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Lichtkraft, Strahlend Schön

Case Study: German Clinical Experience with Spark Pro 3D IPL 530nm for Tight & Bright

Dr. Nadav Pam, Clinical Director at FormaTK Systems, Israel
Ramona Weber, Aesthetic Practitioner, Germany

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Case Study - Lichtkraft, Strahlend Schön: German Clinical Experience with Spark Pro 3D IPL 530nm for Tight & Bright

Dr. Nadav Pam is the Clinical Director at FormaTK Systems[1] in Tirat Carmel, Israel, the manufacturer of the Alpha/ Spark Pro System and the 3DIPL Tight and Bright protocol.

Ramona Weber is a licensed and experienced aesthetic practitioner, located at Großenbreden 1, 37696 Marienmünster, Germany.

[1]Forma-TK Systems Ltd, Medical equipment manufacturer in Tirat Carmel - Yozma St 3, Tirat Carmel– Clinical Department.

Background

Germany represents one of the most discerning and steadily growing aesthetic markets in Europe, with patients increasingly seeking non-invasive treatments that are both clinically proven and aesthetically transformative. German practitioners operate in a highly regulated and competitive landscape where efficacy, safety, and technological differentiation are key to success.

In this environment, aesthetic clinics and professionals are continually seeking innovative, results-driven solutions that offer clear advantages over traditional methods. However, it is rare for two established forces in the industry advanced energy-based technology and clinical protocol design to converge into a truly synergistic offering.

That convergence is precisely what the FormaTK Spark Pro (Alpha) system delivers with its groundbreaking 3D IPL “Tight & Bright” protocol: a dual-phase photorejuvenation treatment designed to address the core concerns of photoaged skin, uneven tone, and loss of firmness, all in a non-invasive format that aligns with German standards for safety and performance.

This protocol not only addresses the growing demand for effective skin rejuvenation with minimal downtime, but also embodies the fusion of scientific precision with practical application - a hallmark of success in the German aesthetic arena.

FormaTK Spark Pro System’s 3D IPL Tight & Bright Protocol

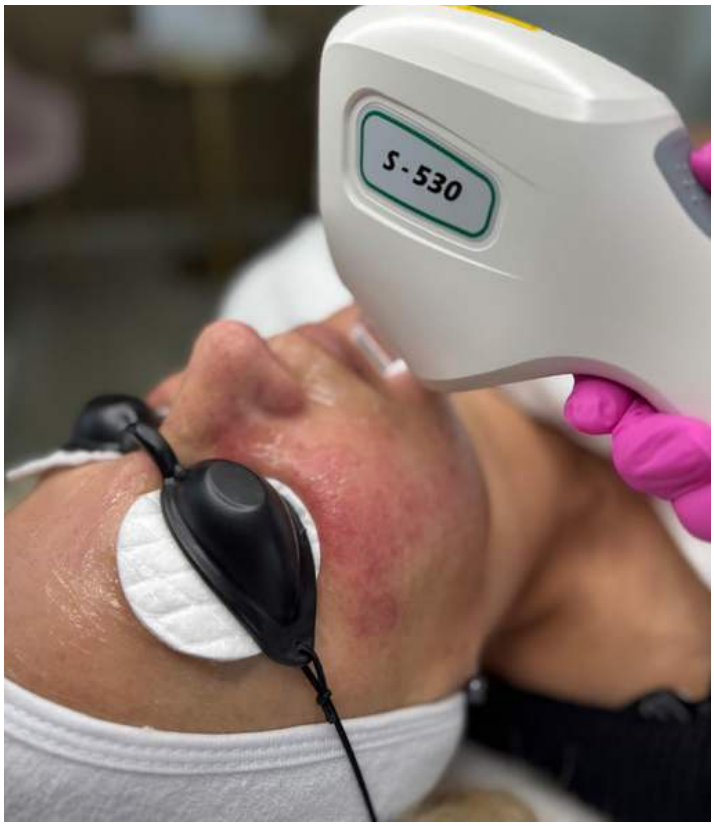
The FormaTK Spark Pro System’s 3D IPL 530nm Tight & Bright Protocol stands out for its unique combination of advanced technology and precision targeting, explicitly utilizing a 530nm wavelength.

This precise wavelength provides several distinct advantages for treating various skin concerns, making it a superior option in aesthetic treatments.

