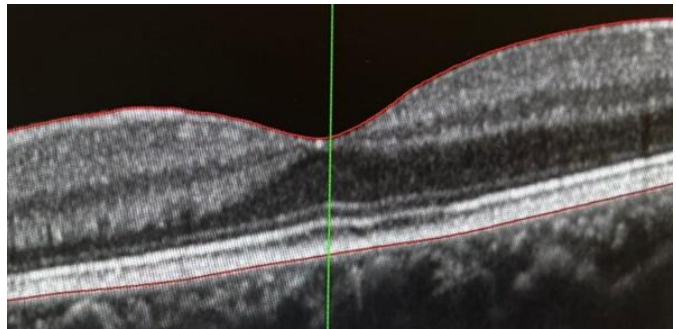
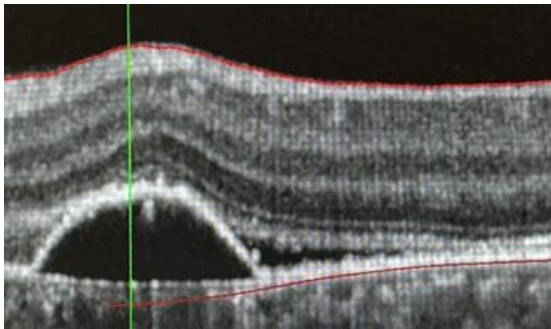


Retina Therapy

Subthreshold Treatment for Central Retinal Conditions

Central Serous Chorioretinopathy (CSC) | Diabetic Macular Edema (DME)

Clinical Case Reports – Real-World Evidence



What is Retina Therapy?

Retina Therapy is the treatment in microsecond pulse mode with subthreshold power. In the literature it is called Micropulse laser therapy (MPL).

MPL delivers laser energy in short, repetitive pulses separated by long pause intervals - A.R.C. market this feature as APL mode which stands for All Pulse Lengths, so the device is able to apply microseconds as well.

This “chopping” of the continuous-wave beam allows targeted stimulation of the retinal pigment epithelium (RPE) while keeping tissue temperature below the coagulation threshold. The result is a sublethal, cell-protective and anti-inflammatory effect – without visible burns or scarring.

Because no thermal tissue damage occurs, MPL is safe for subfoveal application and can be repeated as needed.

Clinical Advantages

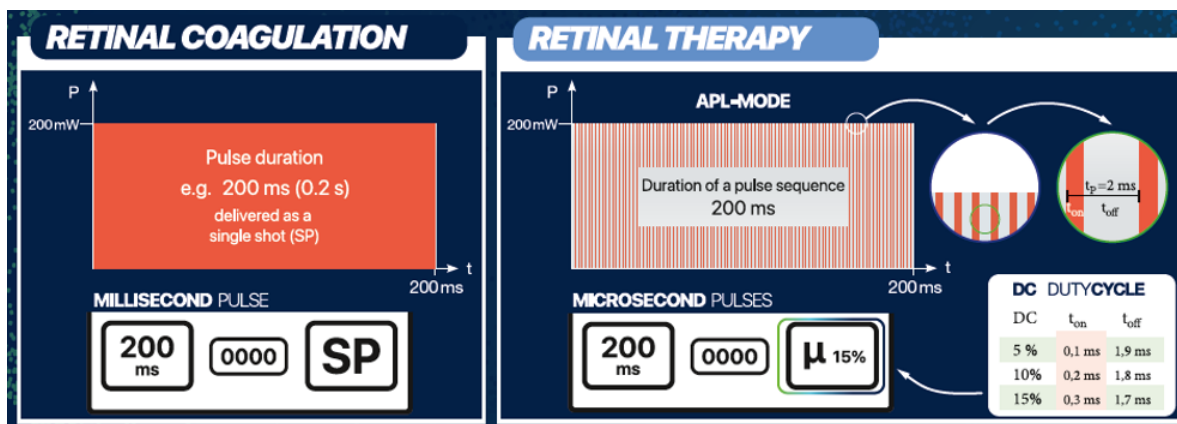
- **Treatment is well tolerated by patients**
- **Minor side effects and mostly pain free**
- **Truly subthreshold – no visible retinal burn**
- **Safe for transfoveal application**
- **No scarring or photoreceptor damage**
- **Repeatable without cumulative tissue damage**
- **Precise and fast treatment method (2 – 4 min)**
- **No verteporfin required (unlike PDT/partially available)**
- **Lower cost and logistic burden vs. PDT**
- **Edema resolution without scar formation**
- **Immediate treatment possible after diagnosis**

