

### Transcript Details

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## Red Light vs Blue Light Therapy

### Hamza D. Bhatti:

There's a couple of differences between blue light and red light therapy. With blue light, it's more of a shallow penetration up to one to two millimeters into the skin. The wavelength is around 400 to 500 nanometers. The good thing about them is they stay very superficial. So if you're treating superficial pre-cancerous areas like actinic keratoses, they're very selective in just treating the topmost layer of the skin. Medications can be absorbed more selectively into the topmost layer. And the other advantage that you have of using blue light therapy is the antimicrobial properties that it comes with. So it can inherently be effective in treating superficial skin infections or even acne as well, too, because the acne bacteria can be treated within the sebaceous glands.

When it comes to blue light therapy, blue light is more, it targets more, like I said, superficially. So you can treat some conditions like psoriasis. We use narrowband UVB therapy for that. That can help treat with areas where there's inflammation around a skin lesion as well, too. They can help with rosacea and other conditions, but those, that's where the red light therapy really kicks into effect. Because red light really targets more of the vascular lesions that are present. So when you're looking at rosacea, when you're looking at acne scarring, the redness that's apparent on the face, those are more treated with red light therapy because they can be penetrated deeper. They go up to four to five millimeters in the skin. They also are suitable for conditions for being less selective in terms of what they're going to be treating around the area.

They're great for photorejuvenation as well too. I'm sure you've seen those acne red light masks that everybody puts on. And why are people using them? It's because they improve skin tone. They improve skin texture, elasticity, and they're more anti-aging properties due to the anti-inflammatory effects that it can have.

So some of the off-label uses that we can use photodynamic therapy for is, one of them being wound healing, because it targets bacteria within the wound and promotes tissue rejuvenation, reducing infection and inflammation while enhancing healing. It can also be helpful for treating burns because it reduces scarring, prevents infections, and accelerates healing as well, too. Some other therapies that we can use it for are for its anti-inflammatory effects, like we were talking about with rosacea and acne. If the aminolevulinic acid is accumulated within the sebaceous glands, it can be activated by the blue light therapy and it can help decrease the oil gram production and therefore increasing "the food" that feeds the acne bacteria. When it comes to photorejuvenation and reducing signs of aging, like fine lines, wrinkles, and sun damage, that's done with stimulating collagen production, improving skin texture, and reducing hyperpigmentation that might be occurring as well, too.