

WHAT'S NEW IN CONTACT LENSES

A look at developments over the past year.

BY KAREN ROMAN, EDITOR-IN-CHIEF

Can you guess how many new contact lenses have made it to the US market in the past year? No? Admittedly, the preceding 12 months have been quite unprecedented, so nobody will fault you for not keeping track of every new lens, device, innovation, and development in the eye care space. That's why we take the time now and then to collect ourselves, rewind, and provide a roundup of the most recently approved lenses (Table) and news pertaining to contact lenses and lens wear.

Even if you're of the "less is more" mindset, like Jennifer Wademan, OD, preferring to focus on a designated few brands of lenses to sell in your office (read more on page 26), it still behooves you to stay current on trends and innovations. Your patients certainly will, and they'll notice if they think they know more than you do. Let's check in with the major players, listed below in alphabetical order.

ALCON

In January, Alcon launched the daily disposable **Precision1 for Astigmatism** lens. According to the company, Precision1 for Astigmatism uses the same Water Gradient Technology as Dailies Total1 and features the Precision Balance 8|4 lens design for a stable lens-wearing experience.¹⁻³ Precision1 lenses feature Smartsurface Technology, a permanent microthin high performance layer of moisture that steps up from 51% water at the core to greater than 80% water at the outer surface.¹ Alcon says that a single 6-o'clock scribe mark makes fitting the lens easy. Precision1 for Astigmatism is available to eye care professionals with or without fit sets.

With the rise in popularity of daily disposable lenses, especially amid the pandemic, one may wonder about the future of frequent replacement contact lenses. Chandra Mickles, OD, MS, FAAO, FSLs, addresses this issue on page 36.

In a related development, Alcon in

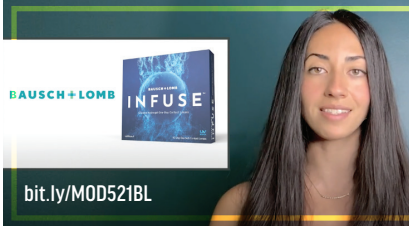
April received clearance from the FDA for its **Total30** monthly replacement Water Gradient contact lens that possesses the Water Gradient feature of the Dailies Total1, adapted with a unique lens chemistry to optimize performance for a full 30 days. The lens has no set date for launch.⁴

BAUSCH + LOMB

In June 2020, Bausch + Lomb received FDA clearance for the **Bausch + Lomb Infuse** daily disposable silicone hydrogel contact lens, made of kalifilcon A.⁵ The lens, which is engineered with the company's most advanced proprietary contact lens technologies, is designed to meet the unmet needs of contact lens wearers, including those who experience contact lens dryness, according to the company. If you want to find out how contact lenses affect ocular homeostasis and vice versa, turn to page 28, where Leslie O'Dell, OD, FAAO, provides an excellent explanation.

Bausch + Lomb in August 2020 announced the US launch of the -2.75 D cylinder parameter offering for its **Biotrue ONEday for Astigmatism** daily disposable contact lenses.⁶ The -2.75 D cylinder lens will be available for patients with astigmatism in six axes: 10°, 20°, 90°, 160°, 170°, and 180°.

▶ WATCH IT NOW



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**TABLE.** Parameters of Recently Approved Contact Lenses*

LENS (MANUFACTURER)	WEAR SCHEDULE	MATERIAL	WATER CONTENT	OXYGEN PERMEABILITY	DIAMETER	BASE CURVE	POWERS	AXIS
Acuvue Oasys Multifocal With Pupil Optimized Design (Johnson & Johnson Vision)	1 week extended wear or 2 weeks daily wear	senofilcon A	38%	147 x 10 ⁻⁹	14.3 mm	8.4 mm	Adds: low +0.75 D to +1.25 D; mid +1.50 D to +1.75 D; high +2.00 D to +2.50 D	Not provided
Bausch + Lomb Infuse (Bausch + Lomb)	Daily wear, daily disposable	kalifilcon A	55%	134 Dk/t @ -3.00 D	14.2 mm	8.6 mm	(spherical) +6.00 D to -6.00 D in 0.25 D steps; -6.50 D to -12.00 D in 0.50 D steps	Not provided
Biofinity XR toric (CooperVision)	Monthly	comfilcon A	48%	116 Dk/t @ -3.00 D	14.5 mm	8.7 mm	(spherical) +8.50 D to +20.00 D and -10.50 to -20.00 (0.50 D steps); +20.00 to -20.00 (0.50 D steps after ±6.00)	5° to 180° (in 5° steps)
Biotrue ONEday for Astigmatism (Bausch + Lomb)	Daily wear, daily disposable	nesofilcon A	78%	42 x 10 ⁻¹¹	14.5 mm	8.4 mm	+4.00 D to -6.00 D in 0.25 D steps; -6.50 D to -9.00 D in 0.50 D steps; plano to -6.00 D in 0.50 D steps for -2.75 D cylinder	0° to 180°
Precision1 for Astigmatism (Alcon)	Daily wear, daily disposable	verofilcon A	51%	90 x 10 ⁻¹¹	14.5 mm	8.5 mm	(plano to -6.00 D (0.25 D steps))	90° and 180° ± 20° in 10° steps

*Every effort was made to include all new contact lenses approved in the past year; however, this listing may not be exhaustive.

