IRIDEX®

IQ 577® Laser

iridex.com

IQ 577® Laser

True-Yellow 577 nm Laser with MicroPulse® Technology*

The Advantages of Innovation

- True yellow, 577 nm wavelength for peak absorption in oxygenated hemoglobin
- Patented MicroPulse technology for Fovea-friendly™ MicroPulse Laser Therapy for retinal disorders, and repeatable MicroPulse Laser Trabeculoplasty for glaucoma therapy
- DualSense™ provides quick and simple selection of multiple delivery devices for RFID and SMA
- Voice confirmation to aid surgical techniques
- Intuitive graphical touch screen interface with high contrast color display

Ergonomic and Easy to Use

- Dual port for simultaneous connectivity of laser delivery devices
- Convenient 3-knob control offers dedicated interface to minimize steps in making adjustments
- 10 programmable user presets

Optional Accessories

- **Full-Featured Remote Control**
  - Compact design for easy placement on a slit lamp table or use in the operating room
  - Displays can be seen from multiple vantage points, allowing more convenient usage of space
- **Wireless Footswitch**
  - No cord, no clutter, no limitations
  - Available with power-adjust to control laser actuation and power settings

* MicroPulse is an optional module available at time of purchase only.

Why 577?

The Iridex IQ 577® Laser offers a true-yellow, 577 nm, wavelength with peak absorption in oxyhemoglobin and is minimally absorbed by xanthophyll (see Figure 1) which allows treatment closer to the fovea. It also offers:

- High transmission through dense ocular media[1,2] and less light scattering than shorter wavelengths which minimizes spot size and reduces thermal spread
- Consistent laser lesions for fast procedure time (see Figure 2)
- Enhanced visibility for reduced intraretinal damage[2] enabling early observation of very light tissue reactions at the level of the retinal pigment epithelium (RPE)
- Lower transmission to deeper tissues,[2,3] and low power requirements for increased patient comfort[4]

Figure 1

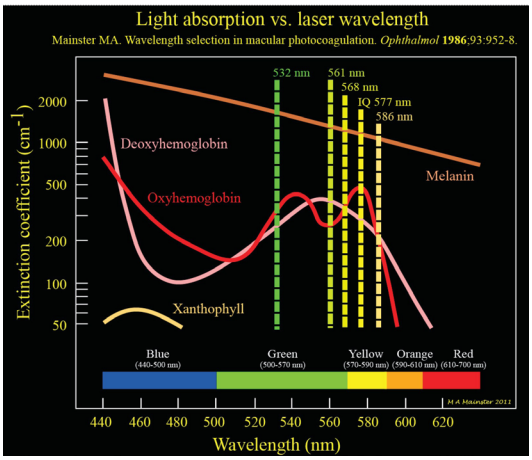
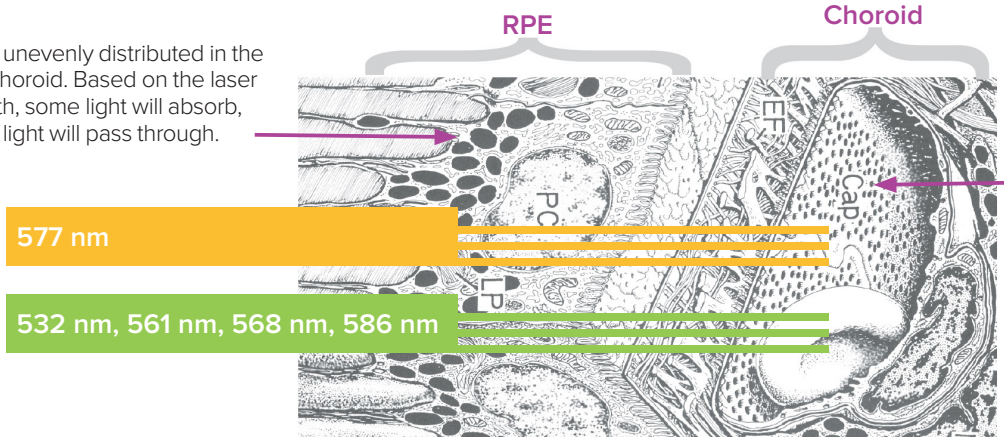


Figure 2
Melanin is unevenly distributed in the RPE and choroid. Based on the laser wavelength, some light will absorb, and some light will pass through.



Hemoglobin in the choriocapillaris is more uniformly distributed for a more consistent uptake of laser light.

The lower absorption and increased transmission of 577 nm through the non-uniform melanin granules of the RPE is more than compensated by the higher absorption of 577 nm in the underlying more uniformly distributed hemoglobin-rich choriocapillaris.

1. L'Esperance FA Jr. Clinical photocoagulation with the organic dye laser. A preliminary communication. Arch Ophthalmol 1985;103(9):1312-6.
2. Mainster MA. Wavelength selection in macular photocoagulation. Tissue optics, thermal effects, and laser systems. Ophthalmology 1986;93(7):952-8.
3. Brooks HL, Jr., Eagle RC, Jr., Schroeder RP, Annesley WH, Shields JA, Augsburger JJ. Clinicopathologic study of organic dye. Laser in the human fundus. Ophthalmology 1989;96(6):822-34.
4. Castillejos-Rios D, Devenyl R, Moffat K, Yu E. Dye yellow vs argon green laser in panretinal photocoagulation for proliferative diabetic retinopathy: A comparison of minimum power requirements. Can J Ophthalmol 1992;27(5):243-244.

