

# GentleYAG Laser Advances Art of Skin Tightening

**Editor's Note:** For this clinical roundtable discussion, we interviewed a group of leading researchers to record their views and clinical experience regarding the use of the 1064 nm GentleYAG for the new application of skin tightening. Clearly, as evidenced by the comments in this roundtable, the GentleYAG offers an effective option for treating patients that need a non-invasive solution for age related skin laxity.

## What is your clinical experience with the GentleYAG for skin tightening?

**William Clearfield, D.O.** – We've used the GentleYAG for facial rejuvenation, wrinkle reduction, spider vein removal, and acne scar removal for about six months.

**Douglas Key, M.D.** – We've been using the GentleYAG since the fall of 2004 with extremely favorable results. It's also a workhorse for leg vein treatment and hair removal.

**Angelika Langford, M.D.** – Since we received the laser in April 2005, we've treated about 50 patients six times each and 20 patients three times each for skin tightening. We sometimes do veins and hair removal.

**Mark Taylor, M.D.** – For skin tightening, we've been using GentleYAG for 18 months.

**Peter Zavell, M.D.** – Since March 2005 we've treated about 15 patients for skin tightening. We also use the GentleYAG for hair removal.

**Benjamin Bassichis, M.D.** – We've had the GentleYAG laser since March 2005. We use it to enhance other therapies (e.g., microdermabrasion), to stimulate collagen growth in thin-skinned patients preparing for face lift surgery, and to remove unwanted hair, leg veins, and facial veins.

**Donald Sudy, M.D.** – We've performed skin tightening procedures on six patients so far.

**Elizabeth Greenhaw, M.D.** – I received my training from Michael Elder, M.D., who trains other physicians on the use of the GentleYAG. We've been using the GentleYAG for one year, primarily for hair removal and more recently for skin tightening. We've been doing the skin tightening for six months.

## What are your treatment parameters and protocol for achieving optimal results?

**Dr. Clearfield** – We use 50 J/cm<sup>2</sup> fluence, 50 ms pulse duration, 10 or 12 mm spot size, and 1 Hz repetition rate. We do one pass per treatment area with 20% to 30% overlap, using a moderate setting on the dynamic cooling device (DCD). Before treatment we do a test spot behind the ear. We also make sure the patient is not taking skin sensitizing medications and has no infections or tumors. We've treated the face, chin, and abdomen.

**Dr. Key** – We administer our treatments with pulse stacking – in sets of two with three passes each. On thicker facial areas (e.g., cheeks and jowls), we use 50 J/cm<sup>2</sup> fluence and 50 ms pulse duration. On thinner skin areas (e.g., temples and forehead), we use 30 J/cm<sup>2</sup>. Our spot size is always 10 mm and our repetition rate is 1.5 Hz. We use topical anesthesia only.



Douglas Key, M.D.

We treat to reasonable patient tolerance and have had no adverse events. Patients find the procedure more comfortable when the DCD is set at 30/20 ms rather than 40/20. We treat the abdomen, neck, face, arms, and thighs. We also treat beneath the brow but not beyond the bony rim of the orbit.

**Dr. Langford** – We usually use 45 to 50 J/cm<sup>2</sup> fluence, 50 ms pulse duration, and 9 to 10 mm spot size. We start with three passes. We rarely reduce the fluence to below 45 J/cm<sup>2</sup>. For selected areas (e.g., forehead lines), we do passes until we see improvement. If we do it slowly and set the DCD at 40/20 ms, we see a little shrinking during treatment. We use ice pack cooling before and after treatment. We even treat the upper eyelids. There's no swelling; the GentleYAG is wonderful, really. We also treat the arms, upper arms, upper leg, inner thigh, and abdomen.



Angelika Langford, M.D.

**Dr. Taylor** – We do the full face, neck, abdomen, and thighs. We use a fluence of 50 J/cm<sup>2</sup>, 50 ms pulse duration, 10 mm spot size, three intersecting passes per treatment area, and 2 Hz repetition rate. To manage discomfort we give Percocet and use the 40/20 ms DCD setting. We also pretreat with Photocaine topical anesthetic.

