

KATANA LaserSoft refractive diode *pumped solid-state UV laser* – *experience of 51 cases*

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Introduction

- ✿ First wide experience with Katana LaserSoft.
- ✿ The **purpose** of this study is to evaluate the efficacy of this laser system with standard treatments.
- ✿ Surgery: photorefractive keratectomy (PRK)



Katana LaserSoft vs Excimer laser

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> • Wavelength • Laser fluence • Beam diameter • Beam homogenization method • Beam collimation | <ul style="list-style-type: none"> • Katana LaserSoft • 210 nm⁽¹⁾ • 140 mJ/cm² • 0.2-0.3 mm flying-spot • Not required • Collimated⁽²⁾ | <ul style="list-style-type: none"> • Excimer Laser • 193 nm • 100-200 mJ/cm² • 0.8-2.0 mm flying spot • Use of UV-optic • Focussed |
|--|--|--|

- (1) - Much less adsorption in water
 (2) - Ablation is independent from cornea's height position



Patients and Methods

- 51 Eyes of
- 29 patients, mean age 29±06
- Follow-up: 3 months
- Treatments: optical zone 6.5 mm and 1 mm transition zone

Group	N°
Myopia and Myopic Astigmatism	36
Hyperopia and Hyperopic Astigmatism	10
Mixed Astigmatism	4
Total	51



Refraction (D)

Group	Sfere ±SD	Min/ Max	Astig m ±SD	Min/ Max	Sf.Eq. ±SD	Min/ Max
Myopia and Myopic Astigmatism	-2,53 ±1,45	-0,50 -7,50	-0,85 ±1,09	0,0 -3,75	-2,96 ±1,54	-1,0 -9,0
Hyperopia and Hyperopic Astigmatism	+2,05 ±1,75	+0,50 +5,50	+1,33 ±0,95	0,0 +3,0	+2,71 ±1,73	+0,88 +6,13
Mixed Astigmatism	+0,25 ±0,84	-1,0 +0,75	-2,38 ±2,98	-4,50 +2,0	-0,94 ±0,66	-1,50 0,0

Clinical Results: EFFICACY, SAFETY, STABILITY

Myopia and Myopic Astigmatism	PREOP	15 Days	45 Days	3 Months
UCVA ±SD	0,20 ±0,13	0,90 ±0,16	0,96 ±0,11	0,96 ±0,10
BCVA ±SD	0,96 ±0,10	0,96 ±0,13	1,01 ±0,06	1,01 ±0,06
Sf.Eq. ±SD	-2,96 ±1,54	-0,07 ±0,37	-0,20 ±0,47	-0,17 ±0,37

Clinical Results:

EFFICACY, SAFETY, STABILITY

Hyperopia and Hyperopic Astigmatism	PREOP	15 Days	45 Days	3 Months
UCVA ±SD	0,35 ±0,20	0,62 ±0,07	0,72 ±0,27	0,87 ±0,13
BCVA ±SD	0,97 ±0,07	0,90 ±0,10	0,95 ±0,08	0,98 ±0,06
Sf.Eq. ±SD	2,71 ±1,73	-0,93 ±0,88	-1,00 ±1,15	-0,30 ±0,40

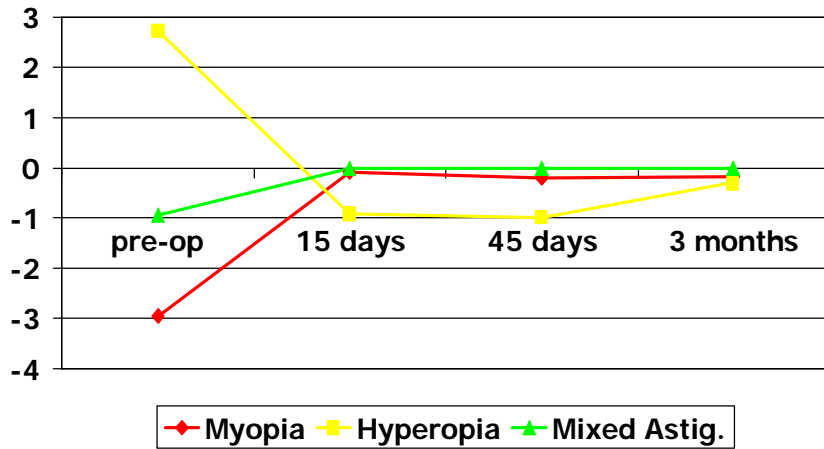
Clinical Results:

