SUPPLEMENTAL MATERIAL

Data S1.

Supplemental Methods

Search strategy.

PubMed (n=393 on 29/12/2020)

("Pulmonary Valve"[Mesh] OR “Pulmonary valve*” OR “Valves, Pulmonary” OR “Valve, Pulmonary”) AND (“Replacement*” OR “Replantation*” OR “Surgical Replantation*” OR “Replantation, Surgical” OR “Reimplantation*”) AND ("Tricuspid Valve"[Mesh] OR “Tricuspid valve*” OR “Valve, Tricuspid” OR “Valves, Tricuspid” OR “Tricuspid”)

Embase (n=709 on 29/12/2020)

(('pulmonary valve'/exp AND ('replacement' OR 'replantation' OR 'reimplantation')) OR 'pulmonary valve replacement'/exp OR 'pulmonary valve replacement') AND ('tricuspid valve'/exp OR 'tricuspid valve' OR 'tricuspid')

Scopus (n=929 on 29/12/2020)

(TITLE-ABS-KEY ("Pulmonary valve*" OR "Valves, Pulmonary" OR "Valve, Pulmonary") AND TITLE-ABS-KEY ("Replacement*" OR "Replantation*" OR "Surgical Replantation*" OR "Replantation,Surgical" OR "Reimplantation*") AND TITLE-ABS-KEY ("Tricuspid valve*" OR "Valve, Tricuspid" OR "Valves, Tricuspid" OR "Tricuspid"))

Figure S1. Bias assessment of observational studies (ROBINS-1 tool).

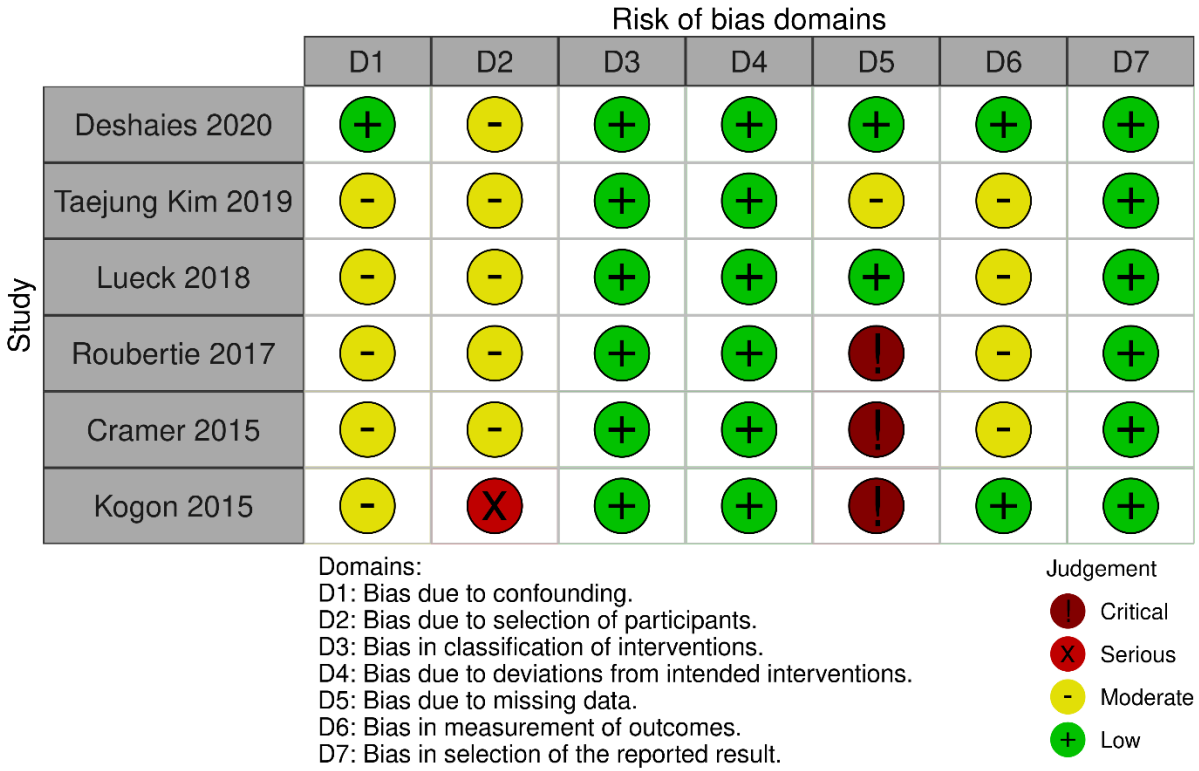
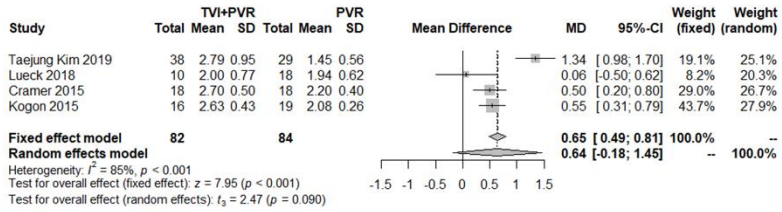
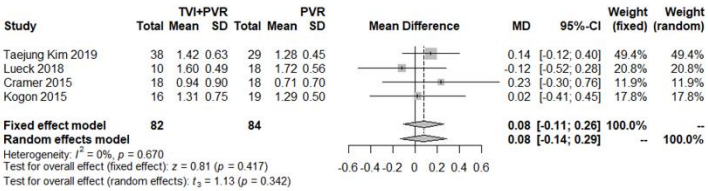