Treatment Parameters (summary of 22 case reports)

Delivery	Contact lens (slit lamp)	
Power Range	110–450 mW (avg. 300 mW)	
Pulse Duration	100 ms	
Mode	APL (Micropulse) – Duty Cycle 10% (μ10%) / Duty Cycle 15% (μ15%)	
Spot Size	100 μm	
Number of Pulses	15–80 (avg. 43)	
Treatment Duration	2–4 minutes	
Power Titration	Titrate in CW mode to barely visible burn (in peripheral area), then multiply power by 2x or 3x and switch to APL mode, apply some test exposure at peripheral area – no visible effect should occur – then start treating at intended region	

When switching to APL mode, the laser energy is split into a series of short micropulses. The duty cycle determines the duration of each micropulse and the share of power delivered to the tissue:

- 5% duty cycle → 100 μs micropulse duration → 5% of set power (e.g., 10 mW at 200 mW)
- 10% duty cycle → 200 μs micropulse duration → 10% of set power (e.g., 20 mW at 200 mW)
- 15% duty cycle → 300 μs micropulse duration → 15% of set power (e.g., 30 mW at 200 mW)



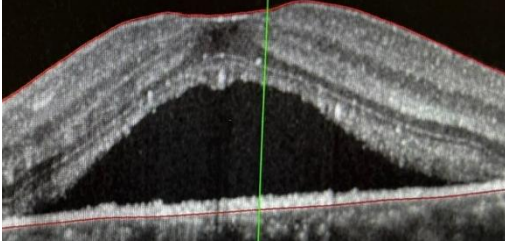
For more detailed application recommendations, please refer to the QuickGuide.



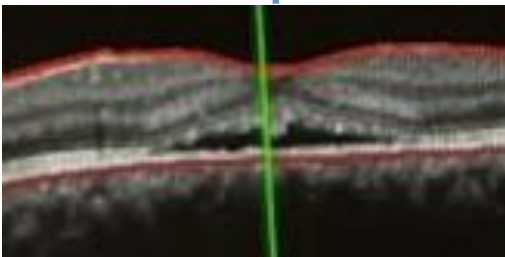
QuickGuide: Application-QuickGuide_retina therapy-Classic_EN_rev0

CASE REPORT 1: Central Serous Chorioretinopathy (CSC)

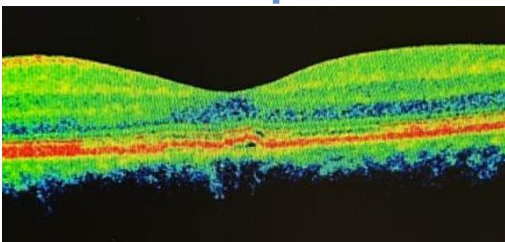
Pre-Treatment



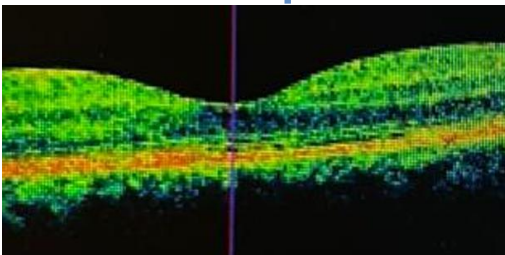
4-Week Follow-up



8-Week Follow-up



3-Month Follow-up



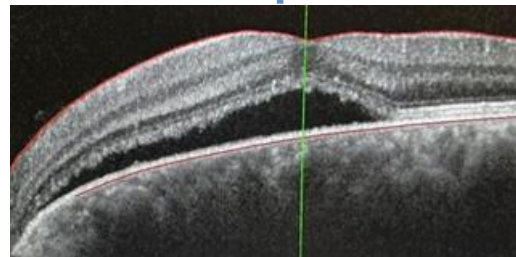
Patient Preparation	Angiography and OCT; Mydriasis and Conjuncain
Treatment Parameters	Power: 270 mW Pulse duration: 100 ms APL mode (μDC): μ15% Pulses: 54
Adverse Events	None

