

Sameday bilateral surgery for cataract

Review information

Authors

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Dates

Assessed as Up-to-date:

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What's new

Date / Event	Description

History

Date / Event	Description

Abstract

Background

Objectives

Search methods

Selection criteria

Data collection and analysis

Results

Authors' conclusions

Plain language summary

[Plain language title]

[Summary text]

Background

Description of the condition

Description of the intervention

How the intervention might work

Why it is important to do this review

Objectives

Methods

Criteria for considering studies for this review

Types of studies

Immediate sequential bilateral surgery/same day sequential surgery.

10) Risks/advantages of performing surgery on both eyes on the same day for "normal" patients (i.e. not mentally impaired or senile)

P: Patients with age-related cataract

I: Immediate sequential bilateral surgery versus surgery on both eyes on separate dates

C: Risk of endophthalmitis, post-operative anisometropia, patient satisfaction

O: Endophthalmitis rates. Postoperative anisometropia (>3 diopters difference spherical equivalent). Subjective satisfaction assessed by validated questionnaires. Serious adverse events

Types of participants

Types of interventions

Types of outcome measures

Primary outcomes

Secondary outcomes

Search methods for identification of studies

Electronic searches

Searching other resources

Data collection and analysis

Selection of studies

Data extraction and management

Assessment of risk of bias in included studies

Measures of treatment effect

Unit of analysis issues

Dealing with missing data

Assessment of heterogeneity

Assessment of reporting biases

Data synthesis

Subgroup analysis and investigation of heterogeneity

Sensitivity analysis

Results

Description of studies

Results of the search

Included studies

Excluded studies

Risk of bias in included studies

Allocation (selection bias)

Blinding (performance bias and detection bias)

Incomplete outcome data (attrition bias)

Selective reporting (reporting bias)

Other potential sources of bias

Effects of interventions

Discussion

Summary of main results

Overall completeness and applicability of evidence

Quality of the evidence

Potential biases in the review process

Agreements and disagreements with other studies or reviews

Authors' conclusions

Implications for practice

Implications for research

Acknowledgements

Contributions of authors

Declarations of interest

Differences between protocol and review

Published notes

Characteristics of studies

Characteristics of included studies

Lundström 2006

Methods	RCT Compares self-assessed visual function and visual acuity in patients receiving same-day bilateral cataract surgery or bilateral cataract surgery on different dates
Participants	Country and clinic: Blekinge Hospital, Karlskrona, Sweden Patients with age-related cataract receiving phacoemulsification. Demographics of Group 1: n= 50, mean age 72.5 yrs, 54.0 % women, median VA 0.6/0.6 (right/left eye) prior to surgery Demographics of Group 2: n= 46, mean age 72.5 yrs, 54.3% women, median VA 0.6/0.6 (right/left eye) prior to surgery No of patients excluded after randomization: 6% in Group 1, 10.9% in Group 2 No of patients lost to follow-up: not reported
Interventions	Group 1: immediate sequential bilateral cataract surgery Group 2: sequential bilateral cataract surgery delayed by 2 months
Outcomes	Visual acuity was 0.8 or better in 91.5% of patients in Group 1 and 91.3% of patients in Group 2. Two months after surgery total disability score (Catquest-score) was 7.0 in Group 1 and 7.0 in Group 2.
Notes	only means are presented, no standarddeviations postoperative anisometropia not noted. email to author The study was supported by the County Council of Blekinge. No conflicts of interests noted

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	"The patients were randomly assigned to ISCS or to DSCS". No further description of randomization procedure
Allocation concealment (selection bias)	Unclear risk	Not described in paper
Blinding of participants and personnel (performance bias)	High risk	Not possible to blind patients or personnel to whether the patient had both eyes operated on the same day or on two different dates.
Blinding of outcome assessment (detection bias)	Unclear risk	Not reported
Incomplete outcome data (attrition bias)	Unclear risk	High rate of exclusions after randomization/drop-outs (8/96=8.3%), not possible to assess whether this influenced the outcome since the characteristics of drop-outs were not compared to non-drop-outs
Selective reporting (reporting bias)	Low risk	Important outcomes are reported

Other bias	Low risk	Not likely in this study
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Sarikkola 2011

