

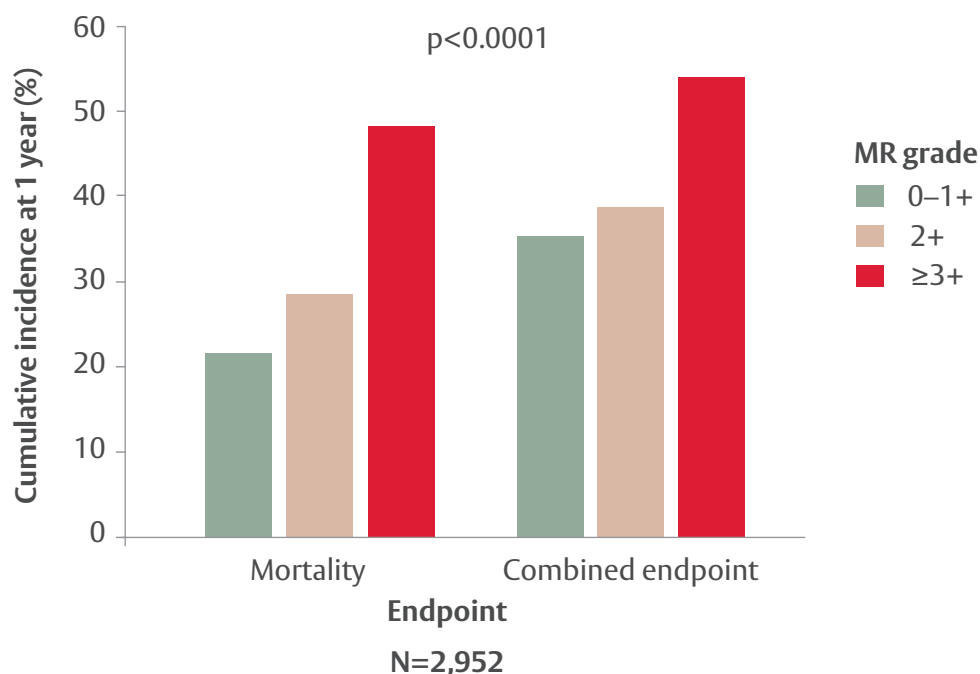
# Mitral valve repair: Residual MR matters

In the early days of transcatheter mitral valve repair, the goal was a successful procedure that reduced mitral regurgitation (MR) to less than 3+; residual MR grade 2+ was considered **acceptable MR reduction**.<sup>1,2</sup>

Compelling new data on more than 3,700 patients show that residual MR grades 0–1+ are significantly associated with superior patient outcomes when compared with residual MR 2+, including reduced mortality and rehospitalisation.<sup>3–6</sup>

## Significantly lower 1-year mortality and heart failure rehospitalisation for MR 0–1+

Patients with residual MR  $\geq 2+$  have higher mortality and re-hospitalization rate than those with MR 0-1+ in this mostly DMR\* patient population

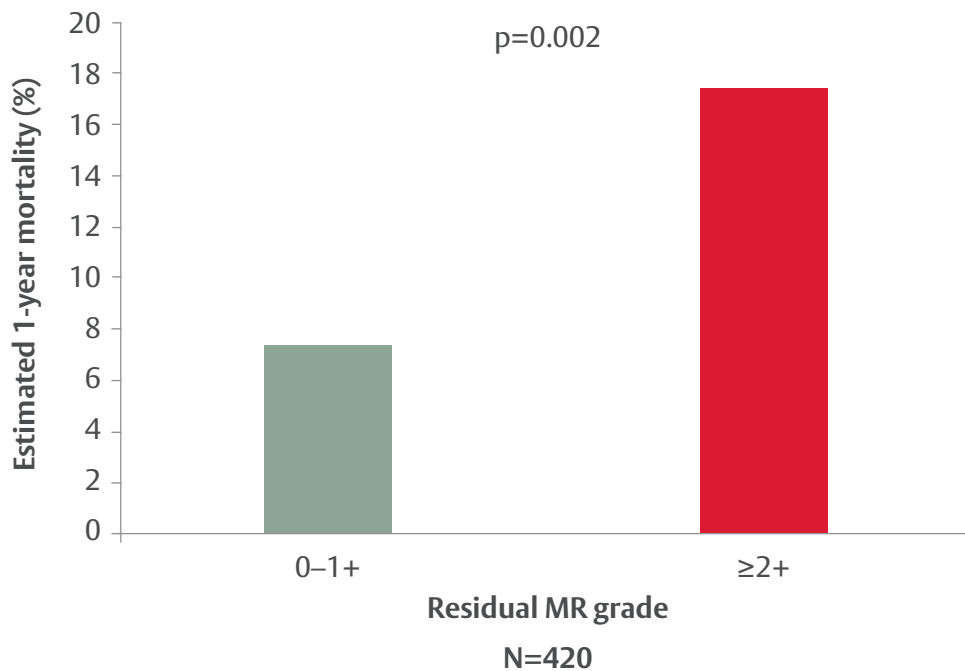


Sorajja P, Vemulapalli S, Feldman T *et al.* Outcomes with transcatheter mitral valve repair in the United States. *An STS/ACC TVT Registry Report.* 2017; 70:2315–27