Figure S2. Forest plots for TR grade (0-3). Pooled mean difference and conclusions plot for all comparisons. CI, confidence interval; MD, mean difference; PVR, pulmonary valve replacement; SD, standard deviation; TR, tricuspid regurgitation; TVI, tricuspid valve intervention.

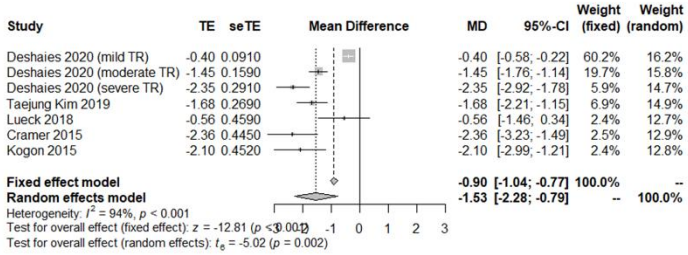
A. Difference in pre-op TR grade (0-3) between TVI+PVR and PVR



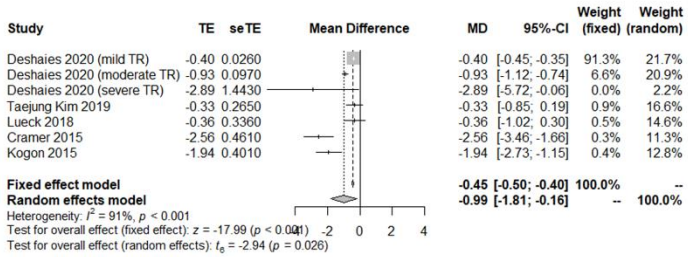
B. Difference in post-op TR grade (0-3) between TVI+PVR and PVR



C. Change from pre-op to post-op TR grade (0-3) in TVI+PVR



D. Change from pre-op to post-op TR grade (0-3) in PVR



E. Difference in change in TR grade (0-3) between TVI+PVR and PVR

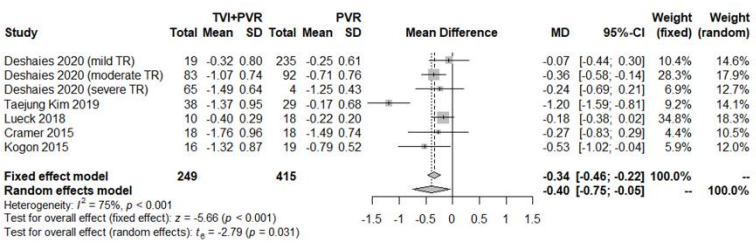
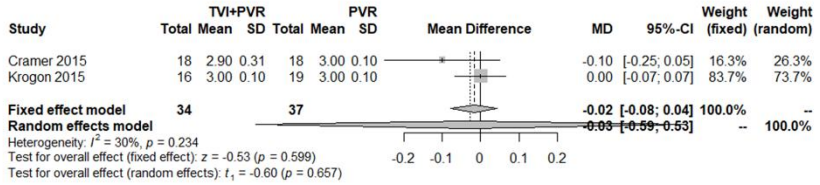
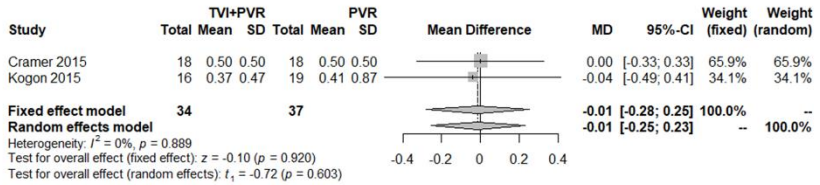


