Fotona's Range - The Most Versatile Laser Systems in Aesthetic Surgery

Fotona introduces the newest laser systems in its range for aesthetic medicine and surgery

The new SP Dynamis system is the most comprehensive laser system available on the market today. This system's Er:YAG laser, offers both full ablative and fractional skin rejuvenations treatments. On the other hand, the system's Nd:YAG laser is suitable for large area aesthetic treatments and can be used in Quasi Continuous Wave mode. SP Dynamis is Fotona's most equipped laser system covering the widest range of aesthetic and dermatology applications, as well as several surgical applications such as laser-assisted liposuction and hiperhydrosis and endovenous laser ablation.

The XP-2 Focus remains a proven and unique solution that provides a wide range of surgical procedures, and a variety of popular, non-surgical aesthetic procedures. With this one laser system you can simply expand your treatment range and focus on today's trendiest aesthetic surgical procedures.

Both SP Dynamis and XP-2 Focus feature a new and improved user-interface that makes it easier to select and adjust parameters during procedures and enables settings to be saved and called up from memory at the touch of a button.

Keep up with Market Demand

Surgical kits for all the procedures the two systems offer allow you to focus on the most popular surgical procedures among your patient base. There is no need to upgrade or replace your system as trends change. Undoubtedly, the market of Laser rejuvenation treatments is getting bigger with the development of new non-aggressive methods. With Fotona's unique FRAC3® (three dimensional non-ablative fractional laser skin rejuvenation and anti-aging treatments) method a three-dimensional fractional pattern is produced in the epidermis and dermis, with damage islands located at the sites of skin imperfections. The procedure is safe and gives the practitioner a self-regulating efficacy.

XP-2 Focus Features:

- Golden Standard Nd:YAG laser with dual mode
- QCW Mode for a wider range of surgical procedures
- Pulse Mode provides non-surgical, aesthetic procedures
- Highest performance for more effective treatments
- Exo- and endovascular procedure options in one system
- Offers unique FRAC3® rejuvenation and more!

SP Dynamis Features:

- 2 Lasers (Er:YAG, Nd:YAG)
- 3 Compatible scanners
- 12 Compatible handpieces
- VSP adjustable pulse durations, Smooth and V-Smooth modes
- Basic + 5 Turbo Modes
- 5 Scanning modes (OP, PR, SE, CRY, NAT) system
- Variable spot sizes and patterns
- Tissue Effect Indicator

Field of medicine	Application	XP-2 Focus	SP Dynamis	XP Dynamis
Surgery	Laser Lipolysis	✔	✔	✔
	Laser Assisted Hiperhydrosis	✔	✔	✔
	Endovascular Treatments	✔	✔	✔
	Laser assisted hair transplantation		✔	
Aesthetics	Exovascular Treatments	● ● ●	● ● ● ● ●	● ● ● ● ●
	Skin "cleaning" (pigmented, vascular)	● ● ●	● ● ● ● ●	● ● ● ●
	Skin resurfacing (full, fractional)		● ● ● ● ●	
	FRAC3® – nonablative skin rejuvenation	● ●	● ● ● ● ●	● ● ● ● ●
	Non-surgical breast lifting		● ● ● ● ●	● ● ● ● ●
	Removal of unwanted hair	● ●	● ● ● ● ●	● ● ● ● ●
	Treatment of fungus infections...	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●

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laser and health news

Body Shaping with Laser Lipolysis

Laser lipolysis is rapidly becoming the most desired and appreciated procedure in aesthetic surgery

The Body Shaping Market Review

- In 2009, the global market for all body shaping/skin tightening platforms reached $325.1 million [1].
- Through 2014, the market will expand by 15.3% per year, on average [1].
- In the field of aesthetic surgery, Laser Lipolysis is one of the most popular aesthetic procedures in the world [1,2].
- 92% of customers that underwent some form of liposuction treatment say that it was worth it [3].

But why go through an extremely invasive procedure offered by the traditional liposuction method, which includes trauma, pain, long downtime, loss of blood and stitches when with laser lipolysis - offering optimal end results - all this can be avoided?

Less invasive, fast and great results

The newest trends in liposuction today are laser lipolysis and laser-assisted liposuction; the least invasive method of liposuction available in aesthetic surgery. The technique involves the use of a laser to "melt" excess fat in target areas such as the thighs, abdomen, arms, neck and parts of the face in a "key hole" surgical procedure.

