

## Appendix 1

Table S1 Systematic review search terms

Database	Search terms
Medline/Cochrane Central	(exp Sex Characteristics/OR exp Sex Factors/OR exp Sex/OR Sex Distribution/OR (sex* adj3 difference*).mp,kw. OR (sex* adj3 specific*).mp,kw. OR sex factor*.mp,kw. OR sex characteristic*.mp,kw. OR sex based.mp,kw. OR sex distribution.mp,kw. OR (sex* adj3 stratifi*).mp,kw. OR sex related.mp,kw. OR gender*.mp,kw. OR male*-female*.mp,kw. OR (male* adj2 female*).mp,kw. OR (exp Aortic Dissection/OR m#n adj2 wom#n).mp,kw.) AND ((type a adj3 aort* dissect*).mp,kw. OR dissecting aneurysm.mp,kw.) AND (exp Follow-Up Studies/OR exp Survival Rate/OR exp Survival/OR exp Survival Analysis/OR exp Treatment Outcome/OR exp Reoperation/OR exp Mortality/OR mortality.mp,kw. OR survival.mp,kw. OR reintervention*.mp,kw. OR re-intervention*.mp,kw. OR reoperation*.mp,kw. OR re-operation*.mp,kw. OR exp Death/OR death*.mp,kw. OR Fatalit*.mp,kw. OR Prognos*.mp,kw. OR morbidity.mp,kw. OR follow-up.mp,kw. OR kaplan meier.mp,kw.)
Embase	(exp sex difference/OR exp sex factor/OR exp gender/OR exp "gender and sex"/OR (sex* adj3 difference*).mp,kw. OR (sex* adj3 specific*).mp,kw. OR sex factor*.mp,kw. OR sex characteristic*.mp,kw. OR sex based.mp,kw. OR sex distribution.mp,kw. OR (sex* adj3 stratifi*).mp,kw. OR sex related.mp,kw. OR gender*.mp,kw. OR male*-female*.mp,kw. OR (male* adj2 female*).mp,kw. OR (m#n adj2 wom#n).mp,kw.) AND (exp aortic dissection/OR (type a adj3 aort* dissect*).mp,kw. OR dissecting aneurysm.mp,kw.) AND (exp follow up/OR exp long-term survival/OR exp overall survival/OR exp survival analysis/OR exp mortality/OR exp death/OR exp reoperation/OR mortality.mp,kw. OR survival.mp,kw. OR reintervention*.mp,kw. OR re-intervention*.mp,kw. OR reoperation*.mp,kw. OR re-operation*.mp,kw. OR death*.mp,kw. OR Fatalit*.mp,kw. OR Prognos*.mp,kw. OR morbidity.mp,kw. OR follow-up.mp,kw. OR kaplan meier.mp,kw.)

## Appendix 2

Table S2 List of extracted variables

Type	Variables
Preoperative	Age, body mass index, body surface area, cerebrovascular accident, chronic kidney disease/renal insufficiency, connective tissue disease/Marfan's disease, chronic obstructive pulmonary disease, coronary artery disease, diabetes mellitus, hypertension, current smoker, previous cardiac surgery, previous/known aneurysm, shock, malperfusion syndrome, tamponade
Intraoperative	Cardiopulmonary bypass time, aortic valve replacement, total arch replacement, hemiarch replacement, aortic cannulation, axillary/subclavian cannulation, femoral cannulation, nadir temperature
Perioperative outcomes	In-hospital/30-day mortality, stroke/permanent neurological dysfunction, reoperation for bleeding

### Appendix 3

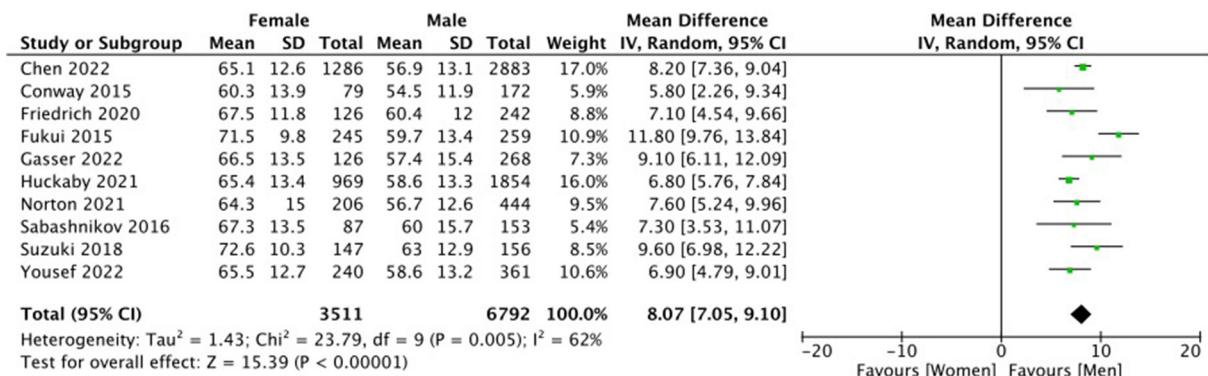


Figure S1 Forest plot for age. SD, standard deviation; IV, inverse variance; CI, confidence interval; df, degree of freedom.

