

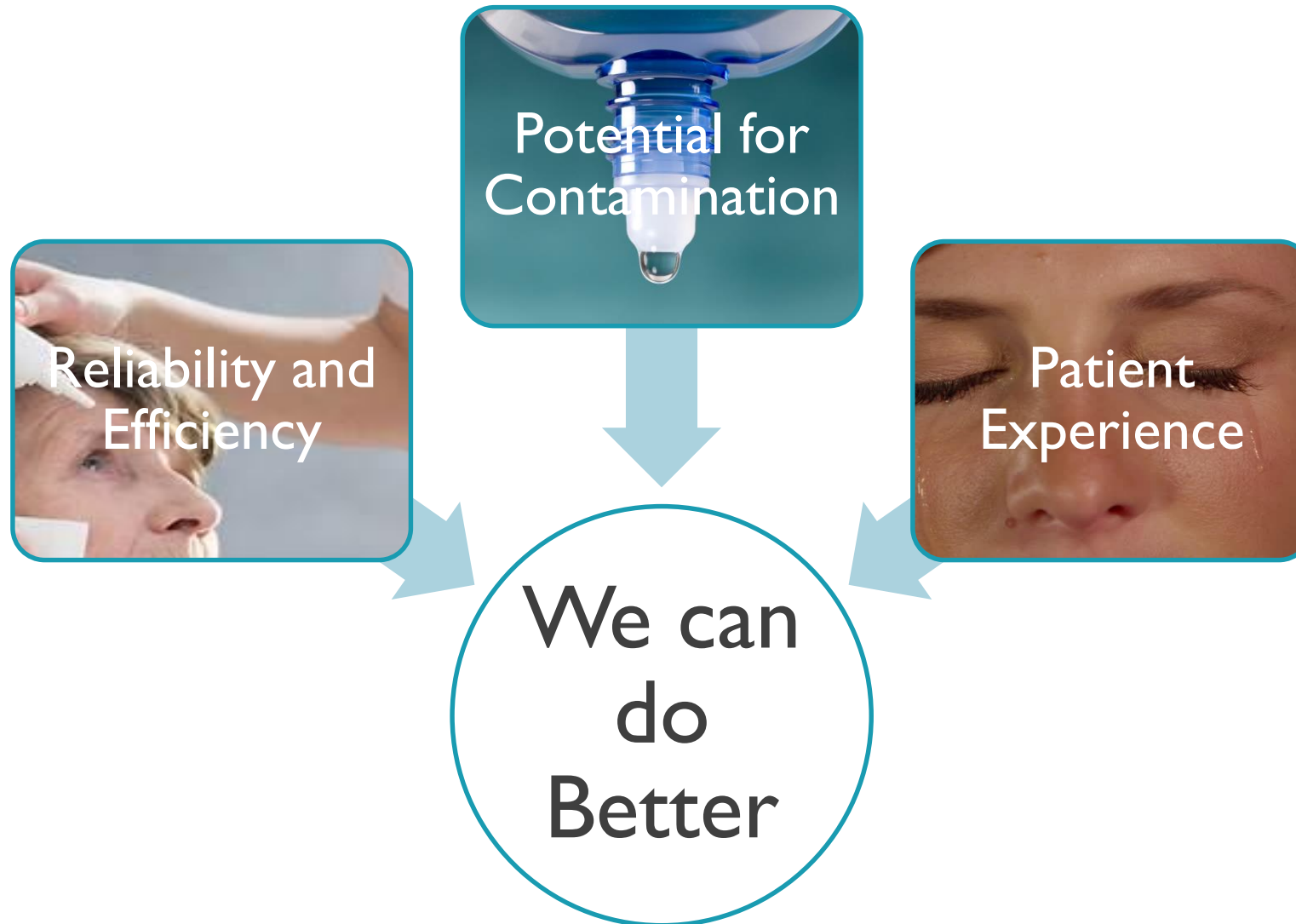
TWO PHASE 3 STUDIES OF THE SAFETY AND EFFICACY OF  
FIXED COMBINATION PHENYLEPHRINE 2.5%-TROPICAMIDE 1%  
OPHTHALMIC SOLUTION ADMINISTERED WITH A MICRODOSE  
DISPENSER FOR DILATION OF THE PUPIL (MIST-1 & MIST-2)

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# Disclosures

- Grant support from . . .
  - Alcon
  - Allergan
  - Annexon
  - Eyenovia (sponsor of the MIST-1 and MIST-2 study)
  - InSite
  - Kala
  - Nicos
  - Novartis
  - Ocugen
  - Ocular Therapeutix
  - Ora
  - Orasis
  - Santen

