by John J. Andros

Editor's Note: John J. Andros is vice president and business leader of the Specialty Lamp Division (which includes the sunlamps manufactured for the indoor tanning industry) of Voltarc Technologies, Inc. This article is the second of a series intended to educate and inform tanning salon professionals about sunlamps so that they, in turn, can educate and inform their clients about the most important component of a sunbed.

The Search For The Ideal Sunlamp

Part 3: More Of What You Want, Less Of What You Don't Want

Why is the Voltarc slogan "more of what you want, less of what you don't want" so important?

An earlier article defined the "ideal" sunlamp as being one that has "more of what you want" (more tanning photons) and "less of what you don't want" (fewer photons that have the highest power to damage the skin) and yet retain "just enough" of certain photons that are necessary to stimulate optimal production of pre-vitamin D and melanin, thicken the skin and make possible desired Te (4 MED) times. This article discusses why I believe the ideal sunlamp is so important to the future of the indoor tanning industry.

More of what you want

Understanding the concept of "more of what you want" is easy! A sunlamp with more tanning photons will tan clients better than a sunlamp with fewer tanning photons.

Just enough

It is also easy to understand that there must be just enough of the photons that (1) stimulate the production of pre-vitamin D and melanin, (2) induce thickening of the skin, and (3) have enough properly positioned photons to make possible desired Te (4 MED) times. If we shift photons in order to increase the tanning power of a sunlamp and end up not having enough photons to accomplish these three objectives, we have shot ourselves in the foot. Thus, a delicate balance must be reached in sunlamp design so just enough photons are properly positioned to stimulate the production of pre-vitamin D and melanin, thicken the skin and make possible desired Te (4 MED) times.

Less of what you don't want

There are two things to keep in mind in order to understand why it is so important to have fewer "what you don't want" photons in a sunlamp.

1. The wavelengths from 250 nanometers to 340 nm are (1) immuno-suppressive (i.e., they suppress our immune defense system) while the wavelength from 340 nm to 400 nm (and beyond) are immuno-stimulatory (i.e., they stimulate our immune defense system). Thus, reducing the number of photons in this area helps reduce the risk of suppressing the immune system.

2. The wavelengths from 250 nm to 340 nm also have the most power to damage the skin. That doesn't mean that overexposure to other wavelengths of light can't cause skin damage, only that these shorter wavelengths have *more erythemal energy* and, therefore, the most power to damage the skin. This is why the FDA Erythemal Action Spectrum (that is used to calculate exposure times) weights these wavelengths more heavily than it does the longer wavelengths. For instance, it takes 2,000 photons at 365 nm to equal the "weighting power" of one photon between 250 nm and 302 nm. Thus, reducing the number of photons in this area helps reduce the risk of skin damage.

The importance of "less of what you don't want"

The enemies of our industry continually attack us in the media by saying that sunlamps have more power to damage the skin and suppress the immune system, than sunlight. Sunlamps like the Voltarc PWR Series™ that have dramatically reduced the number of photons in the "what you don't want" range help to show that the indoor tanning industry is *totally committed* to providing our clients with products that help reduce the risk of skin damage.

Can we get this message across to the American public?

We've got to try because it is critically important for us at this point in time to show that the indoor tanning industry is *totally committed* to the objective of reducing the minimal and manageable risks associated with controlled indoor tanning.

For more information, call (888) VOLTARC or log onto www.voltarc.com.