



REAL-WORLD PERFORMANCE CAPTURES THE PRESBYOPIC OPPORTUNITY

Innovation in material and optical design creates positive patient experiences

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Some say that the older people get, the younger they feel. Research has shown that chronological age does not represent perceived age (Pew Research Center, 2009). Many people, including presbyopes, behave as if they are a decade younger than their actual age, and they seek products that will help them continue to feel youthful. Contact lenses are an excellent option for presbyopic patients, as prospective and current wearers see multifocal contact lenses as a preferred option for physical activities, busy lifestyles, and for maintaining a more youthful appearance (Multi-sponsor Surveys, Inc., 2015).

Digital device products are another area of growing interest among patients. Computers have traditionally been important for use at work and home. More recently, smartphone and tablet ownership has risen dramatically in only a few years, Figure 1. Although smartphones and tablets can complement a busy, active lifestyle, extensive use of digital devices can also challenge the vision of the presbyopic patient.

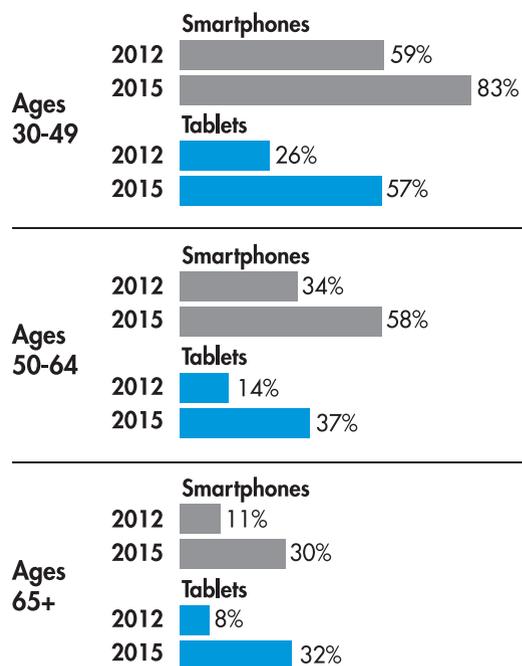
Today's patients are commonly using multiple screens with multiple digital devices at the same time (American Optometric Association, 2015). Working on a computer and/or tablet and using a smartphone for texting, email, and Internet are reported as common situations during which vision problems are experienced by prospective and current wearers of multifocal contact lenses (Multi-sponsor Surveys, Inc., 2015). Fifty six percent of prospective wearers and 40% of current wearers report problems with vision when working on a computer or tablet (Multi-sponsor Surveys, Inc., 2015).

Aware of an aging demographic, contact lens manufacturers have introduced a range of multifocal designs with a variety of lens materials. Changes in prescribing

patterns have demonstrated a shift in fitting multifocal soft lenses versus monovision for the correction of presbyopia (Efron et al, 2015); however, many eyecare professionals have reported that fitting presbyopes is often a tedious process, involving many visits when attempting to refine vision (Kadence International, 2012).

When developing the Bausch + Lomb Ultra for Presbyopia contact lens, the needs that drive satisfac-

Figure 1: Device Ownership



Source: Pew Technology Device Ownership Research 2012, 2013, 2015

AGE DISTRIBUTION OF PATIENT POPULATION

TABLE 1

AGE RANGE	PERCENTAGE
≤ 40	5%
41 to 50	40%
51 to 60	41%
≥ 61	14%

tion with lens wear in presbyopic patients were key priorities. Top drivers of overall satisfaction are sharp, clear vision at near and mid-range distances. Ease of transition between near and far and comfort throughout the day also play a major role in the degree of satisfaction (Multi-sponsor Surveys, Inc., 2015). The 3-Zone Progressive Design integrated into the Bausch + Lomb Ultra for Presbyopia contact lens used a broad investigational approach that accounted for refractive error, higher-order aberrations, pupil diameter, corneal curvature, axial length, and residual accommodation across nine distances to optimize vision at near, mid-range, and distant distances. The MoistureSeal technology of the Bausch + Lomb Ultra for Presbyopia contact lens is used to hold water throughout the bulk and at the surface of the lens by permanently surrounding the silicone matrix with the water-loving polymer PVP to provide all-day comfort. The aim of this survey was to obtain information regarding presbyopic patient acceptance and satisfaction with the Bausch + Lomb Ultra for Presbyopia multifocal contact lens.