Figure S3. Forest plots for PR grade (0-3). Pooled mean difference and conclusions plot for all comparisons. CI, confidence interval; MD, mean difference; PR, pulmonary regurgitation; PVR, pulmonary valve replacement; SD, standard deviation; TVI, tricuspid valve intervention.

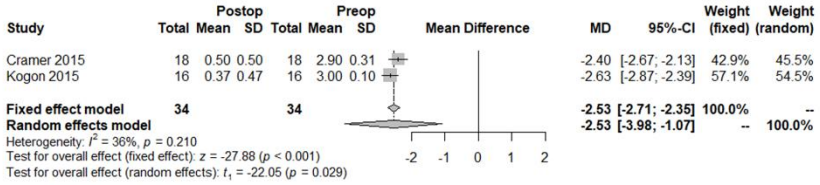
A. Difference in pre-op PR grade (0-3) between TVI+PVR and PVR



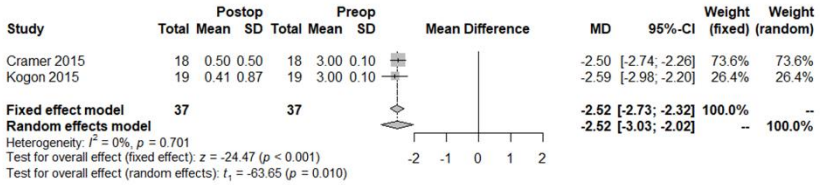
B. Difference in post-op PR grade (0-3) between TVI+PVR and PVR



C. Change from pre-op to post-op PR grade (0-3) in TVI+PVR



D. Change from pre-op to post-op PR grade (0-3) in PVR



E. Difference in change in PR grade (0-3) between TVI+PVR and PVR

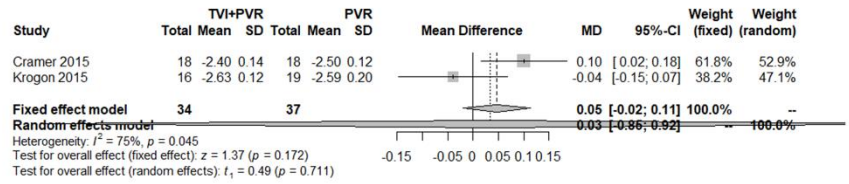
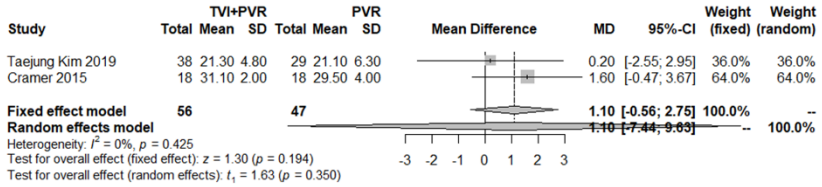
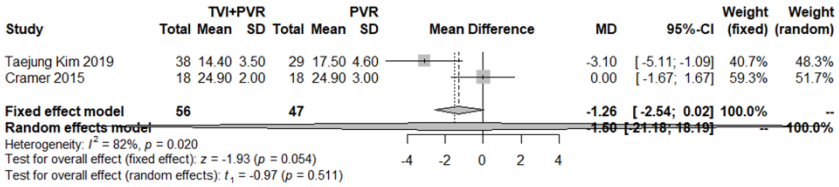


Figure S4. Forest plots for TV annulus (mm). Pooled mean difference and conclusions plot for all comparisons. CI, confidence interval; MD, mean difference; PVR, pulmonary valve replacement; SD, standard deviation; TV, tricuspid valve; TVI, tricuspid valve intervention.