Increased Patient Comfort

The IQ 577 produces less collateral damage than a traditional green-wavelength laser during the treatment of macular edema. It's more efficient and increases patient comfort for panretinal photocoagulation.

Jonathan Walker, MD
Fort Wayne, IN

Simplified and Improved Efficiency

The IQ 577 has simplified and improved the efficiency of laser clinics dramatically.

Christopher Riemann, MD
Cincinnati, OH

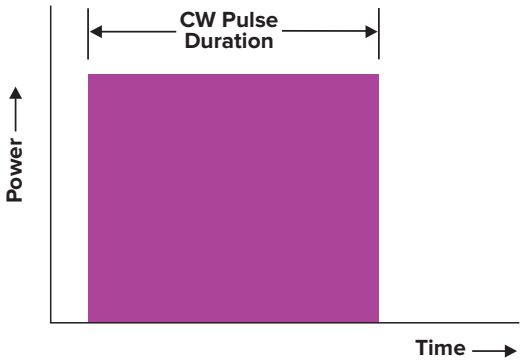
What is MicroPulse Technology?

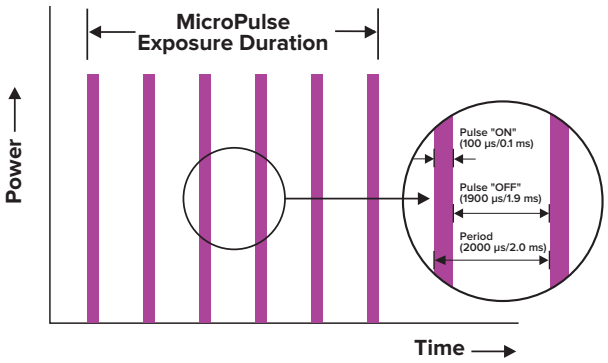
CW-Pulse (Continuous-Wave) Mode

CW mode delivers a steady stream of laser energy. Even with the shortest exposure duration, there is a rapid temperature rise in the target tissue. High-energy CW laser used for standard photocoagulation causes tissue blanching and a larger area of thermal damage than laser treatment in MicroPulse mode.

MicroPulse Mode*

MicroPulse mode incorporates Iridex's patented technology that finely controls thermal elevation by "chopping" a CW beam into an envelope of repetitive short pulses. Low-energy MicroPulse laser treatment allows tissue to cool between pulses to limit and confine the therapeutic photothermal effect within the tissue directly targeted by the laser. No tissue reaction is visible during or post treatment.





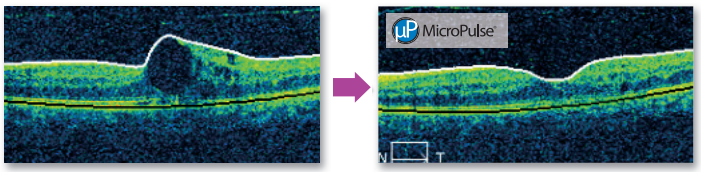
Standard Photocoagulation & MicroPulse® Therapy in One Laser

MicroPulse Application

- Fovea-Friendly MicroPulse Laser Therapy for retinal disorders[5]

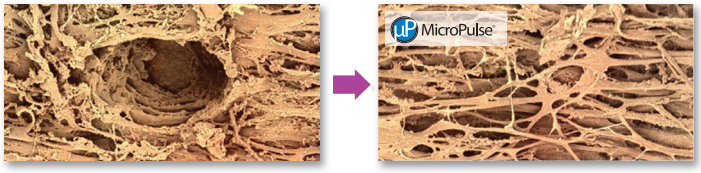
MicroPulse®

- Repeatable MicroPulse Laser Trabeculoplasty (MLT) for glaucoma therapy



VA 20/50 | CRT 434 µm

3 Mos Post-Op | VA 20/30 | CRT 314 µm



Trabecular meshwork after ALT

Trabecular meshwork after MLT

5. Bhagat N, Zarbin M, Mansour S, Chong V, and Cardillo JA. Fovea-friendly MicroPulse Laser. Supplement to Retina Today May/June 2012

* MicroPulse is an optional Module.

Specifications

IQ 577® Laser System	
Wavelength	577 nm Yellow
Weight	9.0 kg (19.2 lb)
Dimensions	30.5 cm x 35.6 cm x 21.4 cm (12 in W x 14 in D x 8.5 H)
Connector Type	RFID | Resistor
Electrical	100-240 VAC, 50/60 Hz
Cooling	Air/TEC cooled
Exposure Duration	CW-Pulse: 10 ms – 3000 ms or CW to 60 seconds
Exposure Interval	CW-Pulse: 10 ms – 3000 ms or single pulse
MicroPulse® Duration	MicroPulse: 0.05 – 1.00 ms
MicroPulse Interval	MicroPulse: 1.00 – 10.00 ms
Aiming Laser	Diode laser, 635 nm nominal
Delivery Device Power Output	TxCell® Scanning Laser Delivery System: 0 – 2000 mW Slit Lamp Adapters: 0–2000 mW Laser Indirect Ophthalmoscopes: : 0–2000 mW EndoProbe® Handpieces: 0–2000 mW

CE 2797

EC REP

Emergo Europe
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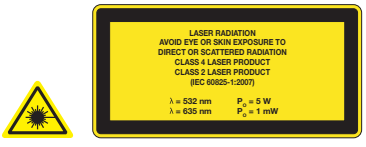
2514 AP The Hague, The Netherlands



Contact Iridex today to learn more

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