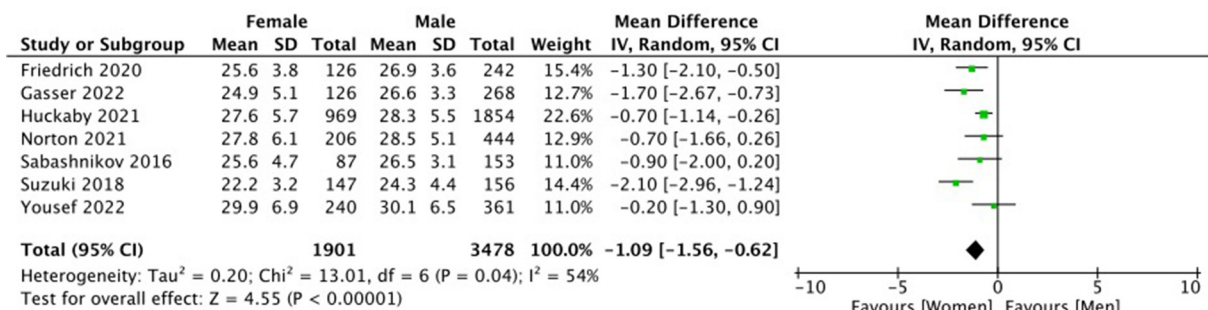


Figure S2 Forest plot for body mass index. SD, standard deviation; IV, inverse variance; CI, confidence interval; df, degree of freedom.

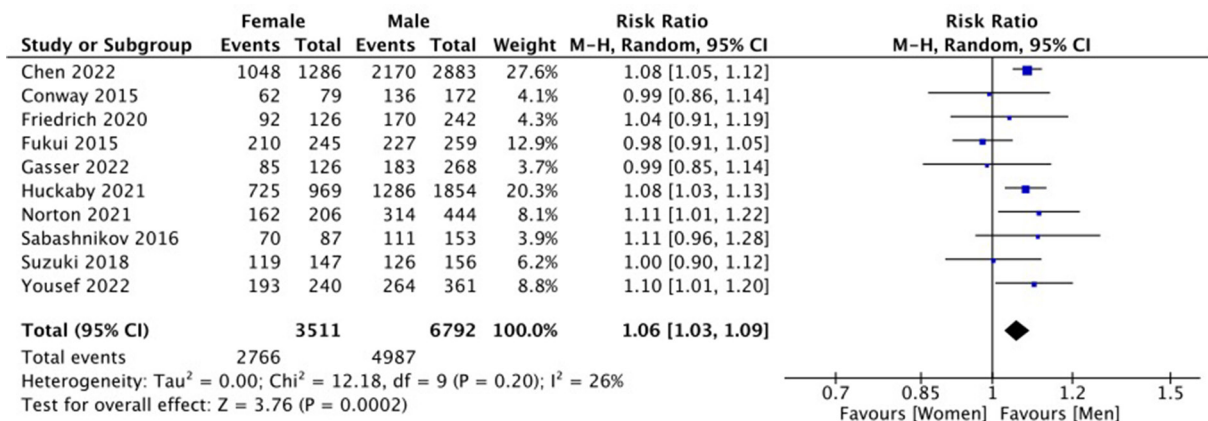


Figure S3 Forest plot for hypertension. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

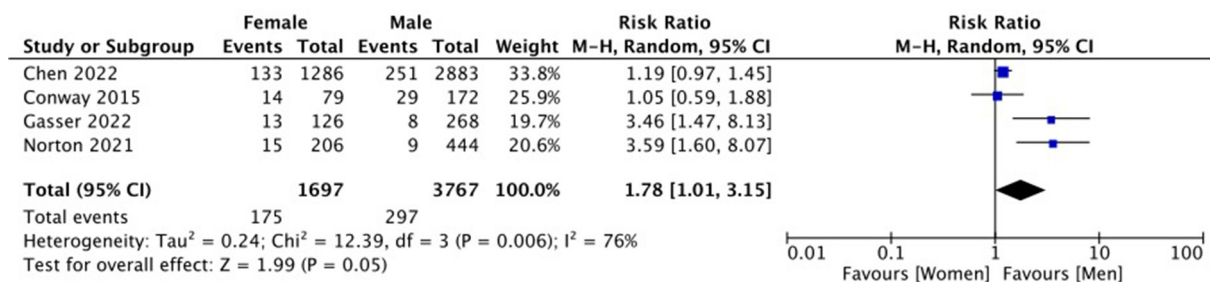


Figure S4 Forest plot for preoperative cerebrovascular accident. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

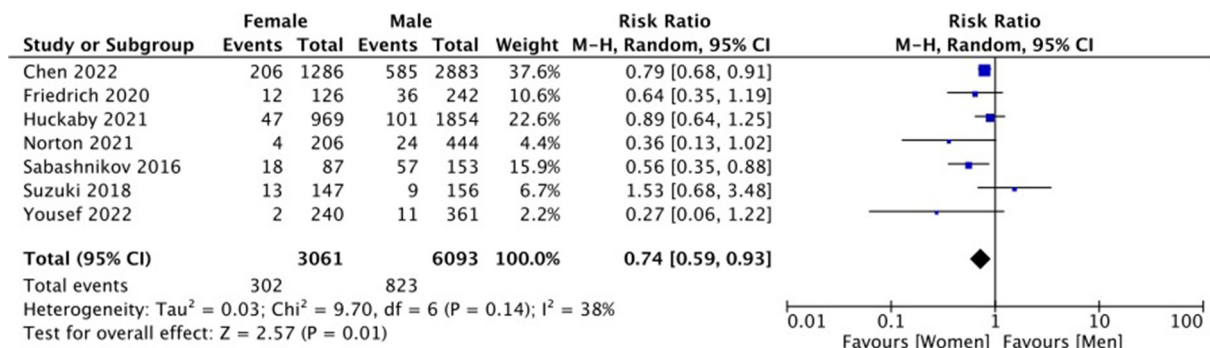


Figure S5 Forest plot for preoperative chronic kidney disease. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

