

Omnilux Researchers of Flexible LED Tech

Editor's Note: Due to the intense scientific and clinical interest in the use of light emitting diode (LED) technology, we gathered some of the most experienced users of the popular Omnilux (PhotoTherapeutics, U.K.) system for a roundtable discussion.

What conditions do you treat with the Omnilux and has it been easy to integrate into your practice?

Mark B. Taylor, M.D. – We use the Omnilux frequently for photodynamic therapy (PDT) applications. The most common indications are precancerous lesions, such as actinic keratosis (AKs), basal cell carcinomas, Bowen's disease and acne. I use Omnilux with Levulan (DUSA Pharmaceuticals) in patients who respond poorly to conventional treatments for AKs or acne. I've also had success using the new Omnilux Plus 830 nm (near-infrared) treatment head for conditioning the skin after laser resurfacing.



Nick Lowe, M.D. – I use the Omnilux blue (415 nm) head alone for treating inflammatory acne as part of an acne treatment protocol. We often combine the Omnilux with topical therapies, systemic therapies, microdermabrasion and peels when treating acne. I also combine the Omnilux with 5-ALA for PDT, mainly for certain skin cancers: Bowen's carcinoma, superficial basal cell cancers, and multiple, more severe AKs, particularly on the face, chest, forearms and arms.

Mario Trelles, M.D., Ph.D. – I am a plastic surgeon who uses the Omnilux to improve the recovery time of tissue. We also observe very nice aesthetic improvements with surgery. Wound healing after laser resur-



Before Tx



After laser resurfacing in combination with Omnilux plus and Omnilux revive (Derma-K Laser CO₂, 6 watts, 40% duty cycle, 1.4 J/cm², 12 Hz, 4 mm spot)

facing responds nicely. After facelifting, patients respond well to the Omnilux. We are also able to reduce complications from breast augmentation.

We use the Omnilux revive (633 nm) head to produce enhanced results after Botox and rapidly decrease recovery time. The plumpness of the skin significantly improves and we avoid the risk of bruising. For blepharoplasty, we're able to reduce edema and quicken the healing time of tissue. Our comparative testing on blepharoplasty patients assessed the effectiveness of Omnilux treatment. In these patients, the light accelerated wound healing and decreased edema and bruising.

We consider the Omnilux to be an integral component of our total concept of skincare. I can also provide

Explore Possibilities nology Platform

Omnilux treatment without help from my staff and more importantly my staff can administer the treatment without supervision.

Jean Francois Tremblay, M.D. – I use the blue and red (revive) treatment heads for acne, inflammatory scars, perioral dermatitis, facial eczema, and following laser resurfacing to accelerate healing.

One of our studies using Omnilux blue light alone to treat acne vulgaris concluded that there was a significant therapeutic effect on inflammatory lesions, both papules and nodules. There were also no side effects among the 14 patients. The average improvement after four weeks or eight sessions was around 60% to 70%. Today, though, we are using both blue and red light to treat acne vulgaris. We are definitely seeing better results than using the blue light alone.

Currently, I am conducting a study treating plaque psoriasis with the Omnilux. For this condition, I am using Omnilux plus.

Bruce A. Russell, M.D. – We use the Omnilux primarily for acne and AKs. It has been easy to incorporate this system into our practice. It fits in a niche where other devices do not currently function well. For instance, prior to the Omnilux, we really didn't have a reliable device for the gamut of acne conditions, even though we have over 20 lasers. The Omnilux is definitely the most effective system we have for acne.

What are your typical treatment protocols? What clinical and subjective results are you achieving?

Dr. Taylor – For laser resurfacing, patients are given six minutes of near-infrared light (Omnilux plus) for



Photos courtesy of Nick Lowe, M.D.



Before Tx

After Omnilux Tx

two days after the procedure. We then switch to Omnilux revive for six minutes for three or more additional visits. Patients appear to heal faster with less inflammation and quicker re-epithelialization.