The 530nm wavelength is particularly effective for targeting pigmentation and vascular issues, such as sunspots, age spots, and redness caused by broken capillaries or rosacea. It provides deep penetration into the skin, stimulating the production of collagen and elastin, leading to firmer, smoother skin.

The 3D IPL technology does more than address pigmentation; it offers a multi-dimensional approach:

- It smooths out rough skin and reduces the appearance of fine lines and pores, giving the skin a more refined and youthful appearance.
- The 530nm wavelength stimulates the deeper layers of the dermis, promoting natural collagen synthesis and leading to long-term anti-aging benefits.
- The treatment effectively reduces discoloration, resulting in a more uniform, radiant complexion.



Aim

To evaluate the clinical efficacy, safety, and patient satisfaction of the Spark Pro (Alpha) System utilizing the 3D IPL 530nm Tight & Bright protocol for non-invasive treatment of photoaged skin, telangiectasia, and pigmentation irregularities in a German patients.

Methods

This prospective, single-center observational case study was carried out at the clinic of Ramona Weber, an experienced and licensed aesthetic specialist, and owner of "*Permanent Make up & more*", located at Marienmünster, Germany. Ramona is a certified professional in the use of the Spark Pro (Alpha) medical device, demonstrating advanced expertise in both Intense Pulsed Light (IPL) and diode laser technologies. Her clinic combines modern energy-based treatment methods to deliver effective solutions for hair removal and skin rejuvenation, providing clients with comprehensive and results-oriented aesthetic care.

Patient recruitment occurred between December 1, 2024, and June 6, 2025. A total of six female participants, aged 39 to 71 years, presenting with visible signs of facial skin aging, were enrolled in the study.

The Tight & Bright protocol involves a two-pass approach designed to activate melanin, stimulate dermal remodeling, and improve overall skin tone, texture, and radiance. Treatment parameters are individualized based on a comprehensive assessment of the skin type. Before selecting energy parameters, each patient's skin pigmentation level is objectively measured using a melanin meter. The melanin reading is taken directly from the target anatomical area, ensuring accurate assessment of local skin type. This measurement guides the safe and effective selection of energy, particularly in patients with varying Fitzpatrick classifications or localized hyperpigmentation.

Ms. Ramona Weber

First Pass – Melanin Activation & Skin Priming

The initial pass utilizes a stamping technique to deliver uniform energy pulses across the treatment area with a 10% pulse overlap to ensure consistent coverage. Mode: Single (Stamping) Frequency: 1 Hz Fluence: 12–18 J/cm² (adjusted by Fitzpatrick skin type) Pulse Duration: 10–15 ms. Cooling: 5°C sapphire tip for epidermal protection and patient comfort. This phase targets melanin within the dermis to induce gentle photothermal stimulation, effectively priming the skin for the regenerative effects of the second phase.

Second Pass – Controlled Thermal Injury & Dermal Regeneration

The second pass is delivered in Triple Mode, providing nine ultra-short pulses per second for enhanced thermal control and tissue activation. Mode: Triple Continuous Frequency: 3 Hz (nine pulses/second). Fluence: 8–10 J/cm². Pulse Duration: ~5 ms. Thermal Endpoint: Skin temperature raised to 40–42°C, verified with an infrared thermometer.

This controlled thermal injury initiates subclinical dermal remodeling, activating three key regenerative mechanisms:

1. *Neocollagenesis* – Stimulation of new collagen production
2. *Elastogenesis* – Formation of new elastic fibers
3. *Angiogenesis* – Enhanced microvascular circulation for skin vitality

The result is a noticeable improvement in firmness, luminosity, and skin texture, revealing a smoother and more youthful appearance.

Treatment Course Recommendations: A full course consists of 1-4 sessions, spaced one month apart, for optimal cumulative results. Each anatomical zone receives up to three passes, with up to 25 continuous IPL pulses per pass depending on skin condition and tolerance. The use of ultra-short pulses in Triple Mode enhances selectivity in energy absorption, allowing effective pigment targeting while minimizing thermal load on surrounding tissue.

Standardized pre- and post-treatment clinical photographs were evaluated by Dr. Nadav Pam using a validated 4-point grading scale.

Inclusion criteria

- The patient's face has significant signs of aging skin, visible pigmentation, and wrinkles.
- Above the age of 30 years old.
- Patients without previous facial injections (with active chemical compounds), dermal fillers, or facial cosmetic surgery.
- Patients who agreed to be included in this study and signed a written informed consent.

