Fast versus gradual adaptation of soft daily disposable contact lenses in neophyte wearers

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Abstract

Purpose: Despite the widespread practice of gradually adapting all new soft contact lens wearers (neophytes), there is little evidence-based research underpinning such practice. This work determined if a gradual adaptation period is necessary for neophytes when fitted with modern hydrogel or silicone-hydrogel daily disposable contact lenses.

Method: At four sites, neophytes (19-32 years) were randomly assigned to an adaptation schedule: fast (10 hours wear from the first day) or gradual (4 hours on the first day, increasing their wear-time by 2 hours on each subsequent day until they had reached 10 hours) and hydrogel (n=24 fast; n=21 gradual) or silicone-hydrogel (n=10 fast; n=10 gradual) contact lenses. Masked investigators graded ocular surface physiology and non-invasive tear breakup-time (NIBUT). A range of subjective scores (using 0-100 visual analogue scales) were recorded at the initial visit and after 10 hours of lens wear, 4-6 days and 12-14 days after initial fitting. Subjective scores were also repeated after 7 days.

Results: There was no difference ($p>0.05$) in ocular surface physiology between the fast and gradual adaptation groups at any time point in either lens type. NIBUT was similar at all time points for both adaptation groups in both lens types with the exception that the gradual adaptation silicone-hydrogel wearers had a slightly longer NIBUT ($p=0.007$) than the fast adaptation group. Subjective scores were also similar across the visits and lens types with the exception of 'lens awareness' and 'ease of lens removal' which were better ($p<0.05$) in the fast compared with the gradual adaptation hydrogel lens group at day 7. Additionally, 'end-of-day discomfort' was better ($p=0.02$) in the fast compared with the gradual adaptation hydrogel lens group at 12-14 days.

Conclusion: There appears to be no benefit in soft contact lens adaptation for neophytes with modern contact lens materials.

Keywords

soft contact lens; daily disposable; adaptation; neophyte; fast; gradual

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Highlights

- The conventional approach is to adapt new contact lens wearers by ‘building-up’ wearing time
- There is no underpinning scientific evidence for the need for this approach with modern soft contact lenses
- Fast versus gradual adaptation in new daily disposable hydrogel & silicon-hydrogel contact lens wearers were investigated
- No statistically or clinically significant differences were demonstrated between the adaptation schedules or lens materials
- The study demonstrated there is no need to recommend an adaptation schedule with modern daily disposable contact lenses

Introduction

Currently, most eye care practitioners (ECPs) commonly recommend that all new contact lens wearers (neophytes) should be 'eased' into lens wear in an attempt to maximise the clinical performance of their lenses over the first few days of wear.[1] The practice of constraining these initial wear times has been advocated by various authors in many of the key texts still used to train new ECPs (Table 1).[2-8] Typical proposed wear schedules vary from 2-4 hours on the first day followed by incremental increases of 1-2 hours daily until a maximum recommended wear time is achieved. A recent web-based survey of 186 ECPs from 26 countries gathered data on how silicone-hydrogel (daily disposable and re-useable) lenses were prescribed over the first week of wear [1] and found that there was no significant difference in how these two modalities were managed and that the majority of respondents advised wearing the lenses for 2-4 hours on the first day and gradually building-up to 'as long as comfortable' by the end of the first week.