We certainly have good data on photorejuvenation together with the Levulan Kerastick (DUSA). I believe that the light by itself causes subtle improvements on skin tone, firmness and elasticity.

Dr. Lowe – When treating a patient's face, we use protective light-opaque goggles. We are seeing excellent results for acne and certain skin cancers. When using the Omnilux as part of aminolevulinic acid (ALA)-PDT for these skin cancers, I use 20% ALA cream formulated in the United Kingdom. The incubation time also varies. For superficial basal cell carcinomas and Bowen's carcinoma, the incubation time is normally three to four hours. But for multiple AKs, it is only one hour, after curetting the thicker AKs.

When using ALA-PDT for photorejuvenation, I mainly restrict it to patients who also have AK's. We use 10% ALA cream with an incubation period of 30 minutes. However, it is too early to know the duration of benefit for photorejuvenation. We only have about two years of follow-up with PDT.

Dr. Trelles – Our patients start treatment with the Omnilux immediately after surgery, then every two days for a maximum of five sessions. Patients are very happy with the treatment.

Clinical Roundtable

Dr. Russell – For acne, most patients receive twice weekly treatments for one month. We use a combination of red and blue light. But for more difficult patients with deeper acne lesions, we use Omnilux plus, along with the other two wavelengths.

Our prospective study of 22 acne patients showed that at 12 weeks after final treatment with the red and blue lights only, there was about an 80% reduction in lesion count. Our data for treatment with Omnilux plus is still being collected.

Many of our acne patients were considering Accutane as a last resort. However, the Omnilux sometimes provides slightly quicker results because there is no flaring as with Accutane. Accutane patients often get worse before they get better.



Bruce A. Russell, M.D.

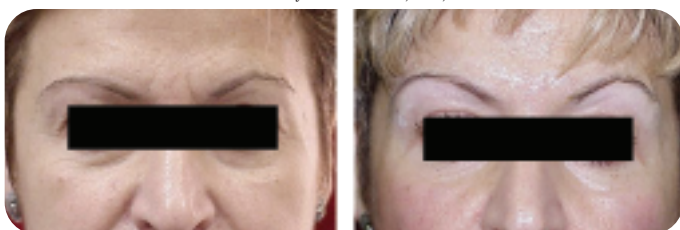
Dr. Tremblay – For acne vulgaris, I normally use the blue light during the first part of treatment, then a combination of blue and red light near the end of treatment. The blue light has more effect on *P. acnes*, whereas the red light has a deeper effect on inflammation. I also usually use retinoids and/or benzyl peroxide. There are a total of 8 to 12 light treatments, again twice a week, depending on the severity and on the patient's improvement.

The benefits of Omnilux light only treatment for acne include no downtime, no systemic medications and no side effects. Duration of clearance ranges from three months to one year. Furthermore, 30% to 40% of patients report a decrease in sebum production.

When using ALA-PDT to treat acne, I see rapid clearance and there is high patient satisfaction. You can also treat the full face. I've also used ALA-PDT for photorejuvenation. Treatments have been safe and the results dramatic.

For our psoriasis study, patients are scheduled to receive two months of treatment with the Omnilux, three times a week, 20 minutes per session. So far,

Photos courtesy of Mario Trelles, M.D., Ph.D.



Before Tx

After Tx

patients have experienced markedly diminished itching and a decrease in erythema and scaling.

Have you used Omnilux in combination with intense pulse light (IPL) or other modalities?

Dr. Tremblay – I've used Omnilux with IPL and with microdermabrasion to treat wrinkles and mild-to-moderate AKs. For AKs, using a combination of Omnilux and IPL the results are still very preliminary.

Dr. Taylor – We're using the Omnilux together with some of our long-pulse Nd:YAG lasers for the treatment of stretch marks. We're also experimenting using the Omnilux in combination with the long-pulse YAG in trying to dissolve fat.

“Our prospective study of 22 acne patients showed that at 12 weeks after final treatment with the red and blue lights only, there was about an 80% reduction in lesion count.”