**Dr. Zavell** – We use the treatment parameters recommended to us by Dr. Taylor. We haven't needed narcotic anesthesia.

**Dr. Bassichis** – We do the face and neck, using 12 J/cm<sup>2</sup> fluence. We start with a 45 ms pulse width and 10 mm spot size and switch to 25 ms and 8 mm. The treatment is not overly painful because we move the treatment tip around the face with a painting technique. We don't use the spacer and we don't use cryogen cooling. All we're doing is firing the laser on the forehead, moving to the temple area, cheeks, chin, and nose — circling the face over and over until we hit 4,000 to 6,000 pulses. When the patient says, "Okay, that's getting a little hot," we move to the next area. It's not necessarily the number of passes as the number of pulses that's important.

We don't use anesthetic, so we don't heat the skin to where the patient says, "Ouch!" We let the patient know before treatment that this is not supposed to hurt. Although we don't reach 60° C to break collagen bonds, we provide enough thermal injury for skin tightening.

***"Treatment is not overly painful because we move the treatment tip around the face with a painting technique."***

**Dr. Sudy** – We use 50 J/cm<sup>2</sup> fluence for the lower face, from the cheeks to the neck. If treating the forehead we go to 40 J/cm<sup>2</sup> because the skin is thinner in that area. We use a 10 mm spot size and a 30/20 ms setting on the DCD. We do three passes: vertical, horizontal, and diagonal, as well as an elliptical ring pattern without overlapping. We do the right cheek, then the left cheek, alternating with each pass. We leave the repetition rate at 1 Hz. Some patients tolerate it but it gets quite warm, especially during the third pass. Our patients do better with a topical anesthetic cream before treatment.

**Dr. Greenhaw** – We use 40 J/cm<sup>2</sup> fluence on the forehead and 50 J/cm<sup>2</sup> on the rest of the face. We do three passes per area with a 10 mm spot size. We use topical Betacaine before treatment and we treat without cooling. It's important to completely wipe off the Betacaine just before laser treatment to avoid hyperpigmentation. We treat the face and neck. Soon we will try the abdomen.

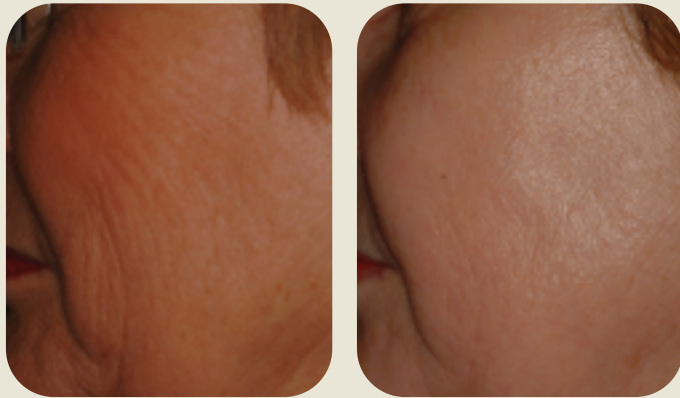
**How do you present this procedure to your patients and manage their expectations?**

**Dr. Clearfield** – We display pictures of patients we've treated. We tell patients the procedure won't turn them into a 20 year old. We always take before and after pictures because the skin tightening effect is subtle. We don't get instant gratification as with hair removal.

**Dr. Key** – Patients often come in expecting treatment of gravitational change. GentleYAG and similar therapies treat laxity; they don't give back lost soft tissue structural volume or repair photodamage. We never represent the GentleYAG as a singular treatment in patients with moderate to severe laxity.

**Dr. Langford** – Generally we explain the procedure during the preliminary consultation and show pictures. We recommend three or six treatments. We tell them that results will compare with those of non-ablative lasers in skin rejuvenation.

**Dr. Taylor** – We show them pictures of modest improvement. Most patients feel that they reach those expectations. We don't treat inside the orbit area. But the upper cheekbone, forehead, and neck respond nicely.



Photos courtesy of Peter Zavell, M.D.

Before Tx

After GentleYAG Tx

**Dr. Zavell** – We're up front with patients. We tell them the pros and cons and determine if the GentleYAG is really what they need. Sometimes we send them to a plastic surgeon for a face lift.

**Dr. Bassichis** – People lose about 1% of the skin elasticity per year after age 30, so anything we can do to slow that down will be beneficial. It's important to select a therapy that is effective. For example, microdermabrasion is not an option for turkey gobbler's chin.

