

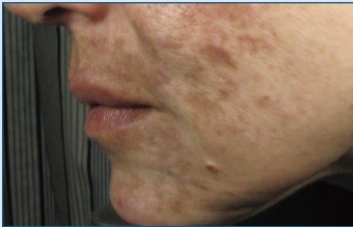
ProFractional Therapy Assists in Treatment of Stubborn Melasma

By Sean McKinney, Contributing Editor

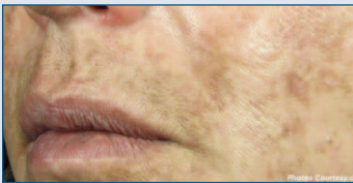


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"Infrared energy from the fractionated pattern of ProFractional Therapy not only removes targeted tissue in melasma-affected skin, but also improves excess pigmentation."



Patient before Tx



Patient four weeks after one ProFractional Tx
Photos courtesy of Jaggi Rao, M.D., F.R.C.P.C.



Charry Chavelas, M.D.
Dermatologist-Venereologist
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ProFractional Therapy™ from Sciton, Inc. (Palo Alto, Calif.) has become an important treatment option for stubborn melasma. This method is most effective when combined with sun avoidance, topical treatments and other strategies for preventing pigment gain.

"All patients will improve – most of them significantly, as long as they follow these treatment philosophies," said Jaggi Rao, M.D., F.R.C.P.C., director of the dermatology residency program, division of dermatology and cutaneous sciences at the University of Alberta (Edmonton, Alberta, Canada). "I often include the ProFractional laser as part of the regimen."

"Melasma can be very difficult to treat," said Charry Chavelas, M.D., a dermatologist-venereologist from Ioannina, Greece. "The pigment of melasma develops gradually and resolution is also gradual. Resistant cases or recurrences of melasma often occur." As a tunable Er:YAG laser, ProFractional helps tackle this very significant cosmetic challenge.

"The intracellular nature of the pigmentation makes it difficult for one treatment modality or agent to arrest the progression of further pigmentation, as well as remove existing pigmentation," Dr. Rao advised. "Single treatment modalities cannot easily reach all levels of the skin (dermis and epidermis) where the excess pigment exists. Additionally, treatments that are too aggressive can make melasma appear worse by causing further deposition of pigment."

According to Dr. Rao, treatment of melasma can be divided into four categories including: Systemic treatment, which involves anti-hormonal agents such as some forms of oral contraceptives; Topical treatment, such as lightening creams, peeling agents (chemical peels) and topical weak acid preparations, retinoids, kojic acid, azelaic acid and vitamin C; Physical treatment, such as dermabrasion and microdermabrasion; and Light / Laser treatment, including BroadBand Light, Q-switched pigment lasers, full-contact laser resurfacing and fractionated lasers.

ProFractional Therapy provides a fractionated option to ablate narrow-diameter channels of skin, covering a fraction of the total treatment area and maximizing comfort by transmitting minimal heat into tissue. The 2940 μm wavelength is significantly absorbed by water, causing most, if not all, of the energy to be used in ablation or vaporization. Stimulated fibroblasts in the treated channels produce new collagen and elastin, leaving surrounding tissue intact to promote rapid healing. In contrast, CO₂ ablation with a 10,600 μm wavelength has a much lower specificity for water absorption, causing more thermal damage.

"Collateral heat produced by many CO₂ lasers creates tissue coagulation in the walls of the ablation channels, reducing transepidermal elimination of pigment," noted Dr. Rao. "Furthermore, if heat injury is too great, it can actually cause further pigmentation in melasma."

Dr. Rao explained that the infrared energy from the fractionated pattern of ProFractional Therapy not only removes targeted tissue in melasma-affected skin, but also improves excess pigmentation surrounding the channels via transepidermal elimination.

"Fractionated lasers in general are capable of reaching the depths where pigment in melasma lies," Dr. Rao added. "Full contact ablative lasers may not necessarily reach this depth, limiting treatment to only superficial melasma."

Dr. Chavelas's experience has left him most comfortable with the ProFractional laser. "Other fractionated ablative devices are less powerful," he noted. "Many CO₂ lasers raise the risk of post-inflammatory hyperpigmentation due to the large amount of thermally induced inflammation and tissue necrosis. Likewise, I do not use photodynamic therapy in the treatment of melasma due to the danger of the post-inflammatory hyperpigmentation and phototoxic reactions."