Lasers have without question revolutionized the practice of dermatology, permitting clinicians to treat conditions for which no medical therapies exist or offering results that exceed those of conventional therapeutics. From medical conditions like acne and rosacea to cosmetic rejuvenation, laser systems can address a variety of the most common presentations that bring patients to the dermatologist’s office.

Given their remarkable utility, well-designed and manufactured lasers can be a tremendous asset to dermatologists. Yet, often physicians are overwhelmed by the prospect of incorporating laser procedures into practice. Technology is costly, and there may be a tremendous sense of pressure to attract patients and, as important, provide treatment that meets their goals. There may also be a learning curve, as residency programs currently offer little training in aesthetic dermatology.
Expert Contributors

**William Baugh, MD**
Assistant Clinical Professor, Western School of Medicine Medical Director Full Spectrum Dermatology, Fullerton, CA

**C. William Hanke, MD, MPH**
Visiting Professor of Dermatology, University of Iowa, Carver College of Medicine Clinical Professor of Otolaryngology Head and Neck Surgery, Indiana University School of Medicine Carmel, IN

**Henry H. Lin Chan, MD, PhD**
Hon. Professor, Li Ka Shing Faculty of Medicine, University of Hong Kong Hon. Consultant Dermatologist, Queen Mary Hospital HKSAR Visiting Scientist, Wellman Center for Photomedicine, Massachusetts General Hospital, Harvard Medical School, Boston Additional titles: USAMMBBS (London), FRCP (London, Edinburgh, Glasgow), FHKCP, FHKAM (Medicine)

**Arielle N. B. Kauvar, MD**
Clinical Associate Professor of Dermatology, NYU School of Medicine Director, New York Laser & Skin Care New York, NY

**Jerome Garden, MD**
Professor of Clinical Dermatology and Biomedical Engineering, Northwestern University, Chicago, IL Private Practice, Chicago, IL

**E. Victor Ross, MD**
Director, Scripps Clinic Laser and Cosmetic Dermatology Center, Carmel Valley, CA Past President of the American Society for Laser Medicine and Surgery (ASLMS) Member of the Board of the American Society of Dermatologic Surgery

**David J. Goldberg, MD, JD**
Clinical Professor of Dermatology, Director of Laser Research, Department of Dermatology, Mount Sinai School of Medicine Director, Skin Laser & Surgery Specialists of New York and New Jersey New York, NY

**Christopher Zachary, MBBS, FRCP**
Professor and Chair, Department of Dermatology University of California-Irvine Irvine, CA
and such training was virtually non-existent even 10 years ago.

Clinicians seeking to initiate or expand a laser dermatology practice must assess their own interests and skills, patient demand, and the key considerations that guide device selection and purchase.

Many dermatologists find success by focusing on medical as well as cosmetic indications, such as acne and roacea, dyschromia, erythema, telangiectases, and fine wrinkling. With this broader approach, the clinician is able to keep her or his practice flexible. Many of the best-respected names in aesthetic medicine will tell you that a portion of their practice remains focused on traditional medical dermatology. A flexible approach may suit the clinician’s interest, and it likely reflects the level of demand for service on the local level.

Selecting a laser system can be a challenge. Key to success is to disregard the hype. Many lasers have come to the market backed with flashy campaigns to the public and the medical community, making exaggerated claims of efficacy and applicability. From a practice development standpoint, it comes down to weighing the costs—upfront and ongoing/financial and timewise—against the likely returns. It rarely makes sense for a physician to take a gamble on costly new technologies with uncertain efficacy and appeal, when tried and true systems can be acquired (often for less). Alternatively, low-priced systems can appeal to the frugal practice, but if a system is underpriced, it probably underperforms.

The initial investment in a system purchase is an important consideration, but it doesn’t account for everything. How much time do procedures take? How many patients can be treated in a period of time? Will time be wasted on set up? Will consumables and maintenance lead to costly bills?