Fotona's XP-2 Focus and SP Dynamis, the newest generation surgical laser systems, are the perfect tool for such procedures. With laser lipolysis the Nd:YAG laser is used to create photothermal effects in order to efficiently and methodically melt fatty tissue deposits. The laser is administered through a very fine optical fiber in a canula which is inserted through a very small incision into the to-be-treated area. When the adipocytes are heated by the laser, they swell, eventually rupture and create liquefied fat emulsion. In laser lypolysis, smaller quantities of liquefied fatty tissue do not require suction; they are easily absorbed by the body. In laser-assisted liposuction, larger quantities are removed by suction, which is much easier since the fatty tissue has been liquefied using the laser's thermal effect.

Advantages of the Nd:YAG Laser over Other Wavelengths

The Nd:YAG 1064 nm wavelength is the optimal wavelength for laser lipolysis in terms of safety and efficacy. Studies show that compared with other wavelengths, the 1064 nm wavelength exhibits the largest directly heated volume of subcutaneous tissue (more efficiency) and has the smallest undesirable thermal effect on neighboring dermal tissue (less invasive, greater effect). The pulsed QCW mode of operation of the Nd:YAG laser - keeping in mind the laser's great absorption in blood - also has a significantly higher ability to coagulate blood vessels when compared to continuous wave (CW) diode lasers. The high performance and versatility of the latest technology Nd:YAG 1064 nm laser lipolysis systems, combined with their optimal safety and efficacy, make these lasers the medical devices of choice.

Simultaneous Skin Tightening Effect

While melting the fatty tissue the SP Dynamis and XP-2 Focus lasers also tighten the surrounding skin, preventing it from sagging after the fatty deposits have been removed. The controlled heating effect of the QCW Nd:YAG laser provokes new collagen and elastin formation within the skin. This facilitates the skin to adapt the morphological changes the procedure creates. Shrinking is more pronounced and the skin is much smoother than after classical liposuction. In fact, both the SP Dynamis and XP-2 Focus can also be used for externally-applied skin rejuvenation treatments, providing skin tone, tightness and texture improvements, elsewhere on the body.

Courtesy of Dr. Maletic (CRO)

Advantages of Laser Lipolysis:

- Fast and effective treatment
- Less trauma and discomfort during the procedure
- No general anesthesia needed
- Less blood is lost
- Less swelling
- No stitches needed
- Simultaneous skin tightening avoids loose skin
- Faster recovery and minimal downtime
- Optimal clinical results

1) Medical Insight, Inc. (https://www.miinews.com/market_studies.php)
2) Millennium Research Group (http://www.mrgresourcecompass.com/index.aspx)
3) http://www.realself.com/blog/activefx_laser_surgery.html)

Laser-assisted hiperhydrosis treatment

A permanent solution for excessive axillary perspiration

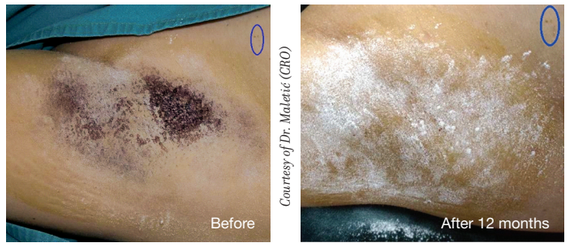
Sweating is a normal physiological process, its purpose is to maintain body temperature by eliminating excess body heat. However, excessive perspiration, known as hyperhidrosis, can have a major impact on one's quality of life.

Several treatments exist which vary in effectiveness, duration and aggressiveness. Putting aside different drugs and sweat pads, the most common treatment is botox gland fixation which lasts only for up to 4-8 months. Recent clinical experience, however, suggests that a novel treatment with Nd:YAG laser may provide excellent, permanent results.

The laser-assisted hyperhidrosis treatment procedure permanently destroys axillary sweat glands, using a technique similar to laser-assisted lipolysis. Reports suggest that Nd:YAG laser procedures with the Fotona XP-2 Focus are preferred since treatments are simple, fast with very low occurrence of complications and side effects.

Nd:YAG laser creates photothermal effects in order to efficiently and methodically destroy eccrine sweat glands without damaging the neighboring tissues. After laser action a grating cannula is used to remove the destroyed glands. The procedure can be performed through a small incision that won't leave any scars.

The procedure is fast and only tumescent anesthesia is needed. It offers a great solution for patients suffering from excessive sweating as long-term efficacy has been reported with minimal down-time.



