

Introduction

We conducted a single-centre prospective study comparing magnetically controlled growth rods (MCGR) and traditional growth rods (TGR) in a paediatric scoliosis population. The purpose was to evaluate clinical outcomes in both cohorts.

Methods

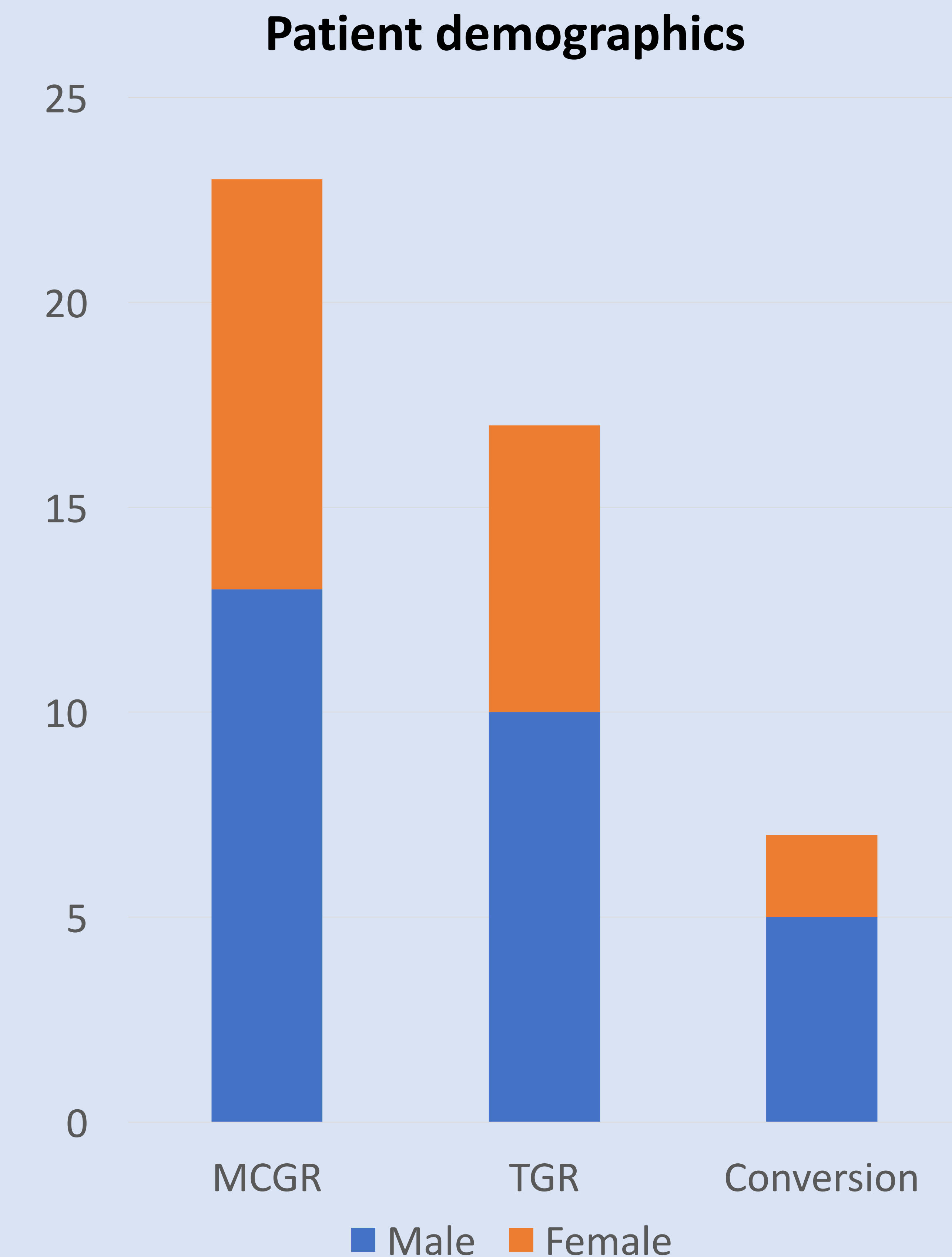
The MCGR sample comprised patients who had undergone MAGEC rod insertion from 2014 and 2016. The TGR group comprised patients who had undergone insertion of VEPTR, Shilla or Legacy growth rods between 2012 and 2013. Of our study sample, a significant proportion (51.06%) comprised children with complex medical needs.