“As thousands of physicians have learned, success in laser medicine is built on a strong foundation of tried-and-true procedures using tried-and-true laser systems.”
**Expanding the Level of Service and Patient Satisfaction with Gemini®**

By E. Victor Ross, MD
Director,
Scripps Clinic Laser and Cosmetic Dermatology Center
Carmel Valley, CA

Photodamage is one of the most common complaints among patients presenting for cosmetic laser therapy. Specifically, patients frequently seek treatment for mottled pigmentation, melasma, lentigines, broken capillaries, telangiectases, and surface roughness. Despite anecdotal reports of decreased demand in some areas, hair reduction and leg vein removal continue to be common requests in the cosmetic dermatology clinic, as well.

Various laser and light sources available on the market offer a range of wavelengths and penetration depths necessary to address these various patient concerns. Ranging from intense pulsed light sources (IPLs) to fractional resurfacing lasers, the number of treatment options has become remarkably wide. Yet to efficiently treat a majority of patients presenting with these common complaints, a single system offering dual wavelengths and a variety of spot sizes, Gemini (532nm KTP/1064nm Nd:YAG, IRIDEX) may be appropriate.

Gemini features the long-pulse 532nm KTP laser and the 1064nm Nd:YAG, providing the versatility to target a variety of chromophores and enabling the clinician to provide up to about 80 percent of the treatments commonly sought in a typical laser practice. Although other two-in-one systems are available, Gemini is unique in the wavelengths it offers. The shorter 532nm wavelength effectively targets superficial red and brown lesions (lentigines, broken capillaries, mottled pigmentation, melasma), while the longer 1064 wavelength effectively targets deeper vessels in the face and the legs, permits hair reduction, and provides some mild skin tightening.

**Ideal Combination Systems**

A significant benefit of the Gemini for a cosmetic dermatology practice is that it combines two different laser systems into one single device. While the notion of dual-system devices is well-established, the reality is that combinations are not always optimal, or they may not be as convenient as they seem upon first consideration. For example, some systems may pair constituents that have similar indications. As such, the combination system may provide clinical utility for specific patient presentations but may not permit the practice to expand the service menu or appeal to a wider base of patients. By combining the 532nm and the 1064nm wavelengths, the Gemini expands the number of indications—and likely the number of patients—the clinician can treat.

With some dual systems, switching from one wavelength to another can be a time-consuming and difficult process for the operator. With Gemini, the operator can quickly and easily switch from one wavelength to another (just a tap on the screen), allowing the clinician to easily...

**REEL TALK* 
“There are a lot of new technologies out there, but one of the tried-and-true technologies is KTP laser and the long-pulse YAG laser. And the Gemini fits the bill for both of those wavelengths. So in a sense the Gemini is a time-tested product. It has served us well at our clinic, both at the Navy and at Scripps Clinic over the last 10 years roughly now.”

*See Dr. Ross discuss his experience with the Gemini laser.*
ly use both systems for a single patient in one brief visit. An intuitive interface permits the operator to set and change treatment parameters with ease.

When combining systems, manufacturers may be forced to sacrifice certain elements of functionality in order to merge the two components. This is not the case with the Gemini®, which provides a wide range of spot sizes (42 different sizes), permitting operators to customize treatment, whether the goal is full-face rejuvenation or eradication of small, discrete lesions on the face, chest, or hands. With the 10mm spot size, a full-face treatment can be completed in about 10 minutes.

Probably the most challenging areas to treat with any laser system are convex and concave areas, such as the sides of the nose. However, through the selection of appropriate small handpieces and spot sizes, the clinician can effectively treat these areas with the Gemini.

**The Operator’s Perspective**
Because of the ease with which the operator can change the wavelength and spot sizes as well as customize treatment parameters, it is possible to target a range of cosmetic concerns on various anatomic sites within a single treatment. For example, it is not uncommon to treat diffuse pigmentation on the face and chest with the 532nm wavelength using the 10mm spot, then to switch to a 2mm handpiece to address telangiectases on the face, and then to use the 1064nm wavelength to target a deep vessel on the face. Alternatively, a treatment session dedicated largely to the face could culminate with the physician applying the laser to the legs to treat a grouping of small, matted vessels.