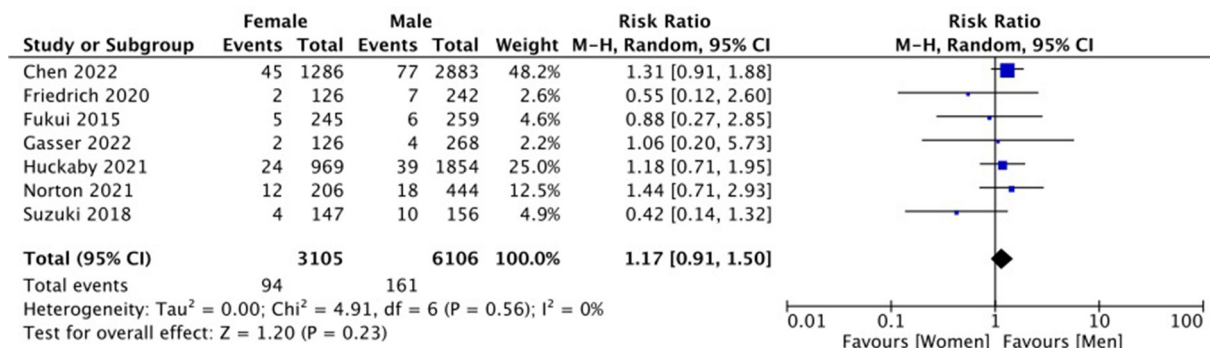


Figure S6 Forest plot for connective tissue disease. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

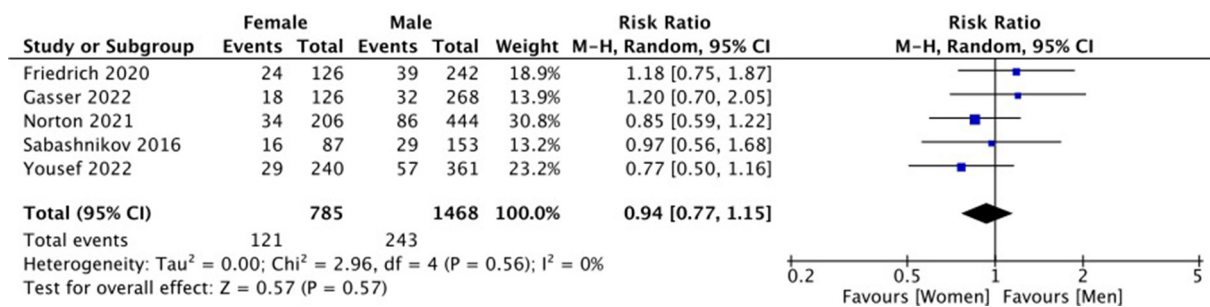


Figure S7 Forest plot for coronary artery disease. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

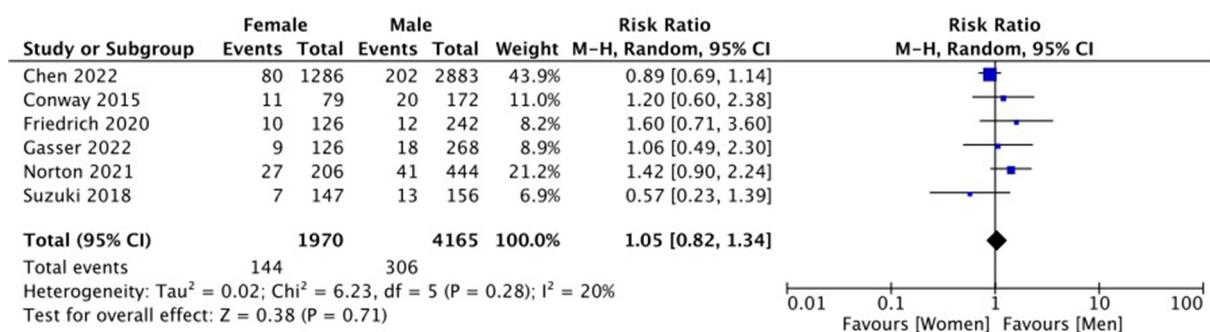


Figure S8 Forest plot for chronic obstructive pulmonary disease. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

