

Navilas[®] Laser System 577s Prime

The maximum innovation in retinal laser



Navilas® 577s Prime

All-digital laser therapy

Navilas® is the first all-digital system for navigated focal and peripheral laser treatments based on its proprietary retina navigation technology. Our navigated laser is proven in practices and clinics worldwide across major retina applications and more.



Retina navigation

The maximum innovation in retinal laser

The Navilas® Laser System 577s Prime delivers the maximum innovation currently available in retinal laser technology. Its functionalities and the corresponding benefits are unmatched by any other retina laser in the market.



Advanced comfort for patients and doctors

Contact-free focal and peripheral treatment in color and infrared illumination mode, reduced pain of pattern application for optimal patient compliance plus enhanced working distance between patient and doctor



Most comprehensive and quality-controlled treatments

Planning on 3rd party diagnostic images for high precision, digital and multimodal reporting for high transparency



Seamless integration into your digital workflow

Efficient workflow from import of external diagnostic images and computer-assisted treatment to digital documentation



Perfect onsite and e-training capabilities

Treatment simulation mode for real eye or artificial eye plus e-teaching in perfect synergy with the Navigate app

"Navigation continues to transform surgical interventions into safer, more standardized and more predictable procedures with finally better outcomes for patients."

Dr. Igor Kozak, Moorfields Eye Hospital Abu Dhabi, United Arab Emirates



Watch video introduction to navigated laser
www.od-os.com/navilas-laser-system

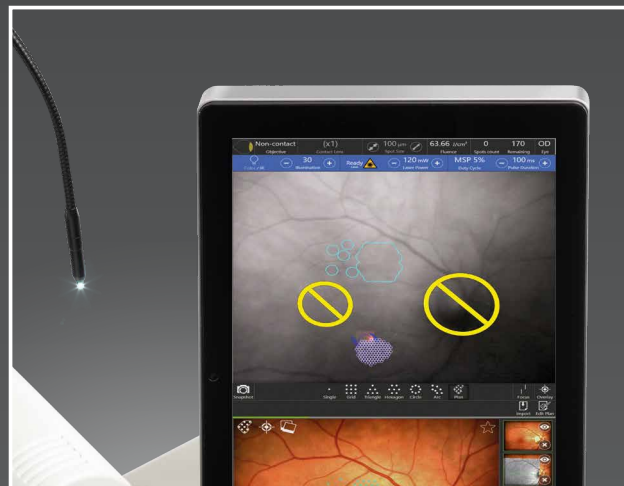
For patients and doctors

Advanced comfort

Navilas® Prime is the only retinal laser which offers navigated, contact-free treatment in color and infrared illumination mode for optimal patient compliance.



Contact-free focal treatment



Infrared illumination



Contact-free peripheral treatments

Optimized ergonomics and larger working distance

When performing treatments with Navilas® doctors benefit from an upright and variable sitting position with no need to bend the head forwards. The slightly rotated view towards the monitor and contact-free treatment options lead to a larger working distance between doctor and patient. For best hygiene compliance, treating physicians may use their personal safety equipment.

"The screen-based treatment is ergonomically comfortable for the doctor and also allows for better interaction with your patients and students. Our field has about a 30% rate of neck and musculoskeletal complications over the course of our careers."

Dr. Robin Ross, Global Retina Institute, Arizona, USA



High precision and transparency

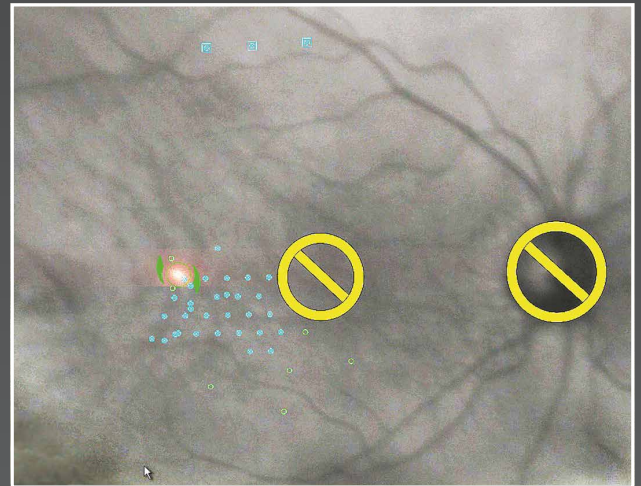
Most comprehensive and quality controlled treatments

Navilas® provides retinal specialists with comprehensive treatment capabilities with the integration of external diagnostic images, navigated laser delivery and multimodal reporting.