**The Patient’s Perspective**
In addition to the ease and convenience of treatment for the operator, the Gemini is associated with significant benefits for the patient. Elements essential to overall patient satisfaction are minimal downtime and low risk of adverse events. The speed of treatment is a bonus for patients, as are rapid results—small telangiectases disappear in real time. Non-ablative rejuvenation is considered a no-downtime procedure, but it is important that patients and physicians know what to expect in the hours after therapy. With full-face treatment, patients may actually experience a temporary increase in erythema (that may be likened to a mild to moderate sunburn) that will resolve over several days. There is no weeping, oozing, or peeling associated with treatment. However, swelling may occur; swelling can be minimized with icing. Many patients

* Reel Talk: To see laser specialists discuss their laser systems, log on to DermTube.com.
Among the first clinical indications for lasers in dermatology was treatment of vascular lesions, particularly port wine stains, with the pulsed dye laser (585-595nm). While early pulsed dye laser systems provided notable efficacy, treatment was associated with purpura lasting as long as two weeks and occasional crusting. With time, refinements in laser technology have made it possible to treat vascular targets with decreased risk of adverse events and little to no downtime, expanding the clinical use of laser systems to treat vascular lesions and vascular-mediated diseases, like rosacea. The pulsed dye laser, the 532nm KTP laser, and intense-pulsed light systems (IPL) are available to treat vascular lesions and rosacea. Among these, the Gemini (532nm KTP/1064nm Nd:YAG, IRIDEX) laser system is an attractive option that facilitates efficient, no-down-time treatment. The laser is versatile and easy-to-use, providing convenience for the operator and safe, comfortable, and reliable results for the patient.

Laser Management of Rosacea
Rosacea is a significant medical and cosmetic concern, affecting up to 16 million Americans, according to estimates from the National Rosacea Society. Among fair-skinned patients, symptoms of rosacea—telangiectases, broken capillaries, diffuse erythema—are nearly ubiquitous. Despite the availability of several topical and oral treatments that can address the inflammatory components of rosacea, such as papules and pustules, no medication effectively addresses diffuse erythema, telangiectases, or broken capillaries.

The Gemini is a single system that permits treatment of both superficial and deep vessels/vascular lesions, diffuse erythema, lentigines, and non-vascular pigmented lesions, with minimal risk and virtually no downtime. To treat individual telangiectases, the 532nm laser can be used with one of various smaller spot sizes to trace out vessels. Typically, a 2-3mm spot size is suitable to treat individual fine vessels, with resolution seen after two to three treatment sessions. Gemini offers additional versa-
tility in the management of rosacea, because the 1064nm Nd:YAG laser can be used to target larger, deeper vessels. More diffuse redness consistent with flushing and blushing will respond to the 532nm laser when used with a larger spot size—usually 10mm—to rapidly treat the entire face. Full-face treatment can take as little as five minutes. By offering a variety of spot sizes from 1mm up to 10mm, Gemini® facilitates efficient treatment of specific targets as well as background erythema in a single, brief treatment session.

Patients with a few telangiectases may require only one to two laser treatments. Those with moderate to severe rosacea should see optimal improvement in individual lesions and overall erythema and skin tone following three to five laser treatment sessions. In addition to improvement of their appearance, patients report a reduction in rosacea symptoms like flushing and warmth. Results of treatment are long-lasting but not permanent; maintenance treatments may be required every six to 12 months.

The 532nm laser provides short-term improvement in erythema, vascular lesions, and overall signs of photo-damage and may have long-term effects on the inflammatory component of rosacea. Addressing the underlying vasculature seems to reduce papules and pustules over the long-term for many patients.

A First-line Option
Laser therapy for rosacea should not be considered a second-line intervention. As noted, the 532nm KTP laser targets discrete telangiectases, diffuse erythema, and acne-like lesions. In addition, it targets other signs of photodamage, such as red and brown spots, that accompany rosacea. Treatment can also improve overall skin texture and improve the appearance of enlarged pores. Rosacea is a multifactorial disease, and laser therapy is a multi-targeted treatment. As such, laser therapy often yields clearance for patients who have been managed unsatisfactorily with pharmacologic therapies.