COOPERVISION

Blanchard Contact Lenses, a CooperVision Specialty EyeCare company, announced in October that it had expanded its US product portfolio to include **Paragon CRT** and **Paragon CRT Dual Axis** ortho-k lenses.⁷ Both are reverse geometry corneal lenses manufactured in a high-Dk gas-permeable material and are designed for myopia management.

In May, CooperVision introduced a

range of expanded parameters for its **Biofinity XR toric** lenses, from ±10.50 D to ±20.00 D.⁸ This addition of sphere powers nearly doubles the number of available prescription options specific to the lens, according to the company.

In April, the company acquired No7 Contact Lenses, a designer and manufacturer of specialty contact lenses distributed mainly in the United Kingdom. According to CooperVision, the company will operate within the

CooperVision Specialty EyeCare group, complementing a portfolio of products used by eye care providers to manage myopia progression, irregular corneas, and other such challenging conditions.⁹

In March, CooperVision announced a partnership with Plastic Bank, a social enterprise that builds ethical recycling ecosystems in coastal communities and reprocesses materials for reintroduction into the global supply chain.¹⁰ For every box of clariti 1



day distributed in the United States, CooperVision funds the collection, processing, and reuse of general plastic waste that is equal to the weight of the plastic contained in clariti 1 day lenses and packaging.

EUCLID SYSTEMS

Euclid Systems in May announced the US launch of its **Euclid Max** ortho-k lens, which is built on Euclid's proprietary lens design and features an innovative material with a Hyper Dk of 180, according to the company.¹¹

JOHNSON & JOHNSON VISION

In March, Johnson & Johnson Vision introduced a lens for patients with presbyopia: the **Acuvue Oasys Multifocal with Pupil Optimized Design**.¹² The lens, which is built on the Acuvue Oasys 2-Week platform, is available in the United States and Canada.

Also in March, the company received approval from the Japanese Ministry of Health, Labour, and Welfare for **Acuvue Theravision with Ketotifen**, the first and only vision correction contact lens that also relieves ocular allergic itch symptoms due to allergic conjunctivitis, according to the company.¹³ Ketotifen is an H1 histamine receptor antagonist that prevents itch associated with ocular allergies. In April, Johnson & Johnson Vision received Health Canada approval for these daily disposable lenses.¹⁴

In May, Johnson & Johnson Vision announced that the FDA had approved its **Acuvue Abiliti Overnight Therapeutic Lenses**

for the management of myopia.¹⁵ Abiliti Overnight will be available in the United States by the end of 2021, according to the company, in two contact lens designs: Abiliti Overnight Therapeutic Lenses and Abiliti Overnight Therapeutic Lenses for Astigmatism. Both will be capable of being optimized by innovative fitting software using corneal topography, refractive error, and other measurements.

Additionally, each annual purchase of an Abiliti product will underwrite a free comprehensive eye health exam for a child in need through Sight for Kids, a joint program between Johnson & Johnson Vision and the Lions Clubs International Foundation.

HOLDING STEADY

Despite the many economic and health care challenges we've seen over the past 12 months, contact lens manufacturers have been able to forge ahead with the development and approval of innovative new lenses. It's clear that myopia management and astigmatism are target areas for development by many contact lens companies, and we're now seeing lenses approved for indications other than merely correcting refractive error. A recent paper by Jones et al considers many potential uses for contact lenses beyond vision correction. In addition to serving as drug delivery devices and disease detectors or sensors, they may be able to provide augmented vision and more.¹⁶

Pharmaceutical companies are also working on products to complement contact lens wear. For example, Azura Ophthalmics in December announced results from a phase 2 trial evaluating its investigational topical therapy, AZR-MD-001, for the treatment of contact lens discomfort.¹⁷ Patients treated with AZR-MD-001 1.0% reported significant improvements in their contact lens comfort as early as month 1.

The contact lens segment of the ophthalmic professions continues to

chug along, and there appears to be an endless number of potential new applications for these little medical devices. Like you, I can't wait to see what the future holds in this category of vision correction. ■

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2. Alcon data on File, 2020 (n=78 eyes).
3. In a randomized, subject-masked, multi-site study with more than 150 patients; significance demonstrated at the 0.05 level; Alcon data on file, 2005.
4. New Alcon data on contact lens, dry eye and ocular health innovations to be presented at #ARVO2021 [press release]. Alcon. May 1, 2021. www.alcon.com/media-release/new-alcon-data-contact-lens-dry-eye-and-ocular-health-innovations-be-presented. Accessed May 13, 2021.
5. FDA provides 510(k) clearance for Bausch + Lomb Infuse daily disposable silicone hydrogel (SiHy daily) contact lenses [press release]. Bausch + Lomb. June 4, 2020. www.bausch.com/our-company/recent-news/artmid/11336/articleid/645/06042020-thursday. Accessed May 21, 2021.
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