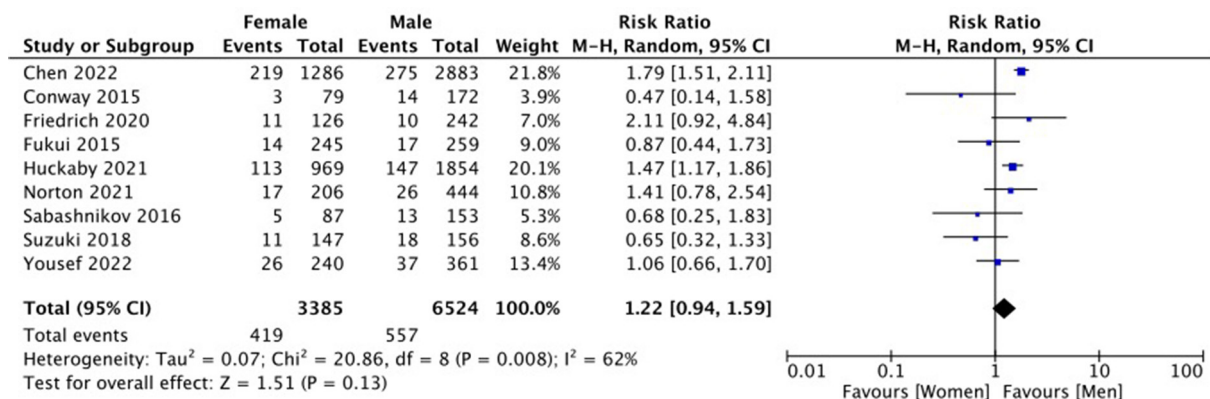


Figure S9 Forest plot for diabetes mellitus. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

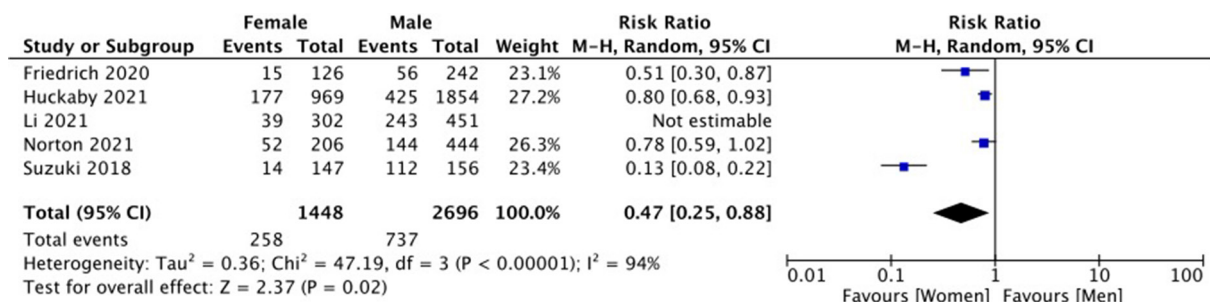


Figure S10 Forest plot for current smoking status. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

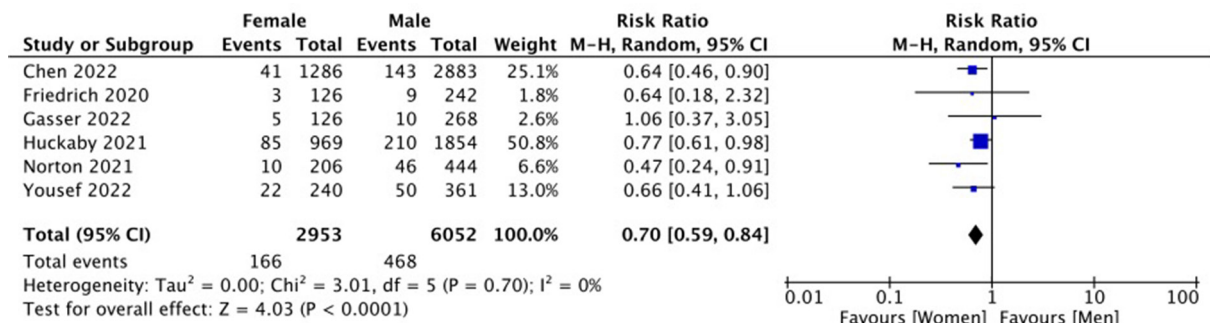


Figure S11 Forest plot for prior cardiac surgery. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

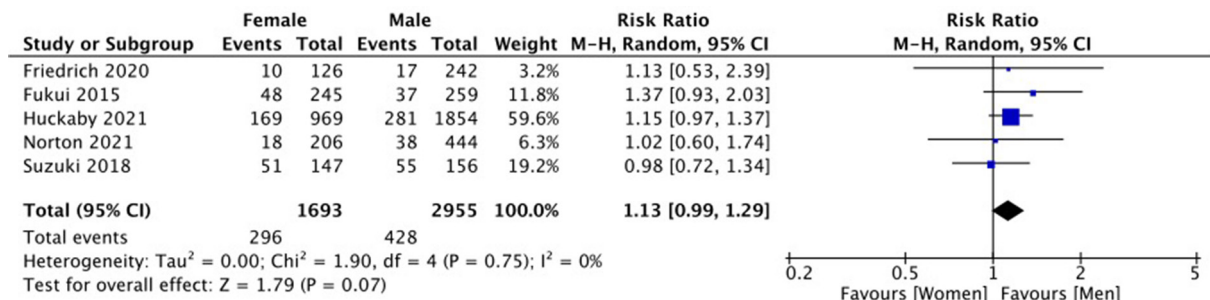


Figure S12 Forest plot for shock. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