Patients previously dissatisfied with medical rosacea management become satisfied and loyal laser patients. Despite the potential limitations of conventional rosacea drugs, they and other therapies may be incorporated into the overall

REEL TALK
“Treating with the Gemini is very well accepted by patients because both components of the Gemini, the 1064 and the 532nm, are non-invasive lasers. So there’s really no real downtime and no recuperation, and the results are predictable in our hands, and patients are very satisfied with their treatments.”

See Dr. Kauvar discuss her experience with the Gemini laser.
Laser rejuvenation in darker skin tones requires special considerations. From a photophysical standpoint, epidermal melanin in darker skin potentially competes with the target chromophore of the laser. This optical competition may inhibit the efficacy of treatment by decreasing the amount of energy deposited to the target. At the same time, if too much energy is absorbed by the normal melanin, excessive heating of the non-target tissue may occur and could produce scarring. To illustrate this point, consider laser hair reduction, where the “ideal” candidate has dark hair and very light skin. Dark hair selectively absorbs the laser energy while the minimally pigmented surrounding skin provides minimal “competition” for absorption.

From a clinical standpoint, clinicians should recognize differences in photoaging depending on skin type. Development of wrinkling and laxity in darker skin tones may be delayed by one to two decades, compared to lighter skinned patients. A “typical” Caucasian individual has a natural SPF of 0, while an Asian patient may have an SPF of about 3—equivalent to two to three decades.

An Important Option
Laser therapy can be an important option for the management of rosacea and associated signs of photodamage. For any dermatology practice that treats a significant proportion of rosacea patients, investment in a versatile and efficient laser system, such as the Gemini, may be a cost-effective option. In addition to treating rosacea, the Gemini can be used for general rejuvenation procedures and hair removal (see sidebar, at right, for some tips on other common uses for Gemini in my practice), allowing the practice to offer a range of laser therapies through the addition of a single system.

Common Uses for the Gemini in a Rosacea Practice
• The 532nm KTP laser effectively targets brown spots, red scars, and port wine stains (and infantile hemangiomas), and venous lakes.
• KTP can also be used for melasma, provides an improvement in overall skin texture, and may help reduce the appearance of large pores.
• In addition to full-face treatments, the 532nm KTP laser can be used to treat the neck and chest for a comprehensive cosmetic effect.
• Although needle sclerotherapy is the gold-standard for leg veins, fine and matted vessels respond very well to 532nm laser, making the laser an ideal tool for post-sclerotherapy “clean-up” procedures.

Photorejuvenation in Asian Skin Tones: Role of the Gemini® Laser

By Professor Henry Chan
Hon. Professor, Li Ka Shing Faculty of Medicine,
University of Hong Kong
Hon. Consultant Dermatologist,
Queen Mary Hospital

Lasers in Asian skin tones require special considerations. From a photophysical standpoint, epidermal melanin in darker skin potentially competes with the target chromophore of the laser. This optical competition may inhibit the efficacy of treatment by decreasing the amount of energy deposited to the target. At the same time, if too much energy is absorbed by the normal melanin, excessive heating of the non-target tissue may occur and could produce scarring. To illustrate this point, consider laser hair reduction, where the “ideal” candidate has dark hair and very light skin. Dark hair selectively absorbs the laser energy while the minimally pigmented surrounding skin provides minimal “competition” for absorption.
to almost 10-times the level of protection from UV radiation. This natural level of protection is demonstrated by lower rates of skin cancer in ethnic skin. For example, one study found that Japanese individuals living in Hawaii had about a 10-time lower incidence of skin cancer compared to Caucasians. Despite this natural SPF, Asian patients develop other common signs of photodamage, such as freckles, lentigines, and seborrheic keratoses in their 30s through 50s, after which time wrinkling tends to become a prevalent complaint, as well.

