

Aesthetic Procedures in a GYN Practice

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Background and Objectives

Medical practices of all specialties are responding to the growing patient demand for non-invasive laser aesthetic procedures. Safety, efficacy and maximum return on investment are some of the pressing issues facing clinicians moving into this arena.

The Cynosure Elite™ Aesthetic Workstation is FDA cleared for a variety of cosmetic treatments, including the permanent reduction of hair in all skin types, treatment of vascular and pigmented lesions as well as skin rejuvenation. The Elite has two wavelengths; the Alexandrite (755 nm) for lighter skin types I – III for hair removal, and Nd:YAG (1064 nm) for hair removal in darker skin types IV-VI as well as vascular lesions. In addition, the Alexandrite is used to treat benign pigmented lesions.

This report focuses on our experience using the Cynosure Elite laser in our Gynecology Aesthetics practice over the past three years and 25,000 cases. Of special note, we have experienced only one reported complication in all of these thousands of cases, which resolved nicely from medical treatment.

Methods and Materials

Laser Hair Removal

Laser hair removal is the most rapidly growing aesthetic laser procedure in the United States¹. The Elite laser allows us to choose a wavelength that best meets each patient's needs. Lighter skin types I – III are treated with the Alexandrite laser (755 nm), while darker skin types are treated with the Nd:YAG (1064 nm). This is especially convenient in scheduling as we can have patients of any skin type treated in the same room.

As a rule we have learned that typically 4-6 treatments are recommended with the Alexandrite laser where the Nd:YAG system patients may require up to eight treatments. Treatments spaced at six week intervals are necessary to accomplish 70-90 percent reduction regardless of skin type. One must remember that individual results will vary and thicker hair responds better than finer, lighter hair.

Light Skin Types I – III: Alexandrite Laser

The Elite laser affords a tremendous range of power settings and pulse widths. Other lasers with fixed parameters do not offer similar setting flexibility, which results in sub-optimal outcomes. Typically we choose a pulse width based on a patient's skin color and a fluence based on the character of hair. Very light skin (type I) is treated starting with a short pulse width of 10 msec, reserving a more aggressive pulse width of 5 msec for later sessions as the hair gets finer. Coarse hair requires a lower fluence than fine hair so a general starting point is 20 Joules. Men's facial hair and very thick dense hair on other body parts might be started as low as 15 Joules. We use the largest spot size possible such as 10 mm, 12 mm, or 15 mm depending on the combination of settings allowed in the flexibility of the Elite laser. This provides rapid treatment. Repetition rates greater than 1 Hz may be chosen based on patient comfort.

Dark Skin Types IV-VI Nd:YAG Laser 1064 nm

While the Alexandrite laser with flexible pulse durations has been used in dark skin types², the risks of side-effects make the Nd:YAG the wavelength of choice³. Patients of color and those with tanned or sun exposed skin respond beautifully to the Nd:YAG laser.



Figure 1. A. Pretreatment: Pseudofolliculitis Barbae. B. Post eight treatments with the Elite (1064 nm).

After performing thousands of procedures on darker skin types without complications we feel this is a very safe procedure. We begin by understanding that we must use longer pulse widths (longer time of delivery of energy) in these patients to protect their skin. We begin using 30 Joules of energy except

in the case of very dense hair, which may mandate a fluence as low as 20 Joules. Pulse width is set to 30 msec and we use repetition rates of 1-1.5 Hz. Spot size is again determined by size of body part treated, such as a 10 mm spot size on small parts like face, bikini, underarms and a 12 or 15 mm spot size on legs, backs and chests.

While we are primarily a gynecology and aesthetics practice, the Elite has allowed us to open our office to male patients as well. Men represent a rapidly growing segment of the aesthetics market and are frequently referred by their friends. Those patients with PFB (Pseudofolliculitis Barbae, a condition with large amounts of ingrown facial and neck hair) are treated noting the large amount of hair ejection during a session. Typically these patients see a large reduction by the time of their second visit approximately six weeks later, sometimes noting as much as a 50 percent reduction. After using numerous temporizing therapies these patients are most grateful for the results attained with the laser. We recommend eight sessions due to delayed re-growth noticed by session three.

All patients, regardless of skin type, require excellent cooling. The SmartCool™ system delivers air at -4°C and provides protection before, during and after each laser pulse. With no consumable costs and no side-effects, this air cooling system is well received by our patients and provides a measure of "coolgesia" during the procedures. We also use a thin layer of colorless ultrasound gel to further cool the skin during these procedures. Over 90 percent of our patients do not require a topical anesthetic, while the remaining 10 percent choose a 5 percent Lidocaine preparation such as LMX.

Women commonly choose to treat the bikini area, underarms, face, legs, arms and back, while men choose chest, abdomen and back as well as the beard and neck areas. Those seeking treatment due to ingrown hairs and razor burn typically see complete resolution by the end of an eight session regimen at six week intervals. We are able to reduce unwanted hair by 80-90 percent in the majority of patients without major complications. Patients typically are free of ingrown hairs and razor burn that they previously experienced.

