



Be an artist of the new era.

## XP-2 Focus

- Highest Performance Benefits in Surgical Procedures
- Exceptional Procedure Control with Wide Pulse Duration Range
- Designed with the Surgeon in Mind
- Gold Standard Transdermal Aesthetic Treatments
- Wider Versatility in Aesthetic Surgery
- Less Invasive, Fast and Effective Treatments
- Optimal Clinical Results



**Fotona**  
choose perfection

The Highest Performance, Best Made Laser Systems in the World

# Advanced Technology for Precision, Comfort and Safety

To effectively handle your patient's surgical needs and aesthetic requirements, you'll need a laser system that is fast, safe, reliable and precise. The XP-2 Focus offers all this and more. It's the ideal choice for combining popular aesthetic surgical procedures with a wide range of non-surgical aesthetic laser treatments.

## Innovative QCW mode for surgical precision

The XP-2 Focus' QCW surgical Nd:YAG laser can generate peak powers beyond 5 kW, providing maximum speed and performance efficiency in surgical procedures. It is the ideal tool for high-precision soft-tissue incision and excision, endovenous laser ablation of varicose veins, laser lipolysis, hyperhidrosis, and much more.

## Patented VSP technology for perfect control and safety

Nd:YAG's homogeneous absorption makes it safe to use on all skin types, without compromising patient comfort and treatment efficacy. Fotona's patented VSP (Variable Square Pulse) technology creates precisely controlled sequences of square-shaped pulses to maximize safety and ensure ultimate performance and patient comfort.

## FRAC3® technology for comfortable aesthetic treatments

The XP-2 Focus' pulsed Nd:YAG laser, with its exceptional procedure control and unique FRAC3® technology, is the gold standard for non-surgical aesthetic laser procedures such as onychomycosis, acne and vascular treatments, permanent hair reduction, skin rejuvenation and more.

### Laser lipolysis



Before



After

### EVLA



Before



After

### Unsightly veins treatment



Before



After

## Why Nd:YAG?

### Homogeneous absorption – deep penetration

The Nd:YAG laser is homogeneously absorbed in the three main chromophores targeted in surgical and aesthetic laser treatments, namely, melanin, blood and water. This makes it an ideal laser source for those who seek versatility for their practice by combining surgery and non-ablative aesthetics. For decades the deeply penetrating 1064 nm Nd:YAG wavelength has been accepted as safe, effective and suitable for all skin types.

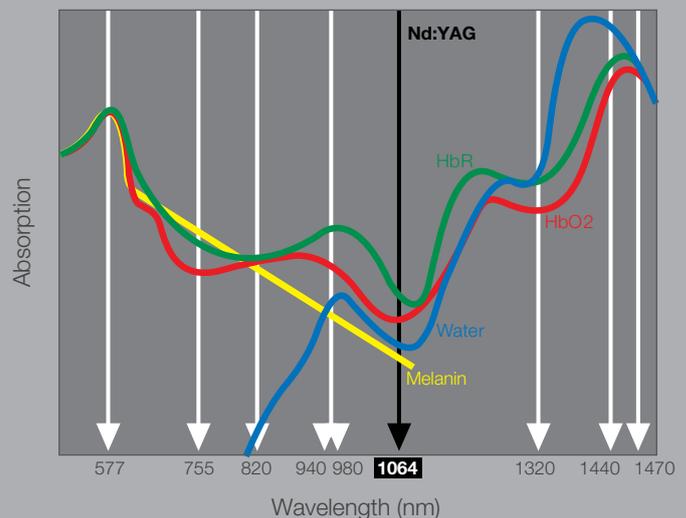
### Mature technology

Additionally, the Nd:YAG laser is renowned for its technical reliability, especially in the high performance ranges required for fast and effective procedures. The Nd:YAG laser rod is not sensitive to temperature changes and thus remains very stable and reliable during laser operation. Laser rods that contain Cr<sup>3+</sup> ions (e.g. ruby and alexandrite) are very sensitive to thermal and pumping non-homogeneities, leading to unstable and unpredictable operation. In addition some laser sources need to be cooled down below room temperature, and others heated to high temperatures before the lasers can be operated.