**Gemini® for Lentigines**

We recently demonstrated the benefits of Gemini for management of lentigines in Asian skin in a study sponsored by Johnson & Johnson that compared the Gemini 532nm long-pulse KTP laser, 595nm long pulse dye laser (LPDL), 755nm LP Alexandrite, and 532nm QS Nd:YAG in the treatment of 40 Chinese patients with Fitzpatrick skin types III and IV.* Subjects were randomized 10 to each laser and received one to four sessions provided four to six weeks apart. Subjects were assessed three to 12 months after their last treatment. A majority of subjects (70 percent) treated with the Gemini had optimal improvement after six to 12 months, compared to 50 percent of LPDL patients after three months and 60 percent of QS Nd:YAG patients after three to 12 months. Alexandrite laser therapy did not provide statistically significant improvement. There was no risk for post-inflammatory hyperpigmentation in the Gemini group.

A “typical” protocol for Gemini treatment for photorejuvenation in Asian patients begins with a single pass of the full face using the 532nm wavelength (10mm spot, 20ms pulse, 7-8J/cm² fluence). This is then followed by two full-face passes with the 1064nm wavelength (10mm spot, 45ms pulse, 4J/cm² fluence). Note that when treating the forehead or any other bony area, the energy is decreased by 10 percent to improve patient comfort.

Following the initial full-face passes, specific lesions can be addressed. Just as the large 10mm spot size allows for rapid treatment of the full face, the numerous small spot sizes available are critical to the safe and effective treatment of discrete lesions. Typically, the 2mm spot size is used (2ms pulse, 12-14J/cm² fluence) to treat individual lesions. As noted, a high contrast between the target and normal skin is preferred. However, the Asian patient’s normal skin tone may not contrast significantly with the target lesion. Therefore, a small spot size is important to efficiently deliver energy directly to the target lesion without irradiating the normal surrounding tissue with its competitive chromophore of normal melanin.

Other features of Gemini enhance its usefulness to treat lentigines and freckles in Asian skin. To minimize the risks of hyperpigmentation and scarring, epidermal cooling is critical throughout the laser treatment session, and Gemini has a very effective continuous cooling system (Parallel Contact Cooling). Additionally, Gemini’s compression handpiece improves treatment results. Hemoglobin in the blood is also a target chromophore for the 532nm wavelength. The compression handpiece empties blood from vessels at the target treatment site, thus eliminating this competitive chromophore and ensuring maximum thermal injury to the lentigines.

The Gemini system is a long-pulse laser with a predominantly photothermal effect. This method of action on a molecular level is considered gentler than the Q-switched laser, which has a photothermal as well as photoacoustic effect. The latter is associated with higher rates of inflammation and associated sequelae, including post-inflammatory hyperpigmentation.

**Optimal Therapy**

Because we have numerous lasers available in our center, we often use multiple lasers for each patient. We believe that this is an ideal way to optimize the benefits of all the available systems while minimizing risks. However, if I could use only one laser for rejuvenation in Asian skin, it would be the Gemini. As noted, the large 10mm spot size facilitates rapid treatment of the full face, while the smaller available spot sizes permit direct delivery of laser energy to target pigmented lesions while by-passing competitive chromophores. The compression handpiece

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**REEL TALK**

“Gemini is an extremely effective non-ablative skin rejuvenation laser. And by combining the 532 KTP lasers with the long pulse 1064 YAG, we can achieve non-ablative skin rejuvenations in terms of reductions of pigmentations, fine lines, pore size and vessel improvement.”

*See Dr. Chan discuss his experience with the Gemini laser.*
O₂ and Er:YAG resurfacing represent the gold standard of facial resurfacing, but the excellent cosmetic improvement of deep rhytides and extensive photodamage that these systems provide comes with the trade-off of significant downtime and patient discomfort. Ablative fractional resurfacing has become a popular alternative for resurfacing with good efficacy for deep rhytides and photodamage but with less downtime and improved comfort. A third option for photorejuvenation is minimal downtime, non-ablative rejuvenation that provides great tolerability and modest improvement of wrinkling and other signs of photodamage, including solar lentigos and facial telangiectases. Non-ablative rejuvenation can literally be a “lunchtime procedure,” with minimal patient discomfort and little risk of adverse events.

