











Presbyopia will affect essentially everyone over	Category	Diagnosed	% Patients Rx-Treated	Total Patien
40, presenting an opportunity for 6x more	Dry Eye	> 17 Million	10%	1.7 Million
patients than DED	Presbyopia	> 120 Million	5%*	5+ Million*
Most find presbyopia Effects leisure and wo	annoying and frustrating ork	nd want to resist growing	older pa	e care educate tients on



People affected 35.5 Million

7.7 Million

3 Million

11 Million

Condition

Dry Eye

Disease

Diabetic Retinopathy

Haucoma

Degeneration

Macular

Epidemiology in the Patient Population Are Eye Exams Cool Again? This patient population (the emmetropic presbyopes) doesn't usually seek out our services only 13% see an eye exam as a preventative measure and have regular exams. Dry Eve Disease: 35 Million affected/ 17 Million Diagnosed/ 1 Million Rx Glaucoma • Dry Eye Disease From 2010 to 2050: Diabetic Retinopathy 7.7 Million - 14.5 Million ARMD 11 Million - 22 Million Eye Wellness-future AMD, cataracts, skin cancer, etc. Children's vision-myopia progression, amblyopia • Others? 10

Consumers Rank ti Age-related Ailme	ne Loss of Near Vision as nts	#1 Impact on Quality of Life in Comparison to Other
Loss Near Val	of on	Reported as 60% efforts maat in pactful condition
Hear	39%	
Arthr	ⁱⁿ 35%	When asked which of the following age- related ailments has the most significant impactful on QOL, people with presbyopia
Nigh Bio Press	ad 33%	ranked the Loss of Near Vision as having more impact than any other of these common age- related conditions
Hi Choleste	^{ph} 20%	
Dry Ey		
% ran	king conditions as top-2 most im	pactful on QOL

Our current solutions	
 Spectacles¹ 	
 Single vision 	I Surgical Treatments
 Bifocal/Trifocal 	Excimer laser ³
Progressive	Monovision Modified Monovision
Contact Lenses ²	Multifocal ablation
Soft Multifocal	Femtosecond laser inlays ⁴
Monovision	Diffractive Technology-bilocals, trifocals, EDOF ³
	Nondiffractive Technology EDOF Accommodating
• GP's	Light Adjustable
 Scleral 	Femtosecond laser-induced shape change Femtosecond laser ⁴
	Softening of the crystalline lens









- •4 out of 5 patients diagnosed with a cataract are done so by an optometrist
- Optometrists are the "gatekeepers" to cataract referrals and ATIOLs
- Referring O.D.'s must discuss all IOL options and educate patients about cataract and treatment options









shifts







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EDOF - VIVITY IOL NON-DIFFRACTIVE IOL

NOVEL X-WAVE SHAPING TECHNOLOGY CREATES AN EXTENDED FOCAL RANGE BY STRETCHING AND SHIFTING THE WAVEFRONT

LOW INCIDENCE OF VISUAL DISTURBANCES

POSSIBLE FOR AMD?? GLAUCOMA??































Lens	
(m) (m)	 Entire lens is hollow and filled with liquid silicone
	 Fluid changes changes in optic
	• Avg. accommodation range 2D
(2)	• 29 eves
85	Distance 20/20
	 Intermediate 20/20-20/25 Near 20/22-20/27
**Not FDA Approved	













Indications for Use Cycloplegic refraction between 45 and 60 years old
 Cycloplegic refraction between +0.50 D and -0.75 D
 with less than or equal to 0.75 D of refractive
 cylinder • Patient does not require glasses or contact lenses for clear distance vision • Patient requires near correction of +1.00 D to +2.50 D of reading add









 Fig. for Presbyggi Burley regreted, egithelian on, activated croactivativation

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PERCEPTUAL LEARNING AS A TREATMENT APPROACH

Prof. Gilbert, Rockefeller U., topical review

- ADULT NEUROPLASTICITY CONSTITUTES THE MECHANISM OF PERCEPTUAL LEARNING IN NORMAL VISUAL EXPERIENCE AND IN RECOVERY OF FUNCTION AFTER CNS DAMAGE.
- IT CAN BE SEEN AT MULTIPLE STAGES IN THE VISUAL PATHWAY, INCLUDING THE PRIMARY VISUAL CORTEX.







62







61



METHODS

59 participants 50.06 \pm 8.6 years; mean \pm STD, min 40 years, max 65 years divided to two groups:

PARTICIPANTS

Early presbyopic stage initial near vision below 0.2 LogMar (ETDRS) N=29, age 48.03 ± 5.74 (mean ± STD)

Advanced presbyopic stage above 0.2 LogMar (ETDRS) N=30 age 52.1 ± 4.91 (mean ± STD)

TASK

Temporal processing

Contrast detection

TRAINING PROTOCOL

- Training session duration of 15 min*
- From 40 cm uncorrected for near Every other day
- 2-4 months After Post-test: boosting sessions once every 2 weeks, over 1 year (up to 6.2 y, 2.5 y on average)

ically, session duration used to be 30 min



















































Visus

- Brimochol[™] (Visus Therapeutics)
- Brimochol[™] Preservative Free (Visus Therapeutics)
- Carbachol + brimonidine tartrate
- Carbachol: Miotic
- Brimonidine tartrate: Prevents pupil dilation, inhibits contraction of ciliary muscle, increases bioavailability of carbachol^{1,2}, prevents redness³

93



94











Phentolamine - A New Miotic MOA Class

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