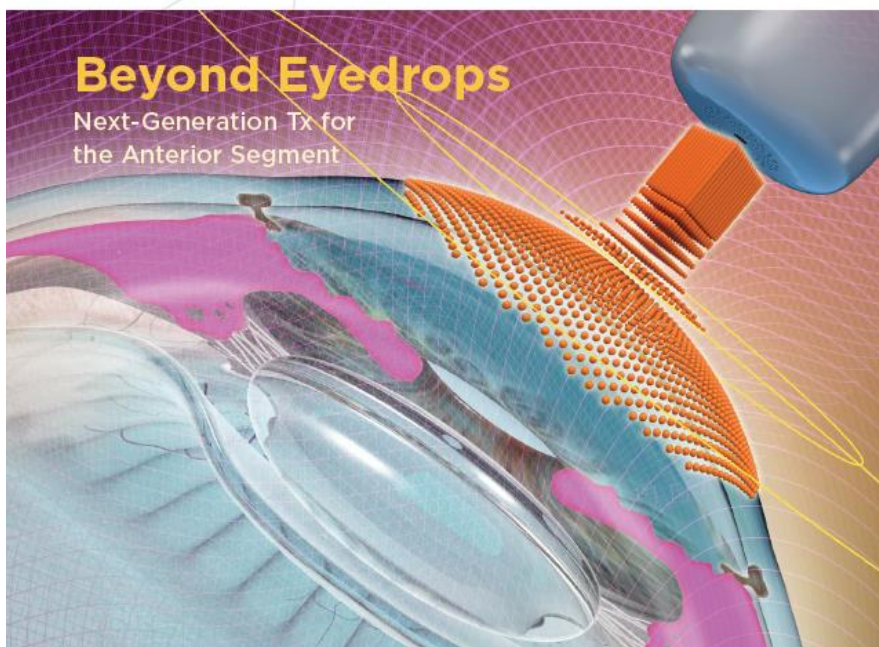
# Pharmacological Mydriasis Today



# Microdose Piezo-Print Technology



EyeNet<sup>®</sup>  
APRIL 2019



## Beyond Eyedrops

Next-Generation Tx for  
the Anterior Segment

**Biomarkers for Retinoblastoma**  
The Promise of Aqueous Humor  
Sampling

**Pediatric Keratoplasty:**  
A Modified Surgical Technique

**RPE65 Gene Therapy:**  
A Report From the Clinic

- Piezo-print technology<sup>1</sup>
  - Designed to Deliver ~ 8  $\mu$ L of drug directly to the cornea
    - Standard eye drops are 35  $\mu$ L
  - Consistent w/capacity of tear film; may avoid overdosing and overflow with its potential for systemic absorption
- Comparable efficacy of micro-dosing with traditional eyedropper dosing demonstrated with latanoprost<sup>1</sup>
- Potential for improved adverse event profile

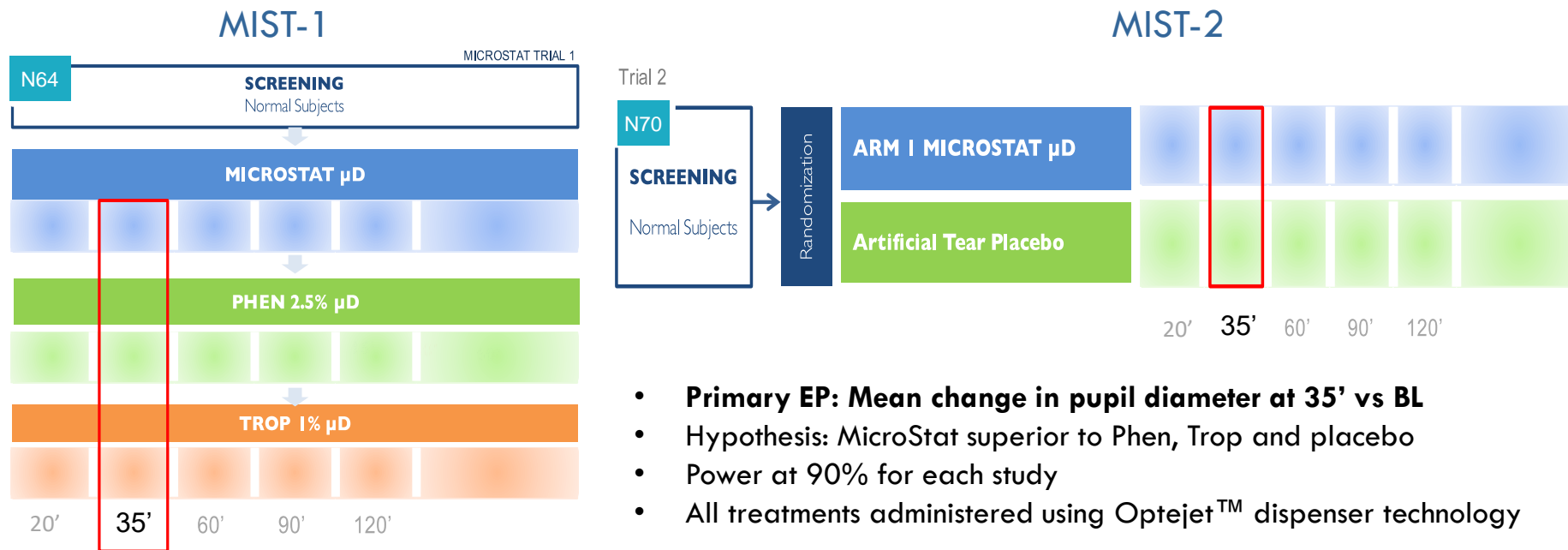
<sup>1</sup> Latanoprost with high precision, piezo-print microdose delivery for IOP lowering: clinical results of the PG21 Study of 0.4 $\mu$ L daily microdose. Pasquale LR, Lin S, Weinreb RN, Tsai JC, Kramm RL, Ianchulev T. Clinical Ophthalmology 2018