EFFICACY, SAFETY, STABILITY

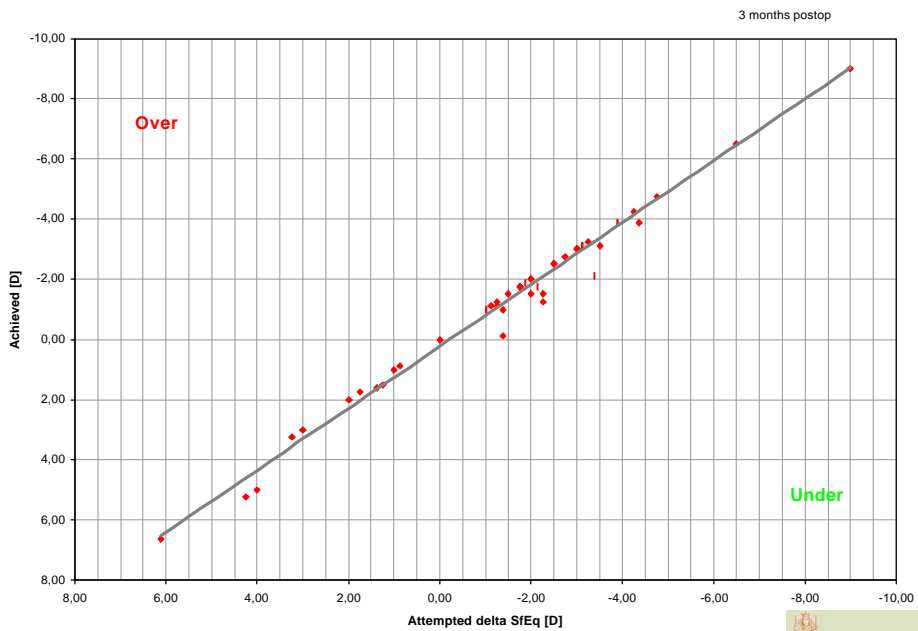
Mixed Astigmatism	PREOP	15 Days	45 Days	3 Months
UCVA ±SD	0,23 ±0,19	0,69 ±0,31	0,95 ±0,06	0,95 ±0,06
BCVA ±SD	0,90 ±0,11	0,69 ±0,31	0,95 ±0,06	0,95 ±0,06
Sf.Eq. ±SD	-0,94 ±0,66	0	0	0