### High peak powers – selective photothermolysis

Depending on their absorption levels in specific skin chromophores, different laser wavelengths interact

differently with various tissues and consequently produce very different effects. Fotona's Nd:YAG is a true, reliable all-rounder – the combination of its 1064 nm wavelength and high peak power range outperforms all other laser sources commonly used in multi-application surgical and aesthetic laser systems.



# Aesthetic Surgery - Lipolysis and More

Laser Lipolysis is among the most popular aesthetic procedures in the world, and the least invasive surgical bodyshaping method available to aesthetic practitioners. Market studies suggest that the laser lipolysis market will continue to experience double-digit growth in the future.

## Lipolysis with simultaneous skin tightening

Compared to mechanical liposuction, laser lipolysis with the XP-2 Focus is faster and easier to perform, requiring less external force and exertion from the surgeon. Thermally induced coagulation minimizes bleeding and trauma as well as post-treatment bruising and swelling. These are important advantages for both the patient and practitioner,

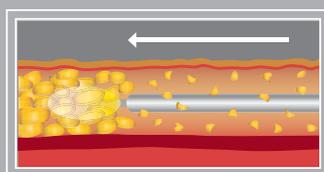
especially when treating resistant fatty tissue deposits and topographically awkward areas like the upper arm or neck. Complementary skin tightening effects are another advantage of laser lipolysis, which further adds to higher patient acceptance and shorter recovery times.

## Laser hyperhidrosis treatment

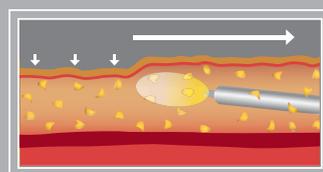
Laser Axillary Hyperhidrosis Treatment is another safe, effective, and minimally invasive surgical solution that can be performed with the XP-2 Focus. For treating hyperhidrosis, the XP-2 Focus' Nd:YAG laser is used to permanently destroy axillary sweat glands by irradiating the glandular tissue via a simple subdermal procedure.



## How does Laser Lipolysis Work?



a) The canula with a laser fiber targeting the fatty tissue.



b) The melted fatty tissue and an instantaneous skin tightening effect.



Fat cells are destroyed at temperatures above 50°C

Laser lipolysis is a fat reduction treatment in which laser light energy is used to cause swelling and rupture of adipocytes. The procedure requires only a barely noticeable incision to insert the cannula with a laser fiber. The laser provides an instantaneous blood-coagulating effect when melting the fatty tissue, keeping trauma to a minimum and averting excessive bleeding and post-treatment swelling. Patients can thus expect shorter recovery times and a reduced need for compressive garments.

## Research

Studies show that compared to other wavelengths, using the XP-2 Focus' 1064 nm wavelength in laser lipolysis exhibits the largest directly heated volume of subcutaneous tissue, making it exceptionally efficient. This wavelength also has the smallest undesirable thermal effect on neighboring dermal tissue and is therefore less invasive, and the treated area heals faster. These characteristics allow the practitioner to adopt a "less-is-more" approach to laser lipolysis without comprising the results.

Lukac M, Vizintin Z, Zabkar J, Pirnat S (2010) QCW Pulsed Nd:YAG 1064 nm Laser Lipolysis. LAHA Journal of the Laser and Health Academy 1: 24 - 34.

# Endovenous Laser Ablation (EVLA) for Higher Treatment Success Rates

Fotona's EndoVenous Laser Ablation (EVLA) treatment works on the principle of ablation and photocoagulation of a vein's interior through laser-induced thermal effects. It is a minimally invasive procedure in which an optical fiber is inserted into the vein and slowly withdrawn while the

laser is activated. The treated vein subsequently contracts and the vein wall is destroyed. The healthy veins that surround the closed vein can then restore the normal flow of blood to the treated area.



Before



After



Before



After

**Dr. Andrej Šikovec from Avelana Vein Clinic, Slovenia, has been using Fotona's XP-2 Focus for EVLA of varicose veins for over 4 years and is very satisfied with the results:** "Having had experience with both diode lasers and RF methods, and while all of these methods work, I can say that EVLA with the Fotona's system enabled faster, more cost-effective procedures than RF devices. In comparison with diode lasers, it offers faster post-treatment recovery with less pain, less ecchymosis and less bruising. I would recommend the XP-2 Focus laser to any vascular surgeon planning to carry out EVLA."