# MicroStat Registration Program

## Two Phase 3 Superiority Trials (MIST-1 & MIST-2)

### CLINICAL TRIAL DESIGN

- Double-masked, active-controlled, cross-over design
- MIST-1 (N 64 treated):  $\mu$ D phenylephrine-tropicamide vs  $\mu$ D tropicamide vs  $\mu$ D phenylephrine
- MIST-2 (N 70 treated):  $\mu$ D phenylephrine-tropicamide VS  $\mu$ D placebo



# MIST-1/MIST-2

## Study Demographics

	MIST-1 N = 64	MIST-2 N = 70
<b>Age (years)</b>		
Mean (SD)	39.4 (12.0)	35.4 (14.6)
Min, Max	12, 64	13, 66
< 17 years	1 (1.6%)	5 (7.1%)
<b>Gender</b>		
Male	37 (57.8%)	37 (52.9%)
Female	27 (42.2%)	33 (47.1%)
<b>Ethnicity</b>		
Hispanic/Latino	22 (34.4%)	35 (50.0%)
<b>Race</b>		
Asian	8 (12.5%)	1 (1.4%)
Black/African American	19 (29.7%)	7 (10.0%)
White	35 (54.7%)	62 (88.6%)
Multi-race	2 (3.1%)	-
<b>Iris Color Category</b>		
Light	10 (15.6%)	20 (28.6%)
Dark	54 (84.4%)	50 (71.4%)

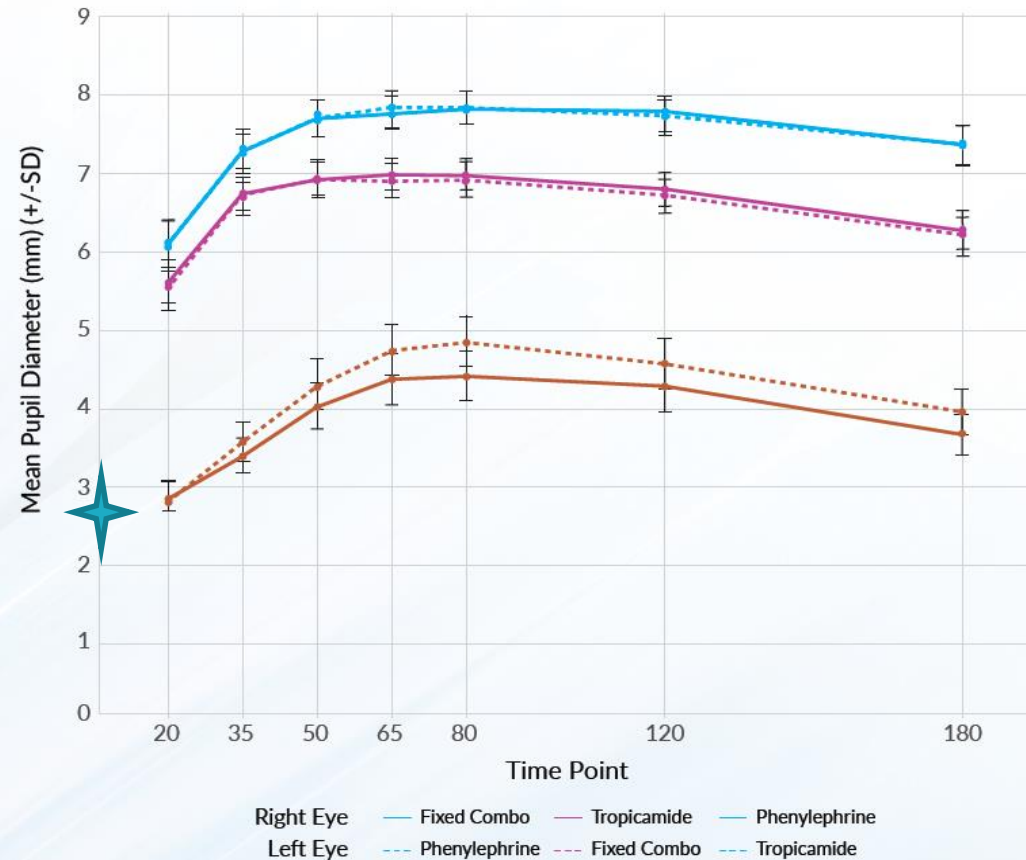
- Similar demographics in both studies
- Study subject ages ranged from 12 – 66 years
- Prevalence of dark irises in study population