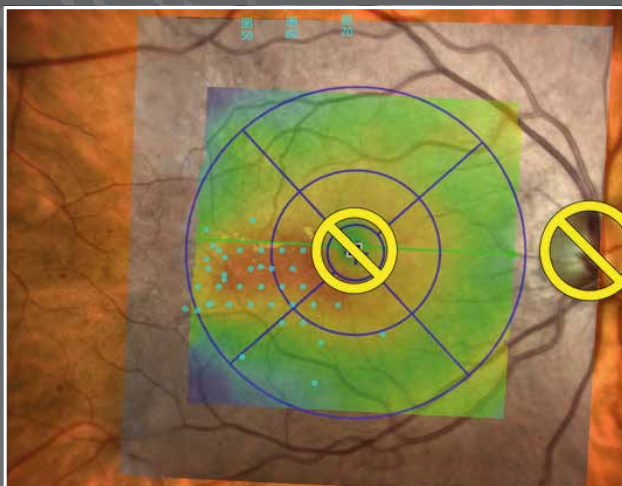
Full screen fundus image

A high-resolution Navilas® color fundus image provides better overview during treatment.



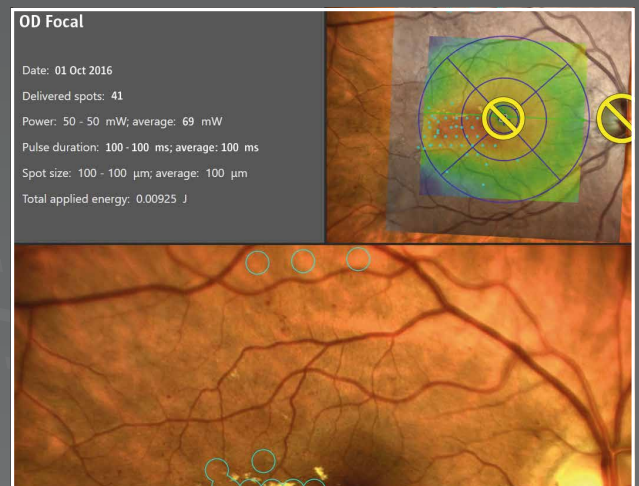
Target-assisted laser treatment

The plan is overlaid onto the live image, while Navilas® pre-positions the aiming beam on treatment locations.



Treatment planning on 3rd party diagnostic images

External diagnostic images are overlaid onto the Navilas® fundus image for indication-focused treatment planning.