Exclusion criteria

- Drug-induced photosensitivity (e.g., Isotretinoin, Retin A)
- Pregnancy and breastfeeding
- Cancer
- Epilepsy
- Severe diseases
- Autoimmune diseases
- Frequent episodes of labial Herpes Simplex in the case of the face: Treatment
- Immunosuppressive pharmacologic therapy
- Any other medical condition considered contraindicated for the treatment by the investigator

Results

A total of 6 healthy adult female volunteers (ages 39-71 years) with Fitzpatrick skin types 1-2 were recruited. All participants presented signs of skin aging, including facial wrinkles and visible pigmentation.

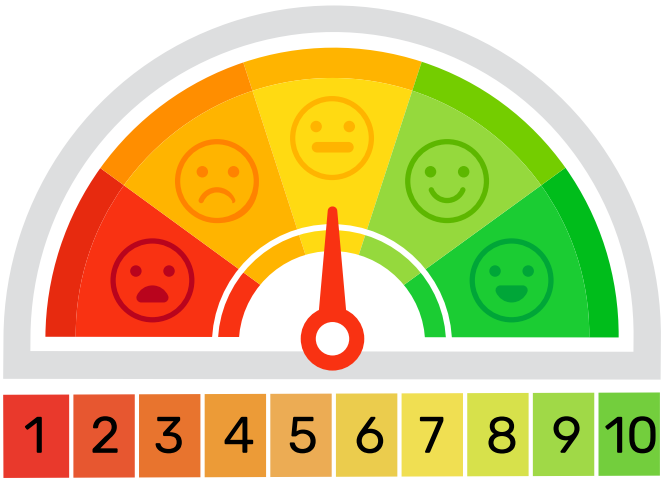
Patient Number	Age	Gender
1	39	Female
2	53	Female
3	48	Female
4	66	Female
5	64	Female
6	71	Female

Regarding skin phototyping for patients according to Fitzpatrick classification, based on a melanin meter, an optical sensor reading.

Patient Number	Fitzpatrick skin type
1	2
2	2
3	1
4	1
5	2
6	2

The Visual Analogue Scale (VAS) measures pain intensity. Using a ruler, the score is determined by measuring the distance (mm) on the 10-cm line between the “no pain” anchor and the patient's mark, providing a range of scores from 0–100. A higher score indicates greater pain intensity.

Correlation between Visual and verbal scale:
1-3 = mild pain; minimal impact on the patient.
4-6 = moderate pain; moderate impact on the patient. 7-10 = severe pain; major impact on the patient.



Patient number	VAS score
1	3
2	4
3	3.5
4	3.5
5	4
6	3

Upon evaluating the VAS score in our case study, the average pain level was 3.5, indicating that patients experienced minimal, momentary, and transient pain and comfort during the treatment and afterward. No side effects were recorded.

4-point scale evaluation based on photographic Images from before the first and after the last treatment:

Patient #	Overall, 4-point scale improvement, Dr. Nadav Pam	Total number of treatments with a month time interval	Side effects
1	85%	3	N/A
2	87%	2	N/A
3	86%	3	N/A
4	83%	1	N/A
5	81%	1	N/A
6	84%	3	N/A

Discussion

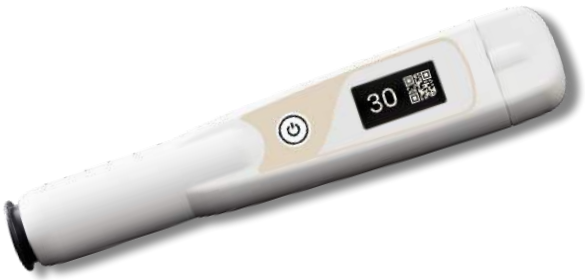
This prospective case series investigated the clinical performance of the Tight & Bright protocol, utilizing the 3D IPL 530 nm handpiece (Spark Pro / Alpha System), for non-invasive facial skin rejuvenation in six healthy adult female patients, aged 39 to 71 years.

All participants exhibited visible signs of photoaging, including facial wrinkles and hyperpigmentation, making them appropriate candidates for dual-phase light-based therapy.

Skin Typing and Patient Selection

To ensure optimal energy selection and treatment safety, all participants were evaluated using a melanin meter (optical sensor) before treatment initiation. This objective measurement confirmed that all patients fell within Fitzpatrick skin types I and II, aligning with the manufacturer's recommended safety guidelines for this protocol.