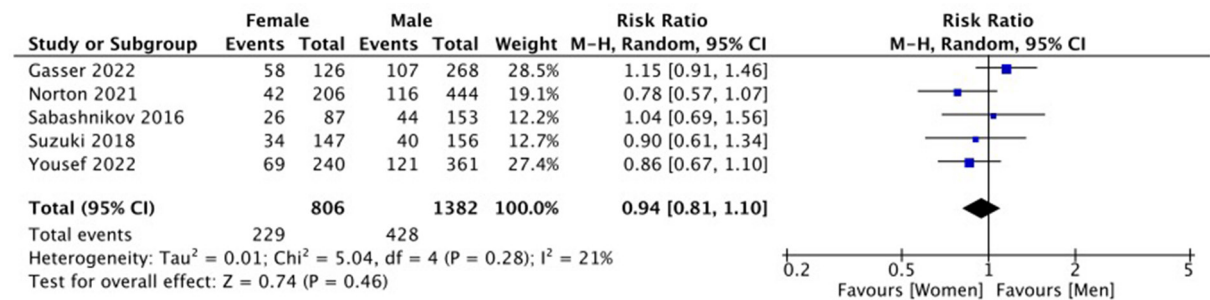
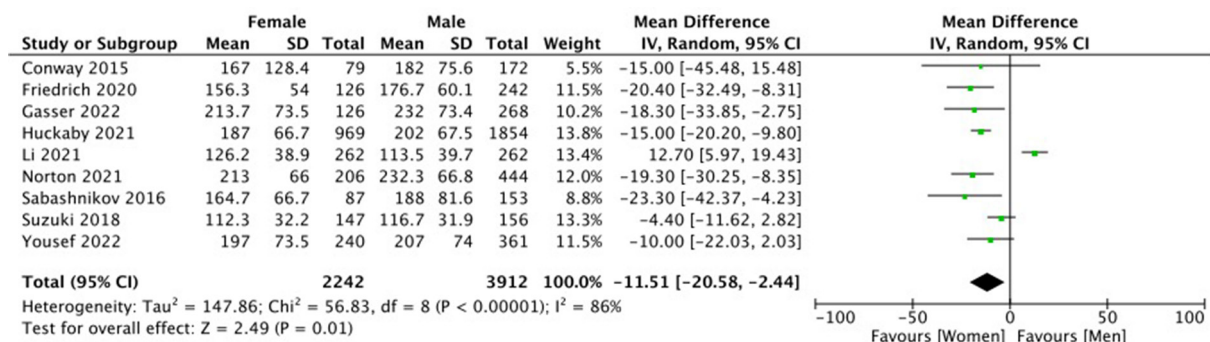
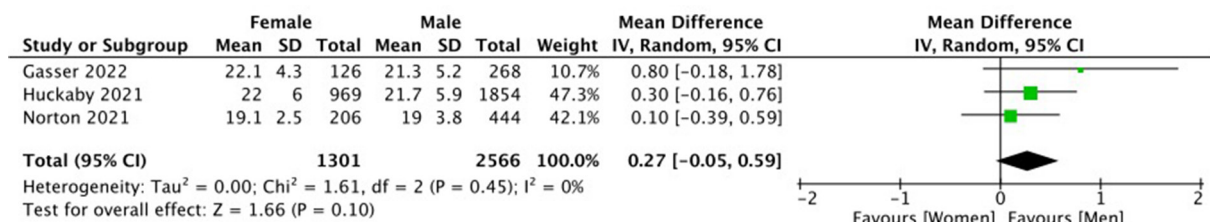


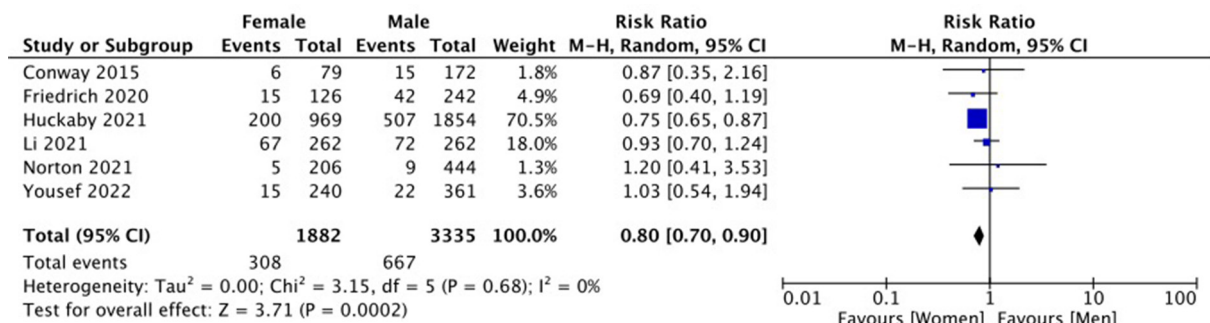
Figure S13 Forest plot for malperfusion. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.



**Figure S14** Forest plot for cardiopulmonary bypass time. SD, standard deviation; IV, inverse variance; CI, confidence interval; df, degree of freedom.



**Figure S15** Forest plot for nadir temperature. SD, standard deviation; IV, inverse variance; CI, confidence interval; df, degree of freedom.