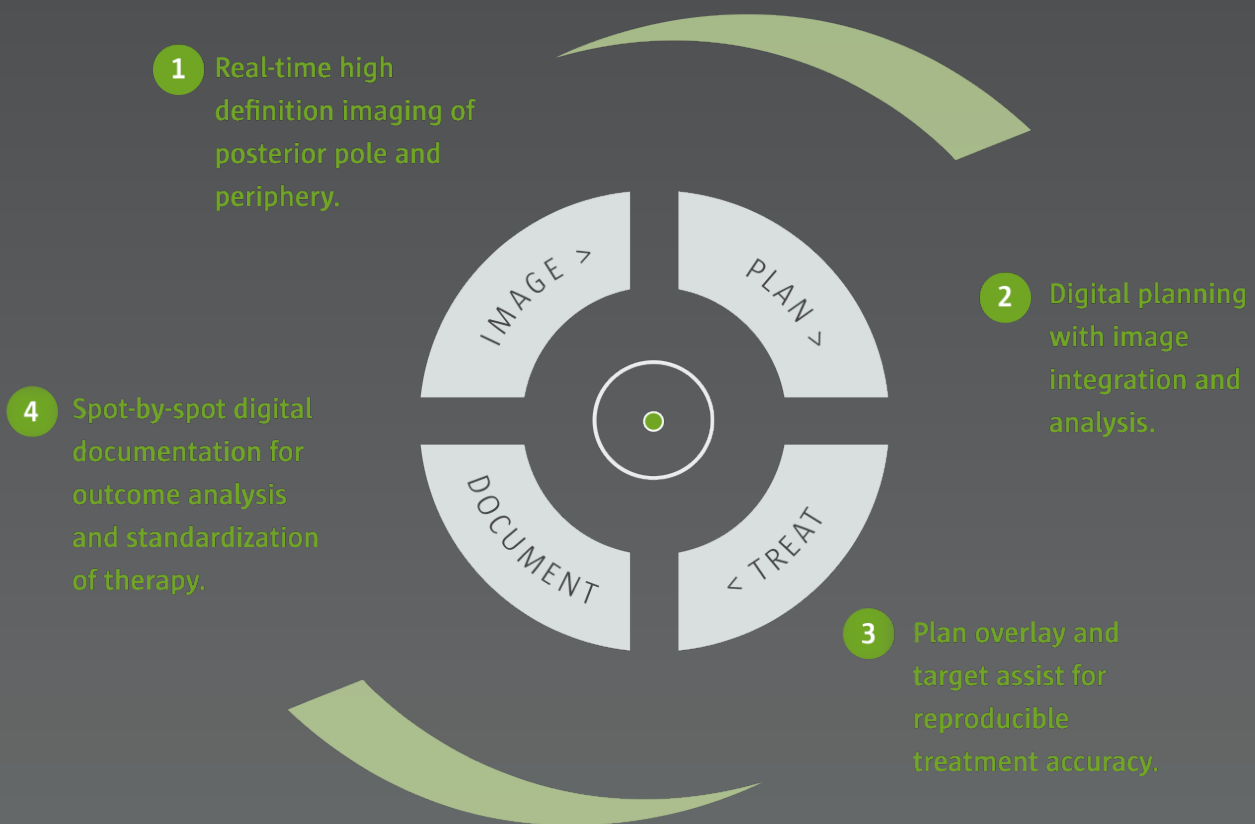
Digital and multimodal treatment report

Navilas® generates a transparent, digital treatment report for local storage, network export and referring doctors.

DICOM interface

Seamless integration into your digital workflow

The all-digital workflow is complemented by advanced connectivity through the DICOM interface. This allows for easy transfer of patient data and diagnostic images via direct integration of your PACS system.



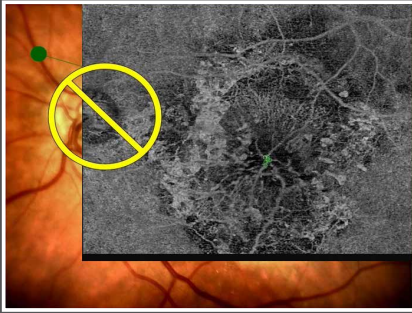
"Navilas is the first microsecond pulsed laser with the ability to reliably document the applied laser spots, which provides us with a valuable treatment alternative for our patients today and a reproducible method for continuing clinical advancement."

David Callanan, MD, Arlington, Texas, USA

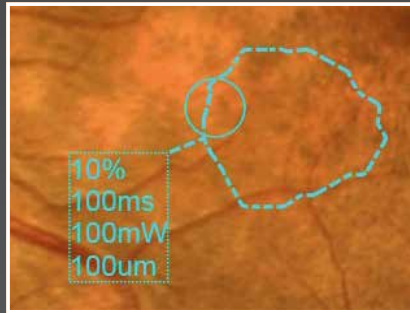
Advanced treatment modalities

Major retina applications and more

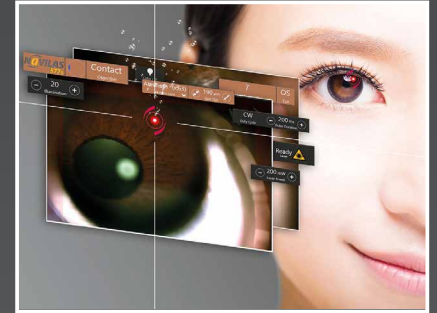
Navilas® makes the treatment of common and challenging cases in major retina applications precise, comfortable and fast with pre-planned and tracked laser.



