



# **1. Introduction to Fotona4D® Treatment**

**Fotona4D**<sup>®</sup> is an innovative non-surgical and minimally invasive laser facelifting procedure that results in a rejuvenated, natural-looking appearance.

Enabled by the advanced capabilities of the Nd:YAG and Er:YAG laser wavelengths, the procedure offers up to four dimensions of treatment. Fotona's complementary Er:YAG and Nd:YAG wavelengths are synergistically applied in four distinct modes:

- **SmoothLiftin**<sup>™</sup>: applied inside the oral cavity to stimulate collagen production and nasolabial fold reduction from within.
- FRAC3<sup>®</sup>: targets minor pigmentation and redness and improves skin texture.
- **PIANO**<sup>®</sup>: tightens deeper layers of the skin.
- **SupErficial™**: removes dead skin cells from the epidermis, leaving the skin smooth and radiant.

Fotona's 4D laser treatment enables full-thickness contraction of collagen and stimulation of skin regeneration, providing lasting tightening and volumization (wrinkle reduction) with minimal downtime and no injectables.

# **2.** Common Indications

- Rejuvenation and (pre)juvenation
- Skin laxity
- Wrinkles
- Uneven skin tone
- Large pores
- Generalized redness

### **3. Patient Selection and Preparation**

The **Fotona4D**<sup>®</sup> procedure is an excellent choice for individuals seeking to prevent facial skin aging, enhance skin firmness, reduce fine lines, minimize minor pigmentation and redness, or opt for a non-invasive alternative to more aggressive surgical methods.

It is essential to review both absolute and relative contraindications for laser procedures as outlined in the operator manual prior to performing the treatment.

**Fotona4D**<sup>®</sup> is suitable for all Fitzpatrick skin types, however, caution should be exercised with patients who have darker skin tones. Patch testing on a smaller area is highly recommended before initiating treatment in such cases, as well as lowering the fluence in certain steps.

Prior to the procedure, the skin must be thoroughly cleansed, and it is advisable to take photographs of the patient for documentation purposes. Both the patient and practitioner must wear protective goggles throughout the procedure.

# 4. Treatment from A-Z with Detailed Guidelines

	1 <sup>st</sup> STEP	2 <sup>nd</sup> STEP	3 <sup>rd</sup> STEP	4 <sup>th</sup> STEP
Area	Intra-oral	Face	Face	Face
Wavelength	Er:YAG	Nd:YAG	Nd:YAG	Er:YAG
Handpiece/ Scanner	PSO3X with or without LA adapter	R33	R33, R34 or S11 scanner	PS03X
Fluence	9 J/cm² 7 J/cm² (with LA adapter)	35 J/cm <sup>2</sup>	120 J/cm² - 200 J/cm²	1-4 J/cm <sup>2</sup>
Pulse duration	SMOOTH	0.3 ms - 1.6 ms (FRAC3®)	Piano, 5 sec	MSP
Spot size	7 mm	4 mm	9 mm – 20 mm	5 – 7 mm
Technique	2-6 stacks, 4 passes	Ca. 2000 pulses	Brush until you reach 40-41 °C and maintain the temperature for 2 minutes	Cover whole face in a single pass
Cooling	No	Required	No	No

### • 1<sup>st</sup> Step

The first step (SmoothLiftin™) is performed using the PSO3X handpiece, with or without the LA adapter.

The handpiece should be held a few centimeters away from the mucosa, unless you are using the LA adapter, in which case contact with the oral mucosa is necessary. Try to perform the procedure with the handpiece oriented as perpendicular to the mucosa as possible.

When using the LA adapter, ensure that you move it smoothly and avoid pulling the mucosa along with it. Laser pulses can dry out the mucosa, causing it to stick to the LA adapter.

Using the parameters described in the table above, perform **four passes** with 4-6 stacks over the oral mucosa. Stacking means delivering the recommended number of pulses to the same spot. Since Er:YAG is highly absorbed by water, reduce the number of stacks near the lips, as this area contains less moisture in the mucosa and the procedure may feel slightly uncomfortable.

For areas with more pronounced wrinkles (e.g., **nasolabial folds**), you can perform **additional passes** if necessary.

### • 2<sup>nd</sup> Step

The second step is performed using the **1064 nm Nd:YAG wavelength**, the **R33-T** handpiece, and a **4 mm spot size**. Ensure adequate cooling is provided (e.g., Zimmer level 2). If you are using the **SP Dynamis Nx Line and R35Nx**, cooling with the **DMC<sup>™</sup> system** is already integrated into the handpiece.

