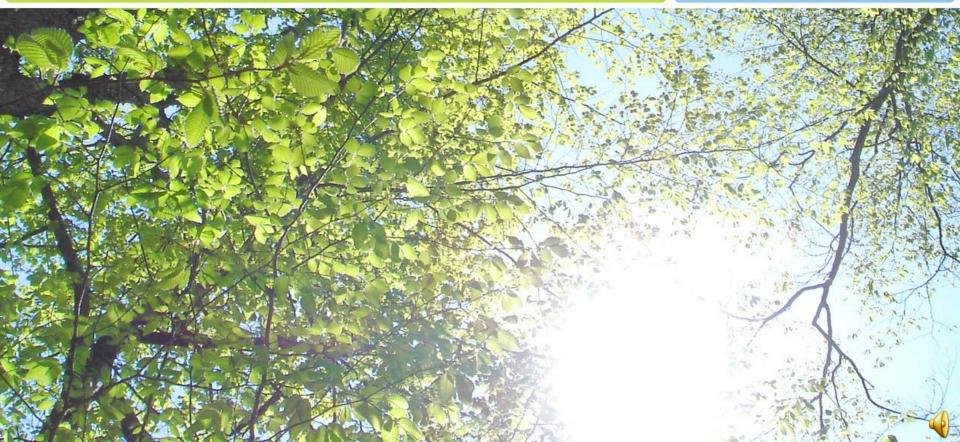
#### Republic of Kazakhstan, Astana city

#### ASTANA VISION



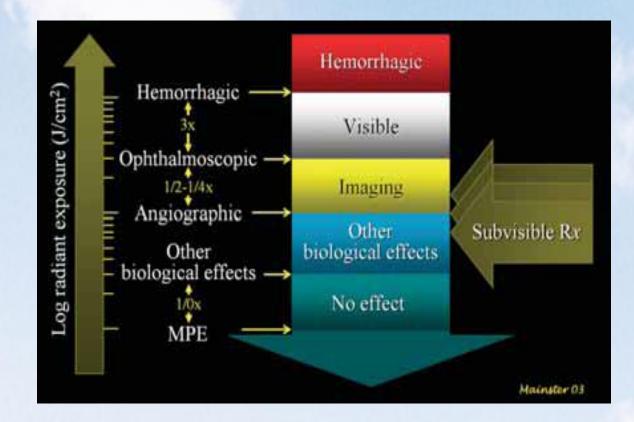


#### Sub-Threshold MicroPulse Yellow 577 Laser Treatment of Retinal Diseases

Igor Remesnikov, MD

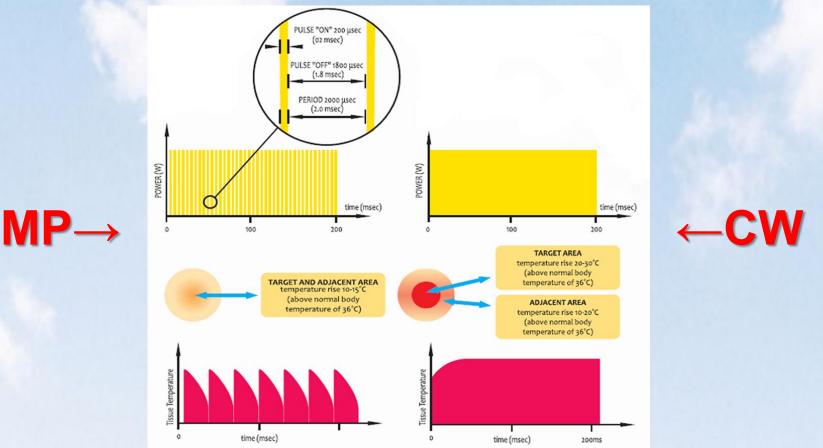
### Sub-Threshold MicroPulse Yellow 577 Laser Treatment (SMPT) – non-coagulative method!!!

