

## Practitioner and patient experience with a silicone hydrogel, daily disposable contact lens

**Authors - David Webley BSc (Hons) MCOptom & Mailie Fournier**

The 25<sup>th</sup> anniversary of daily disposable (DD) contact lenses (CL) is approaching, silicone hydrogel (SiH) lenses have been available for nearly 20 years, and the benefits of combining DD and SiH realised for a decade. Practitioners are fitting SiH DD lenses more frequently than ever before, with 63% of DD fitted in 2018 being SiH (both in the UK and worldwide).<sup>1</sup>

Reluctance in SiH DD prescribing may have been influenced by eye care practitioner (ECP) concerns including cost and comfort, although patients are keen to wear the healthiest lenses for their eyes and are willing to pay for that option.<sup>2</sup> ECPs recognise DDs are the healthiest way to wear CLs,<sup>3,4</sup> and given their convenience, the oxygen delivery of SiH materials, and the wide range of parameters and designs now available, selecting a DD SiH for patients seems an obvious first choice in terms of material and modality.

CooperVision's clariti® 1 day (C1D), originally launched in 2009 (by Sauflon) was specifically designed to meet today's CL wearer needs in health, convenience and consistent performance over long days of wear. C1D offers the widely recognised and documented health benefits of a DD, and in addition, has been shown to deliver good clinical and subjective performance in a range of studies.<sup>9-13</sup> It is a well-established brand family with SiH DD toric and multifocal options and the key product specifications, features and benefits are summarised in Table 1.

**Table 1: clariti® 1-day key specifications, features and benefits**

	<b>Specifications / Feature</b>	<b>Benefit</b>
Material / Water content	somofilcon A / 56%	Silicone hydrogel oxygen transmissibility
Replacement and wear schedule	Daily wear, daily disposable	DD health <sup>15-18</sup> and convenience benefits
Technology	WetLoc™ technology – naturally attracts & binds water molecules to SiH material	Locks in water for all-day comfort <sup>5</sup> and wettability
Oxygen transmissibility (Dk/t)	86 x 10 <sup>-9</sup> (@-3.00DS)	High oxygen levels across entire lens to help maintain ocular health <sup>6</sup>
Oxygen consumption	100% corneal oxygen consumption <sup>7</sup>	No hypoxia related complications
UV blocking	Class 2 UV blocker (78% UVA & 98% UVB)	Clariti 1 day has UV blocker that supports ocular health <sup>19</sup>
Base curve / Diameter (mm)	8.60 / 14,1	Fits wide range of patients
Centre thickness (mm)	0.07 (@-3.00DS)	Thin lens design to maximise Dk/t
Power range (DS)	+8.00 to -10.00 (0.50 steps after +6.00 & -6.00)	Wide range to fit majority spherical patients and support upgrade from reusable lenses
Modulus (MPa)	0.50	Flexible lens; modulus similar to most SiH DDs <sup>8</sup>
Design	Aspheric optics  Optimised comfort edge design – thin, uniformly tapered edge	To reduce the eyes natural spherical aberrations for improved quality of vision.  Optimal comfort <sup>5</sup>
Product range	Sphere, toric and multifocal	Family allows ECPs to fit more of their patients with a DD SiH



### **Multi-centre, in-practice assessment**

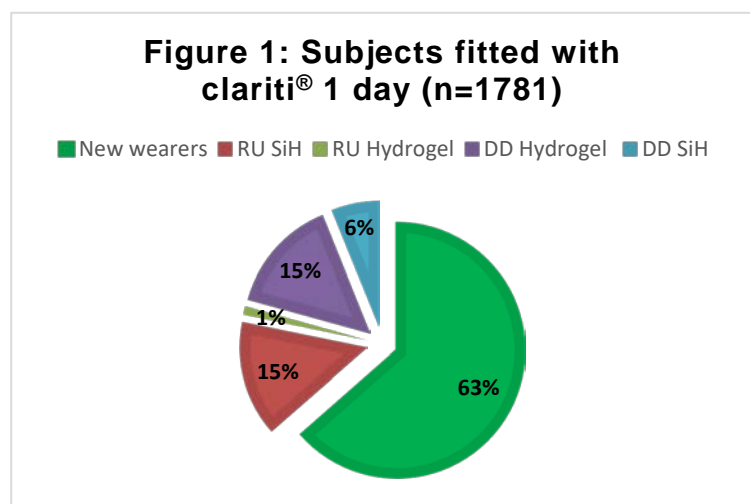
From 2014 onwards, a new ‘optimised comfort edge’ design was launched to further improve comfort of C1D. To gauge wearer and practitioner satisfaction with the lens following the edge enhancement, a 4-month, monadic, multi-centre survey was conducted (in 2018) amongst 171 ophthalmologists in France to understand how it performs in ‘real life’. The ophthalmologists fitted C1D as per their routine practice procedure using trial lenses and the full spherical power range was available (+8.00 to -10.00DS). The assessment was non-interventional such that patients were selected by their ECP as to their suitability to trial the lens, whether a new or habitual wearer. Overall satisfaction and key areas of comfort, vision and handling were evaluated by wearers completing surveys in practice during their fitting and follow-up visits (after approx. 1-week). Data was collated and analysed by an independent market research agency (Galileo Business Consulting).