Book	Recommendations on initial adaptation
Contact Lens Practice Fetcher, Lupelli and Rossi (1994) [5]	Individuals should start with 3 hours on the first day and add 1 hour each day. But neophytes with low Dk/t CLs are advised to go more slowly.
Manual of Contact Lens Prescribing and Fitting Hom and Bruce (1997) [7]	Neophytes should commence with 4 hours on the first day and increase by 1 hour every day until 8-10 hours are reached. After first week, lenses can be worn for 12-15 hours.
Fitting Guide For Rigid And Soft Contact Lenses Stein et al (2002) [6]	Neophytes are advised to start with 4 hours a day and increase wear by 2 hours every subsequent day until full-time wear is obtained. A rapid wearing time suggestion is to wear CLs for 4 or more hours on the first day, remove them for 1 hour and then wears lenses again for 4 or more hours. The wearing time is increased by 2 hours daily with 1-hour break period.
Clinical Contact Lens Practice Bennett and Weissman (2005) [2]	On the first day, neophytes should wear CLs for 4 hours followed by adding 2 hours every day until 12 hours is reached, by which, the patient should be able to wear CLs all waking hours.
The Contact Lens Manual Gasson and Morris (2010) [8]	Low WC CL wearers should start with 3 hours and add 1 hour every subsequent day until 12 hours of wear is achieved (maximum). High WC CLs neophytes are recommended start with 4 hours add 2 hours every day until 12 hours of wear is reached. Silicone-hydrogel lens wearer should start with 6 hours and add 2 hours each day until maximum wear time of all day (overnight) is achieved.
Contact Lens Practice Efron (2018) [4]	Soft CL wearers should initially start with 4 hours and increase by 2 hours each day to 12 hours of wear per day (maximum). Due to the improvements in soft CL this method is largely redundant now.
Contact Lenses Phillips and Speedwell (2019) [3]	Start with 4 hours a day as a minimum some neophytes may need as long as 2 weeks. Building up a wearing time is not required unless extended wear, continuous wear or RGP lenses. Soft CL wearers can start with 8 hours initially and then wear CLs for provided that they are comfortable.

Table 1: Recommended adaptation times for new soft contact lens (CL) wearers by various authors.

Despite the widespread use and clinical acceptance of gradually adapting new lens wearers, there is remarkably little evidence-based research underpinning such practice, which instead seems to be based on clinical intuition. The underlying rationale appears to be based upon conventional wisdom, that a gradual increase in wear time allows the patient a period of acclimatisation with respect to comfort, vision and ocular physiology.[9-11] These first few days are crucial to the long-term success of a new wearer and there is no doubt that they must be carefully managed in order to avoid drop-out,[12.13] the most common reasons for which are: discomfort, visual and handling problems.[13-17]

Gradual adaptation is thought to be particularly important in high modulus rigid lens wear,[8] in order to allow a patient to become accustomed to the physical presence of the lens on-eye. However, soft lenses are significantly more comfortable than their rigid counterparts, which is thought to be due to the reduced interaction with the upper eyelid and a lower modulus.[8] In the past, soft lenses were manufactured from materials with low oxygen permeability, such as polyhydroxyethyl methacrylate,[9] which often resulted in hypoxia-related complications such as limbal hyperaemia, corneal epithelial microcysts and corneal stromal oedema. Longer-term effects such as thinning of the corneal epithelium, corneal endothelial polymegethism and stromal thinning have also been well documented.[9,10] It remains unclear, however, whether a gradual adaptation in the first week of wear with these lenses had any significant impact on the ocular physiology response.

Contemporary soft contact lenses have seen significant improvements compared to their predecessors in areas such as material biocompatibility (e.g. improved oxygen performance with silicone-hydrogel lenses), manufacturing quality and lens design, yet the practice of prescribing a gradual initial adaptation period persists. These lenses are associated with a lower incidence of adverse physiological reactions such as limbal and conjunctival redness,[9,18] and corneal swelling,[19] when compared to traditional hydrogels. With more and more lens wearers opting for the convenience of daily disposable lenses and many only wishing to wear them on an occasional basis, the notion of a gradual adaptation period may seem antiquated and conservative to many practitioners. Nevertheless, the increased risk of infiltrates in silicone-hydrogel daily wear remains a significant drawback, [20,21] being twice

as common as with hydrogel materials [22-24] It is unknown if the clinical requirements for any adaptation period differ with material type.