#### **Biological effects from laser on eye fundus**



There are different damage thresholds and potential treatment endpoints for clinical laser therapy

#### **SMPT Method**



Prevents laser induced thermal retinal damage and related treatment side effects
Stimulates RPE, releases the citokines that modify the genetic expression

and the production of VEGFs

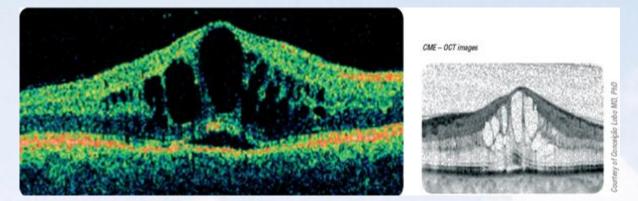
Hor treatment in Macular Zone

Completely painless, Repeatable

#### **CME AFTER CATARACT SURGERY**

Some new treatments now under investigation include anti-VEGF therapy by Roibeard O'hEineachain Posted in: EUROTIMES ESCRS, April 2014

Studies suggest that clinical, symptomatic CME occurs in 0.1 % -2.35 % of eyes undergoing cataract surgery when prophylactic measures are taken. Angiographic CME occurs at least 10 times as often. Chronic CME occurs in about 1% - 2% of uncomplicated cases and in about 8% of complicated cases. The inflammatory condition typically occurs from 4-12 weeks after surgery and its incidence reaches its peak at 4-6 weeks postoperatively. Patients will commonly complain of impaired vision after an initial period of improved vision. OCT examination is usually sufficient to confirm the diagnosis.

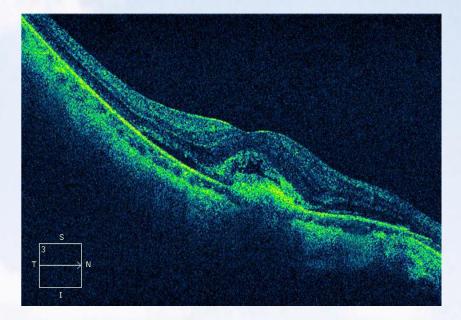


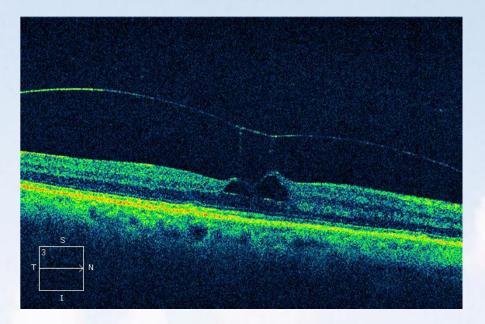
NB! No any notice about SMPT in these article, about "Some New Treatments" !

Indications
Macular Edema (CME, DME)
CSC (Neurosensory Retinal Serous Detachment)
Serous Detachment of the RPE
Soft drusen of the RPE

### Contrindications

#### **XNV Witreomacular Traction Syndrome**





### LightLas YAG/Combo 577 (LightMed)



#### TREATMENT PARAMETERS

Parameters	Pre-Treatment Test Burn	SMPT
Emission Mode	CW	MicroPulse
SLA Spot Size	100	μm
Surgical Contact Lens&	Mainster F	Focal Grid
Magnification	1	X
Duration	0.2	sec
Duti Cycle	100% (CW)	10% (MP)
Power	Starting at 60 mW and	2X power determined in
	increase power with 10	the test burn
	mW steps, every on a new	
	location, until barely visible	
	lesion is seen	
Technique	Performed outside	Dense treatment –
	vascular arcades	contiguous pattern
		with the laser over the
		pathologic area based on
		OCT
Treatment Endpoint	Barely visible tissue	Not visible – rely on
	reaction, as the coagulate	objective post-treatment
	of 0-I degree	outcome measures (VA,
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### **Clinical Cases**

No previous or subsequent treatment with anti-VEGF intravitreal injections, except CW focal-grid coagulation in macular zone in some cases

Now we starting to combine the SMPT with the anti-VEGF intravitreal injections

Patient: 73 yo female DS: DME, Pseudophakia OS

Pre-Op VOS = 0.05 = 20/400 = 1.3 logMAR CRT = 616 μm

Nd:YAG Laser Capsulotomy for PCO: 05/28/2013

Sandwich technique -Focal Grid CW MZ coagulation + SMPT OD: 06/26/2013

Name:	Faxrutdinova, Galina					ZEIS
ID:	3168	Exam Date:	6/25/2013			
DOB:	6/7/1941	Exam Time:	2:56 PM			
Gender:	Female	Technician:	Operator, Cirrus			
Doctor:		Signal Strength:	6/10			
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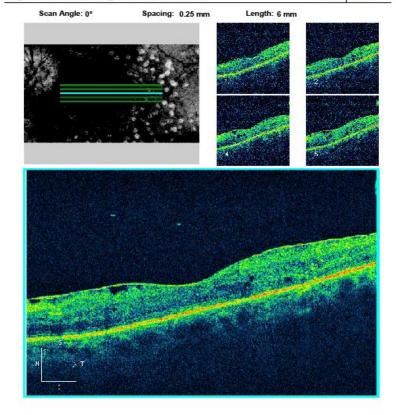
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Patient: 73 yo female **DS: DME, Pseudophakia OS** 

