

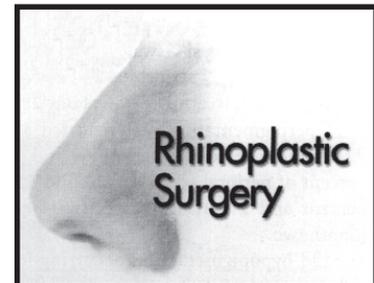
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LASER, NON-LASER METHODS COMPARED IN TREATMENT OF RED NOSE SYNDROME

Plastic surgeon investigates different modalities: finds speed, low cost, convenience beneficial non-laser technique.

by **Lisette Hilton**
Contributing Editor

New York — Board-certified plastic surgeon Gregory E. Rauscher, M.D., wanted to know how current laser treatments compared with the non-laser modality Telangitron for the treatment of red nose. Dr. Rauscher, professor of plastic surgery, New Jersey Medical School and director of cosmetic surgery, Hackensack University Medical Center, presented the results of his study recently at the Rhinoplasty [nose surgery] Society meeting in New York City.



Red nose syndrome, a term used to describe patients who complain of objectionable redness of their nose, is commonly associated with chronic UV exposure, rosacea, chronic use of topical corticosteroids, and rhinoplasty. There was no successful treatment for red nose until 1981 when Joel Noe, M.D., described the use of an Argon laser. The argon laser was a non-pulsed continuous light, with a wavelength of 433 nm and 514 nm. Charles Dicken, M.D., of the Mayo Clinic, concurred that the argon worked to diminish red nose in studies he reported in 1986.

The theory of Selective Photo-thermolysis was described in 1983, hypothesizing that choosing the appropriate wavelength, pulse duration, and pulse energy could achieve thermal destruction of a target. Wavelengths of 418 nm, 524 nm, and 577 nm destroyed vascular structures. Dr. Rauscher said the argon laser never caught on as the treatment of choice for red nose due to the time for treatment and the cost. It posed a high risk for scarring.

The next modality that came along was the pulsed dye laser, from 577 nm to 600 nm wavelength. The wavelengths were only partially effective, required multiple treatments, and caused significant purpura, Dr. Rauscher said. Other treatments used throughout the years to treat red nose syndrome include:

- The Hyfrecator, a high-frequency generator that's connected to high voltage. Unfortunately the needle would adhere to the skin and burn the skin, often leaving pitted scars.
- The Ellman unit, a radio frequency generator, another form of treatment. The partially rectified current in the unit was capable of sealing telangiectasias, but the calibration was imprecise.

According to Dr. Rauscher, comparative therapies with more current lasers include the 532 nm lasers and the Coherent (now Lumenis) VersaPulse V with HELP-G. "The problem with laser treatment is when the vessel is destroyed the patient can develop telangiectatic matting, which are multiple small blood vessels," Dr. Rauscher said.

Another non-laser treatment option for red nose syndrome is the Telangitron. Telangitron works by a direct current, coagulating unwanted blood vessels with a 32-gauge needle — a small acupuncture needle, according to Dr. Rauscher. The needle diameter is 0.003 inch [diameter] and the length is 6 mm.

Lasers have a fluence as a measure of energy, which is J/cm², that measures the energy through a surface area. For lasers, Dr. Rauscher advised using a topical anesthetic — either ELA-Max, a topical eutectic that will numb the skin if it is covered with an occlusive plastic dressing; or Betacain that does not require an occlusive dressing.

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Treatment begins after application of an anesthetic. The settings for each modality are:

532-nm diode

- Spot size: 400 μm
- Pulse duration: 40 msec
- Repetition rate: 5 Hz
- Fluence: 140 J/cm²
- Chill tip: 5 degrees C

Coherent (now Lumenis)

- VersaPulse VPW
- Fluence: 9.5 to 10 J/cm²
 - Chill tip: 4.0 degrees C
 - Spot size: 4.0 mm
 - Pulse width: 10 msec

VersaPulse V with HELP-G

- Fluence: 10 J/cm²
- Wavelength: 532 nm
- Spot size: 5 mm
- Pulse width: 50 msec

“If you use an updated VersaPulse V with HELP-G, you can extend the pulse so you’re probably going to be able to treat the telangiectasia in one shot. With the VPW, you may not be able to eradicate all telangiectasia in one treatment,” Dr. Rauscher said. The patients in Dr. Rauscher’s study were Caucasian, and all except one were Fitzgerald class I or II skin type. Dr. Rauscher treated 23 patients with the 532 nm diode Laser and 18 with Telangitron. These patients have had about a two-and-one-half year follow up.

TELANGITRON

According to Dr. Rauscher, treatment with the Telangitron is fast and there is a low cost to purchase and maintain. The Telangitron generator uses 55 V per pulse of energy. The direct current permits entrance and exit of blood vessels without sticking, so Dr. Rauscher noted minimal collateral damage or pitting. “If you use the Ellman or old Hyfrecator, you don’t have a direct current upon entering the vessel so when you cauterize the vessel and pull the needle out of the skin, the needle pulls out the clot and bleeding starts,” he said.

During the Telangitron procedure, the operator inserts the needle with DC current and initiates radio frequency current for up to two seconds. The operator then removes the needle. “If you’re using 40 V with Telangitron, you’re delivering 2.8 W. If you’re using 60 watts, you’re delivering 4.2 W.” Dr. Rauscher said. Dr. Rauscher noted the convenience of Telangitron. “If you have the laser — you’ll use it. At the same time, if you have more than one office you can easily bring the Telangitron unit with you,” he said.

The cost differences between the lasers versus non-laser [Telangitron] treatment was considerable. “The laser treatment and physician time are considerable,” he said. Dr. Rauscher reported that the efficiency of the treatment of Telangitron and the 532-nm pulse diode and VersaPulse VPW are about the same, “except for the telangiectatic matting with the lasers. The patient downtime is almost zero with the laser or Telangitron,” he said. He noted that patients presenting vessels around the nose and face objected to the swelling after laser treatment. “Everyone’s skin improved with the new lasers and with Telangitron,” he said. “At this point, I always use Telangitron, as I can have my nurse or esthetician perform the treatment.”

(Dr. Rauscher has no financial interest in the Telangitron unit nor in its manufacturer.) CST

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