***"It's best for people aged 35 to 55 years, who are not ready for plastic surgery or don't want the downtime."***

**Dr. Sudy** – We present the GentleYAG as an overall rejuvenation plan for mild to moderate skin laxity – people in their 40s and early 50s without a lot of redundant tissue, heavy jowls, and so on. These people are not candidates for a face lift or don't want one. Before treatment we make sure patients don't have excessive skin laxity and don't expect unreasonable results.

**Dr. Greenhaw** – I first determine if the patient is a candidate for the GentleYAG. It's best for people aged 35 to 55 years, who are not ready for plastic surgery or don't want the downtime. Once people get to a certain point in the aging process, skin tightening is not for them. I show them before and after photos of patients we've treated.



Elizabeth Greenhaw, M.D.

### How do you combine this procedure with other anti-aging treatments?

**Dr. Clearfield** – We sell a complete package that includes skin tightening, wrinkle reduction, and photorejuvenation with the GentleYAG and mesotherapy to fill in smile lines and bunny lines on the forehead. We do a series of eight treatments spaced two weeks apart, alternating between the laser and mesotherapy (four each). The combination sells itself.

**Dr. Key** – We have a treatment plan that includes the GentleYAG laser and the Fraxel laser. The Fraxel's microthermal resurfacing skin tightening combined with the GentleYAG's in-depth structural tightening is an extraordinary combination.

**Dr. Langford** – We are still testing the GentleYAG so we have not yet combined it with other treatments. When patients have age spots or facial veins, we offer them intense pulsed light treatments after their GentleYAG course to improve the overall look and texture of the face.

**Dr. Taylor** – We combine the GentleYAG with fillers, botulinum toxin type A, photo facials, and other treatments.

**Dr. Zavell** – We combine the GentleYAG with SkinMedica or Obagi products to help with the collagen remodeling.

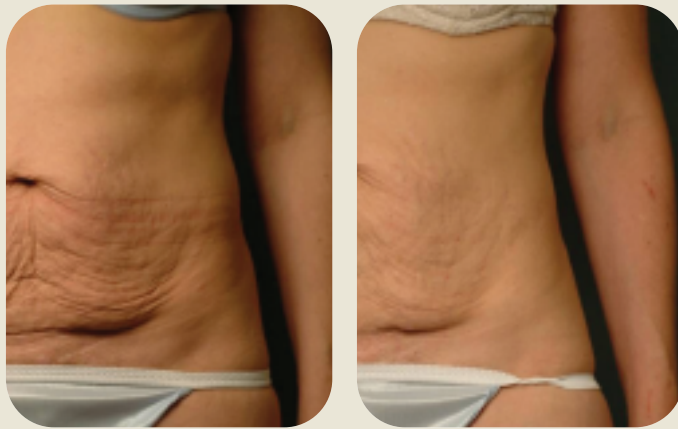
**Dr. Bassichis** – We prefer patients to have a microdermabrasion to get rid of surface oils and dirt before laser treatment. This allows the YAG to penetrate deeper into the skin.



Benjamin Bassichis, M.D.

**Dr. Sudy** – Depending on patient goals, we present the GentleYAG as part of an overall nonsurgical skin rejuvenation plan that includes home skincare products, botulinum toxin type A, and fillers. We also include chemical peels, microdermabrasion, and intense pulsed light.

**Dr. Greenhaw** – We also offer botulinum toxin type A, Restylane, Radiesse, and photo facials.



Before Tx

After GentleYAG Tx

Photos courtesy of Douglas Key, M.D.

**Comparing this procedure to other treatment modalities, where does it fit in your practice?**

**Dr. Clearfield** – the GentleYAG opens up a whole new profit center, and brings a new class of clientele to the practice – by that I mean they want to be here, are happy to come and be treated. For someone in strictly internal medicine for 20 years, that's refreshing.

**Dr. Langford** – It's good to offer a treatment with no downtime and makes patients happy. And the redness fades quickly after treatment.

**Dr. Taylor** – The GentleYAG is complementary to other procedures we're doing, both cosmetic dermatology and laser treatments. We can mix tightening procedures with intense pulsed light to take freckles and broken blood vessels off, so we're treating the surface appearance and tightening the skin at the same time.