9m Post-Op VOS = 0.05 Sph+3.00 Cyl-0.50  $Ax137^{\circ} = 0.20 = 20/100 =$ 0.7 logMAR

#### **Subnormal OCT foveal profile** OS

High	Definition Image	s: 5 Line Ra	aster	OD ()	O OS
Doctor:		Signal Strength:	7/10		
Gender:	Female	Technician:	Operator, Cirrus		
DOB:	6/7/1941	Exam Time:	3:19 PM		
ID:	3168	Exam Date:	4/1/2014		
Name:	Faxrutdinova, Galina				ZEISS



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### Case Report № 2

Patient: 68 yo female DS: CME, Pseudophakia OD Pre-Op VOD = 0.05 = 20/400 = 1.3 logMAR

CRT = 704 µm

SMPT OD: 03/02/2013

Name:	Pogorelova, Valentina 12					ZEIS
ID:	1251	Exam Date:	9/2/2013			
DOB:	3/14/1946	Exam Time:	3:42 PM			
Gender:	Female	Technician:	Operator, Cirrus			
Doctor:		Signal Strength:				
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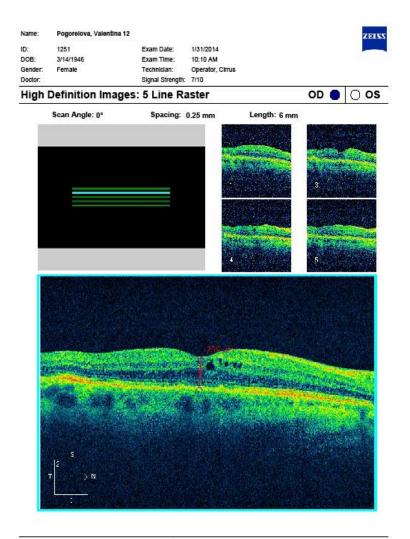
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		Copyright 2011
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Analysis Altered: 2/4/2014 9:12 AM	78	Page 1 of 1

Patient: 68 yo female DS: CME, Pseudophakia OD

5m Post-Op VOD = = 0,05 Sph-6.75 Cyl-1.75 Ax141° = 0.4 = 20/50 = 0.4 logMAR

CRT = 259 µm

Subnormal OCT foveal profile OD



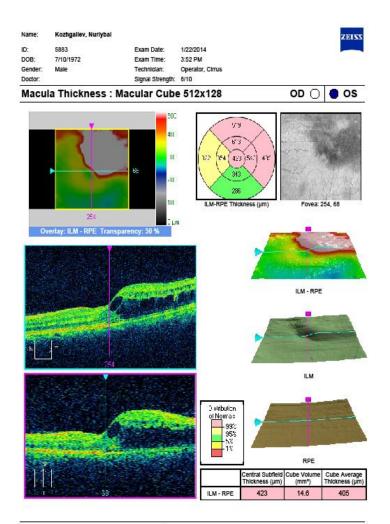
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Patient: 42 yo male DS: CME, BRVO OS

Pre-Op VOS = 0.2 = 20/100 = 0.7 logMAR

CRT = 628 µm

Sandwich technique -Focal Grid CW MZ coagulation + SMPT OD: 02/03/2014



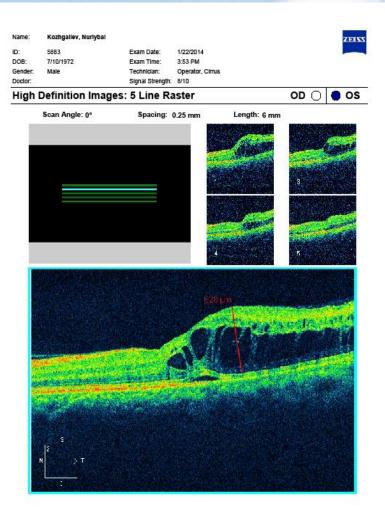
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Patient: 42 yo male DS: CME, BRVO OS