CASE REPORT 2: Central Serous Chorioretinopathy (CSC)

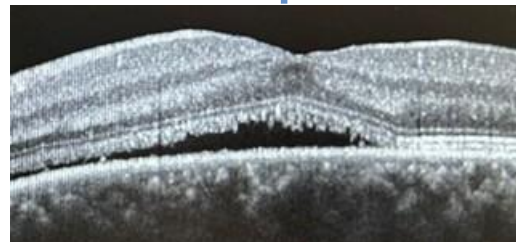
Pre-Treatment



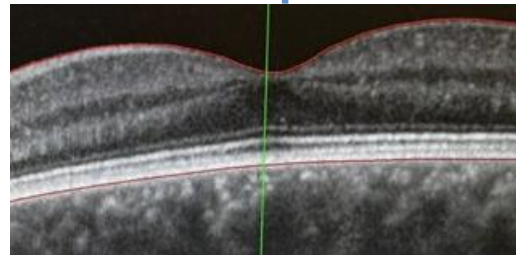
1-Week Follow-up



3-Week Follow-up



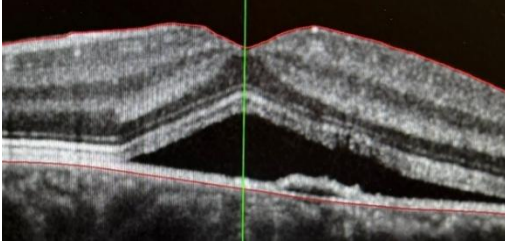
8-Week Follow-up



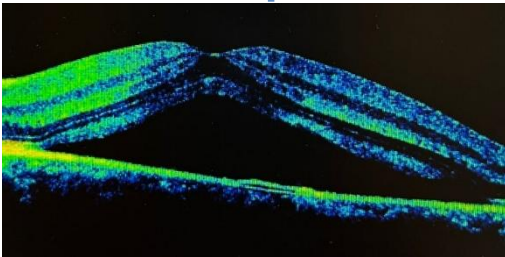
Patient Preparation	Angiography and OCT; Mydriasis and Conjuncain
Treatment Parameters	Power: 300 mW Pulse duration: 100 ms APL mode (μDC): μ15% Pulses: 15
Adverse Events	None

CASE REPORT 3: Central Serous Chorioretinopathy (CSC)

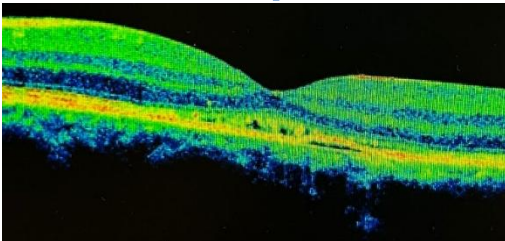
Pre-Treatment



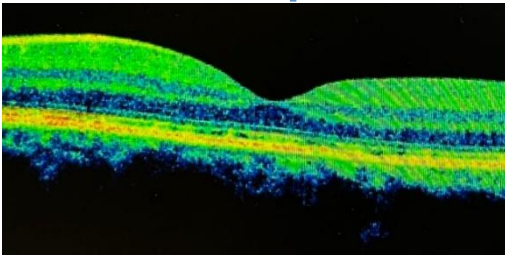
1-Week Follow-up



8-Week Follow-up



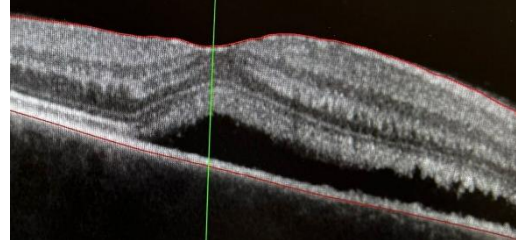
16-Week Follow-up



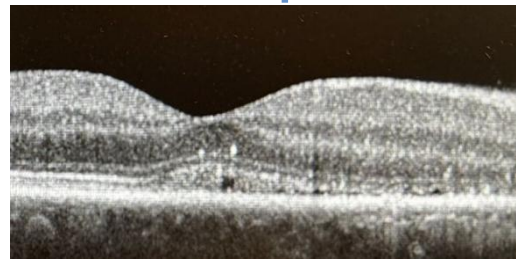
Patient Preparation	Angiography and OCT; Mydriasis and Conjuncain
Treatment Parameters	Power: 300 mW Pulse duration: 100 ms APL mode (μDC): μ15% Pulses: 25
Adverse Events	None

