

Supplemental Material

| Number of Eyelid Closures              |           |       |                |       | Median Duration of Eyelid Closures |       |                |      | Median Eyelid Closure Amplitude |       |               |      | Median Maximum Eyelid Closure Velocity |       |                 |      |
|--|-----------|-------|----------------|-------|------------------------------------|-------|----------------|------|---------------------------------|-------|---------------|------|--|-------|-----------------|------|
| <b>Linear Mixed Effects Regression</b> |           |       |                |       |                                    |       |                |      |                                 |       |               |      |  |       |                 |      |
| Predictors                             | Estimates | SE    | CI             | P     | Estimates                          | SE    | CI             | P    | Estimates                       | SE    | CI            | P    | Estimates                              | SE    | CI              | P    |
| Intercept                              | 118.93    | 61.55 | 18.08 – 220.17 | .02   | 118.75                             | 20.47 | 70.63 – 156.87 | .001 | 8.75                            | 1.78  | 5.26 – 12.14  | .001 | -65.58                                 | 12.14 | -93.41 – -42.71 | .001 |
| Placebo                                | 2.7       | 6.43  | -9.91 – 15.31  | .44   | -0.15                              | 5.62  | -16.18 – 8.88  | .38  | -1.38                           | 0.78  | -2.88 – 0.17  | .08  | -12.82                                 | 3.81  | -20.23 – -4.95  | .001 |
| CBD                                    | 4.89      | 6.43  | -7.81 – 17.60  | .68   | -18.35                             | 5.83  | -29.37 – -7.32 | .001 | -1.66                           | 0.78  | -3.19 – -0.14 | .03  | -13.28                                 | 3.81  | -20.83 – -6.56  | .001 |
| Age                                    | -0.81     | 0.72  | -2.23 – 0.61   | .26   | -0.28                              | 0.28  | -0.64 – 0.48   | .79  | -0.01                           | 0.02  | -0.06 – 0.03  | .56  | 0.38                                   | 0.18  | 0.06 – 0.70     | .02  |
| Block                                  | -4.03     | 3.08  | -10.67 – 2.61  | .19   | -7.18                              | 2.97  | -13.00 – -1.26 | .02  | -1.93                           | 0.86  | -3.22 – -0.64 | .003 | 3.25                                   | 1.33  | 0.88 – 5.90     | .01  |
| Condition 2                            | 4.42      | 4.67  | -4.74 – 13.59  | .34   | -1.85                              | 3.38  | -8.24 – 4.54   | .57  | -0.31                           | 0.37  | -1.03 – 0.42  | .40  | 0.1                                    | 1.3   | -2.46 – 2.85    | .94  |
| Condition 3                            | -3.31     | 4.71  | -11.55 – 6.93  | .50   | -1.84                              | 3.28  | -8.33 – 4.45   | .55  | -0.21                           | 0.37  | -0.93 – 0.51  | .57  | -0.1                                   | 1.3   | -2.85 – 2.45    | .94  |
| Condition 4                            | 8.68      | 4.72  | -0.59 – 17.90  | .07   | -1.58                              | 3.26  | -7.97 – 4.81   | .63  | -1.88                           | 0.87  | -2.98 – -0.91 | .001 | 2.52                                   | 1.3   | 0.24 – 4.87     | .08  |
| Condition 5                            | 11.67     | 4.67  | 3.41 – 20.73   | .01   | -6.25                              | 3.25  | -14.61 – -1.89 | .01  | -1.27                           | 0.36  | -1.97 – -0.56 | .001 | 3.43                                   | 1.28  | 0.89 – 5.97     | .008 |
| Condition 6                            | 11.49     | 4.67  | 2.33 – 20.65   | .01   | -11.32                             | 3.25  | -17.88 – -4.96 | .00  | -1.09                           | 0.36  | -1.79 – -0.38 | .003 | 3.29                                   | 1.29  | 0.75 – 5.83     | .01  |
| Condition 7                            | 7.06      | 4.69  | -0.14 – 16.25  | .13   | -1.85                              | 3.25  | -8.21 – 4.51   | .57  | -0.42                           | 0.36  | -1.13 – 0.28  | .24  | 2.55                                   | 1.29  | 0.01 – 5.09     | .06  |
| Condition 8                            | 3.6       | 4.65  | -5.51 – 12.73  | .44   | -3.82                              | 3.25  | -10.28 – 2.44  | .23  | -0.72                           | 0.36  | -1.43 – -0.02 | .04  | 2.86                                   | 1.29  | 0.32 – 5.40     | .03  |
| Condition 9                            | 2.93      | 4.69  | -6.27 – 12.12  | .53   | -3.37                              | 3.25  | -8.75 – 2.99   | .31  | -0.42                           | 0.36  | -1.13 – 0.28  | .24  | 3                                      | 1.29  | 0.46 – 5.54     | .02  |
| ICC                                    | .46       |       |                |       | .91                                |       |                |      | .88                             |       |               |      | .85                                    |       |                 |      |
| N <sub>subjects</sub>                  | 12        |       |                |       | 12                                 |       |                |      | 12                              |       |               |      | 12                                     |       |                 |      |
| Observations                           | 537       |       |                |       | 537                                |       |                |      | 537                             |       |               |      | 537                                    |       |                 |      |
| Conditional R <sup>2</sup>             | 0.6       |       |                |       | 0.82                               |       |                |      | 0.6                             |       |               |      | 0.88                                   |       |                 |      |
| <b>Multiple Comparison Tests</b>       |           |       |                |       |                                    |       |                |      |                                 |       |               |      |  |       |                 |      |
| Contrasts                              | Estimates | SE    | Z-Score        | P     | Estimates                          | SE    | Z-Score        | P    | Estimates                       | SE    | Z-Score       | P    | Estimates                              | SE    | Z-Score         | P    |
| Baseline - Placebo                     | 2.32      | 6.71  | 0.44           | .66   | -5.15                              | 5.82  | -0.32          | .81  | -1.38                           | 0.78  | -1.73         | .18  | -12.81                                 | 3.82  | -3.23           | .003 |
| CBD - Baseline                         | 4.84      | 6.71  | 0.72           | .47   | -18.35                             | 5.83  | -3.28          | .003 | -1.66                           | 0.78  | -2.14         | .03  | -13.25                                 | 3.81  | -3.99           | .001 |
| CBD - Placebo                          | 1.92      | 5.92  | 0.32           | .74   | -13.20                             | 2.22  | -5.95          | .000 | -0.31                           | 0.15  | -2.08         | .08  | -0.84                                  | 1.85  | -0.35           | .73  |
| <b>Anova</b>                           |           |       |                |       |                                    |       |                |      |                                 |       |               |      |  |       |                 |      |
| Predictors                             | ChiSq     | Df    | P              | ChiSq | Df                                 | P     | ChiSq          | Df   | P                               | ChiSq | Df            | P    | ChiSq                                  | Df    | P               |      |
| CBD                                    | 0.60      | 1     | .44            | 7.82  | 1                                  | .008  | 6.93           | 1    | .02                             | 11.83 | 1             | .001 |  |       |                 |      |
| Placebo                                | 0.18      | 1     | .67            | 0.15  | 1                                  | .70   | 3.49           | 1    | .06                             | 10.45 | 1             | .001 |  |       |                 |      |
| Block                                  | 1.75      | 1     | .19            | 8.47  | 1                                  | .01   | 8.28           | 1    | .004                            | 6.04  | 1             | .02  |  |       |                 |      |
| Condition                              | 18.66     | 8     | .03            | 20.39 | 8                                  | .008  | 30.17          | 8    | .000                            | 21.12 | 8             | .007 |  |       |                 |      |
| Age                                    | 1.25      | 1     | .26            | 0.28  | 1                                  | .60   | 1.83           | 1    | .17                             | 3.56  | 1             | .06  |  |       |                 |      |