**Figure S16** Forest plot for aortic valve replacement. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

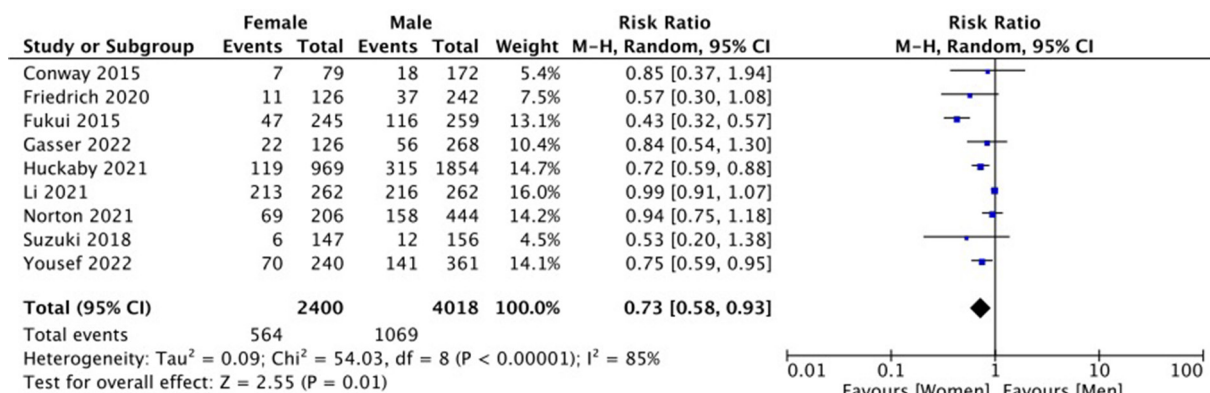


Figure S17 Forest plot for total arch replacement. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

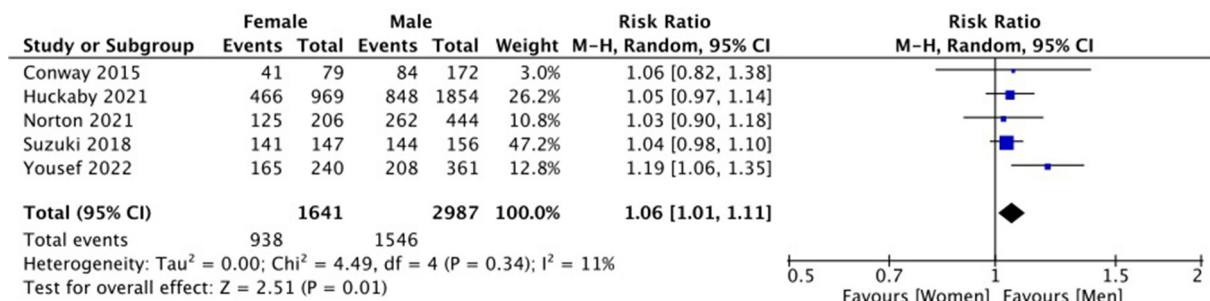


Figure S18 Forest plot for hemiarch replacement. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

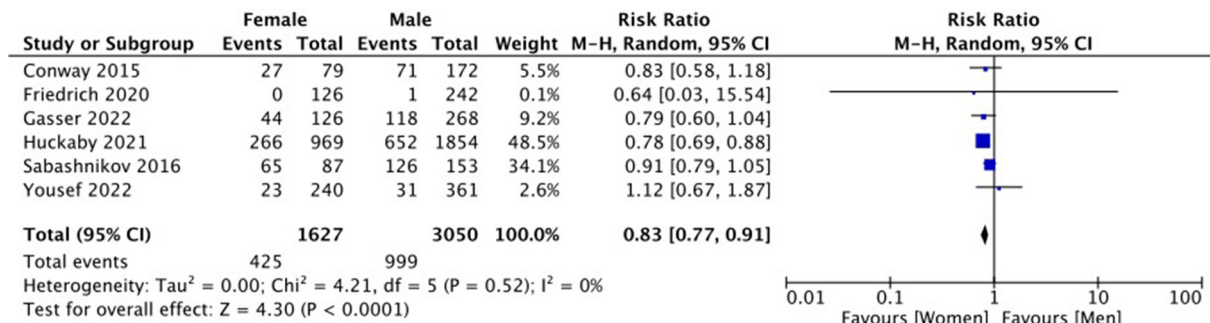


Figure S19 Forest plot for axillary cannulation. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

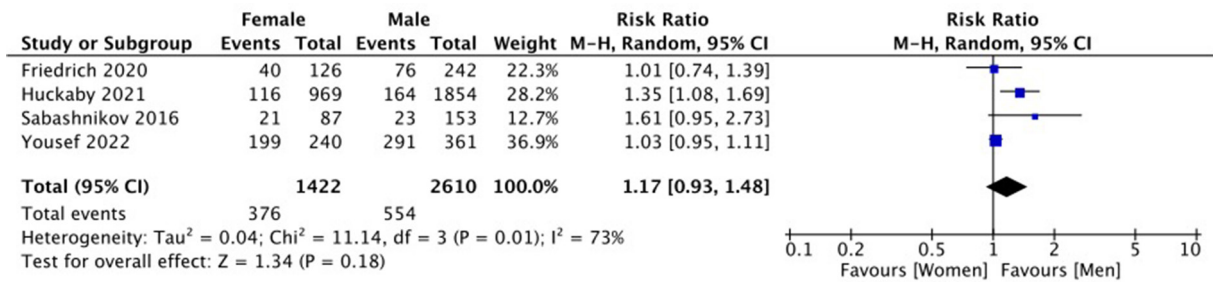


Figure S20 Forest plot for aortic cannulation. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