THE PRESBYOPIC PATIENT COHORT

Independent eyecare practitioners from across the United States fitted presbyopic patients as part of their routine practice. Practitioners were given instruction on the Bausch + Lomb Ultra for Presbyopia contact lens and its recommended fit guide. Patients were asked to complete an online survey regarding their perspectives on lens performance.

Four hundred and thirty-seven presbyopic patients were fitted with the Bausch + Lomb Ultra for Presbyopia contact lens; 78% were female and 22% were male. The majority of patients were between the ages of 41 and 60, Table 1.

Of the 437 patients fitted with the Bausch + Lomb Ultra for Presbyopia contact lens, 344 (79%) habitually wore either multifocal or spherical contact lenses, and 93 (21%) habitually wore prescription eyeglasses or non-prescription reading glasses.

During a typical day, the presbyopic patient population spent an average of 4.4 hours per using a computer/laptop at work and an average of 1.7 hours at home, Table 2. In addition, other digital devices (smartphone/tablet/e-reader) were used an average of 1.9 hours per day. Of those surveyed, the least amount of time was spent playing electronic games.

THE PRESBYOPIC PATIENT’S EXPERIENCE

To obtain real-world user experience, patients responded to a web-based subjective assessment of lens performance after 5 days of lens wear. This assessment was completed outside of the practitioner’s office to help ensure a higher level of objectivity.

Presbyopic patients were asked to rate their ease of seeing objects at various distances with their habitual vision correction and with the Bausch + Lomb Ultra for Presbyopia contact lens. Figure 2 summarizes the responses for the 344 presbyopic patients who previously wore contact lenses. A greater proportion of contact lens wearers reported that near, intermediate, and distant objects were easy to see when wearing the Bausch + Lomb Ultra for Presbyopia contact lens compared with their habitual correction.

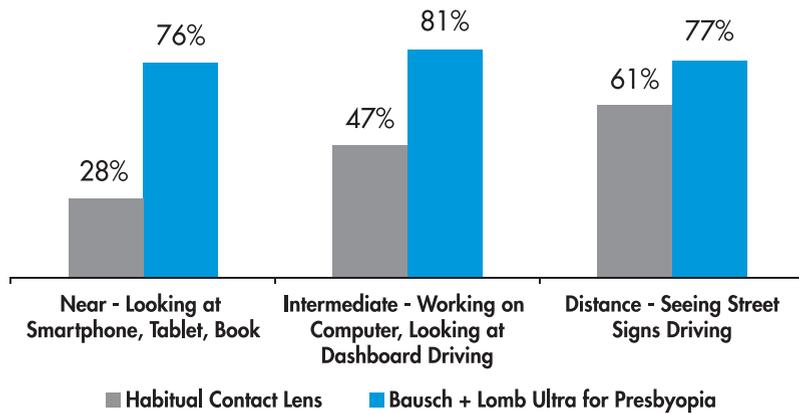
The contact lens wearers were asked to rate their experience with comfortable vision for specific distance situations, general situations, and for different lighting conditions. Comfortable vision was defined for the patients as “being able to see clearly without a compromise in the comfort of your contact lenses.” Responses regarding the wearing experience related to various vision situations are presented in Table 3. For this habitual contact lens group,

AVERAGE TIME SPENT DOING ACTIVITIES ON A TYPICAL DAY

TABLE 2

AGE RANGE PERCENTAGE	AVG HOURS
Use a computer/laptop at work	4.4
Use a computer/laptop at home	1.7
Looking at smartphone/ tablet/e-reader	1.9
Play electronic games	0.3
Watch TV	2.5
Reading book, magazine, newspaper	1.0
Driving	1.8

Figure 2: Percentage of patients reporting ease of seeing objects at various distances (previous contact lens wearers; n=344)



nine out of 10 patients agreed that the lenses provided comfortable vision when looking at objects at various distances. Additionally, 91% of the patients agreed that the lenses provided comfortable vision throughout the day. Approximately 9 out of 10 patients reported comfortable vision in bright-light and low-light situations.

