VEGA-1 Phase 2 Topline Results Conference Call

June 30, 2021
Disclosures and Forward Looking Statements

This presentation contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, statements concerning Ocuphire Pharma, Inc.’s (“Ocuphire” or the “Company”) product candidates and future milestones, including the potential for Nyxol to be a “best in class” presbyopia drop. These forward-looking statements are based upon the Company’s current expectations and involve assumptions that may never materialize or may prove to be incorrect. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of various risks and uncertainties, including, without limitation: (i) timing or ability for the company to achieve its targeted milestones; (ii) the success and timing of regulatory submissions and pre-clinical and clinical trials; (iii) regulatory requirements or developments; (iv) changes to clinical trial designs and regulatory pathways; (v) changes in capital resource requirements; (vi) risks related to the inability of the Company to obtain sufficient additional capital to continue to advance its product candidates and its preclinical programs; (vii) legislative, regulatory, political and economic developments; and (viii) the effects of COVID-19 on clinical programs and business operations. The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive and should be read in conjunction with statements that are included herein and elsewhere, including the risk factors detailed in documents that have been and may be filed by the Company from time to time with the SEC. All forward-looking statements contained in this presentation speak only as of the date on which they were made. The Company undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made.

The Company makes no representation or warranty, express or implied, as to the accuracy or completeness of the information contained in or incorporated by reference into this presentation. Nothing contained in or incorporated by reference into this presentation is, or shall be relied upon as, a promise or representation by the Company as to the past or future. The Company assumes no responsibility for the accuracy or completeness of any such information. This presentation may not be reproduced or provided to any other person (other than your advisor) without our prior written consent. By accepting delivery of this presentation, you agree to the foregoing and agree to return this presentation and any documents related thereto and any copies thereof to us or to destroy the same if you do not make an investment in any securities. The information contain within this presentation shall not, except as hereinafter provided, without the prior written consent of the Company, be disclosed by you or your representatives in any manner whatsoever, in whole or in part, and shall not be used by you or your representatives other than for the purpose of evaluating the transaction described herein. By accepting delivery of this presentation you further acknowledge and agree aware of the restrictions imposed by the United States securities laws on the purchase or sale of securities by any person who has received material, nonpublic information from the issuer of the securities or any affiliate thereof and on the communication of such information to any other person when it is reasonably foreseeable that such other person is likely to purchase or sell such securities in reliance on such information for so long as the information remains material and non-public. This presentation also contains estimates and other statistical data made by independent parties and by us relating to market shares and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. The trademarks included herein are the property of the owners thereof and are used for reference purposes only. Such use should not be construed as an endorsement of such products.
Agenda and Participants

Phase 2 Trial Topline Readout As Planned In 2Q21

• Topline VEGA-1 Phase 2 Clinical Trial Results for Nyxol and Low-Dose Pilocarpine in Presbyopia
• Presbyopia Market Opportunity
• Future Milestones
• Q&A

Participants

Mina Sooch, MBA, President and CEO
Mitch Brigell, PhD, Head of Clinical Development
Jay Pepose, MD, Medical Advisory Board & Corporate Board Member
Susan Benton, Corporate Board Member
Charlie Hoffmann, MBA, VP of Corporate Development and Operations
Amy Rabourn, MAcc, VP of Finance
## Ocphire Pipeline & Upcoming Milestones

**Multiple Phase 3 & Phase 2 Clinical Data Readouts Anticipated Over The Next Year**

<table>
<thead>
<tr>
<th>Product Candidate</th>
<th>Indication</th>
<th>Development Stage</th>
<th>Anticipated Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ocuphire Focused Development</strong></td>
<td>0.75% Nyxol® Eye Drop</td>
<td>Reversal of Mydriasis (RM)</td>
<td>Pre-clinical, Phase 1, Phase 2, Phase 3</td>
</tr>
<tr>
<td></td>
<td>0.75% Nyxol® Eye Drop</td>
<td>Dim Light or Night Vision Disturbances (NVD)</td>
<td>Pre-clinical, Phase 1, Phase 2, Phase 3</td>
</tr>
<tr>
<td></td>
<td>0.75% Nyxol® + Low-Dose 0.4% Pilocarpine Eye Drops</td>
<td>Presbyopia (P)</td>
<td>Pre-clinical, Phase 1, Phase 2, Phase 3</td>
</tr>
<tr>
<td></td>
<td>APX3330 Oral Pill</td>
<td>Diabetic Retinopathy (DR)/ Macular Edema (DME)</td>
<td>Pre-clinical, Phase 1, Phase 2, Phase 3</td>
</tr>
<tr>
<td><strong>Partnering Focused Development</strong></td>
<td>APX2009 Intravitreal</td>
<td>DME, Wet Age-Related Macular Degeneration (wAMD)</td>
<td>Pre-clinical</td>
</tr>
</tbody>
</table>