Dr. Russell – Sometimes we use the Omnilux plus in conjunction with the Titan (Cutera) for photorejuvenation. We're getting some interesting results. I also like that the Omnilux has the flexibility of interchangeable treatment heads. For all of us in the laser world, having the flexibility to change settings and preferably even wavelengths on the same console, is a great advantage for us. Because the Omnilux has no heat, we can also treat sensitive post-surgical skin.

What are some of the advantages of Omnilux therapy over conventional treatments?

Dr. Taylor – There are no systemic adverse effects when treating with the Omnilux. It is an anti-inflammatory, healing device that virtually has no side effects. Patient compliance is also good and there is minimal pain.

Dr. Lowe – Compared to surgery, the Omnilux provides superior cosmetic results for multiple AKs and other kinds of cancers. Some of our patients have also shown good photorejuvenation in the surrounding skin.

Photos courtesy of David Sire, M.D.



Before Tx

After Tx

Dr. Trelles – Before the Omnilux, our surgical results were not as good. Skin plumpness, recovery time and luminosity have all dramatically improved.

Dr. Russell – I think there is a lot of confusion in the marketplace as to which lights are most appropriate for acne or PDT. The reality is that you can achieve results with IPL or pulsed dye lasers. But the process of PDT unfolds over time. The problem with pulsed dye lasers and IPL devices is that they have very, very short pulse durations. So the biggest advantage conceptually is that Omnilux offers the capability of providing continuous bombardment with photons of the correct wavelength, intensity and dose for up to 20 minutes, for instance. This is important in treating some of the diseases we're trying to treat, such as AKs and acne.

In addition, wavelengths are a crucial factor in the effectiveness of an acne treatment, just as it is when treating hair or blood vessels. One thing that has become very clear through acne research by others and ourselves is that a single wavelength will not suffice for all acne patients.

Why should physicians incorporate Omnilux into their practice?

Dr. Lowe – This single platform technology offers diversity and flexibility. In my opinion, Omnilux is one of the most uniform ways of delivering light ener-



Basal cell carcinoma before Tx



Basal cell carcinoma after Omnilux PDT Tx with 5-aminolevulinic acid

gy to activate whatever topical porphyrin you are using. Omnilux has a built-in cooling system and a flexible head-like unit that can be molded to the shape of the treatment area. The device has also been totally trouble free in our hands. You can select small areas for treatment, as well as very large areas.



Nick Lowe, M.D.

Dr. Taylor – When treating AKs or acne, Omnilux is a novel approach. For patients with terrible sun damage and hundreds of both visible and invisible AKs, Omnilux cleans them up extremely well. It is less miserable than applying creams. For acne, most of our patients have already hit the wall. They've already tried all of the antibiotics and the topical therapies, but they are not getting better. Many of these patients have also taken Accutane. They are out of options.

Omnilux has been easy to incorporate into our practice. It can be used as standalone therapy or in combination with other aesthetic procedures. Treatment is very safe. For rosacea, you can combine the Omnilux with IPL. In fact, we've combined IPL, Levulan and up to eight minutes of light. This protocol works great for patients with telangiectasia.

Dr. Tremblay – Some LEDs are not as powerful as the Omnilux, so results are not as impressive. The Omnilux is great technology. We will continue to increase our understanding of how to use it alone or in combination with topical photosensitizers for different medical and cosmetic applications. Patients are overwhelmingly satisfied.



Mario Trelles, M.D., Ph.D.

Dr. Trelles – Omnilux decreases the chance of inflammation. Tissue also potentially recovers faster. Several specialties of medicine can benefit by offering better treatment to their patients. We're currently using the Omnilux to treat chronic ulcers to see if healing time can be speeded up.

Dr. Russell – Omnilux therapy is here to stay. For those of us who have been used to very high-powered lasers, we need to learn that this low-power approach can offer very, very gratifying results to our patients. ■