# MIST-1/MIST-2

## Efficacy

### MIST-1

Combined Visits (1, 2, 3)

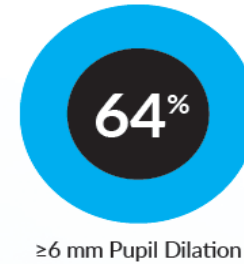


★ Baseline mean pupil diameter for all groups was 2.7 (OD) and 2.6 (OS)

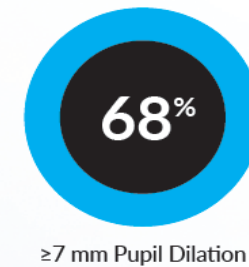
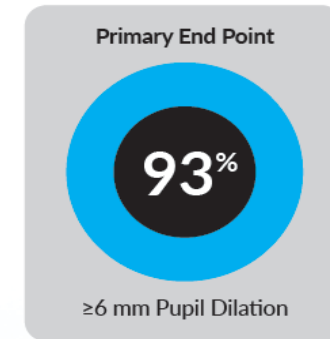
### MIST-2

Percent of Patients Attaining 6 mm or Greater Pupil Dilation (exploratory analysis)

20 Minutes Post-Administration vs Baseline



35 Minutes Post-Administration vs Baseline



# MIST-1/MIST-2

## Safety

- AEs reported were generally mild
- All were transient in nature.
- Consistent with types of AEs associated with mydriatic agents

	MIST-1*			MIST-2**	
	Fixed Combination phenylephrine 2.5% / tropicamide 1% (N = 62)	Tropicamide 1% (N = 64)	Phenylephrine 2.5% (N=62)	Fixed Combination phenylephrine 2.5% / tropicamide 1% (N = 69)	Placebo (N=70)
Adverse Events n (%)	2 (3%)	4 (6%)	3 (5%)	2 (3%)	0 (0%)

\*AEs reported: mild blurred vision, mild eye pain, and mild transient reduction in visual acuity

\*\*AEs reported: mild discomfort with drug administration and moderate photophobia



# MIST-1 and MIST-2

## Efficacy and Safety Conclusions

- In these two phase III studies, a fixed combination of micro-dosed phenylephrine 2.5% and tropicamide 1% ophthalmic solution was shown to be safe and effective for pharmacologic mydriasis
  - Approximately 94% of treated eyes achieved 6mm or greater dilation at 35 minutes post-instillation
  - Adverse events were infrequent (~ 3% of patients) and majority were mild
- An exploratory analysis shows that dilation is rapid in most patients
  - Up to 64% of fixed-combination treated eyes achieved 6mm or greater dilation at 20 minutes post-installation

# MIST-1 and MIST-2

## Usability Conclusions



- The design of the Optejet™ dispenser may minimize cross-contamination, enhance office efficiency and improve the patient experience
  - No protruding parts to touch the ocular surface
  - Micro-dosing allows less product to overflow the eye
- These outcomes further validate the ability to maintain efficacy and potentially improve on the therapeutic index by delivering topical ophthalmic medication with piezo-print micro-dosing technology