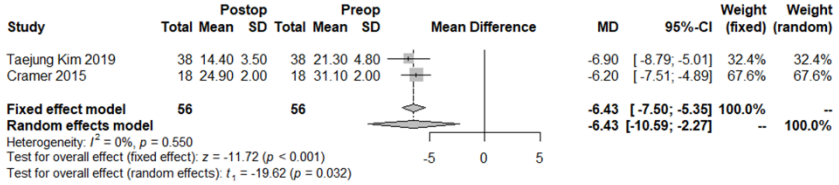
A. Difference in pre-op TV annulus (mm) between TVI+PVR and PVR



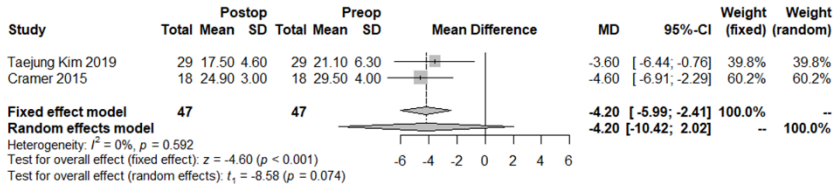
B. Difference in post-op TV annulus (mm) between TVI+PVR and PVR



C. Change from pre-op to post-op TV annulus (mm) in TVI+PVR



D. Change from pre-op to post-op TV annulus (mm) in PVR



E. Difference in change in TV annulus (mm) between TVI+PVR and PVR

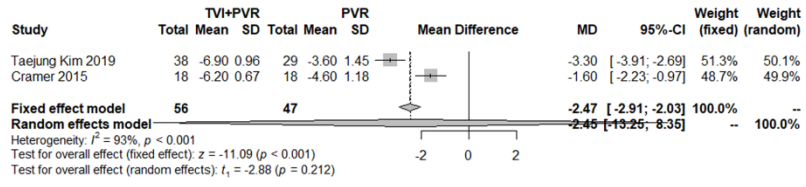
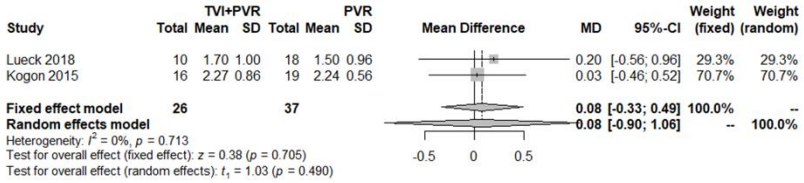
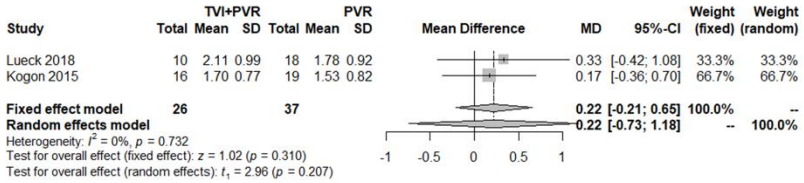


Figure S5. Forest plots for RV dilatation (0-3). Pooled mean difference and conclusions plot for all comparisons. CI, confidence interval; MD, mean difference; PVR, pulmonary valve replacement; RV, right ventricular; SD, standard deviation; TVI, tricuspid valve intervention.

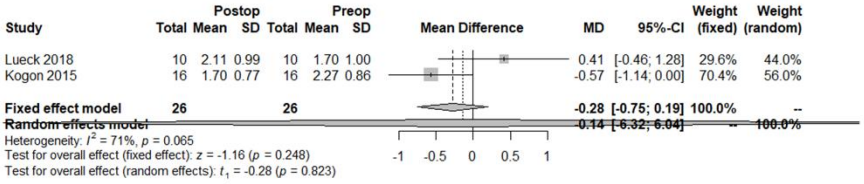
A. Difference in pre-op RV dilatation (0-3) between TVI+PVR and PVR



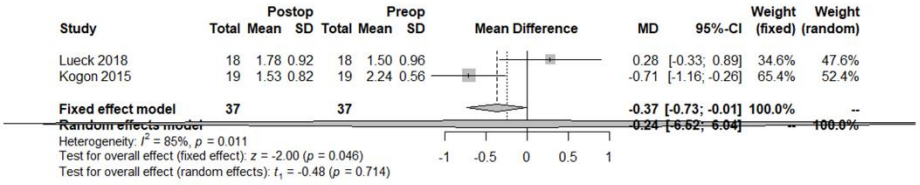
B. Difference in post-op RV dilatation (0-3) between TVI+PVR and PVR