*Note: 0.75% Nyxol (Phentolamine Ophthalmic Solution) is the same as 1% Nyxol (Phentolamine Mesylate Ophthalmic Solution)*
Product Profile: Nyxol + Low-Dose Pilocarpine (LDP) Combo

Moderate Use of Iris Dilator And Iris Sphincter Muscles To Improve Near Vision

- Active ingredient approved decades ago 505(b)(2)
- Novel MOA on iris dilator with 24+ hour durability with moderate 1+mm pupil reduction
- Chronic daily dosing of Nyxol at bedtime demonstrated no daytime redness
- Well-tolerated with no systemic effects
- Stable, preservative-free, single use vial

- Active ingredient approved decades ago 505(b)(2)
- Known MOA on sphincter muscle with more potent miotic effects at approved doses (1%, 2%, 4%)
- Chronic daily dosing in daytime
- Low concentration avoids known tolerability issues:
  - headache and browache
  - redness
  - accommodative spasm causing loss of distance vision especially at night

Source: Ocuphire Clinical Trials (completed)
Potential ‘Best in Class’ Presbyopia Drop
Topline Results From Vega-1 Were Positive…

Nyxol + LDP Presbyopia Treatment is Differentiated:

✓ Statistically significant efficacy data
✓ Favorable safety profile
✓ Comfort and tolerability
✓ Fast onset
✓ Long duration
✓ Maintain good distance visual acuity (night/day)
✓ Novel tunable pupil modulation
Nyxol®

- **RM**: Reversal of Mydriasis
- **NVD**: Night Vision Disturbances
- **P**: Presbyopia

Phentolamine Mesylate
Topline VEGA-1 Phase 2 Results

Randomized, Multi-Center, Double-Masked, Placebo-Controlled Study of the Safety and Efficacy of Nyxol (0.75% Phentolamine Ophthalmic Solution) + 0.4% Low Dose Pilocarpine (LDP) for the Treatment of Presbyopia

Clinical trial NCT#04675151
Objectives and Key Eligibility Criteria

VEGA-1 (OPI-NYXP-201) Phase 2 Trial Evaluating Nyxol + LDP for Treatment of Presbyopia

Key Objectives

PRIMARY
• To evaluate the efficacy of Nyxol + LDP to improve DCNVA compared to Placebo alone in presbyopia subjects

KEY SECONDARY
• To evaluate the ocular and systemic safety of Nyxol + LDP and each component individually
• To evaluate multiple secondary visual acuity and pupil diameter endpoints

Key Eligibility Criteria

INCLUSION
• Males or females ≥ 40 and ≤ 64 years of age.
• BCDVA of 20/20 or better under photopic conditions
• DCNVA of 20/50 or worse under photopic conditions
• Binocular best-corrected near VA is 20/25 or better

EXCLUSION
• Clinically significant ocular disease
• Recent or current evidence of ocular infection or inflammation in either eye
Presbyopia VEGA-1 Phase 2 Design

Randomized, Double-Masked, Placebo-Controlled One-Week Trial

VEGA-1

17 US sites
150 presbyopic patients

0.75% Nyxol

Randomization Screening

Visit 1 Evening Dosing (3-4 doses) Visit 2 (3 - 6 Days Later) Treatment Arms

Baseline Nyxol LDP Drop Nyxol + LDP

Baseline Nyxol No Treatment Nyxol Alone

Baseline Placebo LDP Drop LDP Alone

Baseline Placebo No Treatment Placebo Alone

Endpoints

Primary: % of subjects with ≥ 3 lines of improvement in distance-corrected near visual acuity comparing Nyxol + LDP vs placebo alone at 1 hour

Secondary:

- % of subjects with ≥ 2 and ≥ 3 lines gained at time points from 30 min to 6 hours in photopic and mesopic lighting comparing Nyxol + LDP vs placebo, Nyxol alone, and LDP alone
- No loss of distance vision
- Pupil diameter at time points
- Safety and tolerability (redness)

