

Supplementary Table S1: Table to summarize the results of AMSTAR-2.

| Questions | Response | More Information |
|------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Q1 | Yes | Research questions include population, intervention, comparator and outcome |
| Q2 | Yes | Review methods were established prior to conduct of the review (review question, search strategy, inclusion\exclusion, risk of bias) |
| Q3 | Yes | Inclusion of randomized and non-randomized studies (because there are very few randomized studies) |
| Q4 | Partial yes | Searched only 1 database instead of 2, provided key word and search strategy |
| Q5 | Yes | Two reviewers selected a sample of eligible studies and achieved good agreement, with the remainder selected by one reviewer |
| Q6 | Yes | Two reviewers extracted data from a sample of eligible studies and achieved good agreement, with the remainder extracted by one reviewer |
| Q7 | No | List of excluded articles available on request but too lengthy to be included in review article |
| Q8 | Yes | Described population, intervention, comparators, outcomes and research designs |
| Q9 | Yes | Mentioned whether lack of randomization or lack of blinding in studies |
| Q10 | No | Did not include source of funding in review |
| Q11 | No | No meta-analysis, too heterogenous |
| Q12 | No | No meta-analysis |
| Q13 | Yes | Included discussion of bias in intervention studies as well as cross sectional and observational studies |
| Q14 | Yes | Mentioned the effects of heterogeneity as most studies are not interventional and not evaluating IVCM per se |
| Q15 | No | No meta-analysis conducted |
| Q16 | Yes | Authors reported no competing interest and sources of funding |

Supplementary Table S2: Risk of bias summary for individual studies (n= 4) in accordance with Rob2.

| Study | Yang | Postorino | Chinnery | Giannaccare |
|---------------------------------------------------------|----------------------------------------|---------------------------------------|-----------------------------------------------------|---------------------------------------|
| Outcome being assessed for ROB | 10 outcomes listed, no primary outcome | 6 outcomes listed, no primary outcome | Change in corneal sub-basal nerve plexus parameters | 7 outcomes listed, no primary outcome |
| Effect | Assignment to intervention | Assignment to intervention | Assignment to intervention | Assignment to intervention |
| Source | Journal article | Journal article | Journal article | Journal article |
| Randomization | Yes | Yes | Yes | Yes |
| Deviation from intended intervention (includes masking) | Participant and investigator masked | Participant not masked * | Participant and investigator masked | Participant and investigator masked |
| Missing outcome data | Not specified | Not specified | Not specified | Not specified |
| Measurement bias | Investigator masked | Investigator masked | Investigator masked | Investigator masked |
| Selection of reported result | Multiple outcome measurements * | Multiple outcome measurements * | No clear bias in reporting | Multiple outcome measurements * |
| Overall bias | Direction of bias cannot be predicted | Direction of bias cannot be predicted | Direction of bias cannot be predicted | Direction of bias cannot be predicted |