CASE REPORT 4: Central Serous Chorioretinopathy (CSC)

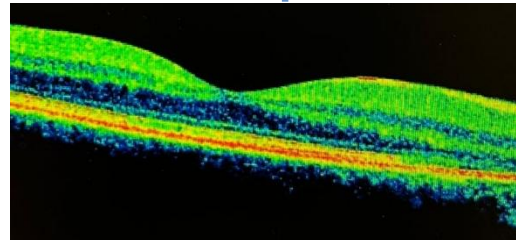
Pre-Treatment



4-Week Follow-up



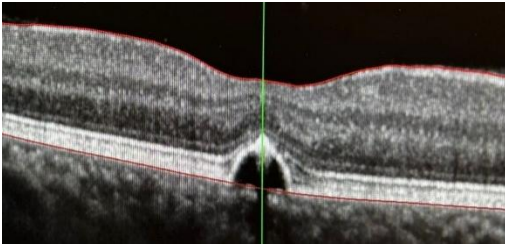
8-Week Follow-up



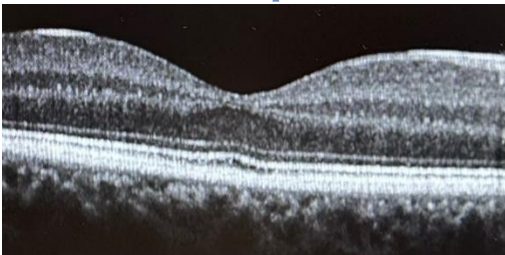
Patient Preparation	Angiography and OCT; Mydriasis and Conjuncain
Treatment Parameters	Power: 300 mW Pulse duration: 100 ms APL mode (μDC): μ15% Pulses: 45
Adverse Events	None

CASE REPORT 5: Central Serous Chorioretinopathy (CSC)

Pre-Treatment



4-Week Follow-up



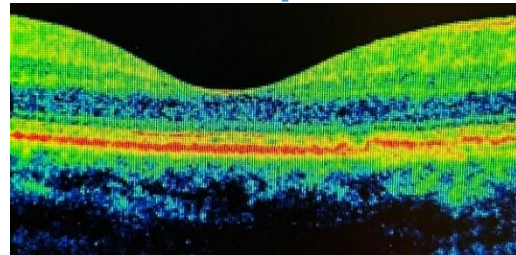
Patient Preparation	Angiography and OCT; Mydriasis and Conjuncain
Treatment Parameters	Power: 300 mW Pulse duration: 100 ms APL mode (μDC): μ15% Pulses: 68
Adverse Events	None

CASE REPORT 6: Central Serous Chorioretinopathy (CSC)

Pre-Treatment



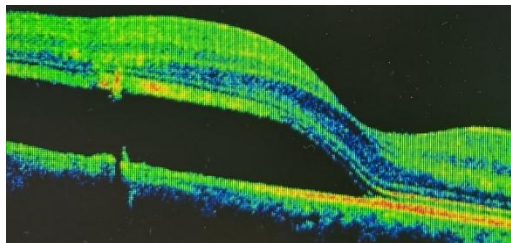
8-Week Follow-up



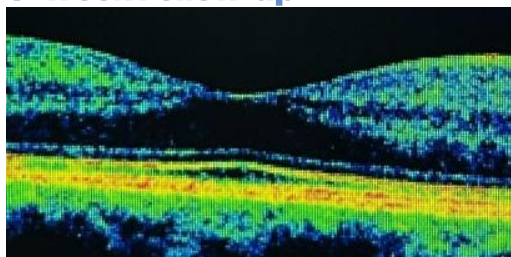
Patient Preparation	Angiography and OCT; Mydriasis and Conjuncain
Treatment Parameters	Power: 270 mW Pulse duration: 100 ms APL mode (μDC): μ15% Pulses: 54
Adverse Events	None

CASE REPORT 7: Central Serous Chorioretinopathy (CSC)

