

## Omnilux blue and Omnilux revive for mild to moderate acne vulgaris and nodular and cystic acne

Dr Bruce Russell, Portland, Oregon

Acne vulgaris is a common dermatosis affecting 85% of the population. To date oral medication such as antibacterials and retinoids have been the therapy of choice. Recently however, phototherapy, using visible blue light has been shown to be effective in the treatment of mild to moderate acne vulgaris. Clearance rates have exceeded over 60% in a number of studies indicating the effectiveness of this treatment.

### Why choose Omnilux combination light therapy for acne

The inflammatory nature of Acne vulgaris is caused by the colonisation of the sebaceous gland with Propionibacterium acnes (P.acnes). P.acnes contains a natural product called coproporphyrin III that is sensitive to light at 415nm.

Combination phototherapy works through the antibacterial and anti-inflammatory activity of blue and red light delivered alternately. Only by delivering the right wavelength in sequence can optimum results be seen.

Recently new developments in light therapy have identified that treatment efficacy not only relies on the death of P.acnes through the singlet oxygen production process, but also on the stimulatory effect of light on the bodies natural anti-inflammatory mechanisms.

### Light therapy works through a multifactorial mechanism

Firstly activation of coproporphyrin III by 415nm blue light creates intracellular singlet oxygen inducing complete bacterial apoptosis, thus reducing the bacterial colonisation of the sebaceous gland, returning the glands abnormally high level of sebum to normal and reducing the production of pro-inflammatory cytokines.

Secondly blue light induces anti-inflammatory cytokines, stimulating specific immunoregulatory pathways.

Thirdly the intracellular specificity of red light therapy is well documented and it has long been demonstrated that 633nm offers excellent reduction in inflammatory lesions and is proven to stimulate cellular mechanisms for tissue repair.

### Treatment outcomes

A recent study by Dr. Bruce Russell *“demonstrated a significant improvement in moderate inflammatory acne and cystic acne using alternate blue/red light therapy. Treatments were twice weekly for four weeks. At the end of the follow up period there was > 80% reduction in inflammatory lesions. We also noticed a reduction in sebum levels of 50% in the study group.”*

**Bruce Russell**  
Portland, Oregon

### Treatment Protocol Selecting the right patient

Combination blue/red light therapy is suitable for mild to moderate Acne vulgaris, and moderately severe cystic acne. It should be used in combination with a salicylic wash or an effective anti comedonal agent.

Remember that 20-25% of your patients will not respond to light therapy.

### Contra-indications for light therapy

Treatment must be withheld if the patient suffers from any of the following medical conditions;

- Metabolic disorders which can give rise to light-induced rashes
- Photo sensitive eczema
- Porphyria
- Autoimmune diseases e.g. Lupus Erythematosus
- Albinism

Treatment must be withheld if the patient is taking Auranofin, also known as Ridaura (Anti-Arthritis).

The following medicines are known to cause photosensitivity:

- **Chlorpromazine (Anti-Psychotic), also known as Thorazine, Chlorpromazine HCl, Sonazine.**  
Patient can be treated if the medicine has not been taken within the last 8 days.
- **Griseofulvin (Anti-Fungal), also known as Grifulvin V, Fulvicin U/F, Fulvicin P/G, Gris-Peg.**  
Patient can be treated if the medicine has not been taken within the last 5 days.
- **Isotretinoin (Anti-Acne), also known as Accutane.**  
Patient can be treated if the medicine has not been taken within the last 5 days.
- **Tetracyclines (Antibiotic), also known as Helidac, Terra-Cotril, Terramycin, Sumycin, Tetracycline.**
- **HCl, Bristacycline, Achromycin V, Actisite, Tertex, Doxycycline, Ciprofloxacin.**  
Patient can be treated if the medicine has not been taken within the last 5 days.
- **Methotrexate (Anti-Arthritis and Anti-Cancer), also known as Methotrexate Sodium, PF, & LPF.**
- **Mexate-AQ, Folex, Trexall.**  
Patient can be treated if the medicine has not been taken within the last 3 days.
- **Amiodarone (Anti-Arrhythmic), also known as Amiodarone Codarone X, Pacerone.**  
Treatment can be administered at the physician's discretion.

### Treatment Protocol

Alternate blue and red light treatments (beginning with blue) spaced at least 48 hours apart.  
8 treatments. 4 blue, 4 red.

1. Remove make-up, pollutants and all product residues from the skin.
2. Cleanse the skin with a suitable skin cleanser.
3. Fit the safety goggles to ensure that the pupils are protected from direct illumination. For additional safety the patient should be instructed to close their eyes.
4. Position treatment head around the face making sure that the LED panels are between 1-8cm from the skin surface.
5. Follow the user instructions to activate the unit.  
The required dose is  
Blue 48J/cm<sup>2</sup> or 20 minutes treatment time  
Red 126J/cm<sup>2</sup> or 20 minutes treatment time
6. During the course of treatment it is essential to use an anticomedonal preparation such as Salicylic acid wash and/or gel (used according to product guidelines).

### What to expect

**Dr Bruce Russell**

*“Improvements continue to be seen when the light treatments have ended. We have seen a reduction in inflammatory lesions over the treatment period and up to 12 weeks from the last light treatment. The results from combination phototherapy are more durable, have significantly less side effects and importantly, there is no downtime compared with blue light combined with 5 ALA.”*

**If a patient is not responding, continue the light therapy course, but consider the use of low concentration ALA-PDT (See clinical tips III)**

### Clinical Notes

**Dr Bruce Russell**

*“Light therapy is a simple procedure so I prefer NOT to over complicate the treatment. I recommend the use of tazorac as a preparation or Differin gel prior the start of light therapy. I also find it useful to carry out some mild exfoliation before the course of light therapy, whether this is microdermabrasion or a mild peel can be dependent upon your own practice.”*