The frequency used for this step depends on the operator's preference. You can perform slower or faster brushing movements, but it is crucial to **keep the handpiece in constant motion**. It is recommended to start moving the handpiece **before engaging the foot pedal** to avoid delivering multiple pulses to the same spot.

Deliver approximately 2000 **FRAC3**<sup>®</sup> **pulses** to the facial area using the parameters outlined in the table.

Be careful to keep the spacer at an appropriate distance from the skin at all times. Errors are most likely to occur on facial contours, such as the chin and nose. If the therapist is not sufficiently attentive, injuries can occur.

We recommend using 35 J/cm<sup>2</sup> for Fitzpatrick skin types up to 3. For darker skin types, the fluence should be lowered, based on the patient's response. If they feel excessive burning, we recommend using lower fluence levels.

#### • 3<sup>rd</sup> Step

The third step is performed using the 1064 nm Nd:YAG wavelength, the R33, R34 or R35Nx handpiece, and a 9, 15 or 20 mm spot size.

Move the handpiece consistently, as failure to do so may result in undesired skin reactions. Divide the face into multiple sections (e.g., cheeks and chin into two parts, and the forehead separately) and treat each area until you reach a temperature of at least 40°C to 41°C. Once the desired temperature is reached, maintain it for 2 minutes. Maintaining high temperature for periods longer than 3 minutes could lead to unwanted adipocyte apoptosis.

**Do not use cooling in the third step**, as it causes heat accumulation in the deeper layers of the skin, which could result in unwanted adipocyte apoptosis.

## • 4<sup>th</sup> Step

The final step is intended for peeling using the **2940 nm Er:YAG wavelength** and the **PSO3X handpiece** in **MSP** mode. Perform the peeling by evenly covering the face with user-dependent frequency. If you wish to perform a very gentle peel, use lower fluences; if you prefer a more invasive peel, use higher fluences. You can also combine approaches: perform a more invasive peel on specific areas with more visible wrinkles, and a gentler peel on the rest of the face.

After completing the peeling, apply cold compresses to the face and use a regenerative moisturizer.

# 5. Step-by-Step Treatment Guide

#### Clean the Skin

Thoroughly cleanse the patient's skin to remove any impurities.

• **Take Photographs** Capture photographs of the treatment area for documentation purposes.

#### • Ensure Protective Eyewear

Both the patient and the therapist must wear protective goggles suitable for the wavelengths being used (1064 nm and 2940 nm).

• Perform All Four Steps of the Fotona4D<sup>®</sup> Treatment Follow the treatment protocol precisely to achieve optimal results.

#### Cool the Skin

At the end of the procedure, cool the skin for a few minutes using a cooling device or cold compresses soaked in saline solution.

Apply a Regenerative Moisturizing Product

Use a regenerative cream or spray such as LRP Cicaplast B5 (spray or balm), Bioderma Cicabio, or a similar product. Note that a mild burning sensation after application is normal.

#### Provide Post-Care Instructions

Advise the patient to maintain a regular moisturizing routine and protect the skin from sun exposure by using a high SPF sunscreen daily to enhance healing and prevent potential complications.

### 6. Treatment Schedule

The number of Fotona4D<sup>®</sup> treatments required varies depending on the patient's age:

- For younger individuals (under 30 years), 2 treatments may be sufficient.
- For individuals over 30, or those with more advanced skin aging, **3-4 treatments** are recommended.

Treatments should be performed every **4-6 weeks** for optimal results.

The full results typically become noticeable **1-4 months after the final treatment**, as the skin continues to regenerate and produce new collagen. However, initial effects, such as skin tightening, may be visible within the first week due to the denaturation of old collagen.

To maintain long-term results, we recommend 1-2 maintenance treatments per year.

# 7. Skin Reactions After the Procedure

A normal skin reaction includes **redness and skin scaling**, which may persist for a few days following the procedure.

Immediately after the procedure, the skin appears **red, sensitive, and dry**. In the following days, the skin often begins to **peel**, and this process can continue for several days. Once the peeling phase is complete, the skin becomes noticeably **smooth and soft**.

# 8. Post-Treatment Care

After the procedure, apply a **neutral moisturizing cream, gel, or spray** to the treated area. The patient should continue using a neutral moisturizer for the next several days.

Until any peeling that may occur post-treatment subsides, it is important to **avoid aggressive cosmetic products**. To expedite the peeling process, a **gentle mechanical exfoliator** may be used after a few days.

As the skin may feel dry for several days after treatment, it is recommended to apply a gentle moisturizer **2-3 times per day** to maintain hydration.

Following the Fotona4D<sup>®</sup> procedure, advise the patient to use a **UVA/UVB 50+** sunscreen daily to ensure optimal sun protection and support the healing process.