LASER TECHNOLOGY FOR
AESTHETIC MEDICINE & SURGERY

QuadroStarPRO Family
- 577, 532, 940 & 980 nm Laser -
Technology „Made in Germany“

For more than 35 years, Asclepion has been operating on the medical laser market. As the company is based in Jena, famous through the world as the global center of the optics industry since 1846, the company owes it success to the steady development of new technologies and the active collaboration with researchers from German universities and industries.

- More than 35 years experience in the aesthetic laser medicine and surgery
- Development, production, service & training center in Jena
- TOP100 of the most innovative medium-sized businesses in Germany
The new generation of vascular lasers

First argon laser for vascular treatments was introduced by Asclepion in 1984. The new **QuadroStarPRO** will be the first Table-Top-Laser for aesthetic laser treatment, available in four different wavelengths (yellow (577 nm), green (532 nm), 940 or 980 nm).
## Specifications

<table>
<thead>
<tr>
<th>Wavelength:</th>
<th>577 or 532 or 940 or 980nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application:</td>
<td>Dermatology Dermatology minor surgery and nail treatment</td>
</tr>
<tr>
<td>Laser:</td>
<td>HOPSL* (577, 532), class 4 Diode (940, 980), class 4</td>
</tr>
<tr>
<td>Power: Max.</td>
<td>5 Watt @ 577nm Max. 8 Watt @ 532nm Max. 30 Watt @ 940 or 980nm</td>
</tr>
<tr>
<td>Frequency:</td>
<td>0.5 to 100 Hz</td>
</tr>
<tr>
<td>Operating modes:</td>
<td>BASIC, EXPERT, BURST, VARIX, CW, SCAN</td>
</tr>
<tr>
<td>Spot size:</td>
<td>HOPSL: Standard 1.0 mm HOPSL: optional 0.5; 1.5; 2.8 mm Diode: for nail treatment 3.5 mm (for minor surgery dependent on fiber)</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>42 x 38 x 19 cm (B x T x H)</td>
</tr>
<tr>
<td>Weight:</td>
<td>&lt; 12 Kg</td>
</tr>
</tbody>
</table>

* HOPSL = High-power Optically Pumped Semiconductor Laser

All specifications are subject to change without notice.
### Clinical success

- 1984: With the introduction of Argon laser for treatment of vascular lesions of retina, Asclepion took a leading role. With the KTP/LBO lasers BeautyStar, QuadroStar and QuadroStar⁺ Asclepion continues this tradition. Over 500 systems, only in Germany show an exemplary success story.
- More than 30 years experience

<table>
<thead>
<tr>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Table-Top-Laser in an elegant design</td>
</tr>
<tr>
<td>• First laser available using yellow light</td>
</tr>
<tr>
<td>• Available as yellow, green or infrared laser</td>
</tr>
<tr>
<td>• HOPSL-Technology with high reliability</td>
</tr>
<tr>
<td>• High power and speed</td>
</tr>
<tr>
<td>• Homogeneous beam profile</td>
</tr>
<tr>
<td>• Scanner and integrated cooling system</td>
</tr>
<tr>
<td>• Foot switch to change Fluence &amp; Speed</td>
</tr>
</tbody>
</table>
Scanner with skin cooling

Specifications

• Spot size: 1 mm,
  Area maximum 15 x 15 mm

• Scan density: high
  (100%; Spot by Spot; all shapes)
  medium
  (80%; distance 0.2mm; all shapes except point)
  minimal
  (60%; mild; distance 0.4mm; only big shapes)

• Shapes:

  🟢  🟢  🟢  🟢

Applications

• mild treatment of large areas
• easy switch of handpiece and scanner
• automatic detection of scanner by device
• skin cooling integrated in scanner and device
• available for QuadroStarPRO YELLOW
• handpieces with different spot sizes
• fibers for several indications (e.g. EVLT)
• special footswitch to adjust the fluence and / or repetition rate for an efficient workflow
Design – small, compact and light

- transportable Table-Top-System
- reduction in weight (>40%) and volume (>20%) along with the integration of the skin cooling*
- ergonomic tray for scanner and handpiece

* Compared to the previous model QuadroStar+
Technology – powerful, stable and efficient

- newest HOPSL-Technology (High-Power Optically Pumped Semiconductor Laser)
- newest skin cooling technology
- maximum power for vascular treatment
- high reliability
- foot switch to adjust the fluence & speed
- no running costs

* Compared to the previous model QuadroStar*
Easy handling

- clear menu navigation
- clear and sharp display with touch sensitive keypad
- different background colors selectable