Photo cases provided courtesy of Latinmed inc., D. Maletic MD, A. Sikovec MD, R. Sult RN

## Why is Nd:YAG more Effective in EVLA than other Lasers?

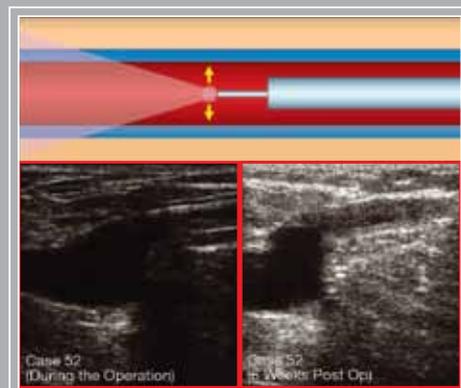
The Nd:YAG laser's ability to optimally deliver laser energy into vein walls and limit undesirable mechanical and thermal effects in the surrounding tissues makes it the ideal wavelength for laser occlusion of varicose veins.

### Research

In a recent study, EVLA was conducted on 525 legs at a single clinical site over a 2.5 year period using Fotona's XP-2 Focus laser system. After 1 year, the results revealed that 88.2% of veins in the 15W to 18W average power treatment group (102 legs) remained occluded, while in the 25W group (423 legs) 98.5% of veins remained occluded. Side effects were minimal and all patients, even those whose veins were not fully ablated, reported satisfaction with the treatment.

Sikovec A (2009) The Treatment of Saphenous Vein Occlusion by EVLA with 1064 nm VSP Nd:YAG laser. LAHA Journal of the Laser and Health Academy 2: 6-9.

Although both diode lasers and Nd:YAG lasers have been found to be effective, studies have noted distinct differences between these laser technologies. Namely,



QCW Nd:YAG modalities reportedly produce fewer side effects and provide greater patient comfort than diode laser treatments. Endovascular therapy with the XP-2 Focus is quickly becoming a proven choice alternative to traditional therapies in terms of efficacy, treatment time, patient comfort and cost.

# Non-Ablative Skin Treatments



In addition to its extraordinary surgical abilities, the XP-2 Focus is also equipped with a pulsed Nd:YAG laser that enables a wide range of non-ablative aesthetic procedures.

## Onychomycosis

Fotona's ClearSteps onychomycosis treatment is a revolutionary new method for treating onychomycosis (nail fungus). It is a simple and effective procedure that uses the power of Nd:YAG laser light to heat evenly throughout the depth of the effected nail and skin tissue, effectively weakening and killing the parasitic fungi that have infected the patient's nails.

## Acne treatments

For patients with active acne, the XP-2 Focus' precisely controlled Nd:YAG laser safely penetrates skin to effectively

target overactive sebaceous glands and to reduce the risk of developing new acne inflammation. It is also highly effective for wart removal, as the Nd:YAG laser's targeted absorption of vascular tissue coagulates the wart's blood vessels, causing subsequent necrosis.

## FRAC3<sup>®</sup> skin rejuvenation and hair reduction

The XP-2 Focus's FRAC3<sup>®</sup> technology is also perfect for permanent hair reduction and non-ablative skin rejuvenation, such as Fotona's unique 3D self-induced fractional transdermal treatments. Due to its three-dimensional treatment pattern, more surrounding tissue remains unaffected to provide faster healing than with conventional fractional treatments.

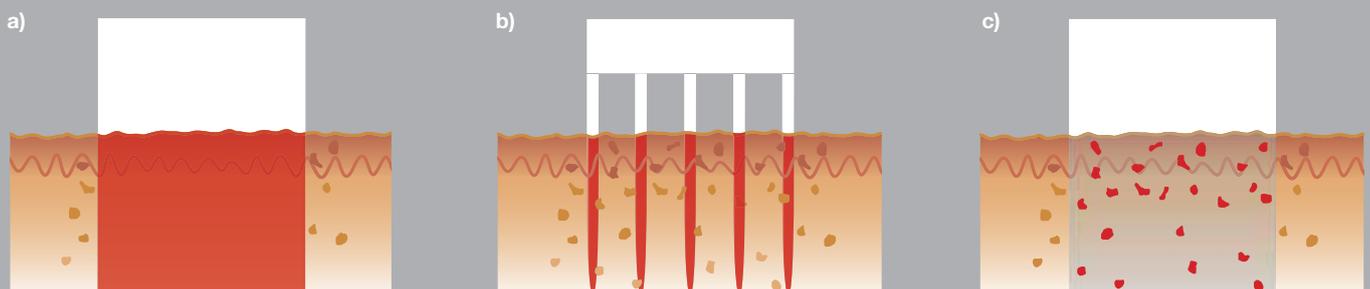
## Why is FRAC3<sup>®</sup> Better than a Two-Dimensional Treatment?