Methods	RCT Compares visual outcome, patient satisfaction, complication rates and postoperative anisometropi in patients randomized to immediate sequential bilateral or delayed sequential bilateral cataract surgery
Participants	Country and clinic: Helsinki University Eye Hospital, Helsinki, Finland Patients with age-related cataract undergoing phacoemulsification Demographics of Group 1: mean (SD) age 75.3 (7.9), 73.6% women, preop CDVA (median) 20/60 Demographics of Group 2: mean (SD) age 75.0 (8.1), 74.3% women, preop CDVA (median) 20/60 No of patients excluded after randomization: 4% in Group 1 and 2.7% in Group 2 No of patients lost to follow-up: 3.2% in total
Interventions	Group 1: immediate sequential bilateral cataract surgery Group 2: delayed sequential bilateral cataract surgery
Outcomes	Postoperatively satisfaction with vision (VF-7) was 24.3 (21.0) in Group 1 and 23.8 (19.2) in Group 2. Rate of any complications (intraoperatively up to 1 months postop) was 106/493 in Group 1 and 124/506 in Group 2. The rate of serious complications (wound leak, corneal edema, cystoid macular edema, endophthalmitis) was 9/493 in Group 1 and 9/506 in Group 2. CDVA was 20/25 or better in 376/493 in Group 1 and 336/506 in Group 2
Notes	email to author on post-op VA The study was supported by private and public research grants. No conflict of interests reported

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	"Randomization was performed using sealed envelopes after the preoperative examination"
Allocation concealment (selection bias)	Unclear risk	Patients (and staff) knew after the preoperative assessment but before the surgery to which group they belonged
Blinding of participants and personnel (performance bias)	High risk	Not possible to blind patients or personnel to who had same-day or different day surgery
Blinding of outcome assessment (detection bias)	Unclear risk	Not reported
Incomplete outcome data (attrition bias)	Low risk	96.0% in Group 1 and 97.3% in Group 2 were treated per protocol. 491/507 randomized patients had 1 month follow-up
Selective reporting (reporting bias)	Low risk	Important outcomes were reported
Other bias	Low risk	Not likely in this study

Serrano-Aguilar 2012

Methods	RCT Compares postsurgical complications, visual acuity and self-perceived visual function after immediate sequential of delayed sequential bilateral cataract surgery
Participants	Country and clinic: multiple clinics in the Canary Islands, Spain Patients with age-related cataract receiving phacoemulsification Demographics of Group 1: mean (SD) age 72.9 (8.2), 61.2 % women, preop CDVA (median) 20/100 Demographics of Group 2: mean (SD) age 71.7 (7.9), 60.5% women, preop CDVA (median) 20/100 No of patients excluded after randomization: 5.0% in Group 1 and 3.7% in Group 2 No of patients lost to follow-up: 0 patients at 1 month follow-up
Interventions	Group 1: immediate sequential bilateral cataract surgery Group 2: delayed sequential bilateral cataract surgery
Outcomes	Postoperative visual acuity was only reported as median values. Rate of any complications (intra- and postop + dry eyes) was 39/834 in Group 1 and 59/780 in Group 2. Rate of serious complications (wound leak, corneal edema, cystoid macular edema, endophthalmitis) was 10/834 in Group 1 versus 3/780 in Group 2. Visual function score (VF-14 questionnaire) was 93.3 (12.8) in Group 1 and 95.8 (8.5) in Group 2 one month after surgery on the last eye.
Notes	email was sent to author to provide means and standard deviations on postoperative visual acuities The study was supported by public research grants

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	"A computer-generated sequence was used"
Allocation concealment (selection bias)	Unclear risk	"Random numbers were obtained for all patients on the waiting list before participants were selected on the basis of the inclusion and exclusion criteria. Randomization was performed sequentially for blocks of 200 patients". Unclear whether those including the patients in the study were aware of the patients randomization status before inclusion/exclusion
Blinding of participants and personnel (performance bias)	High risk	Not possible to blind patients or personnel to whether the patient had both eyes operated on the same day or on two different dates.
Blinding of outcome assessment (detection bias)	Unclear risk	Not reported
Incomplete outcome data (attrition bias)	Low risk	Low number of exclusions and drop-outs (<5% at the 1 months postoperative examination)
Selective reporting (reporting bias)	Low risk	Important outcomes were reported