We reviewed length of hospital stay, number of surgeries, number of outpatient attendances and surgical complication rates.

In addition, radiographs were reviewed to measure major curve correction using Cobb measurement. A preliminary analysis of pre and postoperative Cobb angle reduction in thoracic and lumbar regions for the MCGR cohort was conducted.

Conclusion

Our study demonstrates that the use of MCGR in paediatric scoliosis patients reduces hospital stay and number of open surgical procedures. MCGR patients were less likely to develop postoperative complications and less likely to experience rod failure, demonstrating its potential to be an efficacious and patient-friendly treatment for scoliosis in a paediatric population.

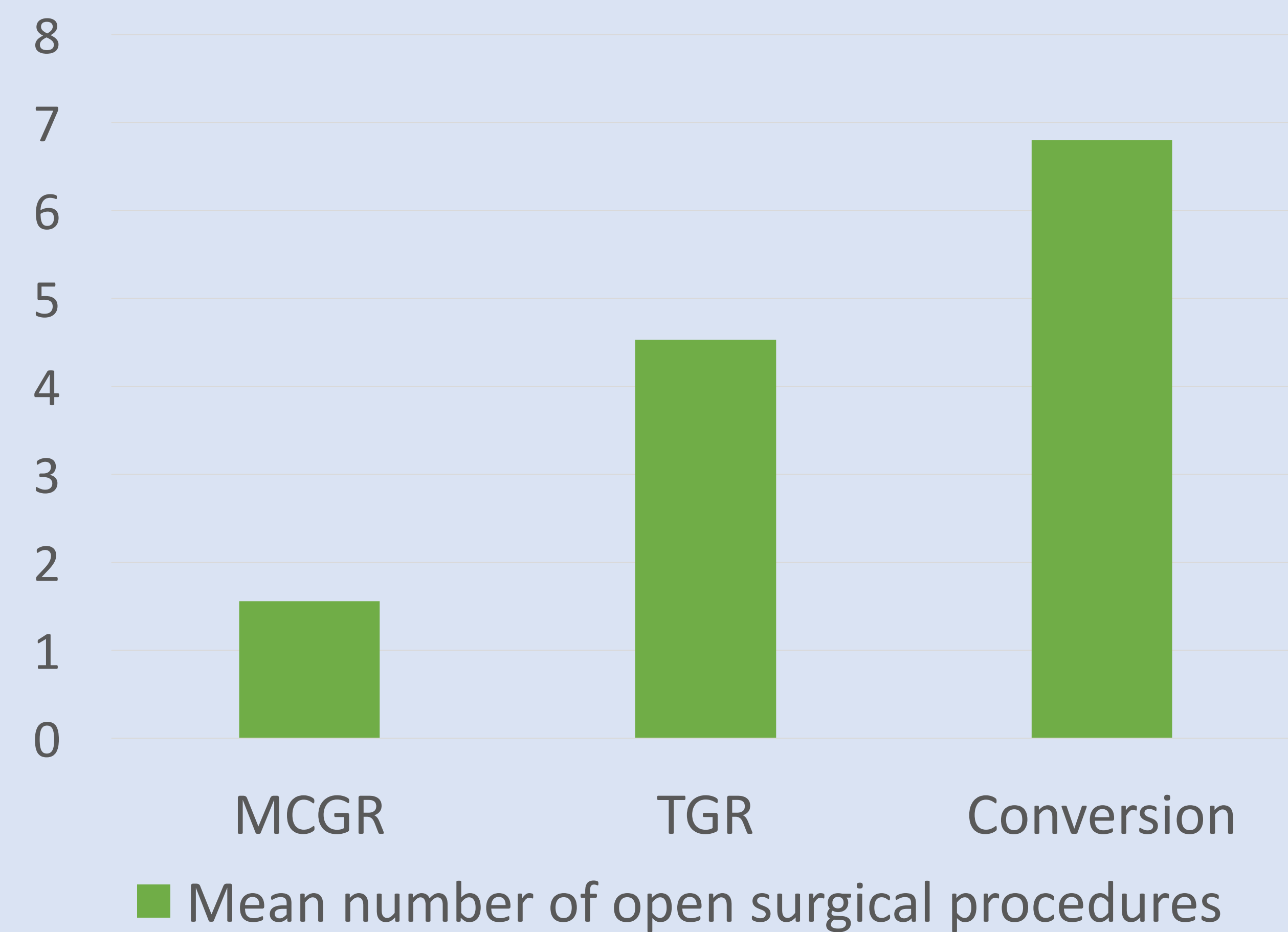


The Use of Magnetically-Controlled Growth Rods (MCGR) and Traditional Growth Rods (TGR) in a Paediatric Population

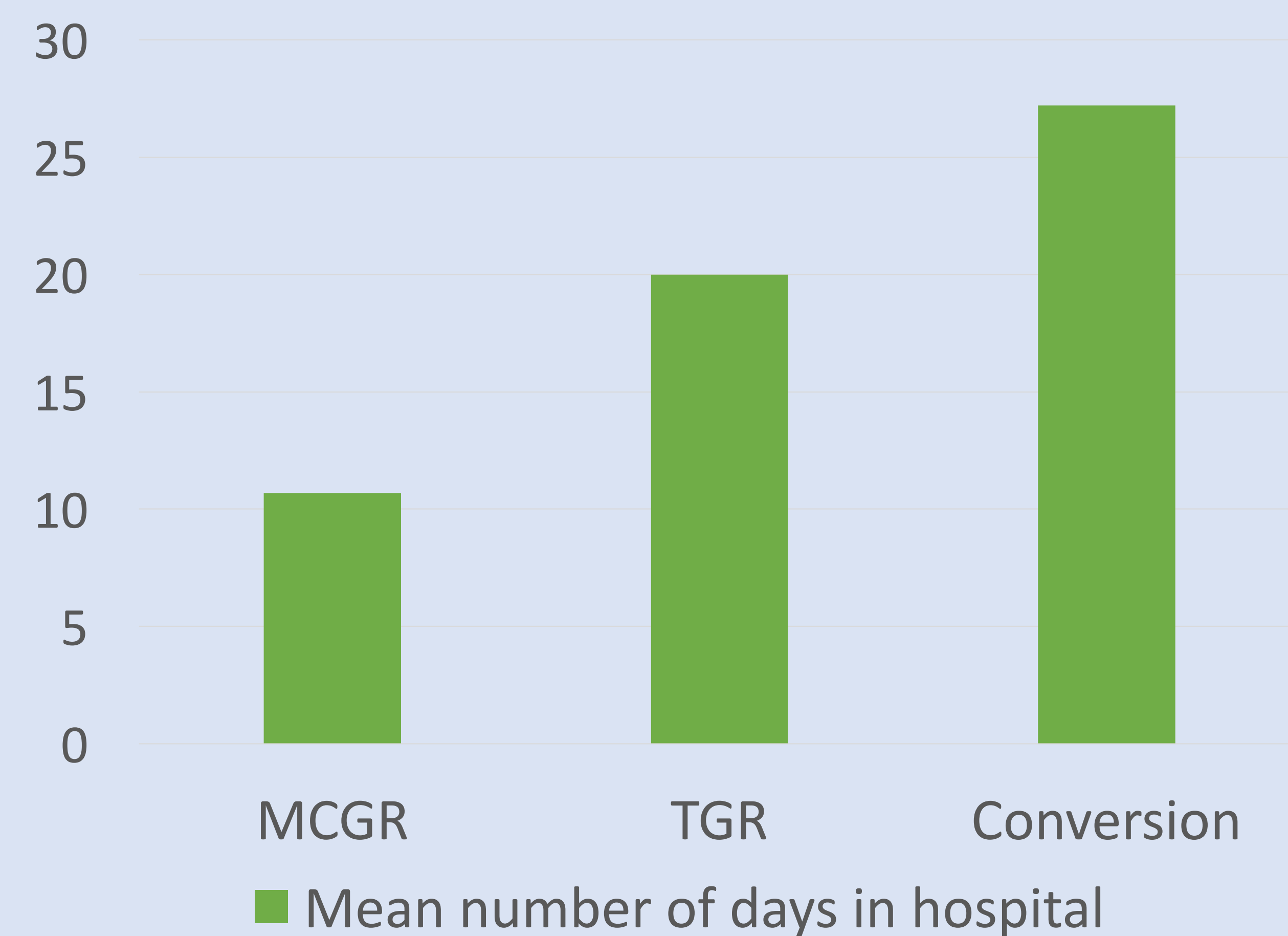
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Results

