, Dermatology, Laser & Vein Specialists of the Carolinas, Charlotte, NC

Combinations Count

"My go-to device for treating acne is the Isolaz (Solta, Photopneumatic energy—vacuum with selected broadband light). It is FDA approved

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—*Melissa Kanchanapoomi Levin, MD*

for all four components of acne and has the longest experience post-FDA clearance.

"My two go-two devices for treating rosacea are the Cutera Excel V and Candela's Vbeam laser. Vascular lasers in the visible wavelength provide the most effective improvement of rosacea, as has been proven with long-term experience, clinical studies, and FDA clearances. For both acne and rosacea, these devices work best when combined with medical therapy. Keep in mind that both acne and rosacea are recurrent and often chronic conditions that require maintenance."

—Vic Narurkar, MD
Founder of the Bay Area Laser Institute, San Francisco, CA

Consider the Many Factors

"Patients who have rosacea, especially erythrotelangiectatic form, are ideal candidates for light and laser treatments. Light and laser therapies that target oxyhemoglobin utilize wavelengths of 595nm (pulsed dye laser) and 532nm (KTP), which use heat in order to destroy broken blood vessels and capillaries to minimize facial redness and telangiectasias.

Intense pulsed light (IPL) or broadband light (BBL) can also be used to treat by filtering the broad spectrum of light to 595nm, however, it's important to pick candidates at the optimal time when they are not tan or sunburned. Darker skin types need to be treated cautiously, due to concern of hyperpigmentation and complications. I recommend that patients undergo a series of treatments spaced three to four weeks apart.

Since acne vulgaris is a multi-factorial, chronic, inflammatory disorder of the pilosebaceous unit, laser and light treatments are often combined with traditional therapy including topical or oral prescription medications. The strongest evidence has relied on light-based therapies that utilize blue and red light with wavelengths between 400-700nm that are absorbed by the bacterium known as *Propionibacterium acnes*. Blue light has been proven to decrease the bacterial load as well as to confer an anti-inflammatory effect on keratinocytes.

Other laser and light devices, such as intense pulsed light (IPL), broadband light (BBL), pulsed dye lasers (PDL), and potassium titanyl phsophate lasers, have been shown to exert direct phototoxic and thermal damage to the sebaceous gland.

Photodynamic therapy (PDT) uses a photosensitizing agent, such as ALA or MAL, in order to cause bactericidal effects on *P. acnes* as well as damage the pilosebaceous unit. Newer therapies on the horizon are targeting the sebaceous glands, since acne is an inflammatory condition of the pilosebaceous unit. One such treatment uses nanoparticles that are activated by different wavelengths of laser heat energy in order to heat the sebaceous glands. Infrared lasers for nonablative facial rejuvenation, such as Clear + Brilliant (1470nm, Solta) and HALO Pro (Diode with Erbium, Sciton) have shown improvement in active acne but demonstrate more effective results for acne scarring." ■

—Melissa Kanchanapoomi Levin, MD
New York City dermatologist