If the lack of a gradual adaptation phase was shown to be safe by any reasonable definition of the term and have no effect on ocular comfort, it would hold several advantages over a more gradual approach, such as: better patient compliance due to increased simplicity; less impact on the personal/work commitments of the wearer as a result of not needing to remove lenses part-way through the day; and to allow wearers who wish to wear their lenses infrequently to do so for a full day. Therefore, this work set out to investigate if there were differences in ocular surface physiology and subjective performance in contemporary daily disposable lens wearers subjected to a fast, versus a gradual, adaptation approach in the first few days of lens wear. The work also investigated if there were differences between these approaches for silicone-hydrogel and hydrogel contact lens wearers.

Methods

Study lenses

The two daily disposable lens types investigated in this work were the 1-DAY ACUVUE® MOIST and the ACUVUE® OASYS 1-DAY with HydraLuxe™ (Johnson & Johnson Vision) and are outlined in Table 2. The lenses were chosen as representative examples of contemporary, commonly prescribed hydrogel and silicone-hydrogel lenses. Both had a similar design (i.e. edge shape and overall thickness profile) and the daily disposable modality was chosen, as it is the predominant modality consumer choice as well as mitigating any interactions from accompanying lens care solutions systems.

Table 2: Study lenses

Lens Name	1-DAY ACUVUE® MOIST	ACUVUE® OASYS 1-DAY with HydraLuxe™
Manufacturer	Johnson & Johnson Vision	Johnson & Johnson Vision
Material	Etafilcon A	Senofilcon A
Oxygen permeability (ISO units)	21	77
Back optic zone radius (BOZR) (mm)	8.5, 9.0	8.5, 9.0
Total diameter (mm)	14.2	14.3
Equilibrium water content (%)	58	38
Back vertex power (BVP) (D)	+6.00 to -12.00	+8.00 to -12.00

Subjects were fitted with one of the two lens types for a period of 12-14 days.

Study Design

This was a prospective, parallel group, randomised, investigator-masked, multi-site clinical investigation which was carried out at four academic institutions: Aston University (Birmingham, UK), Cardiff University (Cardiff, UK), Glasgow Caledonian University (Glasgow, UK) and the Technological University Dublin (Dublin, Ireland). All four institutions were given a favourable ethical opinion by their respective university research ethics committee. The study conformed to the tenets of the Declaration of Helsinki and all subjects provided written informed consent prior to enrolment. Inclusion criteria included being aged between 18 and 40 years, having astigmatism ≤0.75D, having healthy eyes and an ability to understand and full comply with the study procedures. Potential subjects were excluded if they were previous or current contact lens wearers, had had previous eye surgery, had an ocular or systemic condition or were on medication that could contraindicate contact lens wear, they had known hypersensitivity to saline or fluorescein, or they were pregnant or breast-feeding.

In order to determine the overall sample size, power analysis was undertaken. A sample size of 8 subjects in each adaptation/lens material group would give 80% power to detect a difference of 0.5 or more in Efron grading units in hyperaemia, based on a standard deviation of 0.2 grading units [25] and an alpha of 0.05 for a Mann-Whitney U test (G*Power). A sample size of 10 subjects in each adaptation / lens material group would have 80% power to detect a difference of at least 10 on a 100 point scale for subjective comfort scores using visual analogue scales, based on a standard deviation of 8-10 grading units [26,27] and an alpha of 0.05 for a Mann-Whitney U test (G*Power).

The 65 subjects attended three visits in total. At the initial visit, various clinical (baseline) investigations were performed. These included refraction, visual acuity and slit lamp biomicroscopy of the ocular surface; bulbar, limbal and palpebral conjunctival hyperaemia were graded to the nearest 0.1 unit using Efron 0-4 unit grading scales [25] (white light and 16X magnification). Following application of sodium fluorescein (1.5mg impregnated strips), corneal staining and palpebral redness and roughness were graded using the same grading scales. Non-invasive tear film breakup time (NIBUT) was assessed using the Tearscope Plus (Keeler, Windsor, UK) or keratometer mires (Bausch and Lomb, Rochester, NY, USA) prior to lid eversion and the average of three measurements were recorded for each eye.