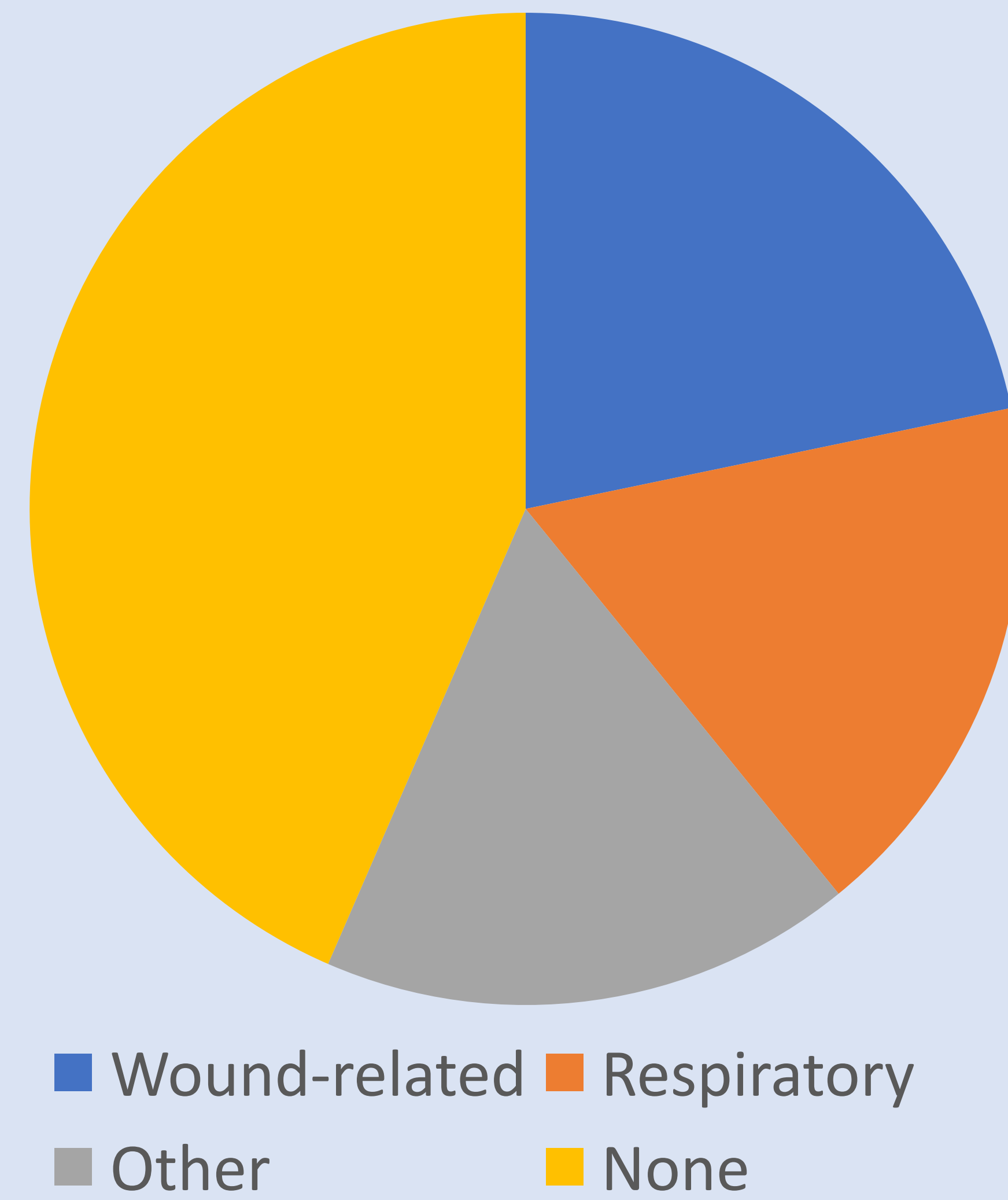
Open surgical procedures