Phase 2 Enrollment Completed Feb to May 2021 – 150 Subjects
Reporting Topline Results as Guided by End of 2Q21
Patient Population – Subject Disposition

Per Protocol Population, mITT, And Safety Population Are Essentially Identical

<table>
<thead>
<tr>
<th></th>
<th>Placebo Alone</th>
<th>Nyxol Alone</th>
<th>LDP Alone</th>
<th>Nyxol+LDP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>All Randomized Population (ARP)</td>
<td>45</td>
<td>30</td>
<td>31</td>
<td>44</td>
<td>150</td>
</tr>
<tr>
<td>Safety Population (SP)</td>
<td>45 (100%)</td>
<td>30 (100%)</td>
<td>31 (100%)</td>
<td>44 (100%)</td>
<td>150 (100%)</td>
</tr>
<tr>
<td>Modified Intention to Treat Population (mITT)</td>
<td>44 (98%)</td>
<td>30 (100%)</td>
<td>31 (100%)</td>
<td>43 (98%)</td>
<td>148 (99%)</td>
</tr>
<tr>
<td>Per Protocol Population (PP)</td>
<td>43 (96%)</td>
<td>30 (100%)</td>
<td>31 (100%)</td>
<td>43 (98%)</td>
<td>147 (98%)</td>
</tr>
<tr>
<td>Completed Study</td>
<td>44 (98%)</td>
<td>30 (100%)</td>
<td>31 (100%)</td>
<td>43 (98%)</td>
<td>148 (99%)</td>
</tr>
<tr>
<td>Discontinued Study Early</td>
<td>1 (2%)</td>
<td>0</td>
<td>0</td>
<td>1 (2%)</td>
<td>2 (1%)</td>
</tr>
</tbody>
</table>

- 148/150 subjects completed the study (mITT)
- Only a single subject difference between mITT and PP population
- Per Statistical Analysis Plan, all analyses performed on PP population with results being nearly identical for mITT
Demographics (PP Population)

Treatment And Placebo Arms Were Balanced In This Phase 2 Clinical Trial

<table>
<thead>
<tr>
<th></th>
<th>Placebo Alone N=43</th>
<th>Nyxol Alone N=30</th>
<th>LDP Alone N=31</th>
<th>Nyxol+LDP N=43</th>
<th>Total N=147</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years): Median (Range)</td>
<td>52 (42-62)</td>
<td>54 (41-60)</td>
<td>52 (44-64)</td>
<td>53 (43-63)</td>
<td>53 (41-64)</td>
</tr>
<tr>
<td>Sex:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female n (%)</td>
<td>28 (65%)</td>
<td>23 (77%)</td>
<td>18 (58%)</td>
<td>38 (88%)</td>
<td>107 (73%)</td>
</tr>
<tr>
<td>Male n (%)</td>
<td>15 (35%)</td>
<td>7 (23%)</td>
<td>13 (42%)</td>
<td>5 (12%)</td>
<td>40 (27%)</td>
</tr>
<tr>
<td>Race:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White n (%)</td>
<td>37 (86%)</td>
<td>26 (87%)</td>
<td>28 (90%)</td>
<td>40 (93%)</td>
<td>131 (89%)</td>
</tr>
<tr>
<td>African American n (%)</td>
<td>4 (9%)</td>
<td>0 (0%)</td>
<td>1 (3%)</td>
<td>0 (0%)</td>
<td>3 (2%)</td>
</tr>
<tr>
<td>Asian n (%)</td>
<td>2 (5%)</td>
<td>0 (0%)</td>
<td>6 (6%)</td>
<td>6 (6%)</td>
<td>11 (5%)</td>
</tr>
<tr>
<td>Other* n (%)</td>
<td>0 (0%)</td>
<td>1 (3%)</td>
<td>1 (3%)</td>
<td>0 (0%)</td>
<td>2 (1%)</td>
</tr>
<tr>
<td>Dark Iris Color: n (%)</td>
<td>18 (42%)</td>
<td>12 (40%)</td>
<td>12 (39%)</td>
<td>18 (42%)</td>
<td>60 (41%)</td>
</tr>
<tr>
<td>Light Iris Color: n (%)</td>
<td>25 (58%)</td>
<td>18 (60%)</td>
<td>19 (61%)</td>
<td>25.1 (58%)</td>
<td>87 (59%)</td>
</tr>
</tbody>
</table>