Eligible subjects were assigned to one of the two lens types (Table 2), based on site (each site only fitted one lens type) and lens fit was assessed according to the criteria of Boychev et al.[28] After successful lens fitting, subjects were randomly assigned to one of the following two adaptation schedules: i) no build-up of wearing time (fast adaptation) where subjects wore lenses for 10 hours from the first day or ii) a more gradual build-up (gradual adaptation) where subjects wore lenses for 4 hours on the first day and increased their wear time by 2 hours on each subsequent day until they had reached 10 hours. The investigator was masked to the subject's adaptation schedule. All subjects were carefully instructed on lens application and removal and given full information on how to care for their lenses as well as how to comply with their assigned wearing schedule.

Subjective scores were collected using visual analogue scales (0-100 where 0 indicated "very uncomfortable" and 100 "very comfortable") for comfort before lens application, comfort after lens application and overall clarity of vision.

Subjects were asked to return, once the lenses had been *in-situ* for 10 hours, for two further follow-up visits, one after 4-6 and the other 12-14 days from the initial visit. Similar slit lamp

biomicroscopy and TBUT investigations were undertaken at all visits.The same subjective scores were collected as at the initial visit but additionally ‘lens awareness’ (anchored by “very aware of lenses” to “completely unaware of lenses”), ‘end-of-day comfort’, ‘ease of lens application’ (anchored by “very difficult to handle” to “very easy to handle”) and ‘ease of lens removal’ (anchored by “very difficult to remove” to “very easy to remove”) were recorded using 0-100 visual analogue scales. The subjective visual analogue scales were also repeated after 7 days of lens wear by paper form returned at the final visit.

Statistical analysis

Statistical analyses were performed using IBM SPSS Statistics (v23 IBM Corp. Chicago, Illinois, USA). The data were not found to be normally distributed (Kolmogorov-Smirnov Test $p<0.05$) therefore Mann-Whitney U tests were used to investigate the differences between the gradual and fast adaptation groups at each visit. The statistical significance level was set at $p<0.05$.

Results

Subject demographics

The demographics of the study groups are shown in Table 3. All recruited subjects completed the study and no adverse events occurred. The lenses adequately fitted all subjects.

Lens	Experimental Group	Participants	Age (years)	Male/Female Ratio	Refraction
1-DAY ACUVUE® MOIST	Gradual	24	19 - 21	9 / 15	+1.25 to -1.75D
	Fast	21	19 - 32	7 / 14	+1.00 to -4.75D
ACUVUE® OASYS 1-DAY with HydraLuxe™	Gradual	10	19 - 22	3 / 7	+0.50 to -5.25D
	Fast	10	19 - 24	4 / 6	+0.50 to -4.75D

Table 3: Demographics and refractive details of the study subjects

There were no statistically significant differences in ocular surface physiology between the two adaptation schedule groups at baseline, or at the two follow-up visits for the hydrogel or silicone-hydrogel wearers (Tables 4 and 5). Similarly, there were no statistically significant differences in NIBUT at baseline or the follow-up visits, for both adaptation schedule groups for both lens types, with the exception that after 12-14 days of wear, the gradual adaptation silicone-hydrogel wearers had a significantly longer NIBUT than the fast adaptation group (p=0.007; table 5).