Other bias	Low risk	Not likely in this study
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Footnotes

Characteristics of excluded studies

Arshinoff 2003

Reason for exclusion	Retrospective observational study reporting the outcome after same-day bilateral cataract surgery. Does not compare same-day bilateral with different-day bilataralt surgery
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Arshinoff 2006

Reason for exclusion	Observational study assessing the resource utilization and economic incentives of same-day and different date bilateral cataract surgeries
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Arshinoff 2011

Reason for exclusion	Literature review of reported cases. Not prospective or randomized study
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Chung 2009

Reason for exclusion	Prospective, non-randomized, observational study comparing the outcome after same-day bilateral cataract surgery to separate date bilateral surgery
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Huang 2007

Reason for exclusion	Retrospective observational study describing the outcome after same-day bilateral cataract surgery. Does not compare to patients being operated on separate dates
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Johansson 2003

Reason for exclusion	Retrospective study reporting the outcome after same-day bilateral cataract surgery but does not compare to different date bilateral surgery
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Johansson 2004

Reason for exclusion	Retrospective study reporting the refractive outcome after same-day bilateral cataract surgery but does not compare to different date bilateral surgery
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Leivo 2011

Reason for exclusion	RCT. Compares economic costs not the rate of complications, postoperative anisometripi, postoperative visual function or patients satisfaction
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Lundström 2009

Reason for exclusion	Observational study reporting the resource utilization in same-day versus different date bilateral cataract surgery
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Nassiri 2009

Reason for exclusion	Prospective, non-randomized, observational study comparing the outcome after same-day or different date bilateral cataract surgery
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Ramsay 1999

Reason for exclusion	Retrospective study reporting the outcome after same-day bilateral cataract surgery. Does not compare to patients being operated on separate dates. Only a small number of patients had phacoemulsification, the majority had ECCE
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Sarikkola 2004

Reason for exclusion	Retrospective study reporting the outcome after same-day bilateral cataract surgery. Does not compare to a group operated on two separate dates
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Sharma 2001

Reason for exclusion	Observational study reporting the outcome after same-day bilateral cataract surgery but does not compare to patients being operated on separate dates. Only 1 patient received phacoemulsification, the rest had ECCE
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Totan 2000

Reason for exclusion	Retrospective study reporting the outcome after same-day bilateral cataract surgery in pediatric and adult patients. Does not compare to an adult group operated on two separate dates
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Wertheim 2002

Reason for exclusion	Observational study reporting the outcome after same-day bilateral cataract surgery. Does not compare same-day bilateral to different-day bilateral surgery
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Footnotes

Characteristics of studies awaiting classification

Footnotes

Characteristics of ongoing studies

Footnotes

Summary of findings tables

Additional tables

References to studies

Included studies

Lundström 2006

[Published in: *J Cataract Refract Surg*; 32: 826-830]

[Empty]

Sarikkola 2011

[Published in: *J Cataract Refract Surg* 2011; 37: 992-1002]

[Empty]

Serrano-Aguilar 2012

[Published in: *J Cataract Refract Surg*; 2012: 1734-1742]

[Empty]

Excluded studies

Arshinoff 2003

[Published in: *J Cataract Refract Surg*; 29: 1281-1291]

[Empty]

Arshinoff 2006

[Published in: *J Cataract Refract Surg*; 32: 1355-1360]

[Empty]

Arshinoff 2011

[Published in: *J Cataract Refract Surg*; 37: 2105-2114]

[Empty]

Chung 2009

[Published in: *Jpn J Ophthalmol*; 53: 107-113]

[Empty]

Huang 2007

[Published in: *Chang Gung Med J*; 30: 151-160]

[Empty]

Johansson 2003

[Published in: *Br J Ophthalmol*; 87: 285-290]

[Empty]

Johansson 2004

[Published in: *J Cataract Refract Surg*; 30: 1326-1334]

[Empty]

Leivo 2011

[Published in: *J Cataract Refract Surg*; 37: 1003-1008]

