vitra 810™ for SubCyclo®

SUBLIMINAL®
CYCLOPHOTOCOAGULATION

Glaucoma Treatment
Glaucoma Treatment

**SubLiminal Cyclophotocoagulation**

SubCyclo is a new nondestructive laser procedure for the treatment of glaucoma.

Based on the transcleral cyclophotocoagulation principle, it relies on the 810 nm SubLiminal stimulation of the ciliary body, producing the aqueous humour, and the uveoscleral pathway, secondary route of the aqueous outflow.

This procedure can be performed thanks to the combined use of the Quantel Medical Vitra 810 laser and the Quantel Medical SubCyclo probe.

**Vitra 810 - SubLiminal Technology**

Composed of a train of extremely short microsecond pulses of which the duration and the intervals are fully adjustable, this subthreshold treatment mode allows a precise management of the thermal effect on the targeted tissues and preserves the structures of the ciliary body.

**SubCyclo Laser Probe**

The SubCyclo laser probe features a unique needle design allowing a perfect and accurate probe positioning during the treatment which can be enhanced thanks to ultrasound biomicroscopy or transillumination techniques.

The tip of the needle also features a glass ball ensuring an easy and comfortable sweeping motion.
Glaucoma Treatment

- **SubCyclo Clinical Data**

A new treatment for advanced and end-stage glaucoma

Primary angle glaucoma, primary angle closure glaucoma, pseudo-exfoliation, neovascular glaucoma, glaucoma associated with steroid uses, uveitis and after keratoplasty surgery

An efficient treatment procedure leading to a reduction in the medication regimen

![Graph showing significant and persistent reduction in IOP at 9 months](image)

Mean number of medication
- Before treatment: $3.4 \pm 1.7$
- After treatment: $2.9 \pm 1.6$

30% decrease from baseline and less than 21 mmHg

SubCyclo preserves the structures of the ciliary body (no destructive effects) and improves the uveoscleral drainage

After treatment:
- No anatomical damage or visible lesion have been observed by ultrasound biomicroscopy
- UBM shows a thin space between sclera and ciliary body which may correspond to the presence of suprachoroidal fluid

![Image courtesy of Dr. Nassima Benhatchi](image)

SubCyclo avoids the side effects of the thermal cyclophotocoagulation procedure

No serious side effects such as intraocular inflammation after treatment
No severe complications such as phthisis bulbi, persistent hypotony, or cystoid macular edema

A repeatable treatment

A safe treatment potentially allowing for earlier laser interventions

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(1) Efficacy, tolerability, side effects, anatomical effects (UBM) of SubCyclo subthreshold cyclophotocoagulation. 9-month study (43 eyes / 34 patients) presented at the French Society of Ophthalmology 2017 (SFO). Dr. Wes Lachkar and Dr. Nassima Benhatchi - Glaucoma Institute, Saint Joseph Hospital, Paris (France). Data on file.
**Vitra 810: A versatile laser**

**One single laser probe: Two glaucoma treatments**

Quantel Medical SubCyclo laser probe is uniquely designed with a removable footplate allowing implementing both SubLiminal and thermal treatment procedures.

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**One laser: Two clinical applications**

Although designed for the SubCyclo laser therapy, Vitra 810 can also be used to perform all the usual 810 nm glaucoma and retina treatments.

When used in Retina treatment mode, Vitra 810 can be connected to various delivery systems, such as slit lamp, LIO, operating microscope and laser probes.
## TECHNICAL SPECIFICATIONS

### VITRA 810 nm

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td>Laser Source</td>
<td>Solid State Technology</td>
</tr>
<tr>
<td>Wavelength</td>
<td>810 nm</td>
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<tr>
<td>Power at tissue up to</td>
<td>3W</td>
</tr>
<tr>
<td>Pulse duration</td>
<td>0.01 s to continuous</td>
</tr>
<tr>
<td>Aiming beam</td>
<td>635 - 850 nm</td>
</tr>
<tr>
<td>Repeat interval</td>
<td>0.1 – 0.2 – 0.3 – 0.5 – 0.7 s</td>
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<tr>
<td>Emission modes</td>
<td>Single, repeat, continuous, painting SubLiminal Mode (duty cycle from 5% to 35%)</td>
</tr>
<tr>
<td>Size</td>
<td>16 (h) x 19.3 (W) x 30 (D) cm</td>
</tr>
<tr>
<td>Weight</td>
<td>5.6 kg – 12.3 lbs</td>
</tr>
<tr>
<td>Cooling</td>
<td>by Peltier effect</td>
</tr>
<tr>
<td>Power requirements</td>
<td>100 to 240 VAC, 350 VA, 50/60 Hz</td>
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### DELIVERY SYSTEMS

- **Slit lamp adapters**
  - Quantel Medical slit lamp, Haag Streit 900 BM & BQ and clones Zeiss 305L, Zeiss 7205L, Zeiss 1305L & CEO 980
- **Spot size**: 100 µ to 1000 µm
- **Laser indirect ophthalmoscope**
  - Keeler Vantage Plus (external laser adapter)
- **Laser probes**
  - Straight 20, 23, 25 G
  - Curved 20 G
  - Flexible curved 23, 25 G
  - Illuminated flexible curved 23, 25 G
  - Steerable 23, 25 G
- **OR microscope adapters**
  - Zeiss type
  - Leica type

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