* includes American Indian or Alaska Native; Native Hawaiian or Other Pacific Islander

Source: VEGA-1 TLR Table 14.1.2.2 Demographics and Baseline Characteristics (PP Population)
## Baseline Characteristics Study Eye (PP Population)

*Treatment Arms Were Balanced Across Key Ocular Measurements*

<table>
<thead>
<tr>
<th>Baseline Characteristic</th>
<th>Placebo Alone N=43</th>
<th>Nyxol Alone N=30</th>
<th>LDP Alone N=31</th>
<th>Nyxol+LDP N=43</th>
<th>Total N=147</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Photopic DCNVA Mean Letters read-Binocular (Snellen Equiv.) 70 letters = 20/20</strong></td>
<td>46 (20/63)</td>
<td>45 (20/63)</td>
<td>48 (20/63)</td>
<td>46 (20/63)</td>
<td>46 (20/63)</td>
</tr>
<tr>
<td><strong>Photopic BCDVA Mean Letters read-Binocular (Snellen Equiv.) 55 letters = 20/20</strong></td>
<td>62 (20/15)</td>
<td>61 (20/15)</td>
<td>60 (20/15)</td>
<td>61 (20/15)</td>
<td>61 (20/15)</td>
</tr>
<tr>
<td><strong>Photopic Pupil Diameter Mean (mm)</strong></td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>Mesopic Pupil Diameter Mean (mm)</strong></td>
<td>5.1</td>
<td>5.0</td>
<td>5.0</td>
<td>5.1</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>IOP (mmHg)</strong></td>
<td>13.5</td>
<td>14.8</td>
<td>13.9</td>
<td>14.4</td>
<td>14.1</td>
</tr>
</tbody>
</table>

Source: VEGA-1 TLR Table 14.1.2.2 Demographics and Baseline Characteristics (PP population). Snellen Conversion Chart.
Primary Endpoint: % of Subjects ≥ 15 Letter Gain in Photopic DCNVA at 1 Hour

Primary Endpoint Was Met For Nyxol + LDP Gaining ≥ 15 Letters Near Vision In PP Population

Source: VEGA-1 TLR Table 14.2.1.1 (mITT) and 14.2.1.2 (PP)Percent of Subjects With Improvement From Baseline in Photopic DCNVA by Time Point . 15 letters is 3 lines.
Secondary Endpoint: % of Subjects ≥ 10 Letter Gain In Photopic DCNVA At 1 Hour

Many Subjects Treated With Nyxol + LDP Gained A Clinically Meaningful ≥ 10 Letters

Source: VEGA-1 TLR Table 14.2.1.1 (mITT) and 14.2.1.2 (PP) Percent of Subjects With Improvement From Baseline in Photopic DCNVA by Time Point. 10 letters is 2 lines.
Secondary Endpoint: % of Subjects ≥ 15 Letter Gain At All Timepoints

Nyxol + LDP Had Strong Response With ≥ 15 Letter Gain From 30 Min To 6 Hours

<table>
<thead>
<tr>
<th>Time (Hours)</th>
<th>Placebo (n=43)</th>
<th>NyxoL+LDP (n=43)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>16%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>28%</td>
<td>61%</td>
<td>p=0.09</td>
</tr>
<tr>
<td>2</td>
<td>16%</td>
<td>61%</td>
<td>p=0.003</td>
</tr>
<tr>
<td>3</td>
<td>21%</td>
<td>63%</td>
<td>p=&lt;0.0001</td>
</tr>
<tr>
<td>4</td>
<td>21%</td>
<td>63%</td>
<td>p=0.02</td>
</tr>
<tr>
<td>6</td>
<td>19%</td>
<td>47%</td>
<td>p=0.06</td>
</tr>
</tbody>
</table>

Rapid onsets of efficacy

Durable benefit over 6 hours

Source: VEGA-1 TLR Table 14.2.1.2 Percent of Subjects with Improvement From Baseline in Photopic DCNVA by Time Point (PP Population). 15 letters is 3 lines.
Secondary Endpoint: % of Subjects ≥ 15 Letter Gain DCNVA (Monocular)

Similar Results Were Seen Monocularly For Study Eye And Fellow Eye On Primary Endpoint