The integration of melanin meter readings into the clinical workflow is a significant advantage, as it eliminates subjectivity in phototyping and enhances consistency in parameter selection.



Patient Comfort and Safety

The Visual Analogue Scale (VAS) was used to assess treatment tolerability. Reported scores ranged from 3.0 to 4.0, with an average score of 3.5, indicating mild to low-moderate discomfort. Patients described the sensation as momentary and transient, with no lingering pain or irritation. Importantly, no adverse effects or complications were observed during or after the treatment course in any of the six patients, supporting the safety and patient comfort profile of the Tight & Bright protocol when applied correctly.

Clinical Outcomes

Efficacy was assessed by standardized photographic comparisons before and after treatment, rated independently by Dr. Nadav Pam using a 4-point scale. All patients demonstrated measurable clinical improvement, with scores ranging from 81% to 87%, and a group average of 84.3%.
Improvements were most evident in pigmentation reduction, skin tone uniformity, and textural refinement, consistent with the protocol's dual-action mechanism:

First Pass - Targeted melanin activation and dermal priming using single-mode stamping technique (1 Hz), which initiates photothermal stimulation of pigmented structures.

Second Pass - Rapid, ultra-short pulse delivery in triple mode (3 Hz), raising the dermal temperature to 40–42°C to induce subclinical injury and stimulate neocollagenesis, elastogenesis, and angiogenesis.

Interestingly, patients who received only one or two sessions also demonstrated significant clinical improvement (81–87%), while those who completed three full sessions showed slightly enhanced outcomes. This suggests that even limited exposure to the protocol can yield visible rejuvenation benefits, although multiple sessions are likely to deliver more robust and sustained results.

Conclusion

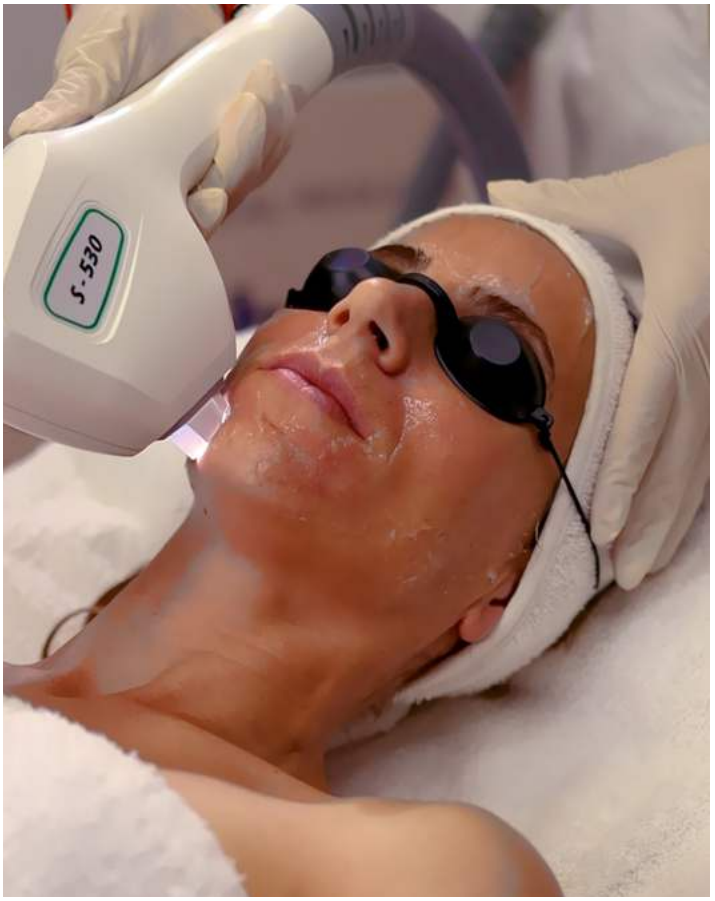
This case study successfully met its primary objective of evaluating the clinical efficacy, safety, and patient experience associated with the Spark Pro (Alpha) System using the 3D IPL 530 nm Tight & Bright protocol for the non-invasive treatment of photoaged skin, telangiectasia, and pigmentation irregularities in a German patient population.