**Dr. Zavell** – The GentleYAG laser has allowed us to add skin tightening to our services.

**Dr. Bassichis** – I approach emerging technological trends with cautious enthusiasm. The first couple hundred patients are part of the learning curve, and if the procedure doesn't work well you're stuck with an expensive box. With the GentleYAG, I waited around to see what was going on out there before I purchased, and I don't regret it.

**Dr. Sudy** – The GentleYAG offers a nonsurgical alternative for people with mild to moderate skin laxity and want skin tightening. We didn't have anything to address skin laxity before the GentleYAG.

**How would you compare GentleYAG skin tightening to other skin rejuvenation technologies and treatments?**

**Dr. Clearfield** – The GentleYAG is my first laser and we've used it for six months. We treat patients up to four times, 20 to 40 minutes each with four to six weeks between sessions. We see subtle results after the first treatment. We also use the GentleYAG for acne scars and spider veins. A few patients have had mild photosensitivity. We treat all skin types.

**Dr. Key** – Our patients prefer the GentleYAG over radiofrequency even though the laser is a little more uncomfortable. For moderate to severe skin laxity, we propose two to three sessions spaced three to four months apart. The three to four month interval allows sufficient time for collagen remodeling. We may even allow six months to pass between the second and third treatment because repetitive close treatments will not be nearly as additive as longer delays between treatments. I base that on four years experience with radiofrequency and my experience with the GentleYAG.

***“For moderate to severe skin laxity, we propose two to three sessions spaced three to four months apart.”***

**Dr. Langford** – One group came twice a week – patients who had six treatments – and one group came once a week. Sessions usually last 30 to 45 minutes. There's no downtime and we immediately see results.

I reduce the fluence for darker skin. We've had few problems so far. We noticed mild blistering in two women with permanent facial makeup.

Photos courtesy of Mark Taylor, M.D.



Before Tx



After GentleYAG Tx

**Dr. Taylor** – Some patients experience 40% to 60% improvement with the GentleYAG. We do five 20 minute sessions for the face. The neck and chest take 10 or 15 minutes longer than the face. One month between sessions works well. Some people have a bit of swelling, and maybe slight redness. None have downtime. People see results within one month, but it's six months after the final treatment before they see the full benefit. GentleYAG is versatile and quick, so it's a good treatment for multiple areas. We sometimes use it for scars and stretch marks. For skin tightening, we may use the most aggressive settings out there. Others get good results with less energy. In 18 months we've seen only one blister.

***“There is no burning and no scarring, unlike CO<sub>2</sub> lasers.”***

**Dr. Zavell** – We do four to five treatment sessions of 30 to 75 minutes each, one month apart, with no downtime. We see results about a month after the first treatment. We've seen no complications with the GentleYAG, although scarring is always a risk with lasers. We suggest maintenance at 18 to 24 months after the last treatment.



Peter Zavell, M.D.

**Dr. Bassichis** – Results with the GentleYAG are more predictable than with radiofrequency treatments. We do four 45 minute sessions, three to four weeks apart, with optimal results 90 days after the fourth treatment. Patients start seeing improvement one to two weeks after the first treatment. We treat patients of

any skin type, although most of our patients have lighter skin. In men we avoid treating hair-bearing skin because the laser can affect hair follicles. Although I don't like to use the word “none,” so far I've seen no adverse effects with the GentleYAG. We suggest that patients return once a year for a maintenance treatment.

**Dr. Sudy** – The GentleYAG laser has been around for a long time, so I feel more comfortable doing skin tightening with it. It's not a substitute for a face lift but the adverse effects are minimal. Some patients begin to see results after the first treatment. We do a series of four treatments spaced a month apart. We also use the GentleYAG for hair removal, vein removal, and wrinkle reduction.



Donald Sudy, M.D.

**Dr. Greenhaw** – The GentleYAG has no real downtime. We recommend three or four treatments spaced three weeks apart. We tell patients to look for results after the fourth treatment, although we see mild improvement after the first treatment. A treatment session lasts 30 to 45 minutes. The most common side effect is facial edema, which lasts one to seven days. I've never used radiofrequency for skin tightening.

