

**NCC 'GET CONNECTED 2026'**

**Organization Section: NCC/ BCLA**

**Paper Abstracts**

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**Assessment of impact of soft contact lens power on fit**

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**Purpose:** To assess whether a power change between  $\pm 2.00\text{DS}$  impacts soft CL (SCL) fitting characteristics, to reduce chair-time required when the exact power is not immediately available for assessment.

**Method:** Thirty (neophyte and existing SCL wearing) participants (18–60 years) were recruited for a prospective, randomised, cross-over, open-label study. Each participant randomly wore two daily-disposable somofilcon A lenses (spherical or toric): (1) Exact-Rx (current prescription) and (2) Test-Rx ( $\pm 2.00\text{DS}$  to Exact-Rx; sign randomised; no sign reversal). A series of clinical assessments including best-corrected visual acuity (BCVA, logMAR), lens-centration (x/y decentration), corneal coverage, blink-induced movement, up-gaze and horizontal-lag, push-up test, and comfort (1–10 scale and VAS) was assessed. (Toric orientation marks were observed to ensure acceptable fit.) Forced-choice lens preference was recorded. Right-eye data were analysed with paired t-tests or Wilcoxon signed-rank tests based on the variable type.

**Results:** SCL fit metrics were power-invariant: both Exact-Rx and Test-Rx showed  $360^\circ$  corneal coverage and near-zero mean decentration. Blink-induced movement showed complete agreement ( $0.37 \pm 0.12$  mm;  $p=1.00$ ), toric Test-Rx had similar guide-mark location to Exact-Rx lenses. There was no difference in horizontal lag (mean difference  $0.67 \pm 2.54\%$ ;  $p=0.157$ ; mm mean difference  $0.00 \pm 0.32$  mm;  $p=0.573$ ), push-up scores (Exact-Rx  $-0.37 \pm 0.49$  vs Test-Rx  $-0.33 \pm 0.48$ ;  $p=0.317$ ) and BCVA was equivalent ( $-0.13 \pm 0.08$  vs  $-0.14 \pm 0.07$  logMAR;  $p=1.00$ ). Comfort and forced choice favoured Exact-Rx on both scales ( $\leq 0.005$ ).

**Conclusions:** In a soft contact lens design with a fixed base curve and diameter, altering the spherical power by up to  $\pm 2.00\text{DS}$  does not affect the fit of spherical or toric soft CLs. Expectedly, test lenses with  $\pm 2.00\text{DS}$  induced visual discomfort. Clinicians can use in-stock diagnostic lenses within  $\pm 2.00\text{DS}$  from the same lens material family and design to assess fit and subsequently finalise the spherical prescription without requiring a re-fit. Future work will investigate changes in cylindrical power excluding axis variation.

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