C. Change from pre-op to post-op RV dilatation (0-3) in TVI+PVR



D. Change from pre-op to post-op RV dilatation (0-3) in PVR



E. Difference in change in RV dilatation (0-3) between TVI+PVR and PVR

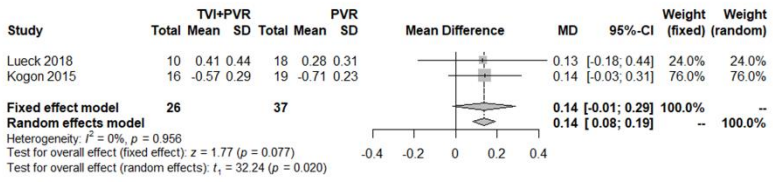
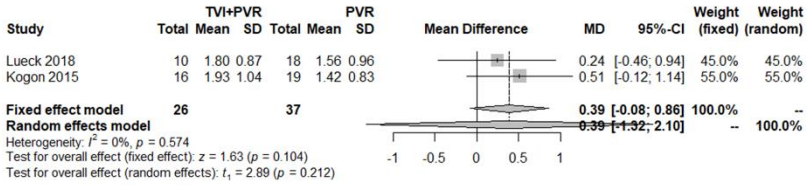
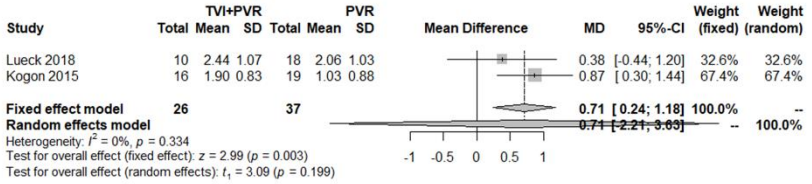


Figure S6. Forest plots for RV dysfunction (0-3). Pooled mean difference and conclusions plot for all comparisons. CI, confidence interval; MD, mean difference; PVR, pulmonary valve replacement; RV, right ventricular; SD, standard deviation; TVI, tricuspid valve intervention.

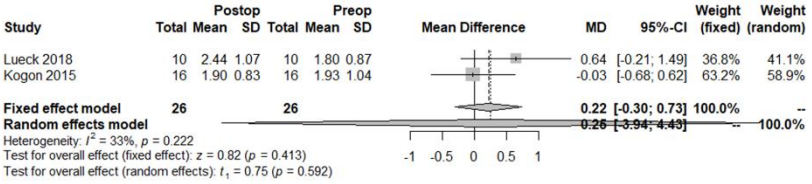
A. Difference in pre-op RV dysfunction (0-3) between TVI+PVR and PVR



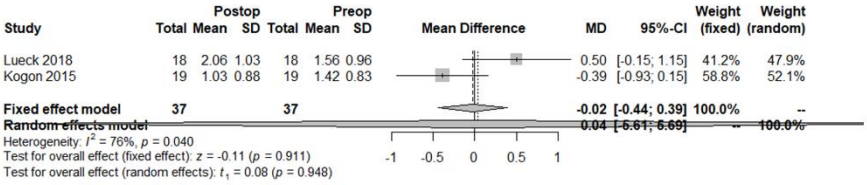
B. Difference in post-op RV dysfunction (0-3) between TVI+PVR and PVR



C. Change from pre-op to post-op RV dysfunction (0-3) in TVI+PVR



D. Change from pre-op to post-op RV dysfunction (0-3) in PVR



E. Difference in change in RV dysfunction (0-3) between TVI+PVR and PVR

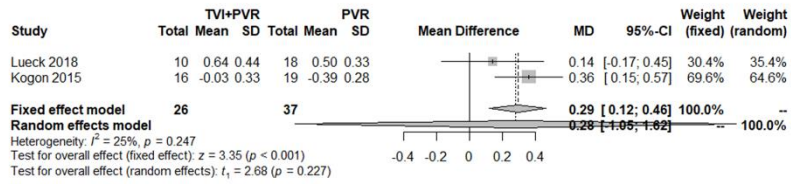
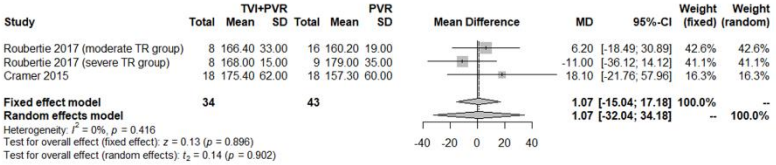
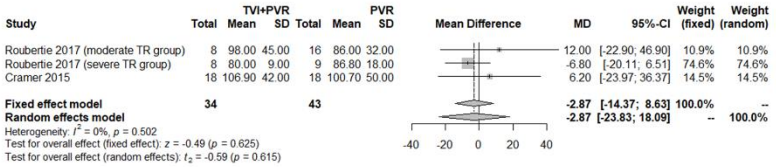