		Baseline			Day 4-6			Day 12-14		
		Mean	SD	p	Mean	SD	p	Mean	SD	p
Bulbar Hyperaemia	Fast	1.3	±0.6	0.292	1.1	±0.5	0.963	1.0	±0.6	0.936
	Gradual	1.1	±0.5		1.2	±0.6		1.0	±0.5	
Limbal Hyperaemia	Fast	1.0	±0.4	0.205	0.8	±0.4	0.665	0.7	±0.5	0.972
	Gradual	0.8	±0.5		0.8	±0.4		0.7	±0.4	
Palpebral Hyperaemia	Fast	0.8	±0.4	0.443	0.8	±0.3	0.797	0.7	±0.4	0.399
	Gradual	0.7	±0.3		0.8	±0.4		0.6	±0.4	
Palpebral Roughness	Fast	0.7	±0.4	0.227	0.6	±0.5	0.65	0.7	±0.5	0.198
	Gradual	0.5	±0.4		0.7	±0.5		0.6	±0.4	
Corneal Staining	Fast	0.3	±0.7	0.447	0.4	±0.7	0.683	0.4	±0.6	0.348
	Gradual	0.3	±0.6		0.2	±0.4		0.2	±0.4	
Non-invasive breakup time (s)	Fast	13.3	±3.1	0.964	12.6	±4.0	0.671	12.6	±3.9	0.276
	Gradual	12.9	±5.4		11.4	±4.7		11.5	±4.5	

Table 4: Comparison of ocular physiology in fast and gradual adaptation of neophytes fitted with hydrogel soft contact lenses. Efron scale grading between 0 and 4 units. SD = standard deviation; p = significance value.

		Baseline			Day 4-6			Day 12-14		
		Mean	SD	P	Mean	SD	p	Mean	SD	p
Bulbar Hyperaemia	Fast	0.9	±0.1	0.436	0.9	±0.3	0.105	1.1	±0.2	0.123
	Gradual	1.2	±0.5		1.1	±0.3		1.0	±0.4	
Limbal Hyperaemia	Fast	0.9	±0.3	0.393	0.9	±0.3	0.853	0.9	±0.2	0.353
	Gradual	1.1	±0.5		0.9	±0.3		0.9	±0.5	
Palpebral Hyperaemia	Fast	1.0	±0.8	0.529	1.0	±0.4	0.393	1.0	±0.4	0.165
	Gradual	1.1	±0.5		0.8	±0.3		0.8	±0.3	
Palpebral Roughness	Fast	1.1	±0.7	0.529	1.2	±0.6	0.604	1.0	±0.4	0.912
	Gradual	1.2	±0.5		1.0	±0.6		0.9	±0.4	
Corneal Staining	Fast	0.6	±0.8	0.739	0.2	±0.2	0.447	0.4	±0.3	0.579
	Gradual	0.6	±0.5		0.4	±0.3		0.5	±0.2	
Non-invasive breakup time (s)	Fast	9.7	±4.1	0.912	8.8	±4.9	0.190	7.4	±1.3	**0.007**
	Gradual	10.5	±4.0		10.0	±3.2		10.2	±2.5	

Table 5: Comparison of ocular physiology in fast and gradual adaptation of neophytes fitted with silicone-hydrogel soft contact lenses. Efron scale grading between 0 and 4 units. SD = standard deviation; p = significance value (bold indicates level <0.05).

At baseline there were no statistically significant differences in subjective scores between the two adaptation schedule groups in both the hydrogel (Table 6) and silicone-hydrogel (Table 7) wearers. This was also true at 4-6 days after lens wear commenced. After 7 days of lens wear, both 'lens awareness' (p=0.03) and 'ease of lens removal' (p=0.04) were significantly better in the fast compared with the gradual adaption group in the hydrogel lens wearers (Table 6). At both 4-6 days and 7 days after commencing lens wear, end of day comfort was on the 'cusp' of being significantly better in the fast compared to the gradual adaptation group wearing hydrogel material lenses, and this difference was significant by 2 weeks of wear (p=0.02).