Courtesy of Dr. Maletic (CRO)

Laser-assisted Hyperhidrosis Facts

- Affects approximately 5% of the population
- Most affected areas: axilla, hands, feet, face and groin
- Alternatives to laser treatment prove to be less efficient:
  - botox gland fixation (lasts only 4-8 months)
  - iontophoresis treatment (do-it-yourself alternative)
  - endoscopic thoracic sympathectomy (there is a risk of infection and accidental nerve damage)
  - retrodermal curettage (possible loss of sensation in axilla).

The local tumescent anesthesia

Subdermal dissection

Subdermal treatment with laser XP-2 Focus

Curettage with grating cannula

Courtesy of Dr. Maletic (CRO)

Advantages of laser-assisted hyperhidrosis treatment:

- A permanent solution for underarm sweating
- One hour outpatient procedure under local anesthesia
- Fast, inexpensive and simple to perform
- Low occurrence of complications and side effects
- High success rate and patient satisfaction

Excellent results for laser occlusion of varicose veins

Endovenous laser procedures are a minimally invasive alternative treatment that is increasingly replacing classical surgical stripping and ligation.

Varicose Veins Market Review

- Affecting 35-40% (1 in 4 adults in the western world) of the population between 35-65 years
- 100,000 varicose veins operations per year in the UK
- 80-90% on GSV
- 20% chance of recurrence
- Age distribution of patients who would benefit from the laser occlusion of varicose veins procedure:
  - 20-29: 4,5%
  - 40-49: 32,5%
  - 60 and over: 57,5%.

Laser occlusion of varicose veins works by means of thermal destruction of venous tissue.
Laser energy from a Nd:YAG laser is delivered to the desired location inside the vein by using a bare laser fiber inside a catheter. Small incisions are made to create an entry and exit hole in order to allow the laser fiber to be passed along. The laser is repeatedly fired as it is gradually withdrawn, depositing the thermal energy into the blood and vein wall, producing irreversible, localized venous-tissue damage to the entire circumference of the vessel.
This minimally-invasive treatment alternative for varicose veins is increasingly gaining popularity among surgeons, since it represents fewer burdens to the patient and health system. Fotona's Quasi-Continuous Wave, 1064nm Nd:YAG laser, available in the XP-2 Focus is particularly suited to the treatment of a whole range of varicose veins. Similarly, as with laser lipolysis, the 1064nm wavelength is the best choice when treating varicose veins due to its ideal mix in water and blood. The 1064nm Nd:YAG laser's ability to optimally target laser energy into fatty tissue, thereby limiting undesirable mechanical and thermal effects in the surrounding tissues, makes it ideal for laser occlusion of varicose veins.

Impressive Results

In a recent study on 525 legs, treated over a period of two and a half years, 97,5% of patients exhibited fully occluded LSV or SSV, with no reflux. Except for some skin ecchymosis and mild induration, patients did not report any other problems after the treatment. All patients were walking immediately post-op and could resume pre-operative activities in less than 72 hours. The cosmetic results were excellent with all pre-operative pain and most pre-operative edema resolved.

A comparative study of the 1064nm Fotona laser and an 810nm diode laser was also recently conducted. In this clinical case examining two patients, one side of the leg was treated with the 810nm diode laser and the other with a 1064nm Nd:YAG laser. In both cases, the patient complained of pain and bruising that lasted for a period of 2-3 weeks on the side where the diode laser was used, and experienced virtually no pain or bruising on the side of the leg treated with Fotona's laser.

Courtesy of Dr. Šikovec (SI)

Advantages:

- No hospitalization required (least invasive technique)
- No general anesthetic required
- 45-60 minutes outpatient procedure
- Lower risk of complications
- Low start-up costs
- More economical (half the price of traditional surgery)
- Less traumatic for the patient
- Shorter recovery time ('walk-in/walk-out' procedure)
- Minimal patient discomfort
- 98% initial success rate (best results in treatment of varicose vains)

	Conventional surgery	Endovenous Laser Ablation
Attendance	Inpatient/day-case	Outpatient
Treatment location	Operating theatre	Office, treatment room
Anaesthesia	General/regional	Local
Return to normal activity	in 4 weeks	in 3 days
Incisions / Cosmetic	Groin/knee + phlebectomies	Incision only
Complications	5% skin numbness 5-10% wound infection	<1 % skin numbness 0% wound infection
Post-treatment bruising	Extensive	Minimal
Compression socks	3-6 months	2-3 months
Cost	High direct and indirect	Reduced direct, low indirect