### What patient feedback have you received on this procedure?

**Dr. Clearfield** – Patients love it. We've been doing this for several months and people are asking about it. The key things are that there is no burning and no scarring, unlike CO<sub>2</sub> lasers. After treatment patients may look like they've been in the sun for an hour.

**Dr. Key** – The treatment is uncomfortable, but remember that we treat to patient tolerance. We can always treat a little gentler, and do another treatment. We have several patients who responded poorly to radiofrequency but saw substantial benefit with GentleYAG treatment.

**Dr. Langford** – Everyone is impressed with their skin texture and even lines. Even after two weeks, improvement is rapid. I don't know what happens after four or six months. Treatment can be painful but with cooling,

patients tolerate it. They like having no downtime and not looking like they were just treated. Normally we see no swelling.

**Dr. Taylor** – It hurts. The parameters we're using are fairly uncomfortable. I think thin faced patients hurt more than fat faced patients, maybe because the light bounces off the bone. Still, people have been more satisfied with the GentleYAG than with radiofrequency alone. Lots of people are having it done, my office staff is all having it done, I've had it done, and we all love it. It's a fast and efficient way to achieve satisfying results.



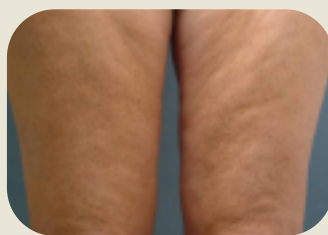
Mark Taylor, M.D.

**Dr. Zavell** – We've had a lot of good patient feedback about GentleYAG. We've had referrals from physicians in OB/GYN, internal medicine, dermatology, family practice, and even plastic surgery.

**Dr. Bassichis** – Patients like how their skin feels smoother after treatment with the GentleYAG. Some report decreased pore size and decreasing fine lines around the eyes. Patients love the lack of downtime. They come in, have it done and in less than an hour they're back to their normal routine. Some people don't like needles or the concept of surgery, or they don't want pain, so for them this is an alternative.



Before Tx



Patients left side after RF and patients right side after GentleYAG Tx

Photos courtesy of Douglas Key, M.D.

**Dr. Sudy** – All our patients are skin types I through III and have reported no adverse effects. As long as you stay within the treatment parameters you can treat darker skin types. Some patients see and feel a difference right away, but I don't know how much of that is from edema.

**Dr. Greenhaw** – Our practice has grown by referrals. About 85% of our patients feel the GentleYAG procedure was successful. The other 15% didn't complete the entire course.

**ROUNDTABLE PARTICIPANTS:**

**Benjamin A. Bassichis, M.D.**  
 President  
 Advanced Facial Plastic Surgery Center  
 Dallas, TX U.S.  
 voice: (972) 774-1777

**William Clearfield, D.O.**  
 Forty-Fort, PA U.S.  
 voice: (570) 714-4448  
 fax: (570) 714-4528  
 email: doctrbil9@aol.com

**Elizabeth L. Greenhaw, M.D.**  
 Medical Director  
 Advanced Aesthetics Oklahoma City  
 Oklahoma City, OK U.S.  
 voice: (405) 751-3424

**Douglas J. Key, M.D.**  
 Medical Director  
 Key Laser Institute for Aesthetic Medicine  
 Peterkort Centre One  
 Portland, OR U.S.  
 voice: (503) 296-4480

**Angelika Langford, M.D.**  
 Senior Physician  
 University of Berlin  
 Virchow Clinical Center  
 Berlin, Germany  
 voice: 0049-30-450555011  
 email: angelika.langford@charite.de

**Donald Sudy, M.D.**  
 Medical Director  
 Regensis Medical Spa  
 Charlotte, NC U.S.  
 voice: (704) 362-2232

**Mark B. Taylor, M.D.**  
 Medical Director  
 Gateway Aesthetic Institute and Laser Center  
 Salt Lake City, Utah U.S.  
 voice: (801) 595-1600  
 fax: (801) 364-0423  
 email: gateway@xmission.com

**Peter Zavell, M.D.**  
 Medical Director  
 Heavenly Skin Aesthetic & Cosmetic Laser Center  
 Florence, SC U.S.  
 voice: (843) 667-1919  
 email: info@myheavenlyskin.com