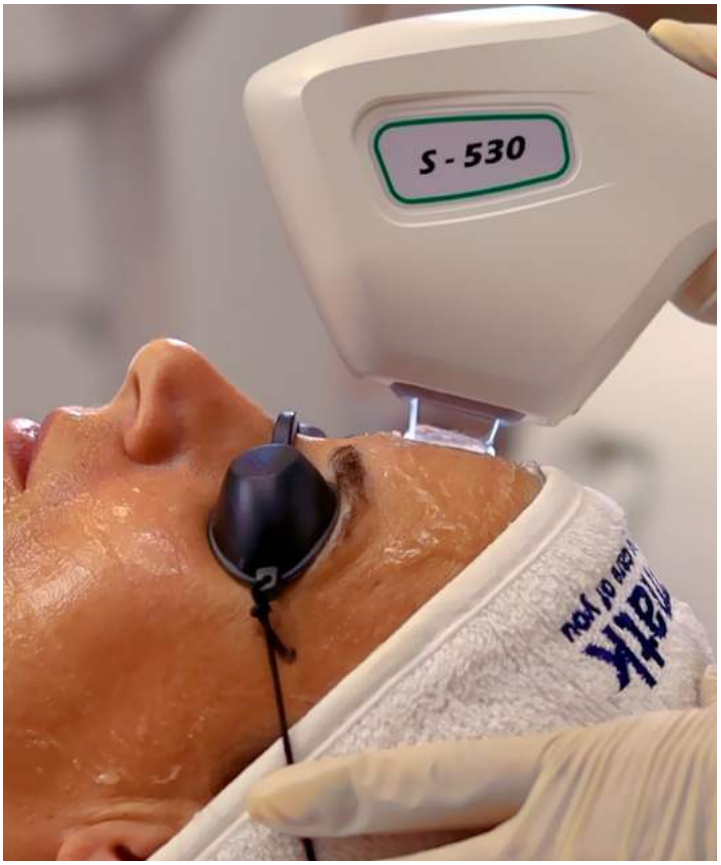
Across the six female participants aged 39 to 71, the protocol demonstrated:

- Consistent clinical improvement in pigmentation, texture, and skin tone, with an average photographic improvement of 84.3%
- High safety profile, with no side effects or adverse events reported.
- Minimal discomfort, with a VAS pain score averaging 3.5, indicating high tolerability

Importantly, objective skin typing using a melanin meter ensured personalized, safe energy delivery, enhancing both efficacy and patient protection.

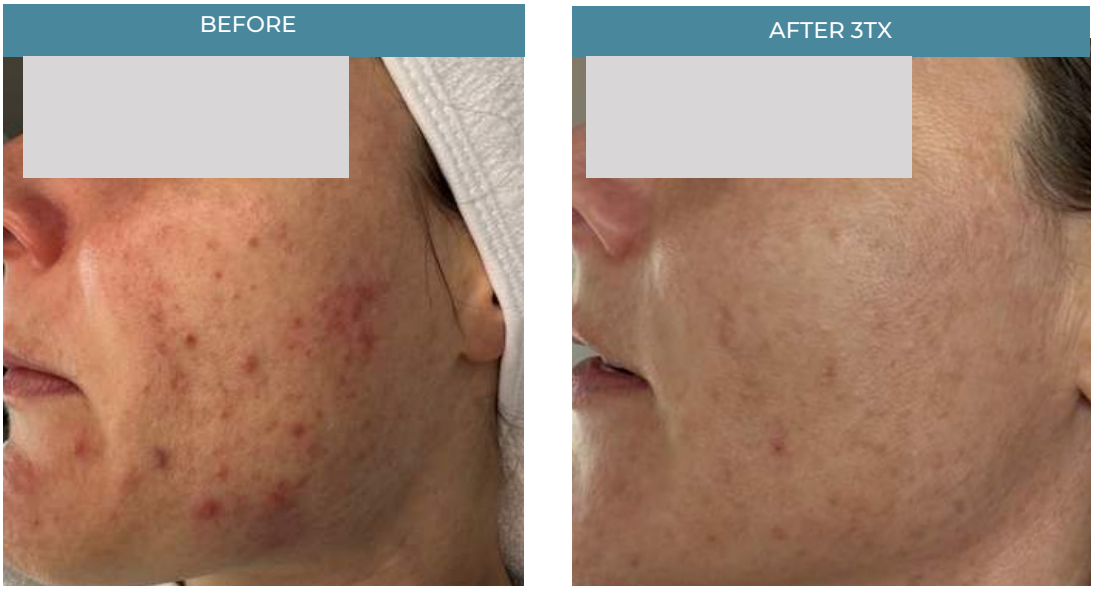
These findings support the Tight & Bright protocol as a well-tolerated and effective solution for common signs of skin aging, with strong potential for broader adoption in aesthetic practices across Germany and similar skin-type populations. Further studies with larger cohorts and long-term follow-up are recommended to validate and expand upon these encouraging results.