<table>
<thead>
<tr>
<th>Mode</th>
<th>Settings</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASIC</td>
<td>Fluence, Frequency, (Ø Spot 1mm)</td>
<td>Beginner</td>
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<tr>
<td>EXPERT</td>
<td>Spot size, fluence, pulse duration, frequency</td>
<td>Expert</td>
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<tr>
<td>BURST</td>
<td>Spot size, fluence, pulse duration, frequency</td>
<td>Difficult lesions</td>
</tr>
<tr>
<td>VARIX</td>
<td>Power, pulse duration, interval</td>
<td>Varicose vein</td>
</tr>
<tr>
<td>CW</td>
<td>Power (total energy and pulse duration, incl. value set to zero)</td>
<td>Surgery</td>
</tr>
<tr>
<td>SCAN</td>
<td>Fluence, pulse duration, interval, spot density, shapes</td>
<td>Scanner</td>
</tr>
<tr>
<td>TOOLS</td>
<td>Pilot beam brightness, skin cooling, footswitch for setting</td>
<td>Basics</td>
</tr>
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</table>
Applications

**CHOOSE YOUR WAVELENGTH**

- **577 nm**
- **532 nm**
- **940 nm**
- **980 nm**

<table>
<thead>
<tr>
<th>QuadroStarPRO YELLOW</th>
<th>QuadroStarPRO GREEN</th>
<th>QuadroStarPRO 940</th>
<th>QuadroStarPRO 980</th>
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<tbody>
<tr>
<td>superficial vascular and benign pigmented lesions such as:</td>
<td>endovenous treatment (EVLT)</td>
<td>• nail treatment</td>
<td>• vaporization of soft tissue</td>
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<tr>
<td>• telangiectasia, couperosis, spider nevus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• cherry angioma, venous lake</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>• small port wine stains, hemangioma, red leg veins</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• sebaceous gland hyperplasia, warts, lentigines</td>
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</table>
HIGH ABSORPTION in hemoglobin:
The blood heats up and harms the inner vessel wall, this glued and thus closes the vessel. Yellow light is having the highest absorption.

LOW ABSORPTION in water:
Minimizes risks of side effects on light skin.

HIGH ABSORPTION in melanin:
Treatment of benign pigmented lesions; NO treatment on tanned skin or skin type V or VI; Careful use on skin type IV!
Penetration depth

<table>
<thead>
<tr>
<th>Vascular Lesion</th>
<th>PDL (nm)</th>
<th>Argon (nm)</th>
<th>KTP (nm)</th>
<th>HOPSL (nm)</th>
<th>Diode (nm)</th>
<th>Nd:YAG (nm)</th>
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<tr>
<td>Port wine stains</td>
<td>510</td>
<td>514</td>
<td>532</td>
<td>577</td>
<td>800-980</td>
<td>1064</td>
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<tr>
<td>Telangiectasia</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hemangioma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spider naevus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Venous lake</td>
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<tr>
<td>Fine reticular veins</td>
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<tr>
<td>Large reticular veins</td>
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QuadroStarPRO | vascular lesions

Absorption
Advantages 577nm (YELLOW) vs. 532nm (GREEN)

- maximum of absorption in hemoglobin
- absorption in blood 40% higher
- less absorption in melanin
- less side effects
- less fluence needed
- better results by equal fluence

⇒ QuadroStarPRO^{YELLOW} is the best choice for vascular treatments

**Indications**

<table>
<thead>
<tr>
<th></th>
<th>532 nm</th>
<th>577 nm</th>
<th>DYE*</th>
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<tbody>
<tr>
<td>Telangiectasia</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
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<tr>
<td>Spider nevus</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Rosacea</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Wart</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Sebaceous gland hyperplasia</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Lentigines</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Small Hemangioma</td>
<td>+</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Port wine stains</td>
<td>+</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td>Small leg veins (superficial)</td>
<td>+</td>
<td>++</td>
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</table>

**Side effects**

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<tr>
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<th>+++</th>
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<tbody>
<tr>
<td>Visibility</td>
<td>++</td>
<td>+++</td>
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<tr>
<td>Reliability</td>
<td>+++</td>
<td>+++</td>
<td>O</td>
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<tr>
<td>Follow-up costs</td>
<td>+++</td>
<td>+++</td>
<td>O</td>
</tr>
<tr>
<td>System size</td>
<td>+++</td>
<td>+++</td>
<td>O</td>
</tr>
<tr>
<td>Weight</td>
<td>+++</td>
<td>+++</td>
<td>O</td>
</tr>
</tbody>
</table>

+ good, ++ very good, +++ optimal
O poor

* Dye lasers from other manufactures
On the left, large scale but superficial scabbing.

