

Panoptx Dry Eye Comfort Study

Principal Investigators:

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Abstract

Dry eye and its symptoms are currently being treated by a variety of approaches: topical, systemic, surgical, and environmental. Current solutions are limited in their ability to mitigate the environmental effect on patient symptoms. Panoptx, Inc. (Pleasanton, California) manufactures a line of eye wear that was evaluated for specific use by dry eye patients. Surveys and interviews both before and following one-month use of Panoptx® indicate a significant reduction of nine common symptoms as well as complete elimination in a third of patients reporting a given symptom. The survey data suggest that Panoptx are effective in helping patients who are suffering from dry eye symptoms.

Objectives

1. Evaluate the use of Panoptx eye wear with patients suffering from transient or chronic dry eye symptoms.
2. Measure the effectiveness of the Panoptx Orbital Seal™ in reducing common dry symptoms.
3. Assess study participants' satisfaction with Panoptx eye wear and impact on daily activities.

Methods

Enrollment:

110 Patients were enrolled at two clinical sites: Minnesota Eye Consultants (Minneapolis, MN) and Weberling and Associates (Bristol, VA).

Patients qualified in one of three subgroups (with total enrollment):

- Post LASIK: complaints of dry eye symptoms due to refractive surgery (n=28)
- Contact Lens: dry eye occurring from contact lens wear (n=40)
- Chronic Dry Eye: clinical diagnosis of dry eye (n=42)

Demographics:

- 38% M, 62% F
- Mean age: 45 yrs
- Range: 14 to 77 yrs

Initial Survey:

Patients were asked to rate the severity of 9 specific symptoms and one overall rating on a 10-point scale (1= none, 10= severe). On average, each symptom was present (a rating of 2 or above) in 83% of study patients (range: 70% to 100%).

Burning	Discomfort in Air Conditioning
Redness	Grittiness
Itching	Dryness
Diminished Vision	Excessive Tearing
Light Sensitivity	Overall Symptoms

Patients were also asked to circle from a list of common activities (eg, walking, driving) if the activity was hampered by their dry eye symptoms.

Fitting Session:

Patients were then fit and prescribed a pair of Panoptx eyewear and asked to use them during normal outdoor activities.

Patients were able to try among 6 different styles of Panoptx, each designed to fit a particular face. Patients were also able to select from different lenses, including high quality polycarbonate and photochromic options. Although prescription options are available from the company, this study did not enroll patients requiring Rx in their Panoptx. Eye wear was ordered and then delivered directly to the patient.

Follow-up Survey:

Survey was repeated at 1 month by an independent interviewer via telephone to assess the impact of Panoptx on dry eye symptoms and patient activities. Patients were asked to rate symptoms when wearing Panoptx. Patients were also asked if the Panoptx eye wear made any difference in activities they had originally indicated were hampered by dry eye.

Results

Data were analyzed by a statistician to assess changes in symptoms when wearing Panoptx. Type III ANOVA statistical tests were performed to determine significance in change of symptoms from baseline (no Panoptx usage) to one month of Panoptx usage.

Overall, changes occurred across all symptoms in all subgroups. This summary will focus on the collective group of patients.

Patient Rating of Dry Eye Symptoms

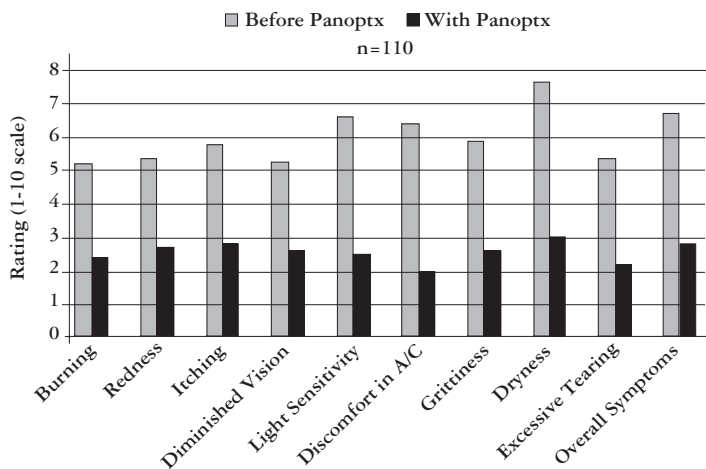


Figure 1: Reduction of symptoms

Each of the 9 symptoms saw a significant reduction when using Panoptx. Mean reduction among the 9 symptoms was 57% (mean rating before Panoptx: 5.8; with Panoptx: 2.4). All changes were significant at $p < .0001$.