The sites were selected by Galileo from a database of all French ophthalmologists and were representative of the local market. The ECPs were appropriately reimbursed for their time to complete the patient surveys a survey they completed at the end of the assessment. They were asked to record information on around 10 fits with C1D. Patients were not paid for their participation in the surveys.

There were no significant or serious adverse events reported during the multi-centre assessment.

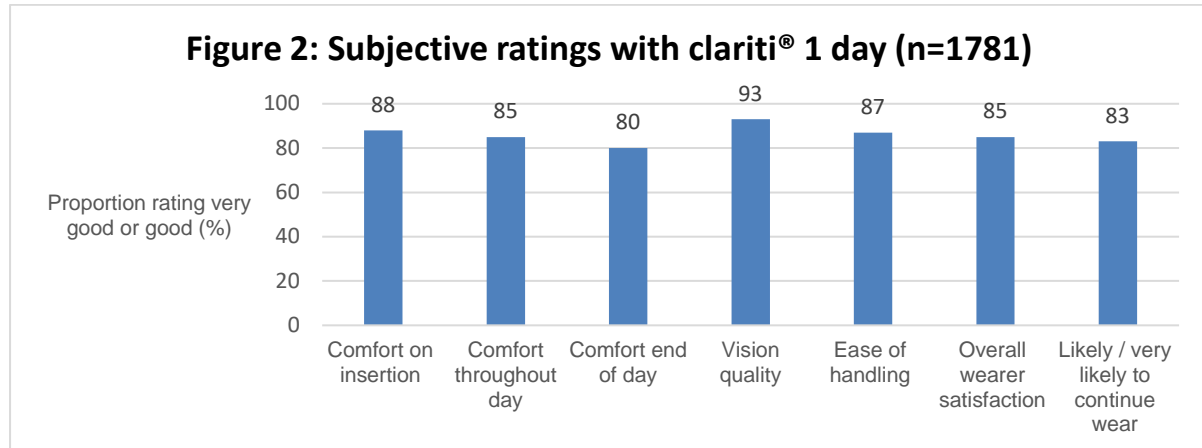
### **Key survey findings**

Of the 1781 fitted with C1D, 1091 (63%) were new wearers (Figure 1). Of the 627 existing wearers, 253 wore reusables (RU) SiHs, 269 hydrogels (93% being DDs) and 105 SiH DDs. The brands of lenses worn by habitual wearers were broadly representative of the market and patients who ECPs would consider fitting with a SiH DD.



Overall fitting success rate with C1D was high (90%); there were no significant differences in success for new (91%) or existing (89%) wearers. Comfort ratings were high (Figure 2); 88% of patients agreed comfort on insertion was very good or good (top 2 box) with differences between new and habitual wearers (86% vs 92% respectively,  $p < 0.05$ ) and 85% and 80% rating comfort throughout the day and end of day comfort as “top 2 box”, with no differences for either between new and habitual wearers.

Ratings of very good/good of 93%, 87% and 85% were given respectively for vision, ease of handling and overall wearer satisfaction (Figure 2); all measures were similar for new and existing lens wearers. At the end of the assessment, 83% were likely/very likely to continue wearing C1D, in particular neophytes (85%, vs 78% for habitual wearers;  $p < 0.05$ ).



### Performance in habitual wearers

Performance and success were highly rated for new and habitual wearers. There were some statistically significant differences ( $p < 0.05$ ) noted when comparing habitual wearer groups; (Table 2). Success was statistically higher ( $p < 0.05$ ) for those who were previously wearing hydrogels (91% vs 87% wearing SiH), and for those wearing RUs (92% vs 86% in DDs). Comfort (both throughout and end of day) ratings with C1D were higher for those who had previously worn hydrogels (vs SiH) and RUs (vs DDs). Overall satisfaction and likelihood to continue with C1D showed higher ratings for previous wearers of hydrogels (vs SiH) and RUs (vs DDs).