Precise focal treatments
Caution zones and image overlay

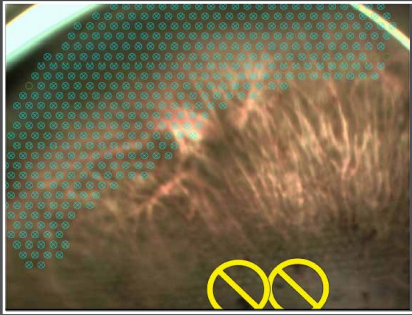


Microsecond pulsing
Transparent reporting

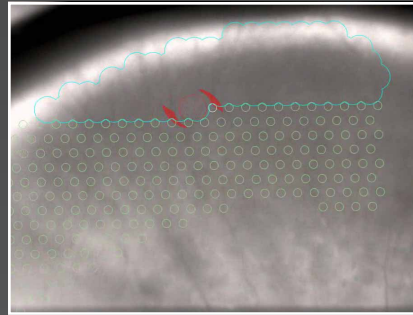


Anterior segment mode
Iridotomy and Laser Trabeculoplasty

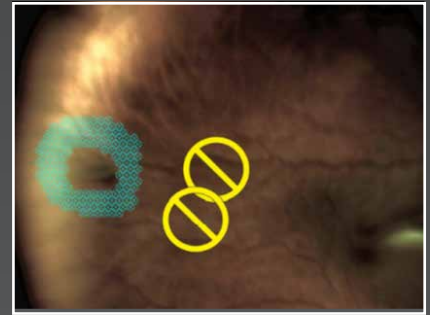




Fast PRP
Even distribution of spots in color mode



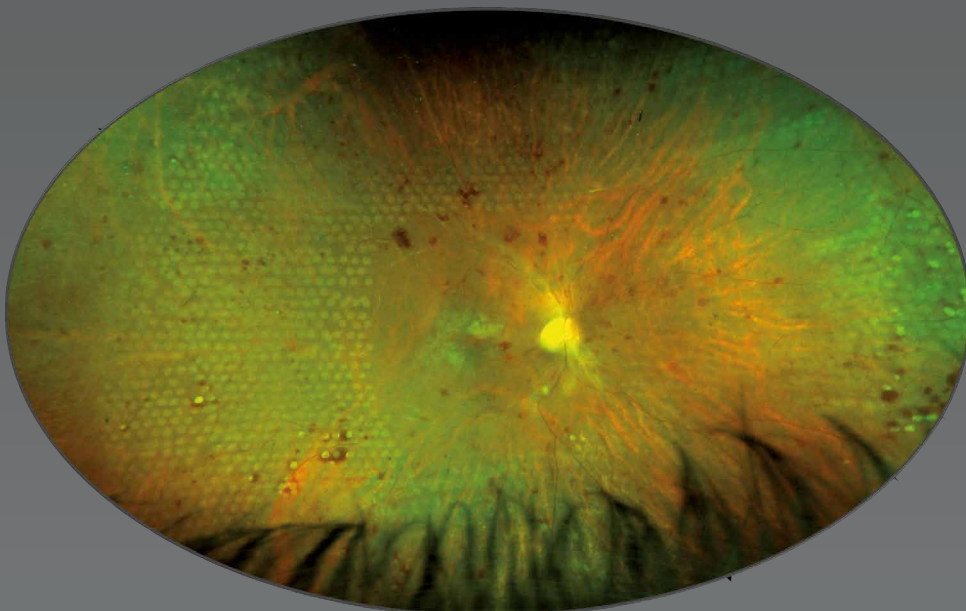
Comfortable PRP
Infrared mode



Laser retinopexy
Far periphery

"I am very impressed with the new Navilas 577s PRP. To me as the physician it feels ergonomic and straightforward - the system literally lets me paint the peripheral retina with uniform spots in a very short amount of time. It was very well tolerated by the patients, with only topical anesthesia. Navilas now has an industry leading PRP tool to complement its incomparable focal laser capability."

David Brown, MD, Houston, Texas, USA



The Optos widefield image shows an equidistant distribution of laser spots after navigated laser treatment (source: Dr. F. Amoroso, CHI de Créteil, France)

Navigated microsecond pulsing therapy

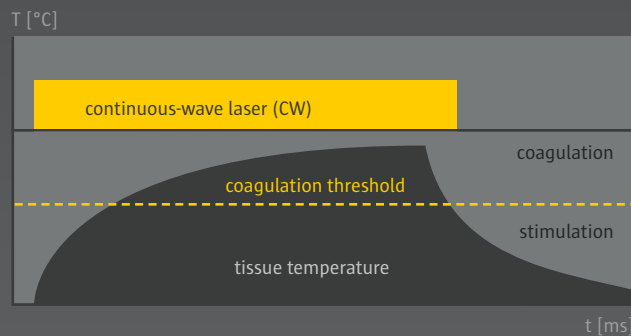
Transparent tissue-friendly treatment

Navigated microsecond pulsing treatment allows photothermal stimulation of diseased retinal areas, while preserving function and avoiding scarring.

