SPONSOR:	Visioncare Research Ltd	STUDY NUMBER: TRTN-501	
TITLE:	An Evaluation of the Fitting success Rate of Senofilcon A Soft Contact lenses		
VERSION:	1.0	PROTOCOL DATE:	25th August 2017

VISIONCARE RESEARCH

STATISTICS TRTN-501

1 DATA MANAGEMENT

1.1 Data Quality Assurance

Before the final closing of the database, the data will be checked and any subsequent omissions and discrepancies resolved before analysis as per VCR SOPs.

1.2 Data Entry and Storage

Data shall be completed on the CRFs and hand entered into a database using DACs software and then exported to an Excel database (Microsoft). The statistical analyses will be completed using SAS software.

2 SAMPLE SIZE AND STATISTICAL METHODS

2.1 Sample Size Rationale

A sample size of 60 subjects showing a 90% success rate would give an 80% confidence interval of ± 5.0%. This would statistically differentiate success rates of 85% and 95%.

A sample size of 60 is sufficient to detect a mean difference of 5 (0-100) in tightness, or 0.2 mm in corneal overlap assuming the standard deviation of the mean differences in Table 2 below and assuming α=0.05 with a power of 95%.

Table 1: Sample Size Justification:

	Sample Size	
	Tightness (0-100)	**Corneal overlap (mm)**
Mean of paired difference	5	0.2
SD of paired difference	10	0.4
Minimum sample size per group	42	42

2.2 Level of Statistical Significance

The overall type I error rate will be preserved at 5%. To preserve type I error control, the study hypotheses will be evaluated using a sequential gate-keeping strategy. All tests will be two-sided. The three co-primary hypotheses will be simultaneously evaluated using α=0.05, all of which must be met in order to satisfy the primary objective of this study.

2.3 Analysis Population

The primary hypotheses will be analysed on all randomized subjects who have successfully completed the study without a protocol deviation that is deemed to impact the assessment of the primary hypotheses (i.e. the per-protocol population).

2.4 Summary Tables

Summary tables (descriptive statistics and/or frequency tables) will be provided for all variables as appropriate. Continuous variables will be summarized with descriptive statistics (n, mean, standard deviation (SD), median, minimum, and maximum). Frequency count and percentage of subjects or eyes within each category will be provided for categorical data.

2.5 Statistical Analysis

2.5.1 Success Rates – Two Designs versus One Design

Fit acceptance (0=Unacceptable, 1=Acceptable) will be analysed using a generalized linear mixed model with a binary distribution and a logit link function. Lens type will be included as a fixed effect and subject will be included as a random effect.

If the incidence rate is too low or there are problems with the convergence of the above model, the method of Wilson**Error! Reference source not found.** will be used to evaluate the confidence intervals.

2.5.2 Success Rates – Actual versus Theoretical

Fit acceptance (0=Unacceptable, 1=Acceptable) will be analysed using a generalized linear mixed model with a binary distribution and a logit link function. Lens type, period, and the lens by period interaction will be included as fixed effects and subject will be included as a random effect. The proportion of eyes with acceptable lens fit with each lens type will be calculated with 95% confidence intervals. These confidence intervals will be compared to the theoretical success rates.

If the incidence rate is too low or there are problems with the convergence of the above model, the method of Wilson**Error! Reference source not found.** will be used to evaluate the confidence intervals.

2.5.3 Fitting Characteristics – Actual versus Theoretical

The fitting characteristics will be analysed separately for tightness and corneal overlap using linear mixed models. The regression models will include the experimental design factors: lens type, period, and the lens by period interaction as fixed effects, and subject as a random effect. Comparisons will be carried out using 95% confidence intervals constructed of least-square means (LSM) from the linear mixed models.

2.5.4 Supplementary Analysis

Appropriate additional *post hoc* analyses may be undertaken.

2.6 Interim Analysis

There will be no interim analyses and, therefore, there are no criteria for early termination of the study on statistical grounds.