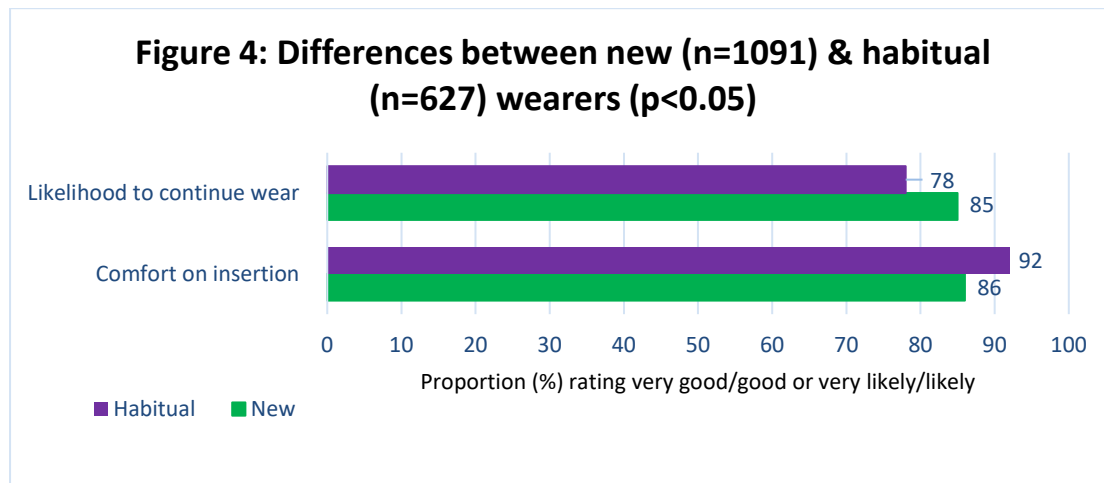
**Table 2: Subjective results from existing wearer groups**

	Habitual Material		Habitual Replacement	
	Hydrogel (n=269)	SiH (n=358)	RU (n=298)	DD (n=329)
Proportion (%) rating success or "top 2 box"				
Overall success	91	87	92	86
Comfort 'throughout day'	86	84	88	82
Comfort 'end of day'	82	75	82	74
Overall wearer satisfaction	86	83	88	81
Likelihood to continue wear	85	75	79	77
Preference over habitual lens	86	76	83	77

For habitual wearers, 4 out of 5 wearers (80%) preferred the new lens compared to their habitual brand; this increased to 83% preference for C1D for RU wearers (versus 77% already wearing a DD;  $p < 0.05$ ) and 86% preference for habitual hydrogel wearers (compared to 76% in SiHs;  $p < 0.05$ ). Preference differences were larger still when considering those wearing SiH RUs or any hydrogel compared to those wearing an alternative SiH DD (84% vs 60%;  $p < 0.05$ ).