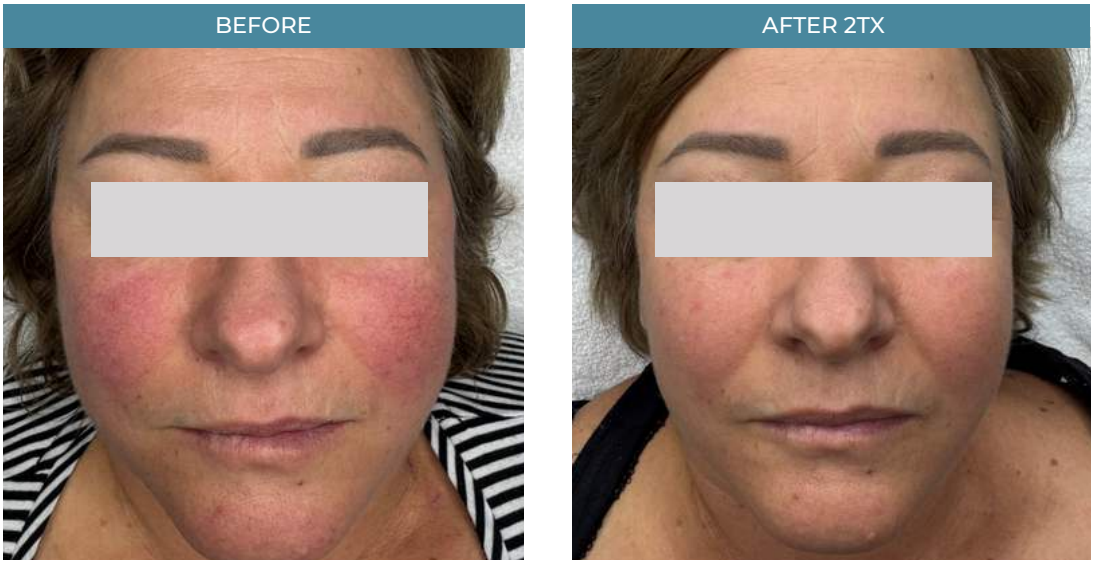
Before & After Results

Patient #1



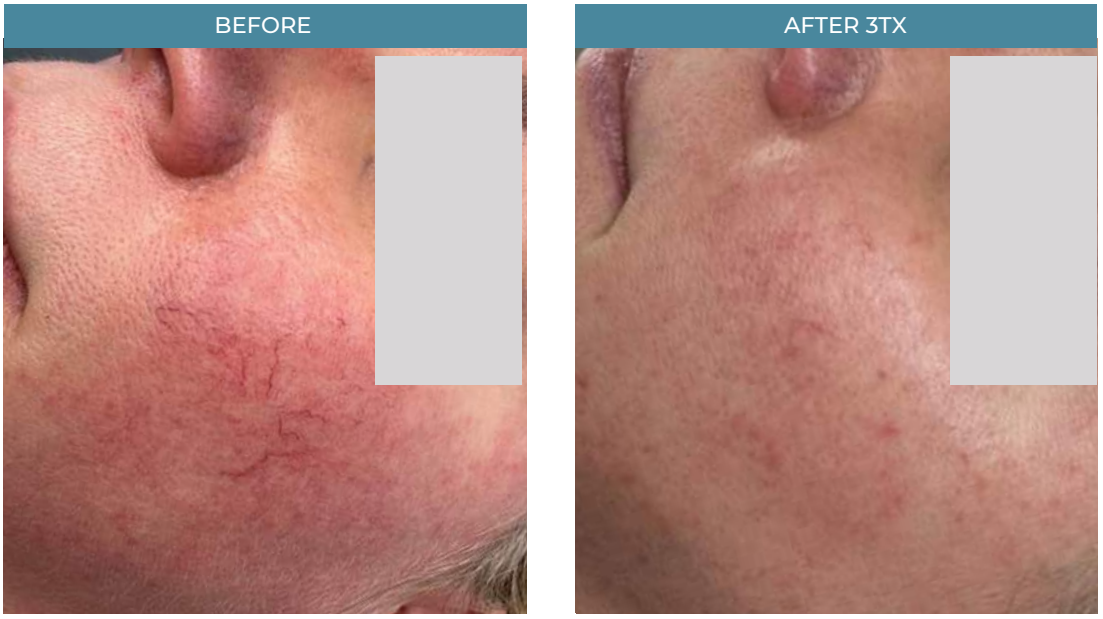
3D S-530| First pass 23J/cm2 , Single mode , 1Hz | 2nd Pass 10J/cm2 , Triple mode, 3Hz