532 nm
31 J/cm²
11 ms
scanner at max. density

On the right, a significant vascular reduction with a minimum of scabbing.

577 nm
19 J/cm²
11 ms
scanner at max. density

By courtesy of Dr. P. Wood, Proderma, Bad Homburg, Germany
scanner test
after 3 weeks

right side: before treatment
left side: significant better removal of PWS at the 577 nm
QuadroStarPRO YELLOW | Telangiectasia

before

immediate reaction after 30 minutes

one month after 1 session

By courtesy of LoraDerm Clinic, Zagreb, Croatia
before and after 1 month, 1mm spot size, 14-16 J/cm², shortest pulse
QuadroStarPRO YELLOW | Hemangioma

before

one month after first session

one month after second session

one month after third session

By courtesy of LoraDerm Clinic, Zagreb, Croatia
QuadroStarPRO YELLOW | Hemangioma

Parameters:

Single scan circle 8mm, 15J/cm², 32msec
QuadroStarPRO YELLOW | Hemangioma

Parameters:
18 J/cm², Scanner 8mm, 32msec, Single scan

before

15 days after 2 session
QuadroStarPRO YELLOW | Post acne erythema

By courtesy of Dr. Arthur S. Simon, Jakarta, Indonesia
before and after 1 month, Scanner 80% coverage, 70% cooling, 20 J/cm², shortest pulse + brush 14 J/cm² on spots defocused 5 cm

By courtesy of Dr. Arthur S. Simon, Jakarta, Indonesia
QuadroStarPRO YELLOW | Post acne erythema
before and after 1 month, 1 mm spot, 1 trace, 15 J/cm², shortest pulse

By courtesy of Dr. Arthur S. Simon, Jakarta, Indonesia
QuadroStarPRO YELLOW | Melasma

before

30 days after 1 session

30 days after 2 sessions

By courtesy of LoraDerm Clinic, Zagreb, Croatia
QuadroStarPRO YELLOW | Melasma

before
Parameters:
14 J/cm², scanner 100%

30 days after 1 session

30 days after 2 sessions

By courtesy of LoraDerm Clinic, Zagreb, Croatia
before and after 1 month, Scanner 80% coverage, 100% cooling, 18 J/cm², shortest pulse
QuadroStarPRO YELLOW | Lentigo

By courtesy of Dr. Arthur S. Simon, Jakarta, Indonesia
QuadroStarPRO YELLOW | Keratosis

before

30 days after 1 session

By courtesy of LoraDerm Clinic, Zagreb, Croatia
QuadroStarPRO YELLOW | Couperose/Rosacea

Spot 1mm, 12J/cm², 19ms

before

3 weeks after 1 treatment

immediate reaction:
QuadroStarPRO YELLOW | Couperose/Rosacea

typical immediate reaction using the scanner:

lighten up of the scanned area
Scanner 100%, 19 J/cm², 11 ms

before  
5 days after 1 treatment  
3 weeks later

immediate reaction:
QuadroStarPRO YELLOW | Telangiectasia
QuadroStarPRO GREEN | Telangiectasia

By courtesy of Dr. Abror Shermatov, Taschkent, Uzbekistan
QuadroStarPRO GREEN | Telangiectasia

before

after

By courtesy of Karolina Kykalova, Prag, Czech Republic
QuadroStarPRO GREEN | Naevus araneus

before

after
Hemangioma

CAVE: Children low Fluence!

Wart

Venous lake
Reddened hypertrophic scars

before

after

By courtesy of Karolina Kykalova, Prag, Czech Republic
Port wine stain (cheek)

before

after

By courtesy of Dr. Petrow, Bonn, Germany
Superficial pigmented lesions

- Solar Lentigo
- Freckle
- Hyper pigmentation after inflammation

Wart (seborrhoeic, viral, condyloma)

Fibroma

Adenoma sebaceous

Milia
QuadroStarPRO\textsuperscript{940}

EndoVenous Laser Treatment
Endovenous laser treatment (EVLT)

During the procedure, a catheter bearing a laser fiber is inserted into the great saphenous vein or small saphenous vein through a small puncture. The catheter is then advanced under ultrasound guidance by means of a guide wire, which was inserted before. Under sonographic control the end of the catheter fixed with the laser fiber is positioned 1-2 cm in front of the opening in the Vena femoralis. Dilute local anesthetic is injected around and along the vein (perivascular infiltration). The catheter is withdrawn from the fiber in a way that the end of the fiber juts out of the catheter at least 10mm. The laser is activated whilst the catheter fixed to the laser fiber is slowly withdrawn, resulting in obliteration of the saphenous vein along its entire length.