Non-ablative rejuvenation can have broad applications. Whereas ablative resurfacing is typically reserved for those patients with the most extensive photodamage and historically has been considered an alternative to surgical facelifts, non-ablative rejuvenation is appropriate for rejuvenation in patients with early signs of photodamage and therefore appeals to a very wide range of patients, beginning with those in their late 30s. For the majority of photorejuvenation procedures in my practice, I use the Gemini combination 532nm KTP/1064nm Nd:YAG laser (IRIDEX).

The 532nm component allows for high affinity treatments of solar lentigos and facial telangiectasias (two of the most common changes seen with photodamage). The Gemini has also been shown to stimulate new collagen formation within the papillary dermis, and thus a subtle smoothing effect can be appreciated in many cases.

Photorejuvenation Procedures
The Gemini has many potential advantages over other lasers. The combination of the two commonly-used wavelengths makes the device very versatile. Furthermore, the Gemini system is exceptionally easy to operate and can be used on virtually any skin type.

The Gemini has many potential advantages over other lasers. The combination of the two commonly-used wavelengths makes the device very versatile. The Gemini system is exceptionally easy to operate and can be used on virtually any skin type.
Combination photorejuvenation with Venus i™ (2940nm Erbium laser, IRIDEX) laser mini-peel is very popular in my practice. In this case, I usually perform the standard Gemini-based photorejuvenation immediately followed by the addition of a light Erbium laser peel. The advantage to this procedure is increased uniformity of the treatment, since the entire face will be induced to peel together as opposed to focal spot peeling which can occur with purely non-ablative procedures. Once the patient stops peeling (usually in about seven days depending upon the depth of the peel), increased uniformity and smoothness of the complexion can be appreciated.

Advantages of Gemini®

The Gemini offers many features that make it practice-friendly and easy to operate. It has a clear sapphire window through which the laser beam is emitted, permitting visualization of anatomic targets. The Gemini cooling method is called "parallel contact cooling," which in my experience is the best available method. It provides cooling of targets before, during, and after energy output. The handpiece configuration is simple to use, and the manual touchscreen allows for quick and easy treatments. In a healthcare environment where time is money, this laser facilitates rapid treatments, enabling the physician to treat more patients in a given period of time. For the end-user, it is a user-friendly, high-performance system.

There are a variety of potential settings available with the Gemini, which is an important feature, as no one protocol fits all patients. With that caveat, a “typical” protocol might be as follows. For photorejuvenation with the Gemini laser, I might begin with a 2mm spot size and specifically treat individual lentigos and blood vessels with pulse durations ranging from 6-20ms and fluences ranging from 6-16J, depending upon what is treated. This is often followed by treating with a 4mm spot size at 30ms, and 12J in a "painting" technique over the face. The Venus i™ laser then is introduced, with focal spot treatments over dominant lentigos, followed by a single pass utilizing a 2-7mm spot, 300-600mJ at around 10pps.

Specific customization and sculpting can be performed for each patient according to his/her desires and specific problem areas. Overall, I can complete this entire treatment in about 30 minutes for an average patient. Most patients peel in about a week and then marvel at the reduction in the appearance of sun damage.

Weighing the Options

Of course, every device has limitations, and there is no perfect laser. However, I believe the Gemini has some of the fewest limitations. With the 1064nm component I am not significantly limited to treating only lighter skin but can treat virtually any skin type. The Gemini has a large range of spot sizes available at the operator’s finger tips. Simply dialing a knob allows the operator to change from a 1mm spot size incrementally through to a 5mm spot size with any specific size available in between. With a quick cord change of the hand piece, I can change to the 10mm spot size in a matter of seconds. The Gemini has the largest spot size—10mm—available for a 532nm laser.