\* Degenerative mitral regurgitation

## Significantly lower 1-year mortality for MR 0–1+

Patients with residual MR  $\geq 2+$  have a significantly worse prognosis and higher mortality rate than those with MR 0-1+ in balanced FMR and DMR population

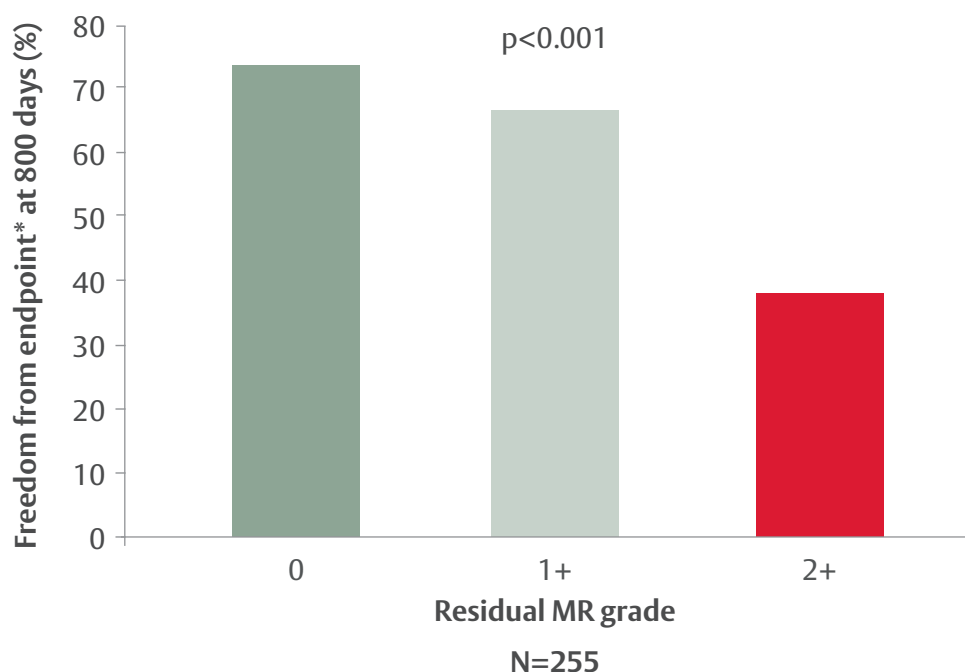


Tabata N, Weber M, Sugiura A *et al.* Impact of the leaflet-to-annulus index on residual mitral regurgitation in patients undergoing edge-to-edge mitral repair. *JACC Cardiovasc Interv.* 2019; 12: 2462–72

## Significantly higher freedom from endpoint\* at 800 days for MR 0–1+

Combined clinical efficacy is significantly higher for patients with residual MR 0-1+ compared to MR 2+ in balanced FMR and DMR population