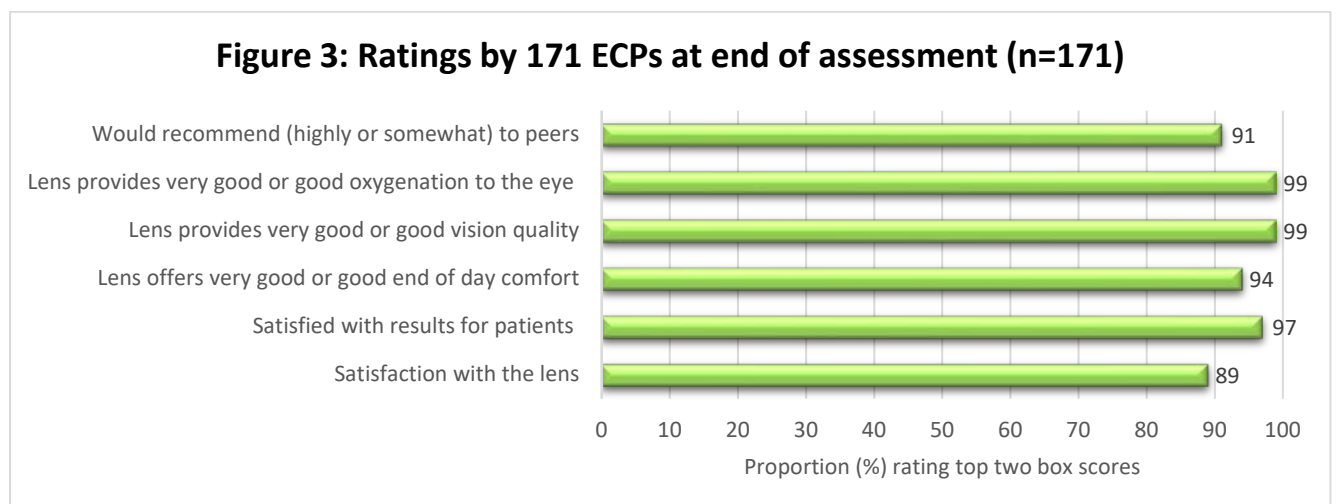
### New wearers in clariti® 1 day

An encouraging result from the survey was the large number of neophytes fitted with the DD SiH, highlighting the ever-present opportunity to continue to grow the CL category. Nearly two-thirds of subjects fitted with C1D were new wearers; this compares with just over one-third worldwide of fits for this group in 2017.<sup>1</sup> This shows that ECPs can be confident of a successful outcome when fitting new wearers, and in particular when the results showed no significant differences in performance between the new and habitual wearers for the majority of subjective measures. The only significant differences noted between new and habitual wearers was with likelihood to continue wearing C1D (Figure 4), where neophytes were more likely to continue with the lenses, and with habitual wearers who rated comfort on insertion higher (although there were no differences in comfort throughout or at the end of the day).



### Practitioner opinion

At the conclusion of the assessment, a high proportion of the 171 ophthalmologists were highly satisfied with the SiH DD and its performance (Figure 3). Nearly 9 out of 10 (89%) reported very good or good satisfaction with the lens and 97% were satisfied with the results obtained with C1D for their patients. 94% agreed that the lens offers good end of day comfort, and nearly all (99%) agreed it provides good vision quality and oxygenation to the eye. The majority of ECPs (91%) would recommend C1D to their peers.



### **Upgrading habitual wearers**

When refitting habitual wearers with C1D, the results highlight that the most successful wearer types are more likely to be wearing hydrogel CLs or replacing lenses on a two-weekly or monthly basis (RUs) for overall success, satisfaction, preference and comfort. For initial comfort, those wearing SiHs may get higher ratings with C1D compared to those habitually wearing hydrogels.

Many existing wearers often say they are happy with their current lenses; the results from this evaluation highlight that introducing a DD option to existing reusable SiH wearers should not be overlooked. They can continue to benefit from the lens' oxygen performance, and many will welcome the health, convenience and comfort benefits of a DD. For ECPs wanting to provide DD hydrogel wearers with a lens that can be worn all waking hours without concerns about oxygen-related issues, or "wearing-time guilt", this C1D performs well<sup>9-13</sup>.

While there may be some concerns from ECPs about recommending a SiH DD due to cost,<sup>14</sup> it should be noted that around two-thirds (68%) of consumers expect their practitioner to recommend the healthiest option regardless of cost.<sup>2</sup> And the vast majority of ECPs (95%) agree that if cost was equivalent, they would choose SiH over a hydrogel for their DD patients.<sup>3</sup>

### **Comfort and health benefits**

A concern cited by some ECPs about fitting SiH lenses is around all-day comfort, while others agree that DD SiH lenses provide better long-term wearing comfort for patients than DD hydrogels.<sup>3</sup> There are a wide range of material and design properties that help CL comfort performance; understanding their lifestyle needs and trialling patients with lenses to ascertain their preference are of paramount importance i.e. fit a lens to a patient rather than vice versa. This will help guide lens selection, along with other criteria such as wearing times and long-term ocular health. Diec et al<sup>9</sup> showed that in a recent study comparing SiH and hydrogel DDs, "neither material type was shown to be superior in comfort".

When considering ocular health, DDs carry a significantly lower risk of corneal inflammatory events compared with RUs<sup>15</sup> and microbial keratitis is likely to be less severe with DDs.<sup>16-18</sup> Reasons for this include no long-term deposit build-up, no lens care solutions and greater compliance with a simple regimen<sup>15-18</sup>. The benefits of SiH lenses for avoiding hypoxia-related complications are also well documented when considering upgrades for those wearing hydrogels.<sup>20</sup> Additionally, C1D has the benefit of a Class 2 UV blocker.

### **Conclusions**

The findings from this large-scale multi-centre assessment feature high levels of success and satisfaction with clariti® 1 day, whether in new or habitual wearers, and highlight the lens as an ideal choice when upgrading wearers from both reusables and hydrogel DDs. There were high ratings for comfort, vision, handling, overall satisfaction and lens preference, in addition to wide acceptance from the ECPs. The results corroborate success rates and patient satisfaction from a range of clinical performance studies conducted with C1D.<sup>9-13</sup>

C1D is ideally placed to offer the benefits of a DD modality with no compromise on oxygen performance, combined with excellent performance in vision, comfort, UV protection and handling.

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## ABOUT THE AUTHORS

David Webley works as a Professional Services Manager EMEA for CooperVision.

Mailie Fournier CooperVision France.

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