DEKA
Innate Ability

Before AI
we use IA
INNATE ABILITY

WHITE PAPER

SmartXide Tetra

A NOVEL NO DOWNTIME SKIN RESURFACING PROCEDURE: COOLPEEL

cartessa

September 2019

exclusive distributor in the U.S. market

A Novel No Downtime Skin Resurfacing Procedure: CoolPeel

Dr. Carey J. Nease, MD

Plastic Surgeon - Fort Payne, AL, USA.

Abstract

Objective: Although CO_2 Laser technology for skin resurfacing has been consistently developed for the last 20 years, the ability to treat different skin conditions and various skin types has always been limited to only a few parameter adjustments (power, dwell time, density). As technology improves in all other aspects of our life, patients have been requesting less invasive treatments with limited downtime and the highly sought after 'lunchtime' treatment sessions. SmartXide Tetra with CoolPeel (DEKA Florence, Italy) has been verified to be the most versatile, safest, lunchtime peel resurfacing procedure that allows customized downtime to meet patient expectations and capabilities for all skin conditions.

Materials and Methods: Twelve (12) participants (Avg. 45 y.o.) with skin types I-III underwent CoolPeel facial skin resurfacing treatment. Selected areas were randomly treated with SmartXide Tetra (DEKA, Florence, Italy). mild edema, mild erythema, minimal crusting (sand paper like texture) were noticed which cleared up within 24-72 hours using a mild moisturizer. Treatment times was approximately 6-10 minutes on average for a full face.

Results: All of the participants completed the treatment cycle with remarkable results and no reported issues.

Conclusions: : The new SmartXide Tetra with CoolPeel was proven to be a very fast, comfortable treatment with minimal social downtime and a high degree of satisfaction reported on all the selected skin types I-III.

Keywords: CO_2, Skin Resurfacing, CoolPeel, 10600 nm Laser.

Introduction

Sun exposure, photo and chrono ageing processes contribute to a skin deterioration that involves the skin's structure, function and appearance. CO_2 Skin Resurfacing has always been considered the first choice of treatment for fine lines, rhytids, wrinkles and photo-damaged facial skin. However, due to the lengthy recovery times and frequent Complications, most of the patients began to seek alternatives. Over the years, these types of CO_2 treatments were reserved primarily for more aggressive applications.

Side effects were often present, such as edema, burning, scabbing, PIH, and erythema, which often last for many weeks. Historically, there has been a high risk of hyper / hypo pigmentation, scarring, infection, etc. with these types of treatments leading patients to avoid this type of treatment when only looking to freshen the skins appearance.

Over recent years, the market has been trending towards less invasive and less problematic procedures and methods. This has led to a wide-scale production of a myriad of non-ablative devices for reducing wrinkles and improving photo-damaged skin. However, from a critical review of the efficacy studies and publications, none of the results obtained with these non- ablative methods can be compared to the resurfacing results achieved with CO_2 lasers. SmartXide Tetra with PSD Technology has been proven to be extremely flexible and versatile in the parameter selections available in order to highly customize each patients downtime and goals related to specific skin conditions to be treated.

Differently from the various CO_2 lasers with fractionated emission currently available on the market, SmartXide Tetra provides users with extreme flexibility of pulse shape selection (to minimize downtime and side effects) output power, dwell-time, distance between the dots (pitch), scanner shapes as well as the spray mode of emission that removes the concern of demarcation lines typically found with many of the CO_2 treatments currently available.

Materials and Methods

Twelve (12) participants (Avg. 45 y.o.) with skin types I-III underwent the CoolPeel facial skin resurfacing treatment. Selected areas were treated with SmartXide Tetra (DEKA, Florence, Italy) mild edema, mild erythema, minimal crusting (sandpaper like feeling skin) were noticed but quickly healed (within 48 hours) or disappeared.

Selected parameters ranged from 3 W / 600 spacing to 5W / 500 spacing depending on skin type and down time available. Treatments were done with HP (high pulse), random pattern and spray mode. Repetition speed, scan size and shape were all set to the operator's preference. This would not affect treatment results. 3 to 4 sessions were included in the study. A special scanner is positioned over the face and delivers the laser beam (HP pulse) in full respect of the Skin Thermal Relaxation Time (Hi-Scan DOT mode). Treatments were carried out on facial areas. Goggles and patient shields have been used during the entire procedure.