The Gemini’s greatest strength is its versatility. A physician or practice considering purchasing any system may be most concerned with costs. Systems vary in price; most are expensive, but some low-cost options are available. I firmly believe you get what you pay for. In my experience, the Gemini has been well worth the investment. It offers an excellent safety profile, predictable results, and reliable performance (repairs, though rarely needed, are provided quickly in your office by IRIDEX technicians). It has been a cornerstone of my cosmetic dermatology practice.
The unique combination of the 532nm and the 940nm diode laser in the VariLite Laser System (IRIDEX) and its application in either a single pulse or scan delivery mode provides the clinician a unique opportunity to treat individual vessels and pigmented lesions as well as diffuse erythema of the face. The distinctive 940nm wavelength is particularly useful for larger vessels, including those with a blue rather than red tone.

Patient-Focused Cosmetic Care
There are two basic elements to enhancing success in the management of patients. First, the clinician must understand the patient’s individualized goals and concerns—accomplished through an in-depth consultation with the patient allowing for the necessary amount of time. Second, the clinician must be able to effectively meet those goals. Without doubt, correction of photodamage is a very common request from patients, with many patients seeking specifically to remove telangiectatic vessels and lentigines. Another related common request is treatment for rosacea, where the emphasis again is on vessels in addition to diffuse erythema.

The patient’s clinical outcome is just one element to consider, as patients also have practical expectations about procedures and recovery. Increasingly, patients will poorly tolerate significant downtime, intra- or post-operative pain, or notable side effects, such as purpura, crusting, scarring, etc.

The VariLite, with the combination of 532nm and 940nm wavelengths, allows the clinician to customize treatment to meet the aesthetic and practical goals of many patients. In addition to its efficacy in treating variously sized facial vessels, background redness, and pigmented lesions, the VariLite is well tolerated and the post-procedural reactions are temporary and acceptable.

Vessels generally respond well after one to three treatments. These treatments are typically spaced at least six weeks apart. Lentigines respond to one to two treatments. All patients develop some post-procedural erythema, which can last from one to four days, while lentigines become transiently darker after treatment. These changes generally do not prevent patients from resuming their daily activities, but patients should forego treatments before a significant social engagement.

REEL TALK
“The VariLite system is a wonderful choice for those people who want to enter into the laser arena. Because many, many patients have vessels which naturally occur as they grow older or especially those who develop rosacea later in life, this is something that many practices have the need for treatment. And because there is such ease of use and it is a reliable system, I always suggest to those who ask me, what system should I start off with, I feel that this is definitely one of them that they should strongly consider.”

See Dr. Garden discuss his experience with the VariLite laser.
VariLite with 0.7, 1.0, 1.4, 2.0, and 2.8mm spot sizes, allowing the operator to trace out fine vessels or rapidly treat larger areas. The VariLite offers the ScanLite<sup>XP</sup>, an optical scanning handpiece, for use with the 532nm wavelength. The ScanLite<sup>XP</sup> offers MicroSpot™ precise energy delivery in discrete thermal zones over large treatment areas. By leaving zones of untreated tissue, this method of energy delivery allows for thermal dissipation, which reduces the risks of side effects associated with excessive thermal damage. The ScanLite<sup>XP</sup> is suitable for treating larger areas.

The VariLite is a user-friendly, portable laser system that provides clinicians a great deal of versatility to optimize and customize the treatment approach to each individual patient. The distinctive 940nm wavelength—able to treat darker skin types, as it does not compete with melanin as much as the 532nm wavelength—is effective for the treatment of larger vessels. Combined with the 532nm wavelength, the VariLite laser system allows the clinician to treat a variety of the more common facial photodamage concerns.