[Empty]

Lundström 2009

[Published in: *Acta Ophthalmol*; 87: 33-38]

[Empty]

Nassiri 2009

[Published in: *Eye*; 23: 89-95]

[Empty]

Ramsay 1999

[Published in: *J Cataract Refract Surg*; 25: 753-762]

[Empty]

Sarikkola 2004

[Published in: *J Cataract Refract Surg*; 30: 1335-1341]

[Empty]

Sharma 2001

[Published in: *J Cataract Refract Surg*; 27: 741-744]

[Empty]

Totan 2000

[Published in: *J Cataract Refract Surg*; 26: 1008-1011]

[Empty]

Wertheim 2002

[Published in: *Br J Ophthalmol*; 86: 1356-1358]

[Empty]

Studies awaiting classification**Ongoing studies****Other references****Additional references****Other published versions of this review**

Data and analyses

1 Complication rate

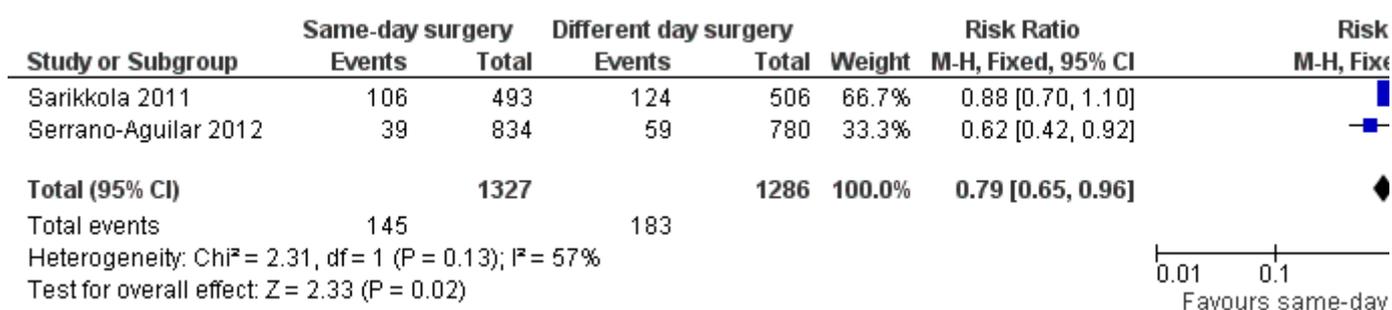
Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
1.1 Any postoperative complications	2	2613	Risk Ratio (M-H, Fixed, 95% CI)	0.79 [0.65, 0.96]
1.2 Serious postoperative complications	2	2613	Risk Ratio (M-H, Fixed, 95% CI)	1.57 [0.76, 3.23]

3 Self-assessed visual function

Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
3.1 Subjective visual function test	2	2096	Std. Mean Difference (IV, Fixed, 95% CI)	-0.12 [-0.20, -0.03]

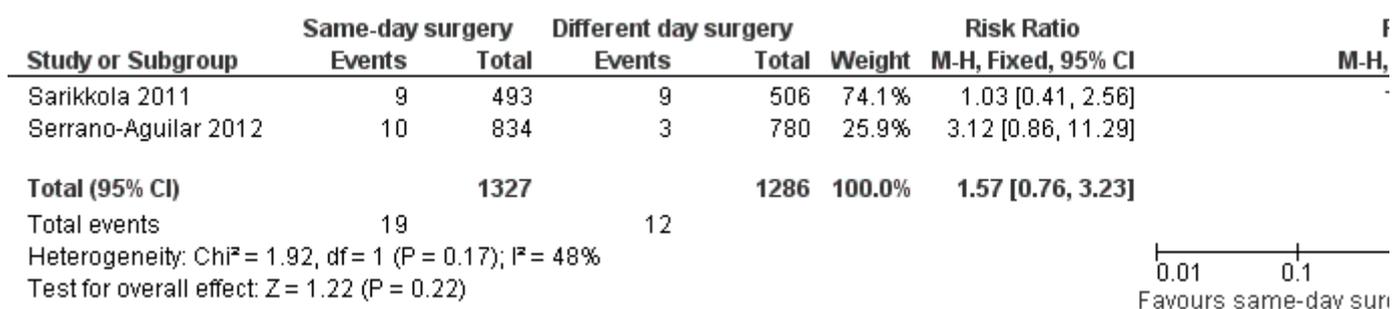
Figures

Figure 1 (Analysis 1.1)