Severity of Overall Symptoms

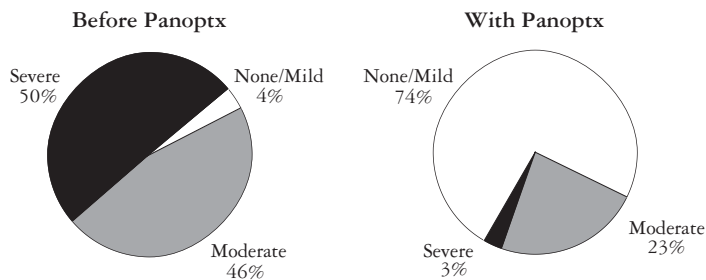


Figure 2: Change in Severity

At the initial survey, half of all patients ranked their symptoms overall as severe (rating of 7-10). When wearing Panoptx this percentage fell to 3%, and 74% of patients rate symptoms as none or mild (rating of 1-3.9). Additionally, 30% of patients reported symptoms overall were completely eliminated when wearing Panoptx.

Elimination of specific symptoms

The number of patients reporting presence of a symptom both before and after using Panoptx was analyzed. Before Panoptx, presence of symptom was reported in 83% of patients on average (range: 67% -100%). With Panoptx, presence of symptom was reported in 49% of patients on average (range: 33%-70%). Thus, elimination of a given symptom (rating of 1 for "none") was achieved in 34% of patients on average for each symptom (range: 29-43%).

Patient Satisfaction

1. Activities

95% (82/86) patients who wore Panoptx when driving reported improved eye comfort when wearing Panoptx.

97% (66/68) patients who wore the glasses while walking outdoors reported improved eye comfort while wearing the glasses.

2. Satisfaction with product

Satisfaction was very high with patients in all 3 groups. 97% (107/110) said they will continue to wear the glasses and will be recommending them to friends and family with dry eye condition.

Patient comments were highly positive; many highlighted the physical comfort and emotional security they felt when wearing Panoptx. "Surprisingly effective", "these glasses were so wonderful, I'm never going to stop wearing them", "these glasses were a lifesaver", and "My eyes feel better after wearing them" were typical comments expressed during the follow-up interview. Such comments were especially reflective of those patients who initially were skeptical during the first survey. Of 135 mentions of other activities (eg, bicycling, gardening, and jogging), 96% (129/135) were rated as better when wearing Panoptx and 4% (6/135) were rated as the same. No one rated these activities as worse when wearing Panoptx as compared with before having access to Panoptx.

Conclusions

1. Orbital Seal is effective at reducing and eliminating dry eye symptoms.
2. Patient satisfaction is very high in all 3 groups in the study: PO LASIK, CL Wearers, Chronic Dry Eye
3. Panoptx provides a new tool in the dry eye arsenal for ophthalmology
4. Now have an effective means of controlling the environment for ocular surface of dry eye patients

Discussion

Dry eye affects 11 million Americans and that number will increase with the aging baby-boomer population. Current treatment protocols lack an environmental solution that can be adjunctive to other topical or systemic therapies. With the advent of Panoptx, the study demonstrated that the unique Orbital Seal™ of the eye wear was highly effective at reducing and in many cases eliminating symptoms as reported by patients in the study.

Unlike traditional moisture chamber goggles, Panoptx were available in an array of frames and lenses to find both the proper functional fit on the face and meet the needs of an acceptable looking product for patients to wear in public. The product can also be made in prescription, allowing ophthalmic practices to prescribe both plano and prescription versions to their dry eye population.

Panoptx provides the clinician with a new tool to help dry eye patients be more comfortable during daily activities. The use of the Panoptx eyewear should become part of the standard protocol used by doctors when evaluating how to best help dry eye patients find relief from symptoms.