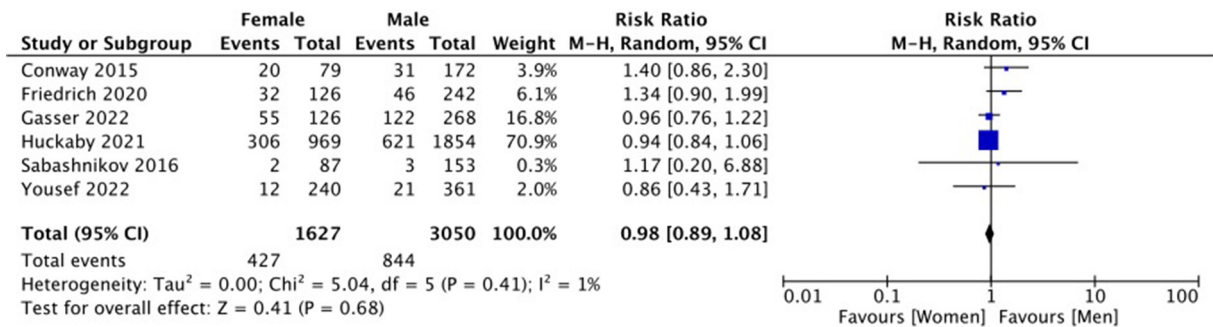


Figure S21 Forest plot for femoral cannulation. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

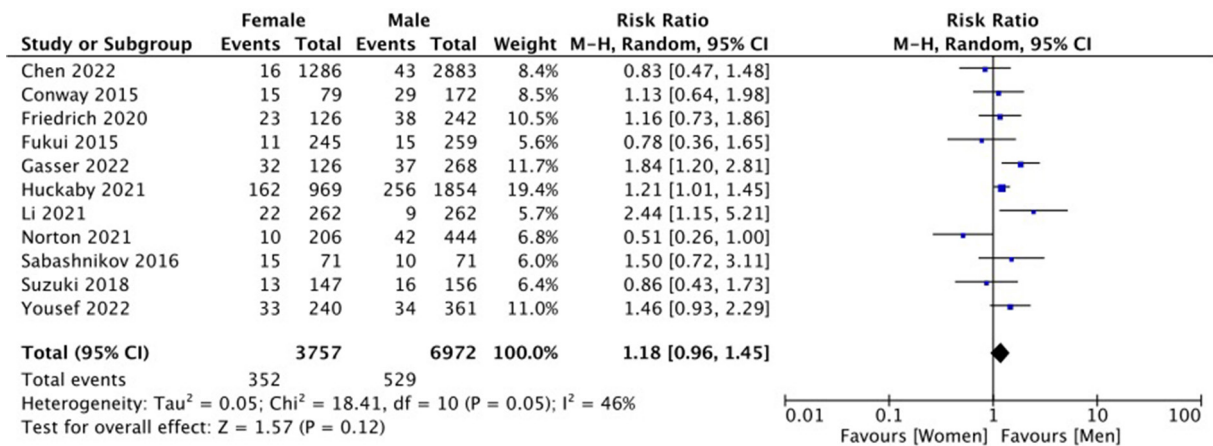


Figure S22 Forest plot for in-hospital/30-day mortality. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.



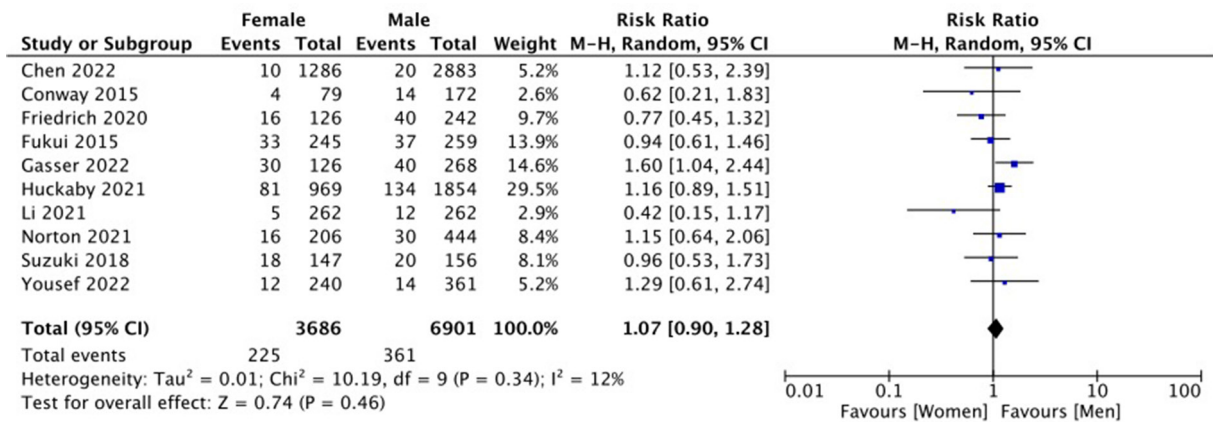


Figure S23 Forest plot for postoperative stroke. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