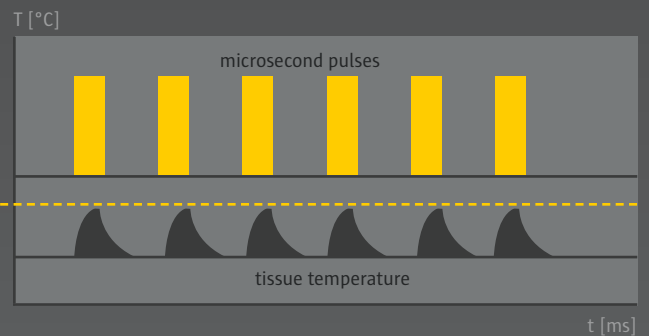
How it works

Laser energy is applied in a series of brief pulses generally in the range of 100–300 μs . In contrast to conventional laser coagulation, retinal tissue is repeatedly heated and stimulated without reaching the coagulation threshold.

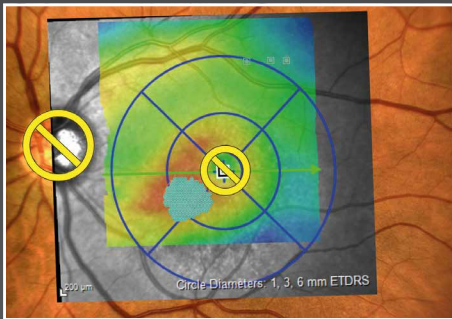
Laser coagulation with CW laser



Microsecond pulsing treatment

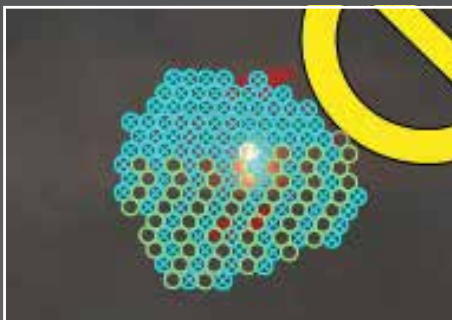


The unique, all-digital approach enables reproducible subthreshold treatment.



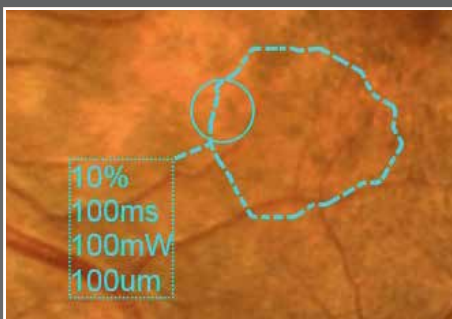
Exact planning with automated image import and free-form grids

Imported diagnostic images enable exact, standardizable treatment planning using (confluent) free-form grids.



Reproducible application with target-assisted laser

Laser spots can be applied quickly and precisely in an alternating pattern. This reduces risk of undertreatment due to unintended gaps or overtreatment through heat transfer between spots (thermal bridges).



Complete documentation in real-time

For the first time, invisible effects are digitally visualized and treatment progress becomes transparent.

"Navigation allows us to place a dense microsecond pulsing spot pattern close to the fovea and to effectively reduce subretinal fluid."

Prof. Leonardo Mastropasqua and Lisa Toto, Chieti, Italy

On-site and online

Perfect training capabilities

Treatment simulation mode plus e-teaching in perfect synergy with the Navigate App.