Table 2: Statistical analysis comprised of linear mixed effects model regression (LME) estimates, multiple comparison contrast tests between treatment groups, and analysis of variance utilizing type II sum of squares.

Post hoc, multiple comparison analysis P values have been adjusted via single-step method.  
 ICC - Intraclass Correlation Coefficient  
 Condition 1 - Room lighting, fixation target  
 Condition 2 - Room lighting, unpleasant questions  
 Condition 3 - Room lighting, pleasant questions  
 Condition 4 - Dim lighting, fixation target  
 Condition 5 - Dim lighting, unpleasant questions  
 Condition 6 - Dim lighting, pleasant questions  
 Condition 7 - Bright lighting, fixation target  
 Condition 8 - Bright lighting, unpleasant questions  
 Condition 9 - Bright lighting, pleasant questions

**eTable 1** - Statistical analysis comprised of linear mixed effects model regression (LMER) estimate, multiple comparison contrast tests between treatment groups, and analysis of variance utilizing type II sum of squares.

**Sample of Unpleasant and Pleasant questions:**

**Pleasant questions:**

1. What's one of your favorite memories from the last several years?
2. Could you describe your favorite hobbies?
3. Please tell me about one thing you are looking forward to in the upcoming year.
4. Where or what do you consider to be your happy place? Can you tell me about it?

**Unpleasant questions:**

1. Have you ever felt the need to conceal your blepharospasm from others, or are worried about how others would react to you? How did this make you feel?
2. Has it been difficult for you to do things that you normally enjoy due to your blepharospasm? If so, please describe a specific situation or leisure activity.
3. Have you avoided certain social situations where many people are present due to your symptoms? How often does this happen?
4. When do you feel your symptoms are at their worst? Can you describe those symptoms and what they're like?