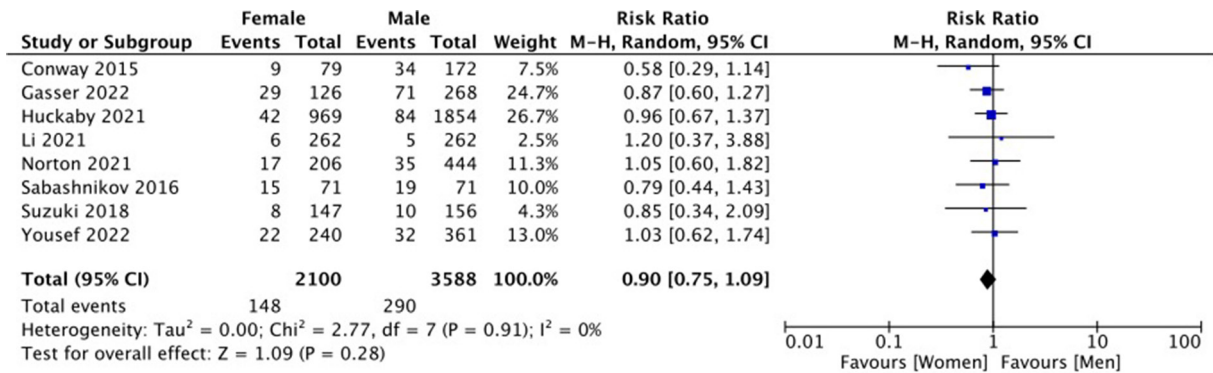
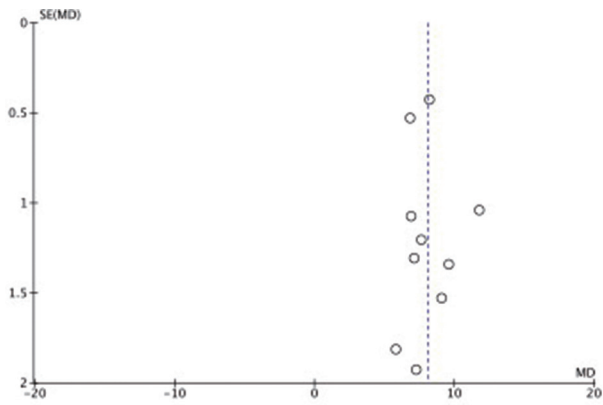
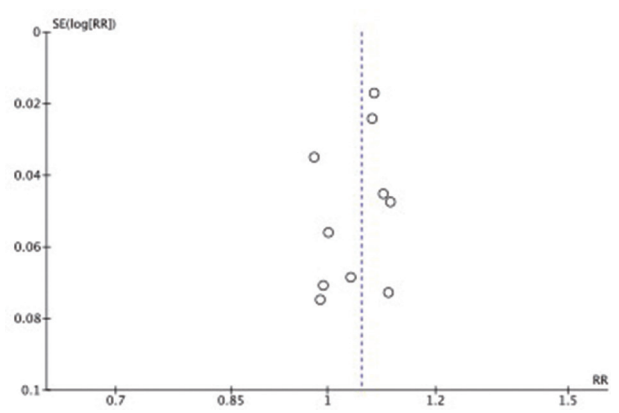


Figure S24 Forest plot for early reoperation for bleeding. M-H, Mantel-Haenszel; CI, confidence interval; df, degree of freedom.

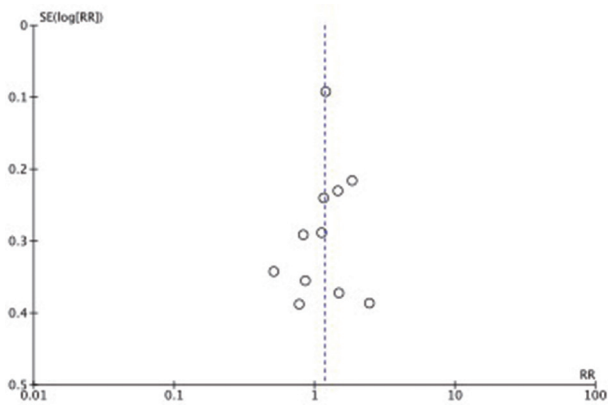
## Appendix 4



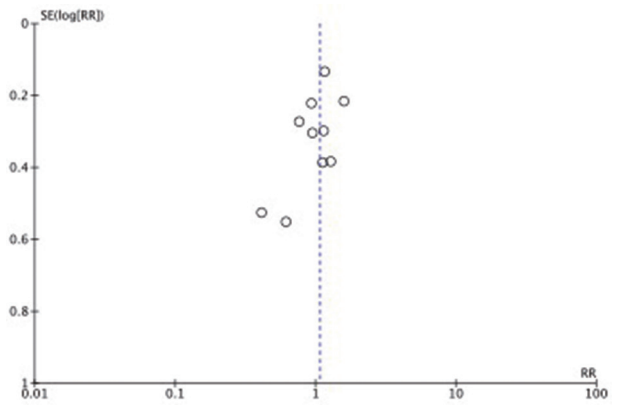
**Figure S25** Funnel plot for age. SE, standard error; MD, mean difference.



**Figure S26** Funnel plot for preoperative hypertension. SE, standard error; RR, risk ratio.



**Figure S27** Funnel plot for in-hospital/30-day mortality. SE, standard error; RR, risk ratio.



**Figure S28** Funnel plot for postoperative stroke. SE, standard error; RR, risk ratio.