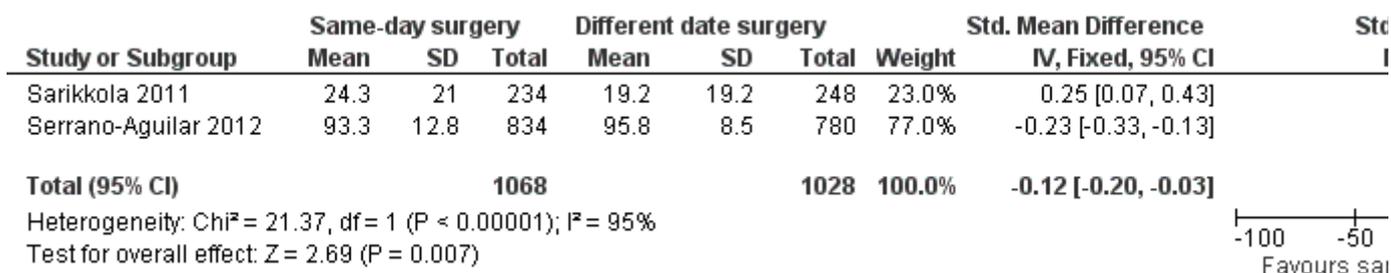
Forest plot of comparison: 1 Complication rate, outcome: 1.1 Any postoperative complications.

Figure 2 (Analysis 1.2)



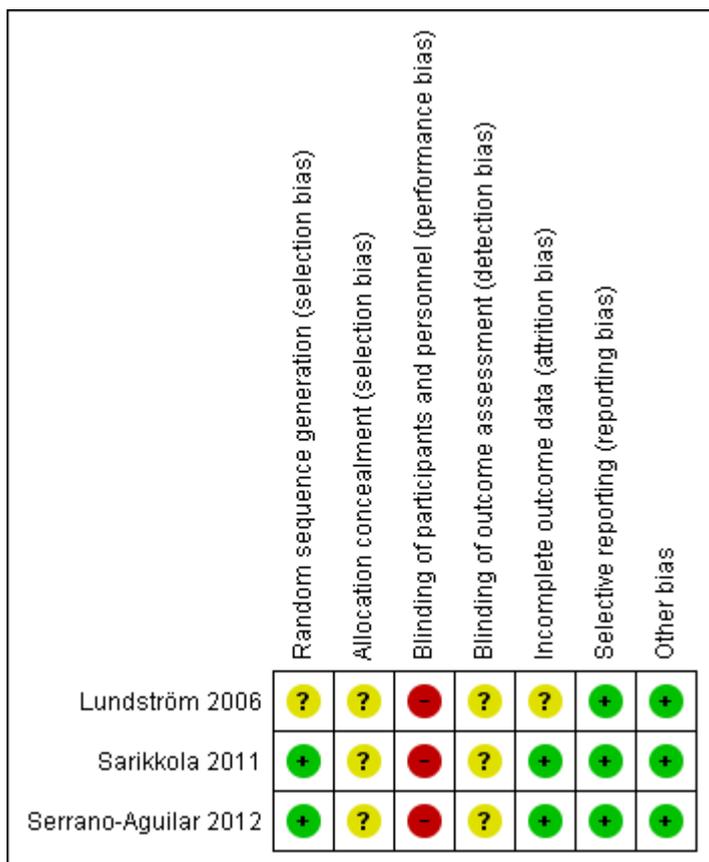
Forest plot of comparison: 1 Complication rate, outcome: 1.2 Serious postoperative complications.

Figure 3 (Analysis 3.1)



Forest plot of comparison: 3 Self-assessed visual function, outcome: 3.1 Subjective visual function test.

Figure 4



Risk of bias summary: review authors' judgements about each risk of bias item for each included study.

Sources of support

Internal sources

- No sources of support provided

External sources

- No sources of support provided

Feedback

Appendices