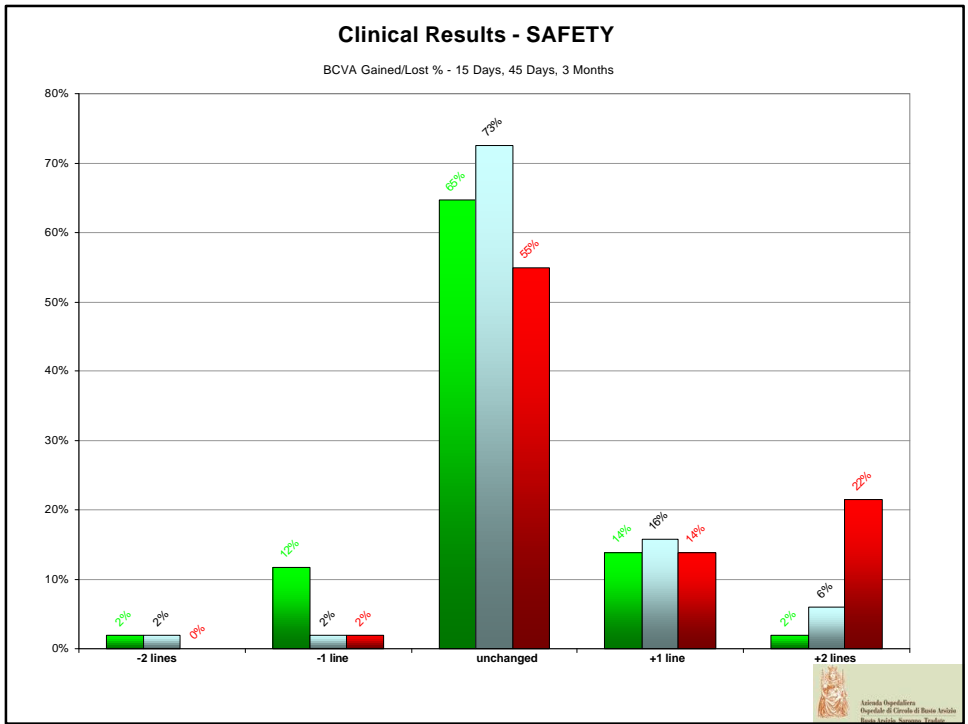
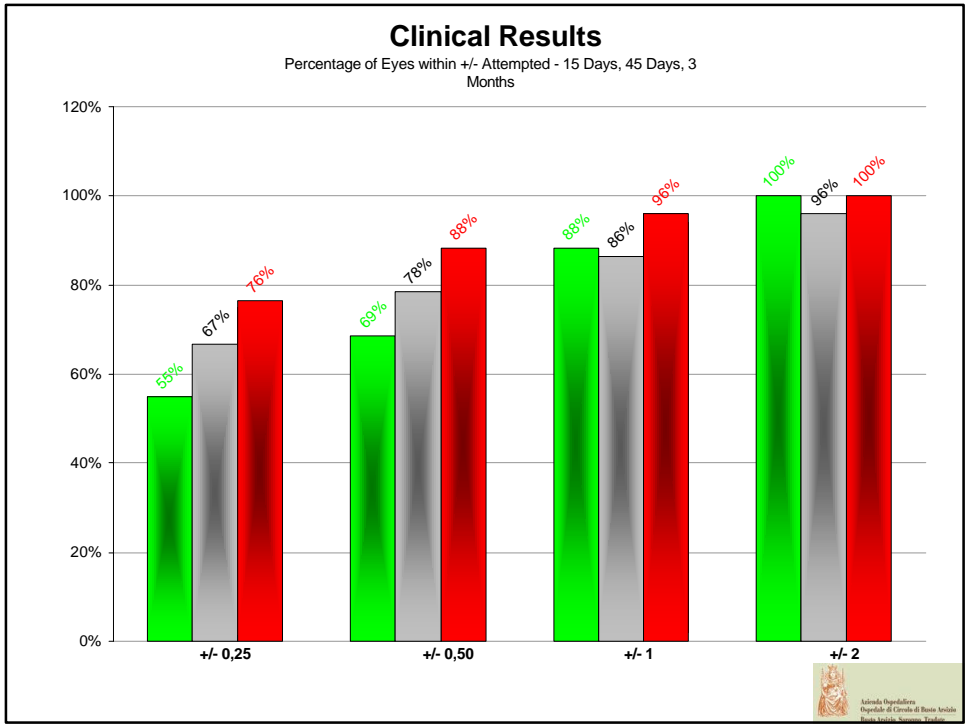
Clinical Results

Sf. Eq. over Time



Clinical Results - PREDICTABILITY





Clinical Results vs FDA Targets

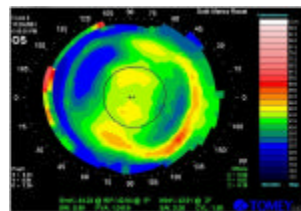
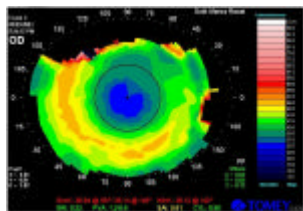
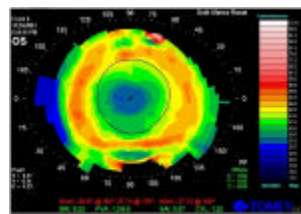
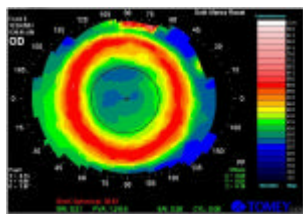
3 Months Clinical Results in Myopic and

Myopic - Astigmatic Treatments

CLINICAL RESULTS	FDA	KATANA Myopia
Efficacy Variables		
☀️ UCVA 1,0 or better	50%	72%
☀️ UCVA 0,5 or better	85%	100%
☀️ MRSE \pm 0,5D	50%	89%
☀️ MRSE \pm 1D	75%	94%
Safety Variables		
☀️ BCVA Loss > 2 lines	< 5%	No
☀️ BCVA Worse than 0,5	< 1%	No

Clinical Results:

topographic aspects: 3 myopic –
1 mixed astigmatism treatments



Thank you for your
attention

Dr. M. Rossi MD