Of the 93 presbyopic patients who habitually wore prescription or nonprescription reading glasses, a greater proportion of them also reported that near, intermediate, and distant objects were easy to see when wearing the Bausch + Lomb Ultra for Presbyopia contact lens, Figure 3.

The spectacle/reader wearers were also asked to rate their experience with comfortable vision for specific distance situations, general situations, and for different lighting conditions. For this group, comfortable vision was defined for the patients as “being able to see clearly without a compromise in the comfort of your contact lenses.” Responses related to the wearing experience related to various situations as presented in Table 4. While eight out of 10 presbyopic patients agreed they had comfortable vision with near objects, approximately 9 out of 10 patients agreed that the lenses provided comfortable vision when looking at objects at distance and intermediate distances. Additionally, 86% of the patients agreed that the lenses provided comfort-

able vision throughout the day. For the two lighting situations, 8 out of 10 patients reported comfortable vision in low-light situations, while nearly 9 out of 10 agreed that they had comfortable vision in bright-light conditions.

The spectacle/reader group was also asked to provide their experiences related to head movement. While wearing their spectacles, the eyeglass-wearing presbyopic patients often had to move their head up and down to find the right viewing angle to see clearly. Only 26% indicated that they didn’t have to always tip their head with their spectacle/readers to see clearly. When wearing the Bausch + Lomb Ultra for Presby-

opia contact lens, 77% indicated that they didn’t always have to tip their head to find the right angle to see clearly. Reducing head movement may help to alleviate ergonomic stress associated with spectacle/readers wear.

PERFORMANCE IN A CHANGING WORLD

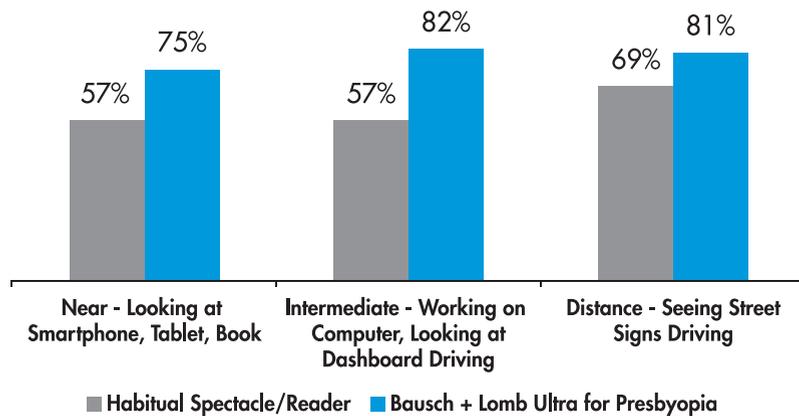
Patients’ perceptions of age is different than their chronological age. As their needs change, they seek options to maintain a youthful appearance that complements an active and busy lifestyle. Presbyopic patients

PERCENT OF PATIENTS REPORTING COMFORTABLE VISION IN VARIOUS SITUATIONS (PREVIOUS CONTACT LENS WEARS; n=344)

TABLE 3

	% AGREE
Specific Distance Situations	
Distance - Seeing Street Signs Driving	90
Intermediate - Working on Computer, Looking at Dashboard Driving	92
Near - Looking at Smartphone, Tablet, Book	90
General Situations	
Throughout the Day	91
At All Distances	88
Doing Different Physical Activities, e.g. Sports	93
Lighting Situations	
Bright-Light Conditions	94
Low-Light Conditions	88