### VEGA-1 Phase 2 Trial

#### Study Eye
Percent of Subjects with ≥15 Letters DCNVA Improvement from Baseline

<table>
<thead>
<tr>
<th>Time (Hours)</th>
<th>Placebo (n=43)</th>
<th>Nyxol+LDP (n=43)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>14%</td>
<td>28%</td>
<td>0.1</td>
</tr>
<tr>
<td>0.5</td>
<td>26%</td>
<td>28%</td>
<td>0.08</td>
</tr>
<tr>
<td>1</td>
<td>54%</td>
<td>56%</td>
<td>0.008</td>
</tr>
<tr>
<td>2</td>
<td>21%</td>
<td>40%</td>
<td>0.002</td>
</tr>
<tr>
<td>3</td>
<td>16%</td>
<td>42%</td>
<td>0.3</td>
</tr>
<tr>
<td>4</td>
<td>19%</td>
<td>33%</td>
<td>0.01</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>0.2</td>
</tr>
</tbody>
</table>

#### Fellow Eye
Percent of Subjects with ≥15 Letters DCNVA Improvement from Baseline

<table>
<thead>
<tr>
<th>Time (Hours)</th>
<th>Placebo (n=43)</th>
<th>Nyxol+LDP (n=43)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>12%</td>
<td>14%</td>
<td>0.3</td>
</tr>
<tr>
<td>0.5</td>
<td>21%</td>
<td>14%</td>
<td>0.09</td>
</tr>
<tr>
<td>1</td>
<td>14%</td>
<td>14%</td>
<td>0.9</td>
</tr>
<tr>
<td>2</td>
<td>9%</td>
<td>16%</td>
<td>0.02</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>16%</td>
<td>0.02</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>7%</td>
<td>0.09</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>21%</td>
<td></td>
</tr>
</tbody>
</table>

Source: VEGA-1 TLR Table 14.2.1.2 Percent of Subjects With Improvement From Baseline in Photopic DCNVA by Time Point (PP Population)
2nd Endpoint: % of Subjects ≥ 15 Letter Gain In Near & ≤ 5 Letter Loss In Distance

Phase 3 Approval Endpoint Also Showed Early Onset Of Near Vision Gain Without Loss of Distance

Statistics Compared to Nyxol+LDP arm
Powered for comparison to placebo whereas comparison to component arms were designed to inform the Phase 3 sample size

VEGA-1 Phase 2 Trial
Percent of Subjects with 15 Letter Improvement in DCNVA and ≤ 5 Letter Loss in BCDVA

Binocular

<table>
<thead>
<tr>
<th>Time (Hours)</th>
<th>Placebo (n=43)</th>
<th>Nyxol+LDP (n=43)</th>
<th>Nyxol (n=30)</th>
<th>LDP (n=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>14%</td>
<td>33% p=0.03</td>
<td>26% p=0.008</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>28% p=0.004</td>
<td>30% p=0.01</td>
<td>42% p=0.2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>14% p=0.06</td>
<td>20% p=0.0009</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Statistics Compared to Nyxol+LDP arm

Compared to Nyxol+LDP arm
Powered for comparison to placebo whereas comparison to component arms were designed to inform the Phase 3 sample size

VEGA-1 Phase 2 Trial

Source: VEGA-1 TLR Table 14.2.2.2 Percent of Subjects with >= 15 Letters of Improvement in Photopic DCNVA and < 5 Letters of Loss in Photopic Binocular BCDVA by Time Point (PP Population)
Change in Photopic and Mesopic BCDVA at the 1-Hour Timepoint

Treatment With Nyxol And/Or LDP Did Not Reduce BCDVA And Had A Modest Beneficial Effect

Percent of Subjects With Improvement or Loss From Baseline in Photopic BCDVA at 1 Hour

- Placebo (n=44)
  - >= 5 Letters: 9%
  - Within 5 Letters: 28%
  - <= -5 Letters: 19%

- Nyxol+LDP (n=43)
  - >= 5 Letters: 20%
  - Within 5 Letters: 77%
  - <= -5 Letters: 7%

- Nyxol (n=30)
  - >= 5 Letters: 0%
  - Within 5 Letters: 3%
  - <= -5 Letters: 7%

- LDP (n=31)
  - >= 5 Letters: 0%
  - Within 5 Letters: 0%
  - <= -5 Letters: 3%

Percent of Subjects With Improvement or Loss From Baseline in Mesopic BCDVA at 1 Hour

- Placebo (n=43)
  - >= 5 Letters: 9%
  - Within 5 Letters: 27%
  - <= -5 Letters: 39%