Figure S7. Forest plots for RVEDV (mL). Pooled mean difference and conclusions plot for all comparisons. CI, confidence interval; MD, mean difference; PVR, pulmonary valve replacement; RVEDV, right ventricular end-diastolic volume; SD, standard deviation; TVI, tricuspid valve intervention.

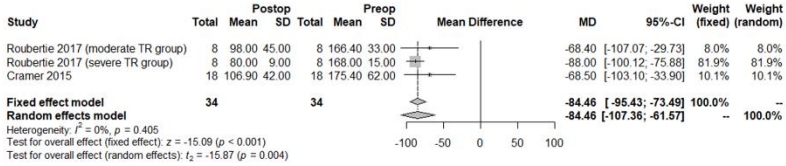
A. Difference in pre-op RVEDV (mL) between TVI+PVR and PVR



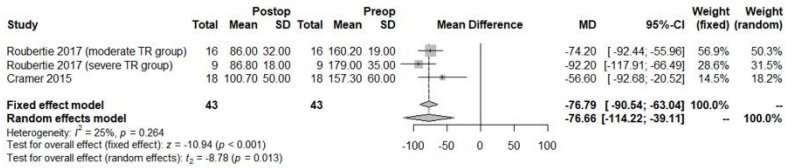
B. Difference in post-op RVEDV (mL) between TVI+PVR and PVR



C. Change from pre-op to post-op RVEDV (mL) in TVI+PVR



D. Change from pre-op to post-op RVEDV (mL) in PVR



E. Difference in change in RVEDV (mL) between TVI+PVR and PVR

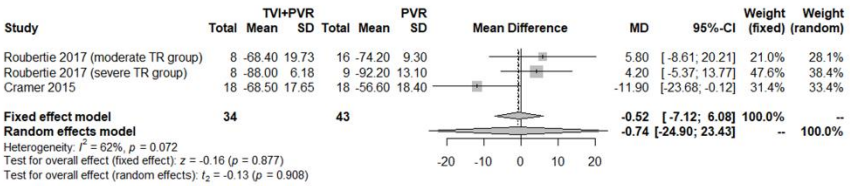
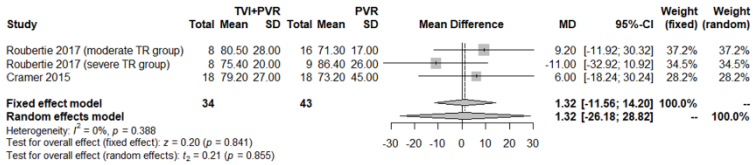
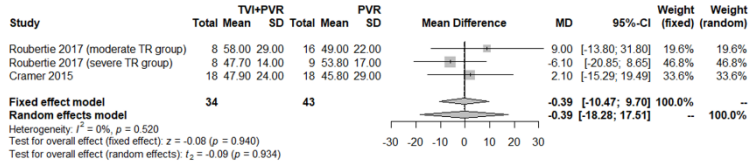


Figure S8. Forest plots for RVESV (mL). Pooled mean difference and conclusions plot for all comparisons. CI, confidence interval; MD, mean difference; PVR, pulmonary valve replacement; RVESV, right ventricular end-systolic volume; SD, standard deviation; TVI, tricuspid valve intervention.