Pre-Op VOS = 0.2 = 20/100 = 0.7 logMAR

CRT = 628 µm

Sandwich technique -Focal Grid CW MZ coagulation + SMPT OD: 02/03/2014

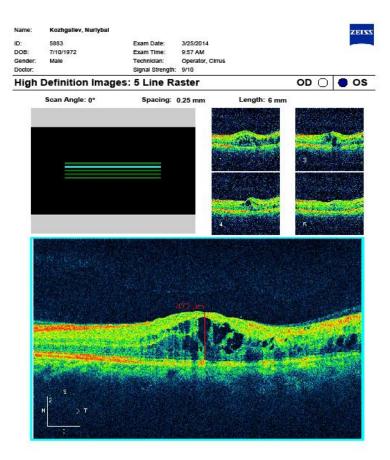


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# Patient: 42 yo male DS: CME, BRVO OS

1.5m Post-Op VOS = 0.2 = 20/100 = 0.7 logMAR

CRT = 472 µm

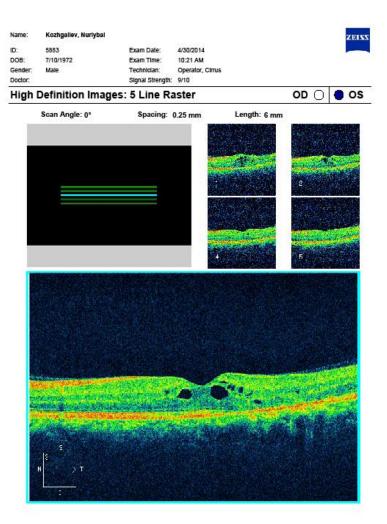


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# Patient: 42 yo male DS: CME, BRVO OS

**3m Post-Op** 

VOS = 0.4 = 20/50 = 0.4 logMAR



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Patient: 42 yo male DS: CME, BRVO OS

3,5m Post-Op

VOS = 0.6 = 20/32 = 0.2 logMAR

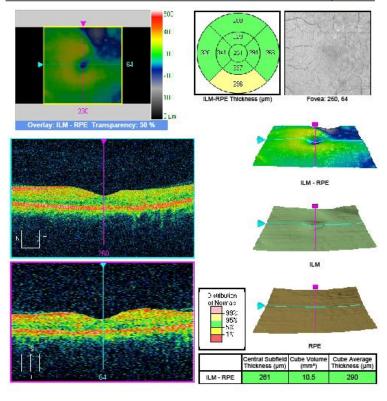
CRT = 261µm

Name:	Kozhgallev, Nurlybal		
ID:	5883	Exam Date:	5/17/2014
DOB:	7/10/1972	Exam Time:	10:26 AM
Gender:	Male	Technician:	Operator, Cirrus
Doctor:		Signal Strength:	10/10

Macula Thickness : Macular Cube 512x128



ZEISS



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Patient: 42 yo male DS: CME, BRVO OS

3.5m Post-Op

VOS = 0.6 = 20/32 = 0.2 logMAR

CRT = 261µm

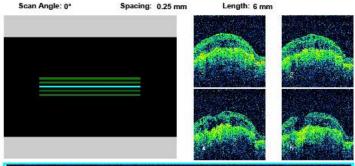
Name:	Kozhgallev, Nurlybal					ZEISS
ID:	5883	Exam Date:	5/17/2014			ZEISS
DOB:	7/10/1972	Exam Time:	10:27 AM			
Gender:	Male	Technician:	Operator, Cirrus			
Doctor:		Signal Strength:				
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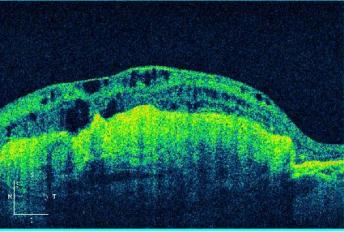
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Patient: 76 yo female DS: CNV, wet-AMD OS

VOS = 0.01 = 20/2000 = 2 logMAR

High I	Definition Image	es: 5 Line Ra	aster	OS
Doctor:		Signal Strength:	6/10	
Gender:	Female	Technician:	Operator, Cirrus	
DOB:	7/27/1938	Exam Time:	12:02 PM	
ID:	4266	Exam Date:	4/3/2014	-
Name:	Zhukovina, Tamara			ZEI