In addition, patients with medical conditions causing unwanted hair such as PCOS⁴, or ingrown hair and pigmentation issues such as Pseudofolliculitis Barbae, respond with similar yet life changing results but we suggest touch up sessions to maintain this improvement. Procedure time is 15 minutes for

most body parts except legs and backs which may take 45-60 minutes.

Follicular edema, or hair follicle swelling, is a desired end point of every laser hair removal procedure. Resolving in 15 minutes in 90% of our patients. In rare cases, it may last up several days and cause itching. Symptomatic treatment with Aloe Vera or 1 percent hydrocortisone lotion works well.

Major complications such as burns are very rare; only one in 25,000 cases at our practice. Minor self limiting side-effects are seen in approximately one in 400 cases. Hyperpigmentation has been our most transient side-effect using the Alexandrite laser and results when excessive laser energy is used for the patient's skin color. It is extremely rare using an Nd:YAG laser. While unsightly, these spots will resolve with time if left alone or with 4 percent hydroquinone cream. It is important to avoid sun exposure when using this medication.

Spider veins and facial vessels

Spider veins and facial vessels are often genetic or may be due to hormonal changes, pregnancy or simply aging. In our practice, 30-40 percent of women will voice complaints due to this as will about 20 percent of men. These vascular lesions are easily treated with the Nd:YAG laser. A greater understanding of the venus anatomy will increase the rate of success.

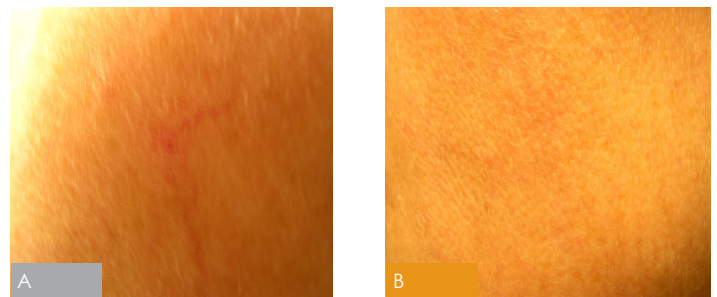


Figure 2. A. Pretreatment: Spider veins. B. Post one treatment with Elite (1064 nm).

With veins, hemoglobin is the target chromophore for the Nd:YAG laser used in these treatments. It is important to note that to achieve photocoagulation, wider laser spot sizes and longer pulse widths are associated with deeper penetration.

Spider veins are typically very superficial while blue veins (reticular veins) behind the knee are deeper. Keeping this in mind we utilize the flexibility of the Elite laser to treat superficial vessels (up to 1 mm) with a smaller spot size (3-5 mm) and short pulse width (10-20 msec). Deeper vessels are treated with a larger spot size (7 mm) and wider pulse width (30-50 msec). Often two sessions are required for resolution spaced at six to eight week intervals. Mild swelling post procedure is common and resolves with ice pack therapy. While we use compression hose after treatment for reticular vessels, no compression is required for spider veins.

For facial vessels we achieve an 80-90 percent reduction in one session. Only 20 percent require a second session which we space at around eight to ten weeks. For leg veins additional sessions may be required.

Pigmented Lesions

With today's outdoor lifestyle, sun-damaged skin is very common. Men and women have solar lentigos, or age spots, on various parts of the body including the chest, arms, hands and face. Once these have been evaluated to rule out malignancy they may be treated with the Elite laser using the Alexandrite at 20-23 J/cm², 0.5 msec and a 5 mm hand piece. Cooling and gel is not required. Lesions typically become raised and darker immediately and flake off the skin in 10 days leaving no scar though healing may take up to two weeks. The technique uses two rapid pulses targeting the specific lesion with no air cooling or gel. A "popping noise" is heard and a small plume of smoke seen during this painless procedure.

We achieve an 80 percent reduction with one session and occasionally perform a second procedure in eight weeks if necessary.



Figure 3. A. Pretreatment: Pigmented lesions. B. Post one treatment with Elite (755 nm).

LaserFACIALSM

Sun-damage and rosacea are common problems facing patients. Uneven skin pigmentation and profuse facial redness plague many women and men making them very self-conscious of their appearance. The LaserFACIAL gently heats the skin using the Nd:YAG laser and results in reduced pigmentation, sealed facial vessels and collagen stimulation resulting in a smoother, more vibrant appearing skin. For the reduction of aggressive pigment or superficial pigmented lesions such as lentigos, we use the Elite's Alexandrite laser using parameters as indicated above.

The LaserFACIAL procedure, which feels like a facial massage, uses a "non contact" technique of painting the skin. We use a 5 mm hand piece at 15-20 J/cm², 0.4 msec pulse width at 5 Hz. No cooling or gel is used for the procedure. We deliver 2,500-3,000 pulses to four areas of the face including cheeks, forehead and peri-oral skin. The laser is continuously moved over the surface to prevent any one area from becoming too hot or causing discomfort. Patients may go back to their normal activity immediately following this laser facial.

Five sessions spaced at 2 week intervals are performed. After the second session, having reduced some of the background facial redness, small telangiectasias are more easily identified and treated as described above.

Conclusion

Overall we have found that the Elite laser has enabled us to offer a variety of treatments to our patients. The system's workstation platform has allowed us to effectively deliver a number of high-volume, highly desirable treatments.

References

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