Appendix 1. Modified check-list adapted from the QUADAS-2 tool

Assessment of risk of bias

Domain 1: patient selection

Question 1: Was a consecutive or random sample of patients enrolled?

- ‘yes’ → low risk of bias
- ‘unclear’ → unclear risk of bias
- ‘no’ → high risk of bias.

Question 2: Did the study avoid inappropriate exclusions?

- ‘no’ for < 10% of patients or ‘yes’ → low risk of bias
- ‘unclear’ → unclear risk of bias
- ‘no’ for ≥ 10% of patients → high risk of bias.

Domain 2: index test

Were the index test result read without knowing the result of the reference standard?

- ‘yes’ → low risk of bias
- ‘unclear’ → unclear risk of bias
- ‘no’ → high risk of bias.

Domain 3: reference standard

The method in testing the postoperative refraction

- ‘objective autorefraction’ → low risk of bias
- ‘unclear’ → unclear risk of bias
- ‘subjective refraction’ → high risk of bias.

Domain 4: flow and timing

Question 1: Were all patients included in the analysis?

- ‘no’ but for < 10% of patients or ‘yes’ → low risk of bias
- ‘unclear’ → unclear risk of bias
• ‘no’ for ≥ 10% of patients → high risk of bias.

Question 2: Was there appropriate interval between the surgery and reference standard?

• ‘three weeks after surgery or later’ → low risk of bias
• ‘unclear’ → unclear risk of bias
• ‘before three weeks postoperatively’ → high risk of bias.

Assessment of applicability concerns

Domain 1: patient selection

Was a different diagnosis presented?

• ‘no’ → low risk of bias
• ‘unclear’ → unclear risk of bias
• ‘yes’ → high risk of bias.

Domain 2: index test

Variations in test technology

• ‘no’ → low risk of bias
• ‘unclear’ → unclear risk of bias
• ‘yes’ → high risk of bias.

Domain 3: reference standard

The method in testing the postoperative refraction

• ‘objective autorefraction’ → low risk of bias
• ‘unclear’ → unclear risk of bias
• ‘subjective refraction’ → high risk of bias.
| Author/Year | Risk of Bias | Applicability Concerns |
|-------------|--------------|------------------------|
|             | patient selection | index test | reference standard | flow and timing | patient selection | index test | reference standard |
| Wang 2010   | L             | L             | L             | L             | H             | L             | L             |
| McCarthy 2011 | H             | L             | L             | U             | L             | H             | L             |
| Huang 2013  | U             | L             | L             | L             | L             | H             | L             |
| Saiki1 2013 | U             | L             | L             | L             | H             | L             | L             |
| Saiki2 2013 | U             | L             | L             | L             | H             | L             | L             |
| Yang 2013   | U             | L             | L             | L             | H             | L             | L             |
| Ianchulev 2014 | L             | L             | U             | L             | L             | L             | U             |
| Saiki 2014  | U             | L             | L             | L             | L             | H             | L             |
| Potvin 2015 | L             | L             | L             | L             | H             | L             | L             |
| Wang 2015   | U             | L             | U             | U             | L             | H             | U             |
| Abulafia 2016 | L             | L             | L             | L             | U             | L             | L             |
| Helaly 2016 | U             | L             | L             | L             | L             | H             | L             |
| Wu 2017     | L             | L             | H             | L             | L             | H             | H             |
| Cho 2018    | U             | L             | L             | L             | L             | L             | L             |
| Vrijman 2019 | H             | L             | U             | U             | H             | L             | U             |
| Wang 2019   | L             | L             | L             | L             | L             | L             | L             |

L: low risk; H: high risk; U: unclear risk