		Baseline			Day -64			Day 7			Day 12-14		
		Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p
Comfort prior to lens wear	Fast	96.6	±6.2	0.258	93.7	±8.7	0.784	95.3	±9.2	0.293	94.1	±13.6	0.342
	Gradual	93.2	±10.3		94.6	±7.9		92.4	±11.8		93.2	±9.9	
Overall comfort	Fast	78.9	±14.7	0.147	80.1	±17.4	0.576	79.4	±17.4	0.105	81.8	±14.9	0.177
	Gradual	84.1	±14.0		79.4	±12.6		72.8	±14.5		77.0	±13.8	
Visual quality	Fast	83.0	±16.7	0.323	85.9	±15.7	0.141	82.5	±18.6	0.326	82.4	±17.2	0.493
	Gradual	88.7	±12.1		77.2	±18.5		77.3	±18.3		78.4	±18.2	
Lens Awareness	Fast				67.1	±21.2	0.828	72.5	±22.9	**0.034**	72.1	±26.4	0.206
	Gradual				65.8	±20.2		62.5	±15.5		66.9	±21.9	
End of Day Comfort	Fast				75.1	±18.4	0.053	71.5	±22.4	0.083	79.2	±18.9	**0.019**
	Gradual				64.7	±19.5		60.3	±20.4		66.4	±18.3	
Ease Insertion	Fast				77.6	±18.2	0.846	80.2	±22.2	0.629	80.6	±21.6	0.775
	Gradual				76.0	±20.7		81.5	±13.6		82.4	±12.3	
Ease Removal	Fast				90.8	±12.6	0.338	94.1	±9.1	**0.039**	93.1	±11.0	0.162
	Gradual				88.7	±11.9		89.5	±9.5		90.5	±9.4	

Table 6: Comparison of subjective ratings in fast and gradual adaptation of neophytes fitted with hydrogel soft contact lenses. SD = standard deviation; p = significance value (bold indicates level <0.05).

		Baseline			Day 4-6			Day 7			Day 12-14		
		Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p
Comfort prior to lens wear	Fast	97.2	±3.9	0.739	98.5	±3.4	0.739	98.6	±2.3	0.739	98.5	±2.4	0.739
	Gradual	94.0	±8.8		95.2	±8.1		97.0	±6.7		95.0	±8.5	
Overall comfort	Fast	92.3	±5.7	0.481	92.0	±8.2	0.436	89.0	±7.7	0.436	92.0	±8.6	0.436
	Gradual	93.5	±8.5		89.5	±11.2		89.8	±13.4		89.2	±9.2	
Visual quality	Fast	95.5	±4.4	0.315	93.0	±7.1	0.912	90.8	±6.5	0.912	92.7	±8.4	0.912
	Gradual	91.2	±8.5		92.0	±7.5		88.2	±12.7		91.8	±10.4	
Lens Awareness	Fast				84.5	±18.0	0.631	87.5	±17.2	0.315	92.5	±11.6	0.247
	Gradual				88.5	±14.3		84.5	±12.1		88.5	±9.4	
End of Day Comfort	Fast				87.7	±11.2	0.971	91.2	±15.8	0.052	93.0	±9.8	0.19
	Gradual				84.7	±19.7		81.0	±13.1		85.2	±12.0	
Ease Insertion	Fast				83.0	±11.6	0.218	87.0	±13.6	0.684	90.5	±8.6	0.579
	Gradual				83.5	±27.0		85.0	±12.5		82.7	±19.2	
Ease Removal	Fast				95.5	±4.4	0.684	94.0	±9.4	0.796	94.0	±8.4	0.579
	Gradual				90.1	±13.2		92.5	±9.2		89.8	±13.4	

Table 7: Comparison of fast and gradual adaptation of neophytes fitted with silicone-hydrogel soft contact lenses. SD = standard deviation; p = significance value.

Discussion

Gradual adaption to contact lens wear is thought to be particularly important in the initial management of new rigid contact lens wearers. However, these lenses are fitted to a minority of lens wearers. Only 11% of new wearers were fitted with rigid lenses in the latest international prescribing report.[29] In contrast, there has been a significant increase in daily disposable soft contact lens fittings over the past 20 years. In some markets, daily disposables are the most widely prescribed replacement modality, representing 63% of replacement fits in the UK and 74% in Denmark and Norway.[29] Hence, this study examined whether an adaption period was beneficial for modern soft daily disposable contact lenses.