Treatment simulation mode

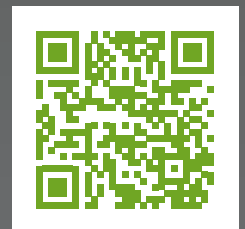
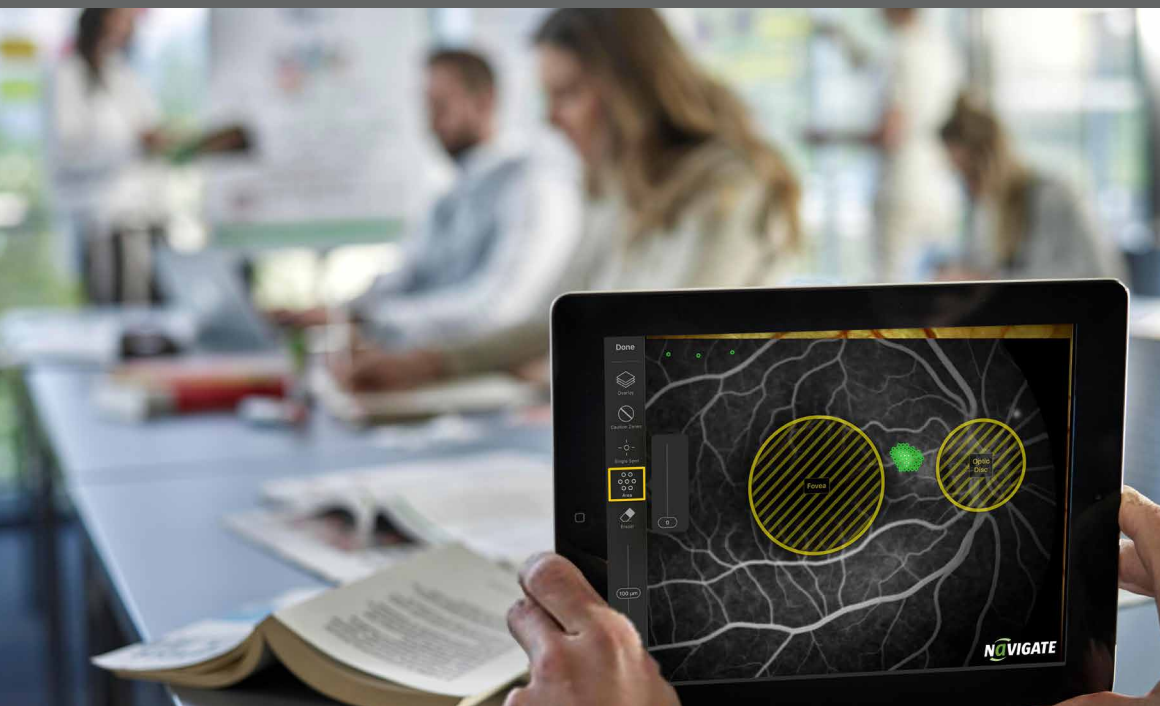
A dedicated training mode allows for simulation of treatments with real or artificial eyes. Students can follow planning and laser application on the treatment screen.

Navigate App

It is easy to teach the best approach to retinal laser treatments in perfect synergy with Navigate App - a free, interactive tool for residents' and team education – on-site and online.

"I think that the Navilas® really lends itself quite nicely to teaching because as a supervising provider, we're able to, actually see what the resident is also seeing. So we can talk about optimal ways of planning the laser treatment. The strategy and the planning is not something that they can figure out on their own."

Dr. Pradeep Prasad, Harbor-UCLA Medical Center, California, USA



Access to Navigate App
www.od-os.com/navigate

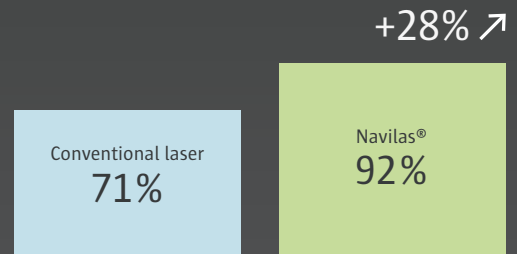
Study results

Navilas® is precise, fast and effective

Higher precision

- ✓ Higher accuracy and precision through image-guided laser pre-positioning

Microaneurysm hit rates of navigated vs. conventional laser were evaluated.

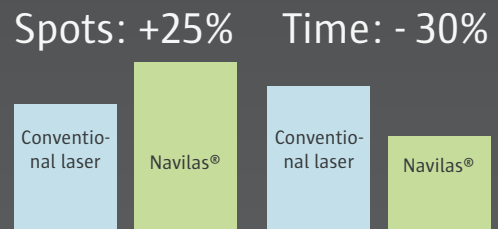


Hit rates microaneurysm/plan spot

KOZAK ET AL. OPHTHALMOLOGY. 2011 JUN;118(6):1119 - 24.