- Nyxol+LDP (n=43)
  - >= 5 Letters: 23%
  - Within 5 Letters: 73%
  - <= -5 Letters: 55%

- Nyxol (n=30)
  - >= 5 Letters: 0%
  - Within 5 Letters: 5%
  - <= -5 Letters: 7%

- LDP (n=31)
  - >= 5 Letters: 0%
  - Within 5 Letters: 0%
  - <= -5 Letters: 7%

Source: VEGA-1 TLR Table 14.2.8.1 and 14.2.10.1 Percent of Subjects With Improvement or Loss From Baseline in Photopic and Mesopic BCDVA by Time Point (PP)
Secondary Endpoint: Mean Pupil Diameter Over Time

*Achieved Pupil Size ~2mm In Nyxol+LDP Consistent With 3-line Improvement In Near Vision*

Best Eye
Mean Pupil Diameter

**Daily Evening Nyxol Dosing 12 hr minimum interval to Time 0**

**Statistics Compared to Nyxol+LDP arm**

* *p<0.05*
** **p<0.01
*** ***p<0.0001

Source: VEGA-1 TLR Table 14.2.12.1 Observed Values and Change from Baseline in Photopic Pupil Diameter by Time Point (PP Population)
Secondary Endpoint: Safety Findings

Nyxol+LDP Combination Was Well Tolerated With A Favorable Safety Profile In VEGA-1 Trial

<table>
<thead>
<tr>
<th></th>
<th>Placebo Alone n=45</th>
<th>Nyxol Alone n=30</th>
<th>LDP Alone n=31</th>
<th>Nyxol+LDP n=44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Treatment Emergent Adverse Events (n)</td>
<td>4</td>
<td>18</td>
<td>13</td>
<td>50</td>
</tr>
<tr>
<td>TEAEs by Severity (n [%])</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>1 (2.2%)</td>
<td>6 (20%)</td>
<td>6 (19.4%)</td>
<td>13 (29.5%)</td>
</tr>
<tr>
<td>Moderate</td>
<td>1 (2.2%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1 (2.3%)</td>
</tr>
<tr>
<td>Severe</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1 (2.3%)</td>
</tr>
<tr>
<td>AEs Occurring in ≥ 5% of subjects (n [%])</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instillation Site Pain (Mild)</td>
<td>1 (2.2%)</td>
<td>3 (10%)</td>
<td>0 (0%)</td>
<td>4 (9.1%)</td>
</tr>
<tr>
<td>Instillation Site Erythema (Mild)</td>
<td>0 (0%)</td>
<td>3 (10%)</td>
<td>2 (6.5%)</td>
<td>5 (11.4%)</td>
</tr>
<tr>
<td>Conjunctival Hyperemia (Mild)</td>
<td>0 (0%)</td>
<td>2 (6.7%)</td>
<td>0 (0%)</td>
<td>2 (4.5%)</td>
</tr>
<tr>
<td>Eye Disorders (Mild)</td>
<td>1 (2.2%)</td>
<td>2 (6.7%)</td>
<td>4 (12.9%)</td>
<td>5 (11.4%)</td>
</tr>
</tbody>
</table>

- No deaths, no serious AEs, and 1 withdrawal due to AEs (on Nyxol alone)
- 0% Headaches or Browaches reported for Nyxol+LDP and Nyxol alone
- Only 1 subject in LDP alone arm reported mild headache
- Almost all AEs were mild and most common was mild instillation site discomfort
- Distance visual acuity not adversely affected (as shown earlier)
- No change in IOP
Tolerability: Conjunctival Hyperemia (Redness) Score

Minor Change (0.5 Point) In Redness Score Over The First 2 Hours In LDP Arms

Mean Hyperemia Score (4-point Scale) Over Time

Placebo Alone (N=45)  Nyxol + LDP (N=44)  Nyxol Alone (N=30)  LDP (N=31)

Source: VEGA-1 TLR Table 14.3.3.2 Continuous Summary of Conjunctival Hyperemia by Time Point (Safety Population)
Summary of Positive VEGA-1 Phase 2 Results for Nyxol Eye Drops

*Efficacy Data In Subjects With A Favorable Safety Profile In Presbyopia With Nyxol And Low Dose Pilocarpine*

- **Met the primary endpoint** with statistical significance for binocular photopic near vision at 1 hour
  - 61% Nyxol + LDP gained 15 letters (3 lines) or more vs. 28% Placebo (33% Placebo Adjusted)