VariLite for Fundamental Cosmetic Applications

David J. Goldberg, MD, JD
Clinical Professor of Dermatology, Director of Laser Research, Department of Dermatology, Mount Sinai School of Medicine
Director, Skin Laser & Surgery Specialists of New York and New Jersey

For many patients and some clinicians, the notion of treating “vascular lesions” typically calls to mind red telangiectases, diffuse erythema, and deeper red vessels. Yet, for a number of patients, visible blue vessels can be just as troubling as red ones. Until recently, the only laser that provided any possible utility for the treatment of blue vessels or purpura was the 1064nm Nd:YAG laser. However, treatment was associated with a significant incidence of pitting. The 940nm wavelength—available in the VariLite (532nm KTP/940nm diode laser, IRIDEX)—efficiently targets blue vessels with a significantly decreased incidence of pitting.

Meeting Patient Demand
The combination of the 532nm and 940nm wavelength in one machine allows the clinician to treat a sizable proportion of cosmetic dermatology patients. The clinical reality is that a majority of patients present to the dermatologist for treatment of both red and blue vessels, lentigines and freckles, diffuse erythema, and dyschromia. Treatment for these common presentations can now be provided with a single laser. VariLite is unique in the combination of wavelengths.
REEL TALK

“One of the great things about being in the laser field is there are new lasers that come out every day. It makes it a very exciting arena to be in. The problem is the popular machine of today, unfortunately, often becomes the machine that you don’t need a year from now. The VariLite is tried and true. The wavelengths—532 nanometers, 940 nanometers—they work. We’ve had the machine for several years. It doesn’t break down. Patients send their friends. It’s a great machine to have in the office.”

VariLite™: A Reliable, Predictable Tool for Vascular and Pigmented Lesions

C. William Hanke, MD, MPH
Visiting Professor of Dermatology,
University of Iowa, Carver College of Medicine
Clinical Professor of Otolaryngology Head and Neck Surgery,
Indiana University School of Medicine

Like many cosmetic laser surgeons, I treat a number of patients seeking improvement of fine linear vessels and larger vascular lesions. While different laser systems have proven useful for these different indications, I had not been satisfied with the consistency of treatment outcomes for any single device. The dual-wavelength 532nm KTP/940nm diode VariLite laser (IRIDEX) is the first laser that facilitates reliable, effective, and efficient treatment of linear vessels of all sizes.
A Problem Solved

Historically, the argon laser (488-514nm) was first used for the treatment of linear vessels. However, maintenance issues arose in our practice, and we had difficulty finding replacement parts, leading us to abandon the argon laser. The 532nm KTP laser is effective for fine linear blood vessels, but some patients had discomfort and post-operative crusting. An alternative, the 595nm pulsed dye laser, lacks versatility. In my experience, PDL and KTP lasers are more effective for smaller blood vessels than large linear ones.

The VariLite™ solved our clinical problem by allowing us to change wavelengths to effectively treat small linear blood vessels as well as larger and deeper vessels and other vascular and pigmented targets. Treatment of linear blood vessels with the 940nm wavelength is relatively painless, and post-operative crusting is non-existent. Results are instantaneous for most sites. Linear blood vessels on the nose, however, may need to be retreated several times, with treatments administered at four-week intervals.

With any treatment, patients usually have temporary post-operative erythema, but there is no downtime. Many patients do not require anesthesia, although patients can select topical anesthesia if they wish. For treatment of facial vessels, our most common laser parameters are 1mm spot size, 140 J/cm².

The VariLite is safe and effective for treatment of darker skin. We have utilized the VariLite for dermatosis papulosa nigra (DPN) with good results and no complications.

A Safe and Reliable Option

The VariLite has become a frequently-used tool in our practice for the management of vessels and pigmented lesions. Unlike some older lasers, it is a reliable system, requiring no significant maintenance or consumables. The 532nm/940nm system has provided consistent results in patients of various skin tones with a high degree of patient comfort and satisfaction.

The VariLite 940nm laser (and 532nm KTP dual system) solved our clinical problem by allowing us to effectively treat small linear blood vessels as well as larger and deeper vessels and other vascular and pigmented targets. Treatment of linear blood vessels is relatively painless, and post-operative crusting is non-existent. Results are instantaneous for most sites.

The patient above is shown before (left) and after (right) treatment with the VariLite.

Photos courtesy of C. William Hanke, MD, MPH