Laser effect

Laser effect in the vein
**EndoSet**

This EndoSet serves for carrying out endovascular laser therapy and the treatment of varices.

The treatment will be done with an EndoFiber NIRQ600 and the Insertion Set among local anesthesia.
Focus on security:

- Catheter and fiber size are concerted
- Fiber and catheter can be coupled with each other, which guarantees a safe extraction of fiber and catheter
- Fiber is visible in ultrasound through a metal ring at the end of the catheter, through that the treatment becomes more safe
- Location of the end of the fiber in the vessel is visible through the skin, thanks to pilot beam (additional control through ultrasound is necessary)
QuadroStarPRO 940 | EVLT

By courtesy of Dr. Abror Shermatov, Taschkent, Uzbekistan
QuadroStarPRO 940 | EVLT

By courtesy of Dr. Abror Shermatov, Taschkent, Uzbekistan
QuadroStarPRO\textsuperscript{980}

Nail treatment for Onychomycosis
**Onychomycosis**: Fungal infections of the nails, especially of the toenails, are one of the most common fungal diseases. About five percent of the population is asking for a treatment, but the estimated number of people affected is approximately four to five times higher. Most of patients consider the changes and discoloration of the nails as unattractive and maybe a little embarrassing, but they do not pay this too much heed. But the Onychomycosis is not a minor cosmetic problem only. If remains untreated, the infection can spread up and destroys at the end the nail cells completely, which leads to separation of the nail plate from nail bed.
Laser treatment:

• Now there are several lasers with different parameters and treatment methods available and used successfully, represent an additional option to the existing protracted therapies with high relapse rates.

• All together is the wavelength in the near infrared (870-1320nm, which ensures good penetration) and the goal is to heat the nail.

• The study situation is currently not clear what the mechanism of action relates (reached nail temperature is not enough to destroy fungus or spores), but the application studies and especially the practical experience in the treatment of many patients and their satisfaction demonstrate the usefulness of the treatment.

• Nevertheless, it should be noted in the informed consent discussion that the treatment improves the visual appearance of the nail and recurrences are possible (including the famous The PinPointe™ FootLaser™ is approved by the FDA only for it: "is Indicated for use for the temporary increase enlarge of clear nail in patients with Onychomycosis").
Laser treatment with the QuadroStarPRO\textsuperscript{980}:

During laser treatment, the handpiece is moved quickly in serpentine pattern from left to right, from top to bottom etc. at the nail (including about 2mm skin surrounding the nail) until a remarkable warming can be felt – but no pain (otherwise stop treatment).

It is the goal to keep an tolerable temperature as long as possible. To reach this, it is often the right way to apply low parameters – than the treatment time can be longer in most cases. The necessary treatment time depends on the size of the nail (at big toe about 1.5 – 2 min.) and on how much the nail is discolored and thickened (less laser light penetrates the nail, especially thick nails should be reduced in respect to the thickness before).
Big toe on the right (shooting with infrared camera)

Treatment time until 43°C is reached = 1min 20sec (small nail), no pain continuously scanned nail including nail edge of approx. 2mm

before

after 1 Min. 20 sec
QuadroStarPRO 980 | Nail treatment

before

4 month after one treatment

Source: Asclepion Laser Technologies, Jena
QuadroStarPRO$^{980}$

Laser assisted lipolysis (LAL)
Indications
Reduction of local fat deposits, body contouring, slimming, skin tightening, collagen remodeling

Treatment areas
• abdomen, hips
• areas where liposuction is not appropriate or with poor response (neck, chin, knee-cap, under bra – line etc.)
• areas with previous liposuction and persisting skin laxity

Laser Lipolysis / Laser assisted Liposuction (LAL)
• The delivery of laser energy to subcutaneous tissue by an optic fiber before/after liposuction or without liposuction (at small areas).
• Lipolysis procedure involves an optical fiber, which sticks out from the tip of a microcannula, which is inserted through a tiny skin incision into subcutaneous fat.
• The optical fiber is moved throughout the fat in a pattern resembling the spokes of a fan.