Faster application of pattern

- ✓ 25% more spots in 30% less time

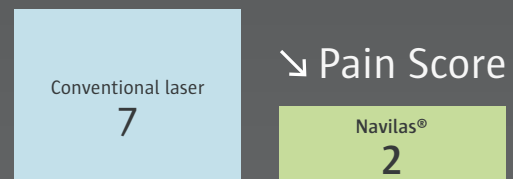


PRP: 25% more spots in 30% less time

CHHABLANI ET AL. INVEST OPHTHALMOL VIS SCI. 2014 MAY 1;55(6):3432-8

Reduced pain

- ✓ Better patient cooperation through reduced pain experience



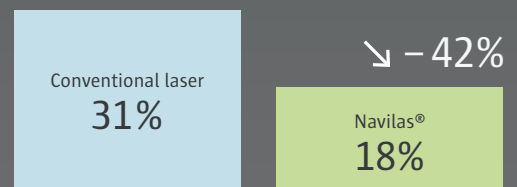
More comfortable through reduced pain

AMOROSO ET AL ACTA DIABETOL. NOV 2019

Fewer retreatments

- ✓ Comprehensive treatment through digital planning and documentation
- ✓ Durable results and fewer retreatments

Retreatment rates of navigated and conventional laser treatments were comparatively evaluated in a matched-pairs analysis.



Retreatments within 8 months

NEUBAUER ET AL. CLIN OPHTHALMOL. 2013;7 121-128.

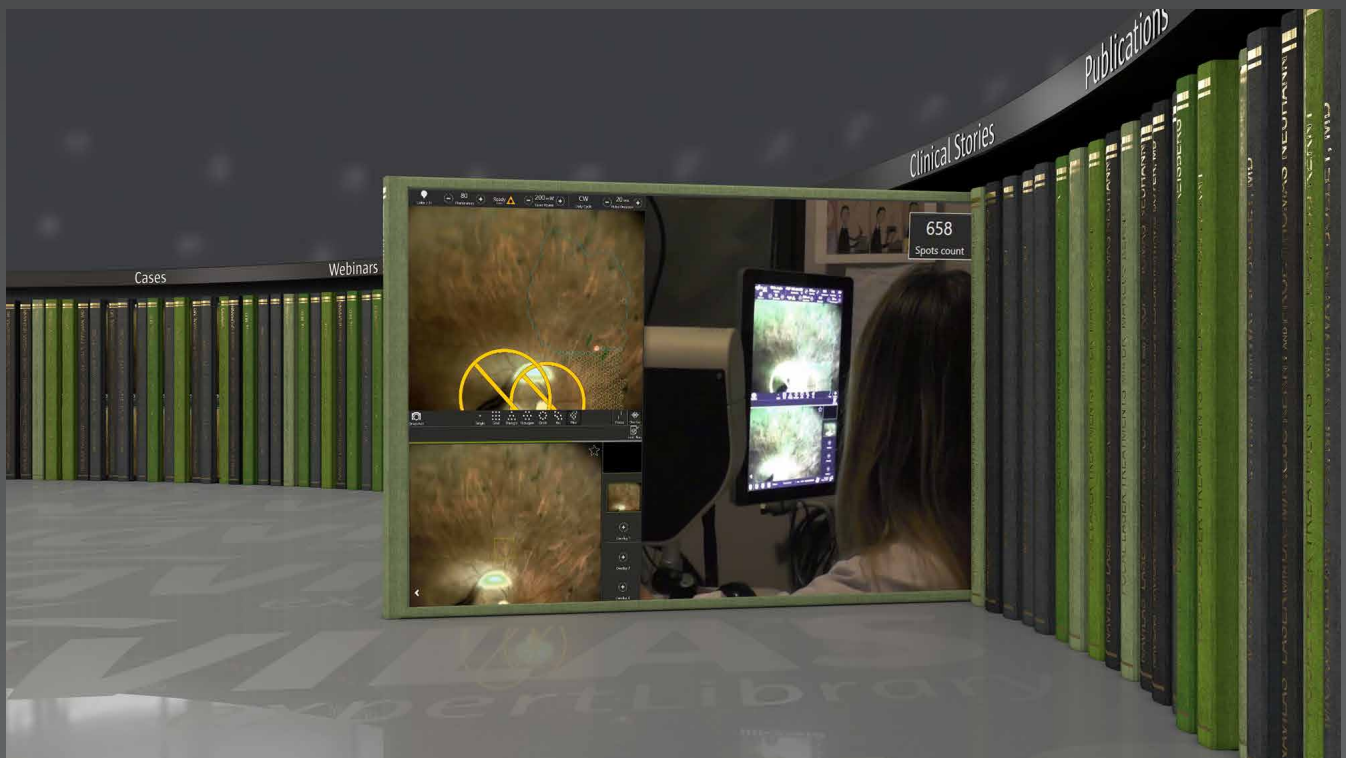
"In my clinical work, the precise and effective focal DME-treatment with Navilas® has become the most relevant companion to Anti-VEGF injections in reaching durable treatment outcomes and reducing patient burden."