As a fractional technique, FRAC3<sup>®</sup> has a distinct advantage over conventional two-dimensional fractional treatments in that not all of the targeted skin tissue is uniformly thermally affected or removed. FRAC3<sup>®</sup> is non-ablative and leaves the maximum of healthy tissue untouched, thus promoting rapid healing and minimizing patient downtime.

The secret to safe, effective and minimally invasive transdermal treatments lies in Nd:YAG's ultra-short pulsewidth range. Its pulses have been shown to selectively

heat small skin imperfections and inhomogeneities of a <50 µm size range throughout the skin tissue, effectively forming FRAC3<sup>®</sup>'s distinct three-dimensional pattern of fractional islands of thermally affected skin.

Thermal skin images and ultra-structural analysis show a decrease in overall collagen fiber diameter in the papillary dermis, which promotes new collagen formation and leads to improvements in the overall skin quality.



Laser induced damage islands as healing centers:

a) standard uniform laser treatment; b) standard two-dimensional fractional treatment; c) novel self induced three-dimensional FRAC3<sup>®</sup> laser treatment

## XP-2 Focus International Recognition

IMCAS Paris 2012, France

D. Maletic MD: "Skin tightening of neck and jowl lines under local anesthesia with subcutaneous treatment of Nd:YAG laser"

BAPRAS 2011, BIH

D. Maletic MD: "Three Years Experience in Laser Treatment of Axillary Hyperhidrosis"

European Venous Forum 2011, Slovenia

A. Sikovec MD: "Comparison of 1064 nm Nd:YAG and 980 nm Diode laser for endovenous laser ablation (EVLA) of varicose veins. Randomized prospective study"

The European Aesthetic Guide, issue Spring 2012

I. Petrou MD: "Fotona's XP-2 Focus Laser Proves Effective in Treatment of Onychomycosis"

Journal of the Laser and Health Academy, Vol. 2010

A. Sikovec MD: "Saphenous Vein Occlusion by Endovenous Laser Ablation (EVLA) with a 1064 nm VSP Nd:YAG Laser"

Journal of the Laser and Health Academy, Vol. 2009

M. Lukac et al.: "QCW Pulsed Nd:YAG 1064 nm Laser Lipolysis"

Journal of the Laser and Health Academy, Vol. 2008

M. Lukac et al.: "FRAC3 - Three Dimensional Non-Ablative Fractional Laser Skin Rejuvenation"

## Global Leader for over 45 Years

Since 1964 Fotona has set industry standards of excellence in laser systems for medicine, communications, industry, and defense. Our laser systems are the result of over 45 years of experience and expertise in producing high-tech products for these respective fields. Consequently Fotona is a globally recognized leader and pioneer in the innovation, development and manufacture of laser systems.

## High Technology - Made in Europe

As one of the top manufacturers of medical laser systems, our commitment to state-of-the-art, in-house production sets us apart from the competition, which typically outsources the production process. Fotona's in-house manufacturing and stringent testing of all components, in compliance with applicable international standards, ensures that our systems are of the highest quality, reliability and durability. When you choose Fotona, you choose the highest performance, best-made laser systems in the world.

## Best Training and Support

To get the most out of your XP-2 Focus laser system, our practitioner workshops, coorganized with the Laser and Health Academy, provide hands-on demonstrations of our lasers from international clinical experts.

# The Highest Performance, Best Made Laser Systems in the World.

## In-House Technology



Since 1964



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Fotona is certified to: ISO 9001:2008, EN ISO 13485:2003, MDD 93/42/EEC, ANNEX II.3, ISO 13485:2003 (CMDGAS), GMP according to FDA regulations