Figure 3: Percentage of patients reporting ease of seeing objects at various distances (previous prescription and non-prescription reading glasses wearers; n=93)



there was an increase in ease of seeing objects at near, intermediate, and distance. The average presbyopic patient in the evaluation used various digital devices for many hours during a typical day. With the dynamic viewing situations and varied lighting conditions, the combined benefits of the 3-Zone Progressive Design and the MoistureSeal technology of the Bausch + Lomb Ultra for Presbyopia contact lenses offer eyecare practitioners an excellent option for care in the real world.

are also spending hours using digital devices that require changing their gaze to various distances. Lighting conditions also vary greatly — for example, working indoors versus driving during the day or at night.

Simulating activities in the office to predict success with multifocal contact lenses has not been able to replicate real-world scenarios.

The use of “real-world” non-randomized, prospective studies are being used in broader patient populations and special patient subsets in general medicine (Beusterien et al, 2013; Boeru et al, 2013; Chaudhuri et al, 2014; Ge et al, 2011; Han et al, 2011) and optometry/ ophthalmology (Blini et al, 2009; Crichton et al, 2010; Denis et al, 2010; Stonecipher et al, 2005). In addition, prior to adopting new technology, eyecare practitioners often ask peers about its effectiveness in the real world. Allowing independent practitioners to offer the lens to a wide group of patients provided insights on the performance of this multifocal in two user groups.

Among this population of presbyopic patients who previously wore either multifocal or spherical contact lenses and those who wore prescription eyeglasses or nonprescription reading glasses,

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PERCENT OF PATIENTS REPORTING COMFORTABLE VISION IN VARIOUS SITUATIONS (PREVIOUS PRESCRIPTION AND NON-PRESCRIPTION READING GLASSES WEARERS; n=93)

TABLE 4

	% AGREE
Specific Distance Situations	
Distance - Seeing Street Signs Driving	91
Intermediate - Working on Computer, Looking at Dashboard Driving	89
Near - Looking at Smartphone, Tablet, Book	83
General Situations	
Throughout the Day	86
At All Distances	84
Doing Different Physical Activities, e.g. Sports	91
Lighting Situations	
Bright-Light Conditions	88
Low-Light Conditions	84

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PATIENTS APPRECIATE THE 3-ZONE PROGRESSIVE DESIGN IN A DAILY DISPOSABLE LENS

Bausch + Lomb Biotrue Oneday for Presbyopia contact lenses (nesofilcon A) feature the 3-Zone Progressive Design, which is also incorporated in the Bausch + Lomb Ultra for Presbyopia monthly lenses (samfilcon A). Both provide excellent visual performance in a multifocal daily disposable lens.

Patients (n=326) who tried Biotrue Oneday for Presbyopia lenses, and who wore the lenses for at least 4 days, participated in a survey designed to examine their level of satisfaction with these lenses.

When rating vision:

- **91%** of respondents agreed that Biotrue Oneday for Presbyopia lenses provide clear vision at near distances (e.g., while reading or using a mobile phone)
- **96%** of respondents agreed that these lenses provide clear vision at intermediate distances (e.g., while working on a computer or shopping)
- **95%** of respondents agreed that they provide clear vision at far distances (e.g., while driving or reading a bus number).

When rating comfort:

- **93%** of respondents agreed that Biotrue Oneday for Presbyopia lenses stay comfortable throughout the day
- **90%** of respondents agreed that these lenses provide comfortable vision throughout the day across all distances
- **92%** of respondents agreed that these lenses make wearing lenses easier on their eyes.

At the end of the trial period, more than 70% of the participants indicated they plan on purchasing Biotrue Oneday for Presbyopia contact lenses. In addition, 95% indicated they would recommend these lenses to friends and family members.

Regarding their visit to their eyecare professionals, 99% of respondents agreed with this statement: "I am pleased that my doctor offered me a new product to see if it could help improve my lens wearing/vision correction experience."

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