Pre-Treatment



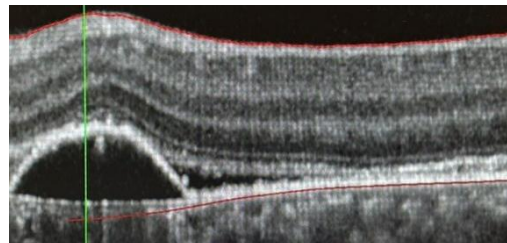
3-Week Follow-up



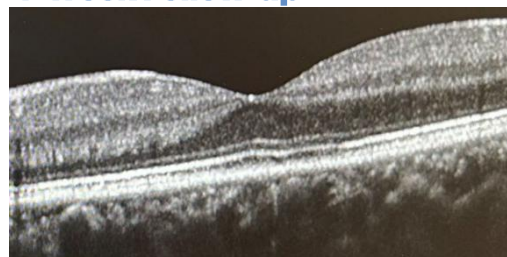
Patient Preparation	Angiography and OCT; Mydriasis and Conjuncain
Treatment Parameters	Power: 280 mW Pulse duration: 100 ms APL mode (μDC): μ15% Pulses: 48
Adverse Events	None

CASE REPORT 8: Central Serous Chorioretinopathy (CSC)

Pre-Treatment



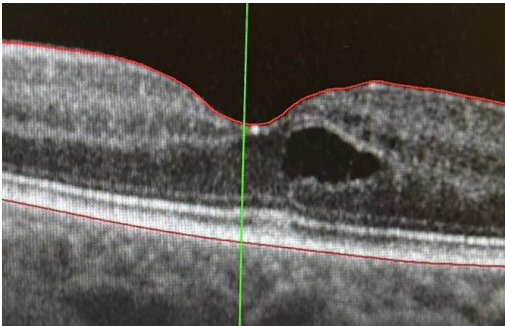
4-Week Follow-up



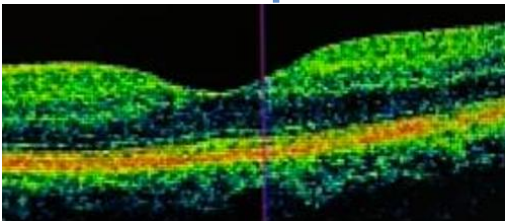
Patient Preparation	Angiography and OCT; Mydriasis and Conjuncain
Treatment Parameters	Power: 300 mW Pulse duration: 100 ms APL mode (μDC): μ15% Pulses: 80
Adverse Events	None

CASE REPORT 9: Diabetic Macular Edema (DME)

Pre-Treatment



6-Week Follow-up



Patient Preparation	Angiography and OCT; Mydriasis and Conjuncain
Treatment Parameters	Coagulation mode: Power: 300 mW Pulse duration: 100 ms Pulses: 43 - temporal to the fovea APL mode (μDC): μ15% Power 110mW Pulse duration: 100 ms Pulses: 22 - in the fovea
Adverse Events	None

Clinical Evidence in Practice

Results at a Glance

Central Serous Chorioretinopathy (CSC)

Outcome Summary

Progressive SRF resolution observed across all follow-up visits. Complete resolution after a few weeks. No adverse events. No retreatment required.

Key Clinical Takeaways

- Patients with intact RPE show faster SRF reduction and greater likelihood of visual improvement.
- Longer wait times before treatment correlate with reduced visual improvement.
- Early treatment shortens disease course and reduces the risk of chronicity.

Diabetic Macular Edema (DME)

Outcome Summary

Reduction of intraretinal cysts at 6-week follow-up. No adverse events reported.

Key Clinical Takeaways

- MPL is suitable for central diabetic changes with few intraretinal cysts and a preserved perifoveal capillary network on angiography.
- Not indicated for clinically significant DME with hard exudates and substantial retinal thickening – intravitreal injection (IVOM) remains the standard in those cases.
- MPL offers a non-invasive alternative or adjunct to anti-VEGF injections in selected early DME cases.

Disclaimer: *The case reports presented in this document reflect individual clinical experience and are provided for informational purposes only. They do not constitute medical advice or a guarantee of treatment outcomes. Treatment decisions should always be based on the individual clinical assessment by the treating physician. Case data courtesy of a practicing retina specialist in Germany.*