Same effect observed in FMR and DMR subgroups

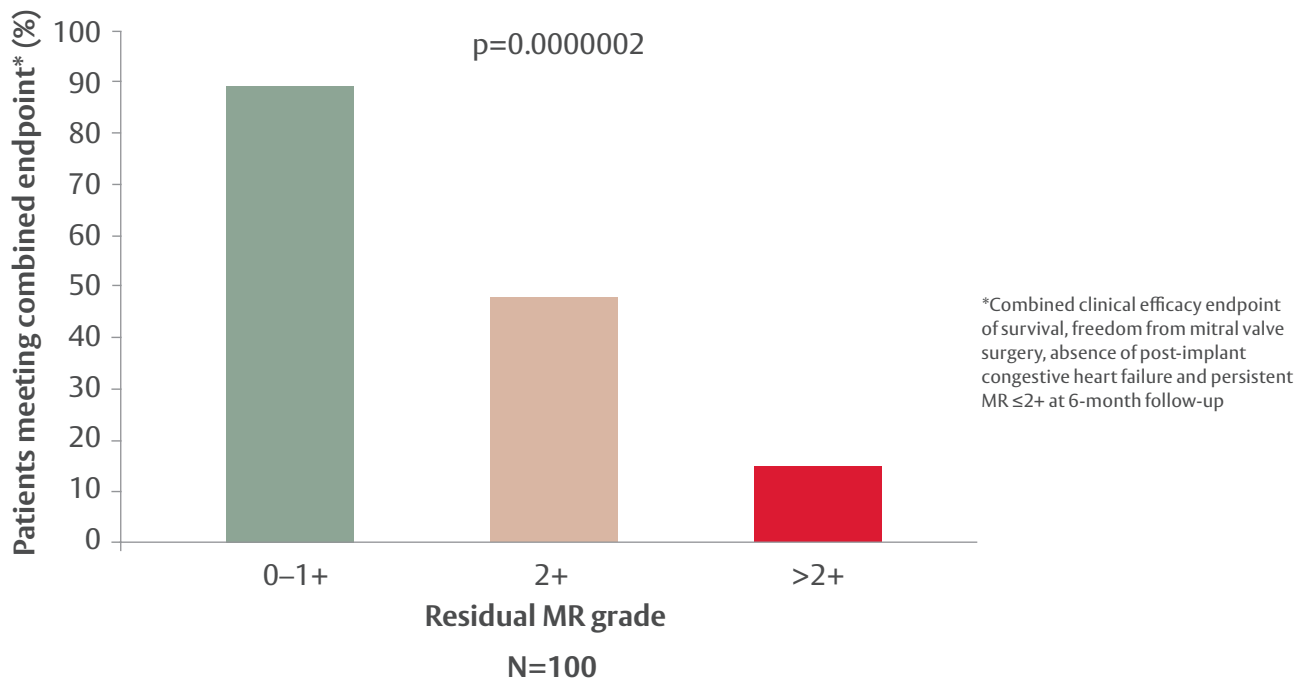


\*Combined endpoint of all-cause mortality, mitral valve surgery, redo procedure and implantation of a left ventricular assist device after percutaneous edge-to-edge mitral valve repair; freedom from endpoint at 800 days estimated from Kaplan–Meier graph<sup>3</sup>

Patzelt J, Zhang W, Sauter R *et al.* Elevated mitral valve pressure gradient is predictive of long-term outcome after percutaneous edge-to-edge mitral valve repair in patients with degenerative mitral regurgitation (MR), but not in functional MR. *J Am Heart Assoc.* 2019; 8: e011366

## Significantly higher survival and freedom from endpoint at 6 months for MR 0-1+

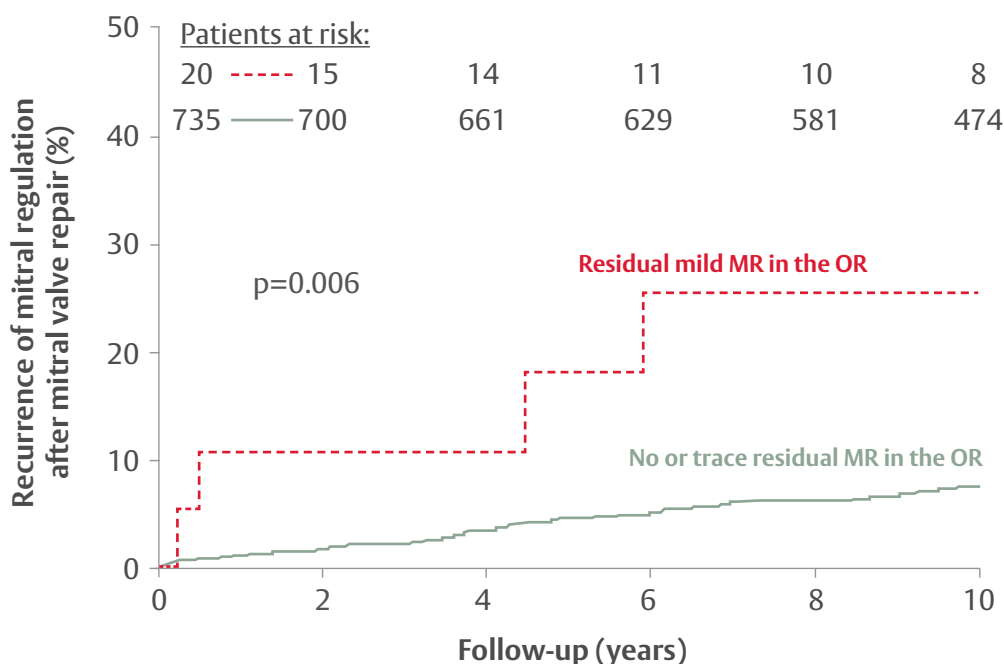
Combined clinical efficacy is nearly doubled for patients with residual MR 0-1+ compared to MR 2+  
 Patient population is 2/3 FMR and 1/3 DMR