Some mild edema, mild erythema, minimal crusting (sandpaper like feeling skin) were noticed, but quickly disappeared. Ice pack or air cooling may have been used for proper post session skin comfort. Moisturizers with proper SPF were applied immediately after treatment. The interval between the sessions varied between 20 and 45 days.

CoolPeel Laser Treatment Procedure

CoolPeel represents the latest innovation in lunch time treatments from DEKA (Florence, Italy) utilizing a specific pulse mode (High Pulse – HP) available only from the SmartXide Tetra CO_2 laser system. It has a controlled penetration (20 µm to 70 µm) depth which helps avoid substantial downtime (from 0 to 2 days of social downtime, if any), but preserves the coagulative and resurfacing properties to provide patients with remarkable cosmetic results. Minimal downtime procedures are in high demand from today's patients. The lunch time peels have been gaining popularity for the last decade. CoolPeel understands these patient demands of providing no downtime, in a safe and efficient treatment, with a short operating time. Implementing the new SPRAY mode, CoolPeel results in a homogeneous treatment over each and every area.

CoolPeel is carried out over the face, neck and décolleté by the application of the contact scanner terminals. Each part has to be treated in its entirety avoiding overlap. Downtime can be adjusted by choosing either the appropriate Protocol and size of the scanning area. In our practice we did select power level 3 W, 4 W and 5 W with 600 µm Spacing according to the area to be treated. Moist saline-soaked gauzes are gently used to remove debris during the procedure and provide better aesthetic outcomes once the skin heals. Protocol includes just one pass and there is no need for additional passes or stacking. The interval in between the sessions is 30-45 days so the treated area has fully healed and regenerated. The endpoint of treatment is usually a mild redness that tends to disappear within a few mins to a few hours.

Results

After 3-4 treatments patients are very satisfied with the treatment experience. Some of my patients who had previous treatments with CO_2 lasers found



Figure 1. Before (A) and after 1 treatment (B) pictures of a patient treated with 4 W Power, 600 µm Spacing (pitch) and HP Pulse Mode.

CoolPeel extremely safe, fast and highly comfortable. No particular side effects were recorded except some immediate redness that disappeared within a few hours.

Conclusions

From our experience, SmartXide Tetra with CoolPeel is a highly valuable tool in physician's hands to serve most skin types. Patients love the speed of the treatment and having fresh, glowing skin immediately after treatment with little to no downtime. The improvement in pore size, skin texture and fine lines becomes visible as the tissue heals. It is great to have a device that works with no anesthesia and reduces the treatment time to minutes for an entire face. All patients were extremely pleased with the procedures expectations, process, and results.

References

1. Taylor CR et al. Photoaging/photodamage and photoprotection. J Am Acad Dermatol 22:1, 1990.
2. Lavker RM. Cutaneous aging: Chronological versus photoaging, in Photodamage, edited by Gilchrest BA. Cambridge, MA, Blackwell Science, 1995, p123.
3. Ratner D, Tse Y, Marchell N, Goldman MP, Fitzpatrick RE, Fader DJ. Cutaneous laser resurfacing. J Am Acad Dermatol. 1999; 41:365-89.
4. Manuskiatti W, Fitzpatrick RE, Goldman MP. Long-term effectiveness and side effects of carbon dioxide laser resurfacing for photoaged facial skin. J Am Acad Dermatol. 1999;40:401-11.
5. Fitzpatrick RE, Goldman MP, Satur NM, Tope WD. Pulsed carbon dioxide laser resurfacing of photo-aged facial skin. Arch Dermatol 1996;132:395– 402.
6. Schwartz RJ, Burns AJ, Rohrich RJ, Barton FE, Byrd HS. Long term assesment of CO_2 facial laser resurfacing: Aesthetic results and complications. Plast Reconstr Surg. 1999; 103:592-601.
7. Hamilton MM. Carbon dioxide laser resurfacing. Facial Plast Surg Clin North Am. 2004;12:289–95.
8. Lent WM, David LM. Laser resurfacing: a safe and predictable method of skin resurfacing. J Cutan Laser Ther. 1999;1:87-94.
9. Airan LE, Hruza G. Current lasers in skin resurfacing. Facial Plast Surg Clin North Am. 2002;10:87-101.
10. Fitzpatrick RE. CO2 laser resurfacing. Dermatol Clin.2001;19:443–51.
11. Fitzpatrick RE. Maximizing benefits and minimizing risk with CO_2 laser resurfacing. Dermatol Clin. 2002;20:77–86.
12. Hruza GJ, Dover JS. Laser skin resurfacing. Arch Dermatol 1996;132:451–455.
13. Bernstein L, Kauvar A, Grossman M, Geronemus R. The short and long term side effects of carbon dioxide laser resurfacing. Dermatol Surg 1997;23:519–525.
14. Alster T, Hirsch R. Single-pass CO_2 laser skin resurfacing of light and dark skin: Extended experience with 52 patients.J Cosmet Laser Ther 2003;5:39–42.
15. Trelles MA, Mordon S, Svaasand LQ, et al. The origin and role of erythema after carbon dioxide laser resurfacing: a clinical and histologic study. Dermatol Surg. 1998;24:25-30.