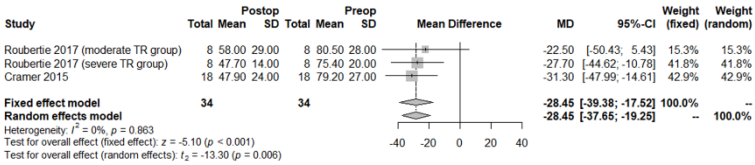
A. Difference in pre-op RVESV (mL) between TVI+PVR and PVR



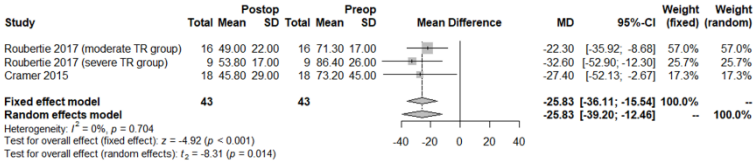
B. Difference in post-op RVESV (mL) between TVI+PVR and PVR



C. Change from pre-op to post-op RVESV (mL) in TVI+PVR



D. Change from pre-op to post-op RVESV (mL) in PVR



E. Difference in change in RVESV (mL) between TVI+PVR and PVR

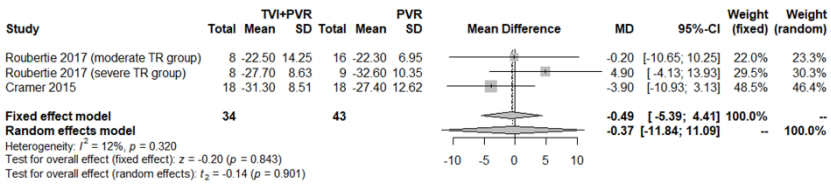
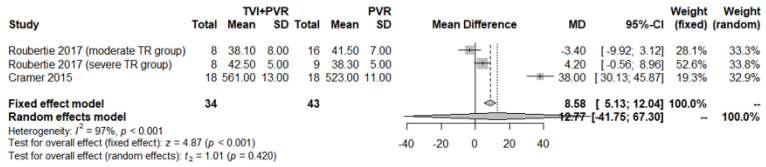
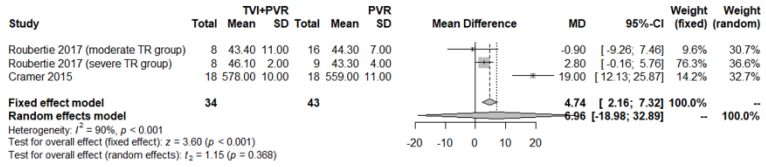


Figure S9. Forest plots for RVEF (%). Pooled mean difference and conclusions plot for all comparisons. CI, confidence interval; MD, mean difference; PVR, pulmonary valve replacement; RVEF, right ventricular ejection fraction; SD, standard deviation; TVI, tricuspid valve intervention.

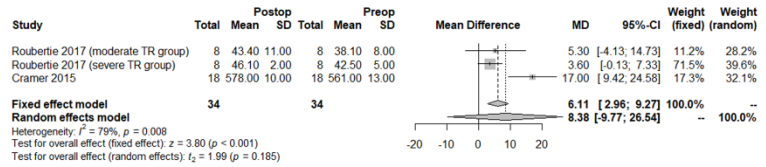
A. Difference in pre-op RVEF (%) between TVI+PVR and PVR



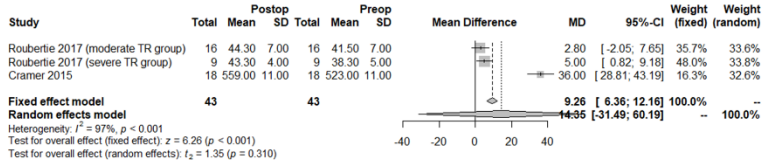
B. Difference in post-op RVEF (%) between TVI+PVR and PVR



C. Change from pre-op to post-op RVEF (%) in TVI+PVR



D. Change from pre-op to post-op RVEF (%) in PVR



E. Difference in change in RVEF (%) between TVI+PVR and PVR

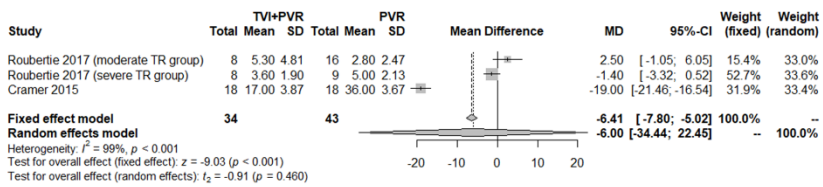


Figure S10. Forest plot for 30-day mortality. Pooled odds ratio and conclusions plot. CI, confidence interval; OR, odds ratio; PVR, pulmonary valve replacement; TVI, tricuspid valve intervention.