Sürder D, Pedrazzini G, Gaemperli O *et al.* Predictors for efficacy of percutaneous mitral valve repair using the MitraClip system: the results of the MitraSwiss registry. *Heart.* 2013; **99**: 1034-40

## Significantly lower MR recurrence for MR 0 in the OR

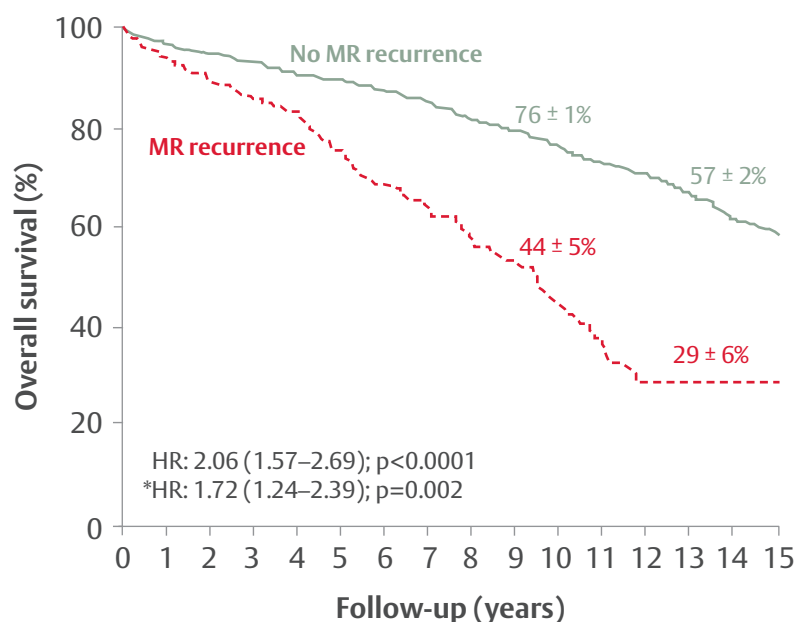
Low residual MR in the OR decreases long-term MR recurrence



OR: operating room  
 Suri RM, Clavel MA, Schaff HV *et al.* *J Am Coll Cardiol.* 2016; **67**: 488-98

## Significantly higher survival for patients without MR recurrence

No MR recurrence improves survival



\*Adjusted for age  
Suri RM, Clavel MA, Schaff HV et al. *J Am Coll Cardiol*. 2016; 67: 488–98

## Summary

Recent evidence tends to confirm that achieving low residual MR of grade 0 or 1 may provide patient outcome benefits. This trend seems to be consistent across MR etiologies. Some trials are still not conclusive, and longer follow-up may help align results from different cohorts.

## References

1. Feldman T, Wasserman HS, Herrmann HC et al. Percutaneous mitral valve repair using the edge-to-edge technique: Six-month results of the EVEREST Phase I clinical trial. *J Am Coll Cardiol*. 2005; **46**: 2134–40
2. Feldman T, Foster E, Glower DD et al. Percutaneous repair or surgery for mitral regurgitation. *N Engl J Med*. 2011; **364**: 1395–406
3. Patzelt J, Zhang W, Sauter R et al. Elevated mitral valve pressure gradient is predictive of long-term outcome after percutaneous edge-to-edge mitral valve repair in patients with degenerative mitral regurgitation (MR), but not in functional MR. *J Am Heart Assoc*. 2019; **8**: e011366
4. Sorajja P, Vemulapalli S, Feldman T et al. Outcomes with transcatheter mitral valve repair in the United States. *An STS/ACC TVT Registry Report*. 2017; **70**: 2315–27
5. Tabata N, Weber M, Sugiura A et al. Impact of the leaflet-to-annulus index on residual mitral regurgitation in patients undergoing edge-to-edge mitral repair. *JACC Cardiovasc Interv*. 2019; **12**: 2462–72
6. Sürder D, Pedrazzini G, Gaemperli O et al. Predictors for efficacy of percutaneous mitral valve repair using the MitraClip system: the results of the MitraSwiss registry. *Heart*. 2013; **99**: 1034–40
7. Suri RM, Clavel M, Schaff HV et al. Effect of recurrent mitral regurgitation following degenerative mitral valve repair. *J Am Coll Cardiol* 2016; **67**: 488–98

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