Patient #2



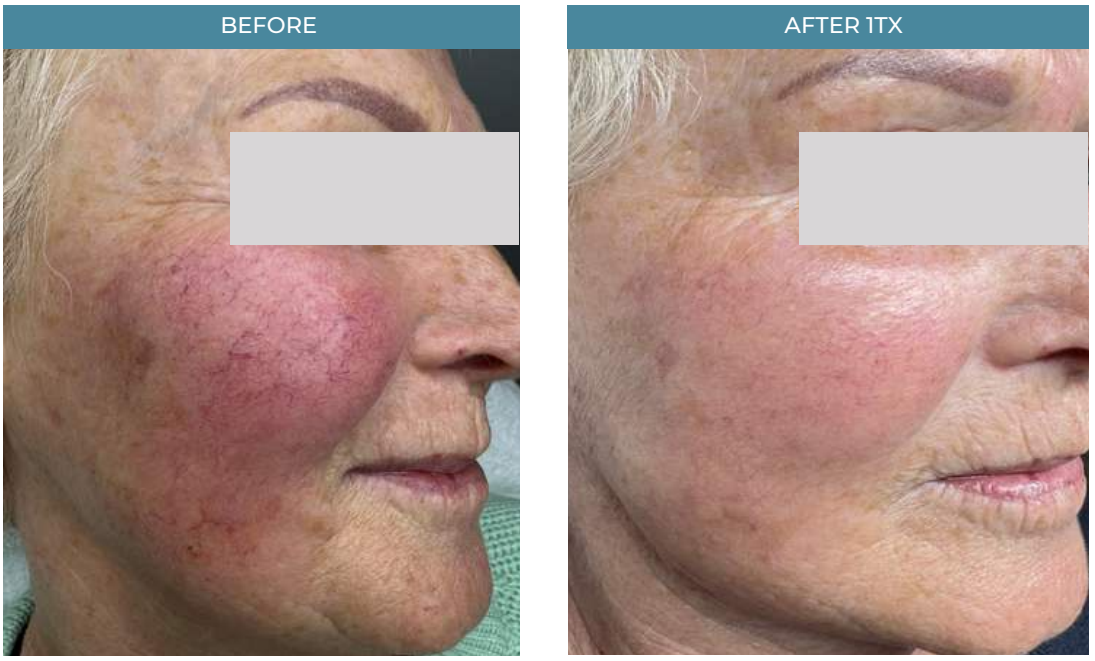
3D S-530| First pass 21J/cm2 , Single mode , 1Hz | 2nd Pass 10J/cm2 , Triple mode, 3Hz