16. Burkhardt BR, Maw R. Are more passes better? safety versus efficacy with the pulsed CO2 laser. Plast Reconstr Surg. 1997;99:1531-1534.
17. Sullivan SA, Dailey RA. Complications of laser resurfacing and their management. Ophthal Plast Reconstr Surg.2000;16:417–26.
18. Berwald C, Levy JL, Magalon G. Complications of the resurfacing laser: Retrospective study of 749 patients. Ann Chir Plast Esthet. 2004;49:360–5.
19. Alster TS. Cutaneous resurfacing with CO_2 and erbium: YAG lasers: preoperative, intraoperative, and postoperative considerations. Plast Reconstr Surg. Feb 1999;103(2):619-32; discussion 633-4.
20. Alster TS. Side effects and complications of laser surgery. In Alster TS: Manual of Cutaneous Laser Techniques, ed 2. Philadelphia, Lippinco. 2000;pp 175-187.
21. Alster TS, Lupton JR. Treatment of complications of laser skin resurfacing. Arch Facial Plast Surg. Oct-Dec 2000;2(4):279-84.
22. Sriprachya-Anunt S, Fitzpatrick RE, Goldman MP, Smith SR. Infections complicating pulsed carbon dioxide laser resurfacing for photoaged facial skin. Dermatol Surg. 1997;23:527-36.
23. Nanni CA, Alster TS. Complications of carbon dioxide laser resurfacing. An evaluation of 500 patients. Dermatol Surg 1998;24:315–320.
24. Sadick NS. Update on non-ablative light therapy for rejuv.: A review. Lasers Surg Med. 2003;32:120–8.
25. Williams EF III, Dahiya R. Review of nonablative laser resurfacing modalities. Facial Plast Surg Clin North Am. 2004;12:305–10.
26. Grema H, Greve B, Raulin C. Facial rhytides – subsurfacing or resurfacing? A review. Lasers Surg Med. 2003;32:405–12.
27. Bjerring P. Photorejuvenation – an overview. Med LaserAppl. 2004;19:186–95.
28. Matteo Tretti Clementoni, Patrizia Gilardino, Gabriele F. Muti, Daniela Beretta, Rossana Schianch. Non sequential fractional ultrapulsed CO_2 resurfacing of photoaged skin. J Cosmc and Laser Ther, 2007;9(4):218–22.
29. Hantash BM, Bedi VP, Chan KF, Zachary CB. Ex vivo histological characterization of a novel ablative fractional resurfacing device. Laser Surg Med. 2007;39:87-95.
30. Hantash BM, Bedi VP, Kapadia B, Rahman Z, Jiang K, Tanner H, Chan KF, Zachary CB. In vivo histological evaluation of a novel ablative fractional device. Laser Surg Med. 2007;39:96-107.

DEKA
Innate Ability

DEKA M.E.L.A. s.r.l.
Via Baldanzese, 17
50041 Calenzano (FI) - Italy
Ph. +39 055 88.74.942
Fax +39 055 88.32.884

www.dekalaser.com

© DEKA 007-0137-20-021 Rev.1.0

DEKA M.E.L.A. s.r.l. - All rights reserved - In order to improve its products the company reserves the right to modify these specifications without prior notice.
Document Reserved for Health Professionals Only.