Adaptation schedule (fast versus gradual) did not impact the short-term ocular surface physiologic response regardless of whether the neophyte was fitted with hydrogel or silicone-hydrogel lenses. This seems to indicate that, in the first few days of wear, the ocular surface responds in a similar way, regardless of how long the eye is exposed to lenses (up to 10 hours), at least for the material oxygen permeability values investigated here (21 and 77 ISO units). These findings are in line with recent work which has demonstrated that for some ocular surface parameters, silicone-hydrogel wear can be indistinguishable from that of non-lens wear [18]. The same work and that of others has shown that newer generation silicone-hydrogel lenses, such as the lens used in this study, perform better than first generation silicone-hydrogel lenses by showing a lower incidence of mechanically-related complications (papillary conjunctivitis and arcuate staining).[30] Additionally, no adverse events were reported at any of the sites which further supports the case that a gradual adaptation period is unnecessary in these lens wearers, although patient wearing months of exposure are low.

No differences were observed between the two adaptation schedules for NIBUT in either lens type, with the exception that NIBUT was longer at the 2 week follow-up visit in the gradual compared with the fast adaptation group in the silicone-hydrogel lens wearers only. There were however, no associated differences in subjective scores at this visit in these wearers. The fact that this difference was small, that it was not present 4-6 days after lens wear commencement and that no differences in subjective scores were present at the same visit lends weight to the proposal that tear film stability is unaltered as a result of the adaptation schedule. Faster adaptation is therefore unlikely to result in increased contact lens discontinuation as a result of tear-film related factors.[31-34]

The study evaluated subjective scores for comfort prior to lens wear, overall comfort with the lenses, visual quality with the lenses, lens awareness and end of day comfort over the two weeks post-fitting. In addition, subjective handling aspects relating to ease of application and

removal were assessed at each follow-up visit. Discomfort, handling problems and poor vision are among the biggest reasons for contact lens drop-out,[12], and the findings in this study show no increased risk if a fast adaptation approach is taken with the daily disposable lenses investigated. Perhaps counter-intuitively there were even some small benefits to the fast adaptation schedule in the hydrogel lens wearers since scores were significantly higher (better) in this group for 'lens awareness' and 'ease of removal' 4-6 days after lens commencement and 'end-of-day comfort' after 2 weeks wear.

There is no doubt that the first few days of lens wear require careful management and are critical to the success of contact lens wear but the results of this work suggest that gradual adaptation to modern daily disposable soft lenses is unnecessary. This does not mean that wearers should be instructed to wear their lenses for 10 hours from the start regardless, but rather a sensible approach would be to instruct patients to wear them for as long as they are comfortable up to a suggested maximum (in the region of 10 hours). A survey carried out by Morgan (2013)[1] showed that the most commonly recommended strategy was to instruct patients to wear the lenses precisely in this manner i.e. 'as long as comfortable' in the long-term.

This approach is expected to bring additional benefits as it simplifies the instructions given to patients. A faster adaptation schedule is straightforward for ECPs to explain and for neophytes to remember. The proposed fast approach should be accompanied by comprehensive instruction on lens insertion and removal, as well as full and clear patient education on contact lens wear; an appointment for the first aftercare should be scheduled within the first two months,[35] although many ECPs are likely to opt to see these patients sooner. Further research should be carried out to determine the effects of different modalities and designs (e.g. re-useable, toric and multifocal lenses) on the need for gradual adaption in neophytes.

This work has shown for the first time that there appears to be no clinical benefit for a gradual adaptation period in new wearers fitted with soft daily disposable contact lenses. These findings have important ramifications for the clinical management of these patients in the initial lens wear period. The consistently high scores obtained for both hydrogel and silicone-hydrogel lenses regardless of adaptation schedule supports the adoption of a 'no need to adapt' approach for neophyte daily disposable lens wearers. Such management in the first few days of lens wear is likely to make compliance with instructions easier for these patients and allow their lens wear to fit in with their lifestyle requirements.

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