Tumescence anesthesia
• diluted local anesthesia is injected into the fat layer
• no general anesthetic necessary – significant less risk

Mechanism
The laser melts unwanted fat efficiently by selectively targeting adipose fat and damages the dermal collagen by heat and causes shrinkage and ultimately neocollagenesis prompting reduction of lines and wrinkles and providing skin tightening.
### Advantages laser technology

- Smoother skin with less deformities compared to liposuction
- Faster healing with smaller incisions, less bruising, reduced pain minimal blood loss and swelling
- CW – technology allows superior controlling of thermal effect vs. competing high peak power pulsed laser; competing systems using short (200 µs) peak power pulses cause extreme temperatures in the tissue, leading to disruptive photomechanical and photo acoustic effects; these temperatures are high enough to cause unnecessary boiling and vaporization at the end of their tip

### Advantages QuadroStarPRO™

- Table top system with high power for shorter treatment times
- Different canulas and fibers available (200, 300, 400 and 600 µm)
- Special LipoSet with sterile fibers (300 and 600 µm) and handpieces
- No consumables
Facilities and tools
• operations theatre (sterile area)
• Asclepion lipolysis bare fiber set L (300 µm and 600 µm fibers, handpieces, cannulas
Scalpel No. 11, 4x4 gauze, 20 cc syringe, 5 cc syringe
20 G spinal needle, 25 G needle, kidney pot, skin marker, bandage, drainage set, suction system

Surgery procedures
• Preparation of QuadroStar+ with accessories
• Preparation tumescent solution, Lipolysis Set
• Lipolysis surgery

Pre-OP preparation
• Equipment preparation and sterilization
• Body examination
• Pre-OP medication
• Surgery line
• Picture records
• Body disinfection
• Anesthesia (tumescent therapy)

Post-OP care
• Picture records
• Massage
Preparation of LipoSet
- insert fiber into handpiece
- fiber has to jut out of cannula 5 - 7 mm in order to prevent heating of cannula and thus skin burns, fiber must be fixed !!

Surgery preparation
- QuadroStar 980: check function and select correct cw – mode
- connection of fibers
- safety goggles
- red aiming beam must be visible (brightness adjustment)

Parameter setting
- tight tissue: cw, 6 - 10 Watt, 300 µm fiber
- floppy tissue: cw, 4 - 8 Watt, 300 µm fiber

Experienced user may run high effective and high speed procedures by using 600 µm fiber, cw, 15 – 18 Watt.
LipoSet
- 2 handpieces (300 µm and 600 µm)
- 1 fiber 300 µm/3m and 1 fiber 600 µm/3m
- 1 x 15 cm and 1 x 8 cm cannula for 600 µm, 1 x 5 cm and 1 x 10 cm and 1 x 15 cm cannula for 300 µm

Following information are examples – the necessary medication including quantity has to be decided by the physician!!

Medications
Midazolam (Dormicum ™, Benzodiazephrine) (oral)
Tumescent solution (injection)
- 0,9% normal saline 1000 ml
- 2% lidocaine 50 ml
- Adrenaline 1: 100.000 1 ml
- 8,4 % sodium bicarbonate 12,5 ml
- 10 mg triamcinolone acetonide 1 ml

- total concentration 50/1064.5 = 0,093 % lidocaine

- tumescent injection volume is 150 – 250 ml cc per 10 x 10 cm area
- at incision points more volume is required
- less volume is required if liposuction is not performed
- volume decision to be taken by physician
Prepare tumescent as an anesthetic

Use tumescent cannula or spinal needle with 20 ml syringe or pump to inject solution into fat layer

Spread tumescent evenly in a fan shape, use fan method according diagram below
Body examination and marking
• pinch test: examine location and thickness of fat layer
• incisions, operation area, anesthesia area, intensive area
Incision

Fan method

Surgery line

Tumescent line

- quick forward and backward move cannula creates channels and septum in fat tissue
- speed is around 10 cm per second
Clinical results
Lipolysis using a 980-nm Diode Laser: A Retrospective Analysis of 534 Procedures
Jean Pascal Reynaud¹, Martine Skibinski¹, Benjamin Wassmer², Philippe Rochon²,³ and Serge Mordon³