Patient #3



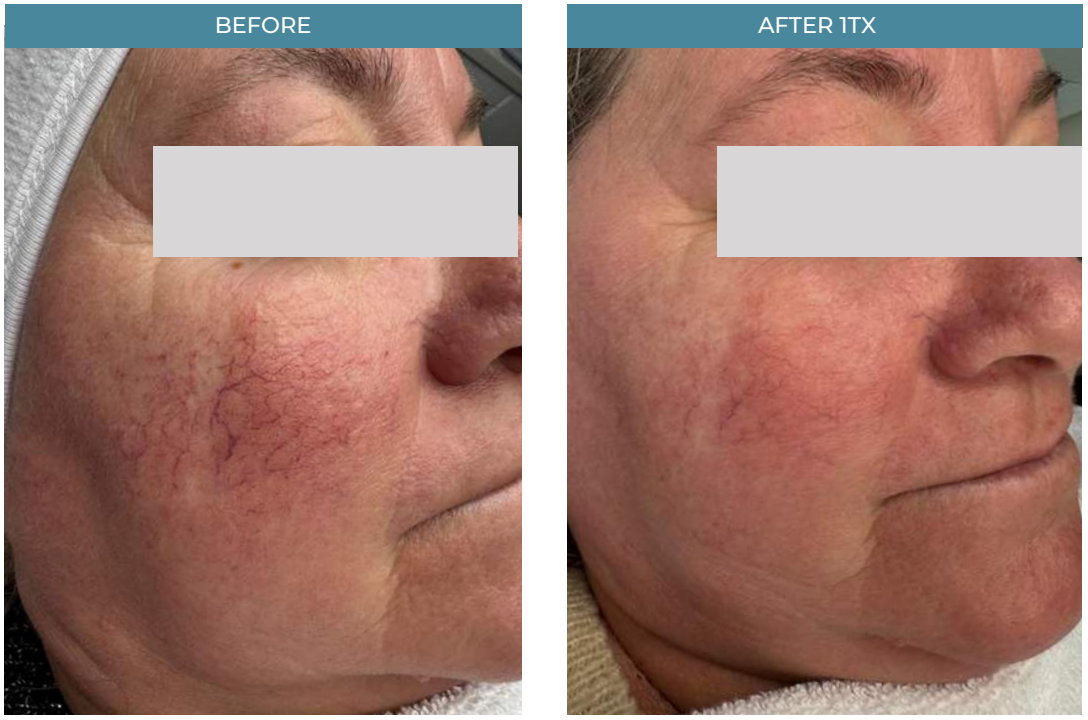
3D S-530| First pass 23J/cm2 , Single mode , 1Hz | 2nd Pass 10J/cm2 , Triple mode, 3Hz

Patient #4



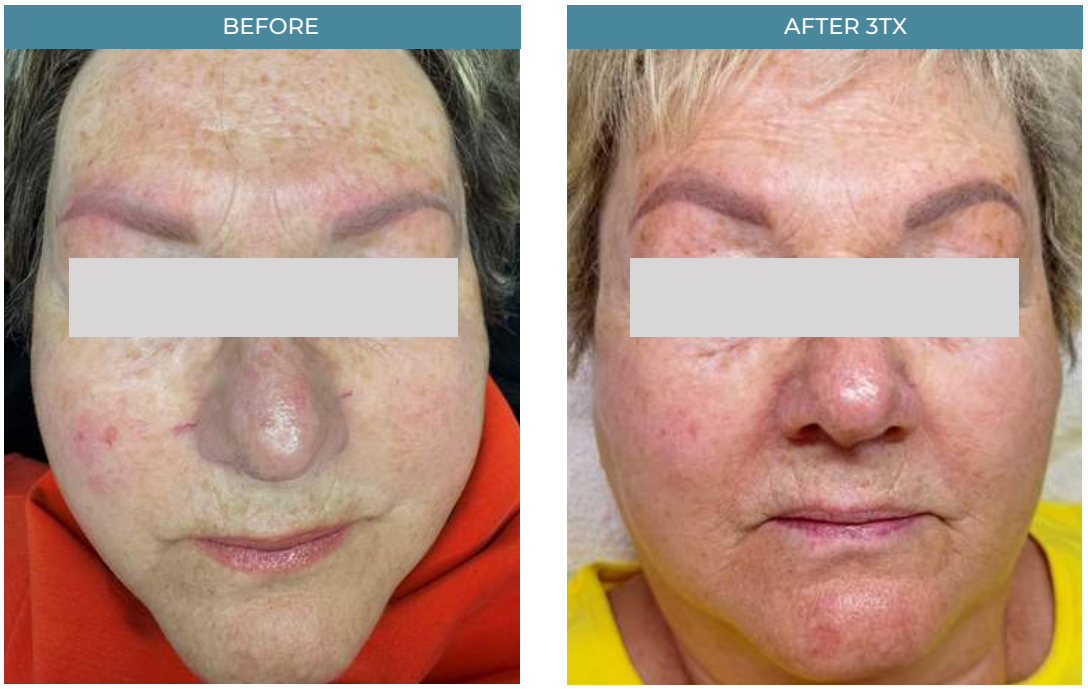
|3D S-530| First pass 23J/cm2 , Single mode , 1Hz | 2nd Pass 10J/cm2 , Triple mode, 3Hz

Patient #3



|3D S-530| First pass 23J/cm2 , Single mode , 1Hz | 2nd Pass 10J/cm2 , Triple mode, 3Hz

Patient #4



|3D S-530| First pass 23J/cm2 , Single mode , 1Hz | 2nd Pass 10J/cm2 , Triple mode, 3Hz

Reference

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