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### Case Report № 5

Patient: 76 yo female DS: RPE Detachment OD

Pre-Op VOD = 0.05 = 20/400 = 1.3 logMAR

CRT = 873 µm

SMPT OD: 04/17/2014

Name: ID: DOB: Gender: Doctor:	<b>Zhukovina, Tamara</b> 4266 7/27/1938 Female	Exam Date: Exam Time: Technician: Signai Strength				ZEISS
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### Case Report № 5

Patient: 76 yo female DS: RPE Detachment OD

1.5m Post-Op

VOD = 0.1 sph+ 3.25 cyl+0.25 ax 132° = 0,4 = 20/50 = 0.4 logMAR

CRT = 183 µm

Name: ID: DOB: Gender: Doctor:	Zhukovina, Tamara 4266 7/27/1938 Female	Exam Date: Exam Time: Technician: Signal Strength:		OD 🛑	C OS
nign	Definition Image Scan Angle: 0*	S. J Line R	Length: 6 mm		

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### Central serous chorioretinopathy (CSC)



# Patient: 55 yo male DS: CSC OS

Pre-Op VOS = 0.1 = 20/200 = 0.8 logMAR

CRT = 736 µm

SMPT OD: 02/25/2014

Name:	Karligashev, Meiram					ZEI
ID:	6292	Exam Date:	2/24/2014			
DOB:	7/1/1958	Exam Time:	9:54 AM			
Gender:	Male	Technician:	Operator, Cirrus			
Doctor:		Signal Strength:	6/10			
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# Patient: 55 yo male DS: CSC OS

**2w Post-Op** 

CRT = 297 µm

Name: ID: DOB: Gender: Doctor:	Karligashev, Meiram 6292 7/1/1958 Male	Exam Date: Exam Time: Technician: Signal Strength:	COLOR AND AND A STREET		OD ()	OS
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# Patient: 55 yo male DS: CSC OS

**1m Post-Op** 

VOS = 0.8 = 20/25 = 0.1 logMAR

CRT = 201 µm

Name:	Karligashev, Meiram					ZEISS
ID: DOB:	6292 7/1/1958	Exam Date: Exam Time:	3/31/2014 9:22 AM			
Gender: Doctor:	Male	Technician: Signal Strength:	Operator, Cirrus 9/10			
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# Patient: 43 yo male DS: CSC OS

Pre-Op VOS = 0.4 = 20/50 = 0.4 logMAR

CRT = 675 µm

SMPT OD: 09/30/2013

Name:	Saribaev, Serik					ZEISS
ID:	4529	Exam Date:	9/19/2013			
DOB:	6/4/1971	Exam Time:	3:12 PM			
Gender:	Male	Technician:	Operator, Cirrus			
Doctor:		Signal Strength:	7/10			
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# Patient: 43 yo male DS: CSC OS

2w Post-Op

VOS = 0.4 = 20/50 = 0.4 logMAR

CRT = 444 µm

Name: ID: DOB: Gender: Doctor:	Saribaev, Serik 4529 6(4/1971 Male	Exam Date: Exam Time: Technician: Signai Strength:	10/17/2013 11:06 AM Operator, Cirrus			ZEISS
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# Patient: 43 yo male DS: CSC OS

**1m Post-Op** 

VOS = 0.4 = 20/50 = 0.4 logMAR

CRT = 379 µm

Name: ID: DOB:	Saribaev, Serik 4529 6/4/1971	Exam Date: Exam Time:	10/31/2013 3:04 PM			ZEISS
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# Patient: 43 yo male DS: CSC OS

**1m Post-Op** 

VOS = 0.8 = 20/25 = 0.1 logMAR

CRT = 208 µm

Name:	Saribaev, Serik					ZEISS
ID:	4529		12/24/2013			
DOB:	6/4/1971		10:11 AM			
Gender:	Male		Operator, Cirrus			
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#### Conclusion

 SMPT is an effective treatment for macular edema of different pathophysiological origins, CSC, AMD in the form of serous RPE detachment
SMPT is tissue-sparing, repeatable method without complications and side effects of classical coagulation in maculare zone
SMPT is well-combined with classical CW

coagulation in macular zone and anti-VEGF intravitreal injections

#### Thank you for attention!

#### astanavision.com

mailto: laserdoc@mail.ru