- **Met the Phase 3 co-primary endpoint** vs. placebo gaining 15 letters (3 lines) near vision with less than 5 letters of distance vision loss

- **Met many key secondary endpoints**
  - Rapid onset at 30 min
  - Durable near vision improvement through at least 6 hours
  - Nyxol+LDP was numerically better than each component through 2-hours
  - Sustained significant reduction in PD over at least 18 hours due the durability effects of Nyxol
  - Near vision efficacy seen monocularly and binocularly
  - Also, efficacy data in both light and dark iris colors

- **Favorable safety profile for Nyxol + LDP**
  - No serious AEs
  - No systemic AEs were observed in >5% subjects
  - No headaches, no browaches, and no blurry vision AEs were reported
  - Only mild, transient conjunctival hyperemia observed in <5% of subjects

- **Positive Phase 2 results lead to advancing Phase 3 presbyopia program**
Next Steps

Ocuphire Plans To Present Full Results At ASCRS In July And Move Into Phase 3

VEGA-1 Presbyopia Presentation by Dr. Pepose at ASCRS on Sunday July 25, 2021 at 8:45am
ASCRS Paper ID 76645 SPS-204 Presbyopia Correcting IOL Comparisons, New Treatments and Studies
MBCR - Level 2, Lagoon EF

MIRA-2 Reversal of Mydriasis Presentation by Dr. Pepose at ASCRS on Monday July 26, 2021 at 4:25pm
ASCRS Paper ID 76599 SPS-316 Corneal Diagnostic Studies
MBCR - Level 2, Lagoon EF

Advance into Phase 3 Presbyopia Registration Trials in 2022 Towards a Potential NDA in 2023
Presbyopia Market Opportunity
Presbyopia – Chronic Opportunity

Aging Population Drives Demand for Alternatives to Reading Glasses & Very Large Market

The Problem

- Lens loses ability to change shape when viewing objects up close as we age
- Dependence on reading glasses for intermittent and prolonged use
- Growing need for therapies that improve, rather than hinder, quality of life

"Effectively everyone over 40 will have the problems with reading."

Physician KOL

No Currently Approved Drug Therapies

Effectively everyone over 40 will have the problems with reading.

120 M Patients

$5B Market Opportunity

Seeking Treatment Findings

| Patients requesting alternative to reading glasses | 40% |
| Patients would consider an eye drop alternative  | 69% |

Source: GlobalData Market Research Report, 2020
Presbyopia – Chronic Opportunity

Pupil Modulation Eye Drops May Replace Reading Glasses

Nyxol’s Potential Differentiated Solution

• “Pin-hole” effect of Nyxol and low dose pilocarpine may improve near vision by increasing depth of focus as validated by other devices/therapies

• More durable combination of two miotics affecting different muscles (iris dilator and sphincter) involved in pupil size modulation

• Tolerable use with minimal side effects expected with chronic evening use of Nyxol

“This would just become part of my daily routine for my eyes to be able to see things up close. How convenient is that?”

Presbyopic Patient, age 49
Synergistic Effects of Nyxol + Low-Dose Pilocarpine (LDP) Combo

Nyxol + LDP Demonstrated Efficacy and a Favorable Safety Profile in VEGA-1 Trial

Average PD in photopic conditions is 3.5 to 4.5 mm

~0.7 to 1+ mm Reduction in PD

0.75% Nyxol

~1 to 1.5+ mm Reduction in PD

0.4% LDP

1.5 to 2.5 mm PD reduction moves toward the pin-hole (1.6 to 2.5 mm, up to <3 mm)

≥ 3-line improvement in near vision expected

Benefits of Nyxol + LDP:

• Observed longer durability of effect → inhibition of the dilator muscle with Nyxol may allow sphincter muscle to constrict without opposition and the long-acting effects of Nyxol
• Lower dose of pilocarpine showed a moderate miotic effect on sphincter muscle
• Lower dose of pilocarpine showed reduced known side effects such as headaches, browaches, and day/night distance loss

Source: Ocuphire Clinical Trials
Presbyopia Eye Drops Competitive Landscape

Validation of Pupil Modulating Drops Achieving Pin-Hole Effect & Efficacy, Many with Pilocarpine

- Pupil modulation MOA
- Soften lens MOA
- Combination drugs

*act on sphincter and ciliary muscles in dose-dependent manner

Cholinergic Agonist* (pilocarpine)

Visus (Brimochol®; brimonidine + carbachol)

