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(54) Title: SYSTEMS AND METHODS FOR OCULAR LASER SURGERY AND THERAPEUTIC TREATMENTS

Model outcomes: proposed protocol comparison

	proposed protocol 1	proposed protocol 2	proposed protocol 3	proposed protocol 4	proposed protocol 5
treatment shape	wedge 3	wedge 2	wedge 1	7x7 array	wedge 3
density	15%	20%	30%	25%	25%
depth %	80%	80%	50%	100%	80%
spot diameter	0.225 mm	0.225 mm	0.225 mm	0.225 mm	0.225 mm
lifeform (thickness)	monkey (0.2 mm)	monkey (0.2 mm)	monkey (0.2 mm)	monkey (0.2 mm)	monkey (0.2 mm)
apex thickening (mm)	0.08962	0.08952	0.08960	0.08945	0.08962
length shortening (mm)	0.08831	0.08817	0.08784	0.08839	0.08831
accommodation recovery (%)	13.95	11.31	11.94	10.48	24.57
accommodation (D)	1.116	0.905	0.955	0.838	1.966

FIG.41

(57) Abstract: Systems, devices and methods are provided to deliver microporation medical treatments to improve biomechanics, wherein the system includes a laser for generating a beam of laser radiation on a treatment-axis not aligned with a patient's visual-axis, operable for use in subsurface ablative medical treatments to create an array pattern of micropores that improves biomechanics. The array pattern of micropores is at least one of a radial pattern, a spiral pattern, a phyllotactic pattern, or an asymmetric pattern.

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