<table>
<thead>
<tr>
<th>Location</th>
<th>No. procedures (534)</th>
<th>No. patients (334)</th>
<th>Total energy (J) Mean</th>
<th>Total energy (J) SD</th>
<th>Tumescent infiltration (ml) Mean</th>
<th>Tumescent infiltration (ml) SD</th>
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<tr>
<td>Hips</td>
<td>197</td>
<td>103</td>
<td>14,551</td>
<td>7,082</td>
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<td>113</td>
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<tr>
<td>Abdomen</td>
<td>86</td>
<td>86</td>
<td>24,585</td>
<td>12,623</td>
<td>573</td>
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<td>Thighs</td>
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<td>32</td>
<td>10,427</td>
<td>5,581</td>
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<td>Knees</td>
<td>61</td>
<td>34</td>
<td>8,140</td>
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QuadroStarPRO 980 | Laser assisted lipolysis

Applied energy per area
Time table respective power applied

QuadroStar power available: 30 Watt in tissue

<table>
<thead>
<tr>
<th>Watt</th>
<th>2500 Joule</th>
<th>3000 Joule</th>
<th>3500 Joule</th>
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</thead>
<tbody>
<tr>
<td>6</td>
<td>7 Min.</td>
<td>8 Min.</td>
<td>10 Min.</td>
</tr>
<tr>
<td>7</td>
<td>6 Min.</td>
<td>7 Min.</td>
<td>8 Min.</td>
</tr>
<tr>
<td>8</td>
<td>5 Min.</td>
<td>6 Min.</td>
<td>7 Min.</td>
</tr>
<tr>
<td>9</td>
<td>4.5 Min.</td>
<td>5.5 Min.</td>
<td>6.5 Min.</td>
</tr>
<tr>
<td>10</td>
<td>4 Min.</td>
<td>5 Min.</td>
<td>6 Min.</td>
</tr>
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</table>
Patient satisfaction
Lipolysis using a 980-nm Diode Laser: A Retrospective Analysis of 534 Procedures
Jean Pascal Reynaud\textsuperscript{1}, Martine Skibinski\textsuperscript{1}, Benjamin Wassmer\textsuperscript{2}, Philippe Rochon\textsuperscript{2,3} and Serge Mordon\textsuperscript{3}
QuadroStarPRO 980 | Laser assisted lipolysis

By courtesy of Dr. Abror Shermatov, Taschkent, Uzbekistan
QuadroStarPRO 980 | Laser assisted lipolysis

By courtesy of Dr. Abror Shermatov, Taschkent, Uzbekistan
QuadroStarPRO 980 | Laser assisted lipolysis

Treatment results

before treatment

1 day after one treatment

5 days after one treatment

before treatment

By courtesy of Yann Renoulet, Dorsten, Germany
Treatment results

before treatment  
1 month after one treatment
VASCULAR LESIONS (532 & 577 nm)

Treatment of superficial vascular lesions with the KTP 532-nm laser: experience with 647 patients.

Treatment of superficial cutaneous vascular lesions: experience with the KTP 532 nm laser

Comparison of the 532-nm KTP and 1064-nm Nd:YAG lasers for the treatment of cherry angiomas

Acne rosacea: effectiveness of 532 nm laser on the cosmetic appearance of the skin

Treatment of spider leg veins with the KTP (532 nm) laser--a prospective study.

The utilization of a new yellow light laser (578 nm) for the treatment of class I red telangiectasia of the lower extremities.

Copper bromide laser treatment of facial telangiectasia: results of patients treated over five years.

An evaluation of the copper-bromide laser for treating telangiectasia.
PIGMENTED LESIONS (532 & 577 nm)


OTHER LESIONS (532 & 577 nm)


ENDOVASCULAR LASERTHERAPY (940 nm)


NAIL TREATMENT (980 nm)

Laser therapy of onychomycosis.

Antifungal efficacy of lasers against dermatophytes and yeasts in vitro.

Heat profiles of laser-irradiated nails.

VAPORIZATION OF SOFT TISSUE (980 nm)

Evaluation of safety and efficacy of 980-nm diode laser-assisted lipolysis versus traditional liposuction for submental rejuvenation: A randomized clinical trial.

Laser assisted lipolysis for neck and submental remodeling in Rohrich type I to III aging neck: a prospective study in 30 patients.

Results of Laser assisted Lipolysis using a 980 nm diode Laser
Yann Renoulet, MD. 2010. Plastic and Reconstructive Surgery Center, Center for Lasertherapy, Elisabeth Krankenhaus Recklinghausen, Recklinghausen, Germany

Safety of Laser assisted Lipolysis using a 980 nm diode Laser
Yann Renoulet, MD. 2010. Plastic and Reconstructive Surgery Center, Center for Lasertherapy, Elisabeth Krankenhaus Recklinghausen, Recklinghausen, Germany
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