There are not a lot of clinical trials supporting the use of physical modalities to treat acne yet, but anecdotal evidence suggests that these devices may play an adjunctive role in acne care, says Diane Berson, MD, a New York City dermatologist.

Dr. Berson discussed the role of physical modalities in the treatment of acne during a session on new acne guidelines at the 2017 Summer American Academy of Dermatology meeting in New York City, after which, she sat down with Plano, TX dermatologist Seemal Desai, MD to share her insights for Dermtube.com.

GUIDELINES AND PHYSICAL MODALITIES

The American Academy of Dermatology’s Guidelines for the management of acne vulgaris stop short of recommending physical modalities—including pulsed dye laser, glycolic acid peels, and salicylic acid peels—for the routine treatment of acne. But that doesn’t mean they cannot play a role in patient care.

“We have the most experience with the blue light devices, and we can certainly use blue light alone although it really doesn’t do that much as a stand alone, but blue light in conjunction with a photosensitizer such as Levulan (photodynamic therapy or PDT) can treat actinic keratosis, and we have had success using PDT Lasers, lights, and metals may all play a supportive role in managing acne.
CLINICAL FOCUS: ACNE

“They may not be as effective or strong as in-office devices, but this is definitely a growing category.”

for inflammatory acne,” Dr. Berson says. Blue light is both antimicrobial and anti-inflammatory, she says.

Moreover, intense pulsed light and pulsed dye lasers are helpful for eradicating the redness that occurs with acne and rosacea.

Other lasers and lights are being investigated for the treatment of acne, as well. For example, the 1064nm laser, which penetrates into the dermis and heats it up, is also anti-inflammatory, antimicrobial, and may reduce the size of sebaceous glands, Dr. Berson notes.

Other devices generating buzz for acne care include radio-frequency and microfocused ultrasound. These modalities can stimulate collagen and heat up the dermis to help treat inflammatory acne, reduce the size of pores and possibly reduce sebum production. Chemical peels and some of the devices that treat acne scarring may also hold promise, Dr. Berson says.

Rubbing silver and gold microparticle-impregnated formulations into the skin so they can penetrate the sebaceous follicle, and then irradiating them with a light source is another emerging physical modality that may improve acne (See sidebar below).

Dr. Berson also touched on red- and blue-light home devices for the treatment of acne, rosacea, hair growth, and photoaging.

Her take: “They may not be as effective or strong as in-office devices, but this is definitely a growing category.” Stay tuned.

Devices In the News

From Sebacia. A company called Sebacia is using gold microparticles to selectively enter the hair follicle and penetrate to the depth of the sebaceous gland, says Adam Friedman, MD, FAAD, an associate professor of dermatology in the department of dermatology at George Washington School of Medicine and Health Sciences in Washington, DC where he also serves as the Residency Program Director and the Director of Translational Research. The Company recently raised $36 million to finish a US pivotal trial before an FDA submission expected in 2018.

“The nanoparticles are then ‘heated’ using near infrared light, which harmlessly passes through the skin and causes the gold nanoparticles to vibrate and heat up, ultimately destroying the sebaceous gland,” he explains. “The theory is that we may not even need sebaceous glands after all.”

From Neutrogena. Neutrogena supported research presented in poster form at the European Academy of Dermatology and Venereology Annual Congress meeting last month. The poster presented findings related to the use of a new low-level blue and red light therapy face mask for acne vulgaris. Histological examination showed that stratum corneum thickening following various inflammatory mediator treatments was significantly reduced concomitantly with the reduction of inflammatory mediators in LED light-treated tissues.

Researchers showed in vitro that exposure of P. acnes to 440nm light resulted in bacterial cell death in agar plated cultures, while red-light treatment provided anti-inflammatory properties and reduction of oleic acid-induced stratum corneum thickening by inhibiting oleic acid-induced IL-1 release.

Researchers noted a significant reduction in total acne lesion counts over the 12-week study period. Subjects reported significant improvements in acne and overall skin appearance.