Marcus Kernt, MD, Munich, Germany

User reports

Clinical experiences

In the Navilas® expertLibrary leading physicians share their experiences with navigated laser.



Browse publications, webinars, interviews, treatment videos and cases from a broad range of applications.



Visit www.od-os.com/experts

"Navilas® 577s was a worthwhile investment also from the financial point of view as the system basically paid itself within the first year."

Dr. Lars Freisberg, Tulsa Retina Consultants, USA

Unique functionalities

Unmatched in the market

Features	Navilas® 577s Prime
Basic treatment	
Yellow laser source 577nm	✓
Retina (focal and peripheral) + anterior treatment mode (e.g. for LPI, MLT, PLT)	✓
Contact glass treatment for PRP/Anterior/Focal	✓
Single spot application + high speed ad-hoc pattern application without planning	✓
Advanced treatment	
Pattern PRP with equidistant spots + flexible configuration of pulse duration (e.g. to 100ms)	✓
Microsecond pulse laser mode	✓
Every second spot, confluent delivery for subthreshold treatments	✓
Fundus imaging included in laser system	✓
Digital treatment planning based on fundus image incl. caution zones, e.g. for optical nerve head	✓
Tracking and mapping of retina on live image for navigated treatment with plan overlay and target assistance	✓
Advanced patient comfort	
IR illumination mode	✓
Non-contact focal and widefield objectives for contact-free treatment	✓
Advanced connectivity	
Import of external diagnostic images (OCT, OCT-A, FA, ICGA etc.) and registration to Navilas® fundus image	✓
Extended treatment planning on mapped external images	✓
Navigated execution of extended treatment plan (incl. tracking and mapping on live retina image)	✓
DICOM interface for transfer of patient data and PACS integration (incl. advanced network security)	✓
Advanced reporting and database	
Treatment report with images documenting planned/performed treatment incl. laser spot locations, treatment parameters	✓
Patient database (saves treatment plans and reports, allows recall of plans for follow-up treatments)	✓
Export of images, treatment plans and extended treatment reports via shared network folder and USB	✓
Advanced teaching	
Teaching mode to simulate treatments on artificial eye or test person's eye	✓
Remote access	
<i>Distant learning, distant guidance, distant planning</i>	optional upgrade

"I have been using the Navilas® for treatment of a broad range of indications. The accuracy, planning and documentation provides unique tools to research the effectivity of laser treatment - especially in subthreshold modes. The safety of the navigation makes it a great device to establish new treatment paradigms."

Dr. Jay Chhablani, University of Pittsburg, USA

Navilas® Laser System 577s Prime

Technical Specifications



Laser wavelength	577 nm (yellow) wavelength
Laser type	Optically Pumped Semiconductor Laser (OPSL), Class IV
	Aiming beam: diode laser, 635 nm (red), < 1 mW, Class II
Laser power	50-2000 mW
Pulse duration	10-4000 ms
Treatment modes	Continuous Wave Microsecond Pulsing: 50-500 µs; 5, 10, 15 %, variable duty cycle Anterior applications: Iridotomy, MLT/PLT
Digital fundus imaging	True-color and infrared
Optics and field of view	Non-contact objective (focal/peripheral): app. 50°/120° diagonal static (+ dynamic extension)
	Contact objective (focal/peripheral): up to 165°/180° dynamic, analogous to contact lens used
Spot size on retina	Non-contact objective (focal): 50-500 µm, Non-contact objective (peripheral): 110-1100 µm
	Contact objective (focal/peripheral): 50-1000 µm (w/magnification)
Network access	RJ45 ethernet connector, sharing of images/data/treatment plans, network printing, remote service, DICOM interface
Footprint (LxDxH)	110 cm x 70 cm x 127-160 cm / 44" x 28" x 50"-63"
Power supply	115-230 VAC, 50-60 Hz
Conformity	US FDA 510(k) clearance and CE conformity in accordance with the Medical Device Directive 93/42/EEC



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