Lenz (PRX-100; aceclidine)

Orasis (CSF-1; Low dose pilo)

Allergan (AGN-190584; 1.25% pilo)

Eyenovia (MicroLine; 1 or 2% pilo)

Novartis (EV-06)

Ocuphire (0.75% Nyxo1 + 0.4% pilo)

Other Cholinergic Agonists*

Visus

Lenz (PRX-100; aceclidine)

Orasis (CSF-1; Low dose pilo)

Allergan (AGN-190584; 1.25% pilo)

Eyenovia (MicroLine; 1 or 2% pilo)

Novartis (EV-06)

Ocuphire (0.75% Nyxo1 + 0.4% pilo)

Pupil modulation MOA

Soften lens MOA

Combination drugs

*act on sphincter and ciliary muscles in dose-dependent manner

Ocuphire is differentiated by using both the dilator and sphincter muscles moderately to reach a pin-hole pupil size

Corporate Websites, Grzybowski, A, Markeviciute A, Zemaitiene R. A Review of Pharmacological Presbyopia Treatment. 2020
Potential ‘Best in Class’ Presbyopia Drop

Competitive Approaches Limited by Safety/Tolerability, Durability, and Poor Distance Night Vision

Nyxol + LDP Presbyopia Treatment is Differentiated:

✓ Statistically significant efficacy data
✓ Favorable safety profile
✓ Comfort and tolerability
✓ Fast onset
✓ Long duration
✓ Maintain good distance visual acuity (night/day)
✓ Novel tunable pupil modulation
Future Milestones
# 2021 to 2022 Ocumphire Cadence of Milestones

## Multiple Data Catalysts On Path To NDA(s)

<table>
<thead>
<tr>
<th>2020</th>
<th>1H 2021</th>
<th>2H 2021</th>
<th>2022*</th>
<th>2023*</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Completion of APX3330 License</td>
<td>✓ Enrollment of Phase 3 RM Trial</td>
<td>✓ ASCRS 2021 Presentation for MIRA-2 &amp; VEGA-1</td>
<td>✓ Report 2nd Ph3 RM Trial</td>
<td>✓ Report Phase 3 Data for Presbyopia</td>
</tr>
<tr>
<td>✓ ARVO 2020 Presentation for MIRA-1 &amp; ORION-1</td>
<td>✓ Initiate Phase 2 Presbyopia Trial</td>
<td>✓ Initiate 2nd P3 RM and Pediatric RM trial for NDA</td>
<td>✓ Report Pediatric RM trial</td>
<td>✓ Report Phase 2 Data for DR/DME</td>
</tr>
<tr>
<td>✓ FDA EOP2 Meeting May 2020</td>
<td>✓ Report Positive Phase 3 Data for RM</td>
<td>✓ Enrollment of Phase 3 NVD Trial</td>
<td>✓ Report Phase 2 Data for DR/DME</td>
<td>✓ Report Phase 2 Data for DR/DME</td>
</tr>
<tr>
<td>✓ Completion of Transaction (Nasdaq: OCUP) and concurrent $20M financing</td>
<td>✓ Initiate Phase 2 DR/DME Trial</td>
<td>✓ Report Phase 3 Data for NVD</td>
<td>✓ Initiate 2 Phase 3 Presbyopia Trials</td>
<td>✓ Submit Nyxol NDA filing for RM in late 2022</td>
</tr>
<tr>
<td>✓ Initiate Phase 3 RM Trial</td>
<td>✓ Enrollment of Phase 2 Presbyopia Trial</td>
<td>✓ Enrollment of Phase 2 DR/DME Trial</td>
<td>✓ Initiate Chronic Ph3 Safety Trial (Nyxol /LDP)</td>
<td>✓ Manufacture Commercial Batches of Nyxol Eye Drop</td>
</tr>
<tr>
<td>✓ Journal Publications</td>
<td>✓ Closed $15M registered direct offering</td>
<td>✓ Manufacture 3xRegistration Batches for Nyxol Blow-Fill-Seal (BFS) Eye Drops</td>
<td>✓ Submit Nyxol NDA filing for RM in late 2022</td>
<td>✓ Potential NDA for Nyxol in RM</td>
</tr>
</tbody>
</table>

Ongoing partnering discussions with leading ophthalmic companies (including European and Asian players)

*Additional Studies for NVD and DR based on Data Readouts*
Q&A

www.ocuphire.com
ir@ocuphire.com