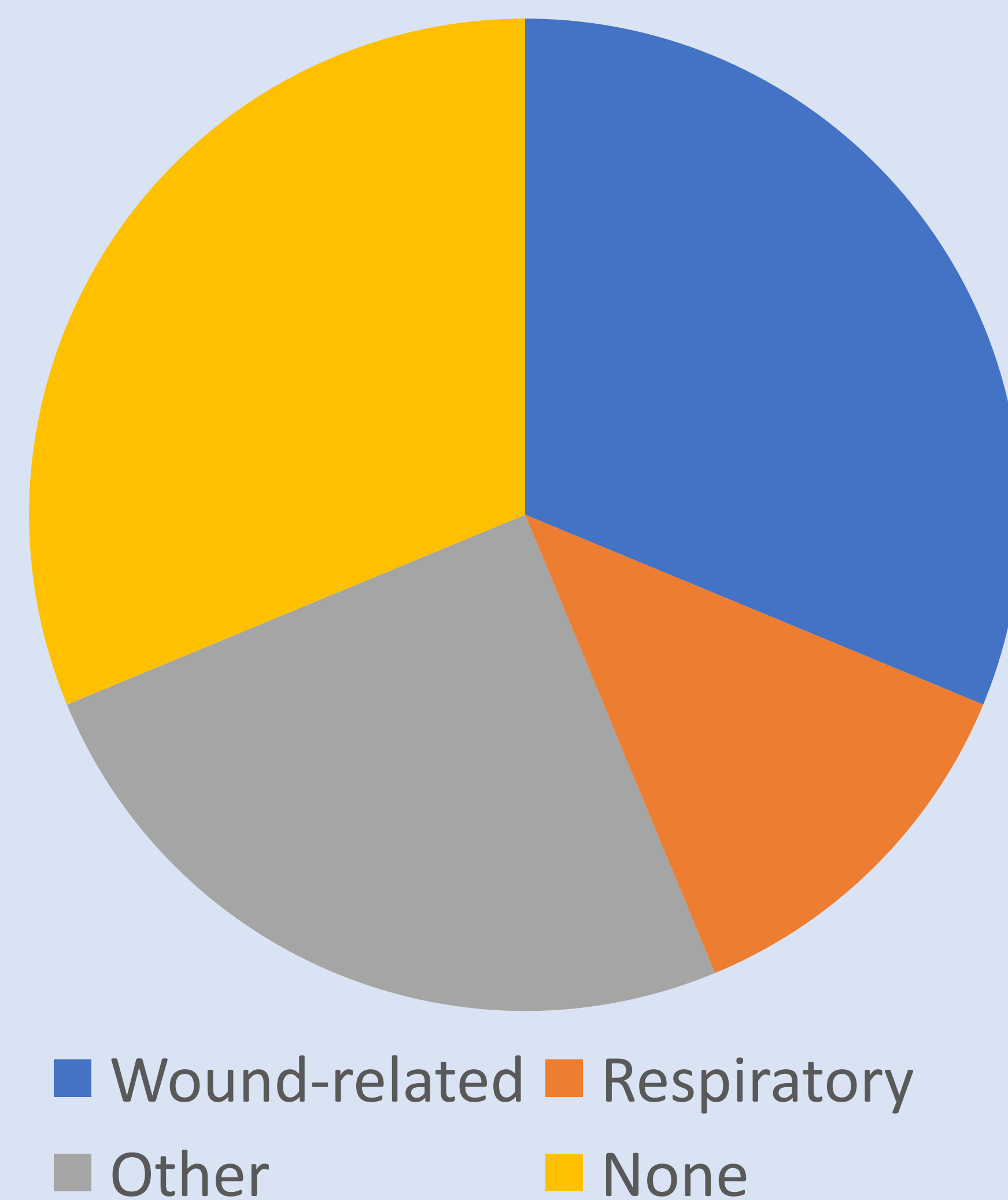
Days in hospital



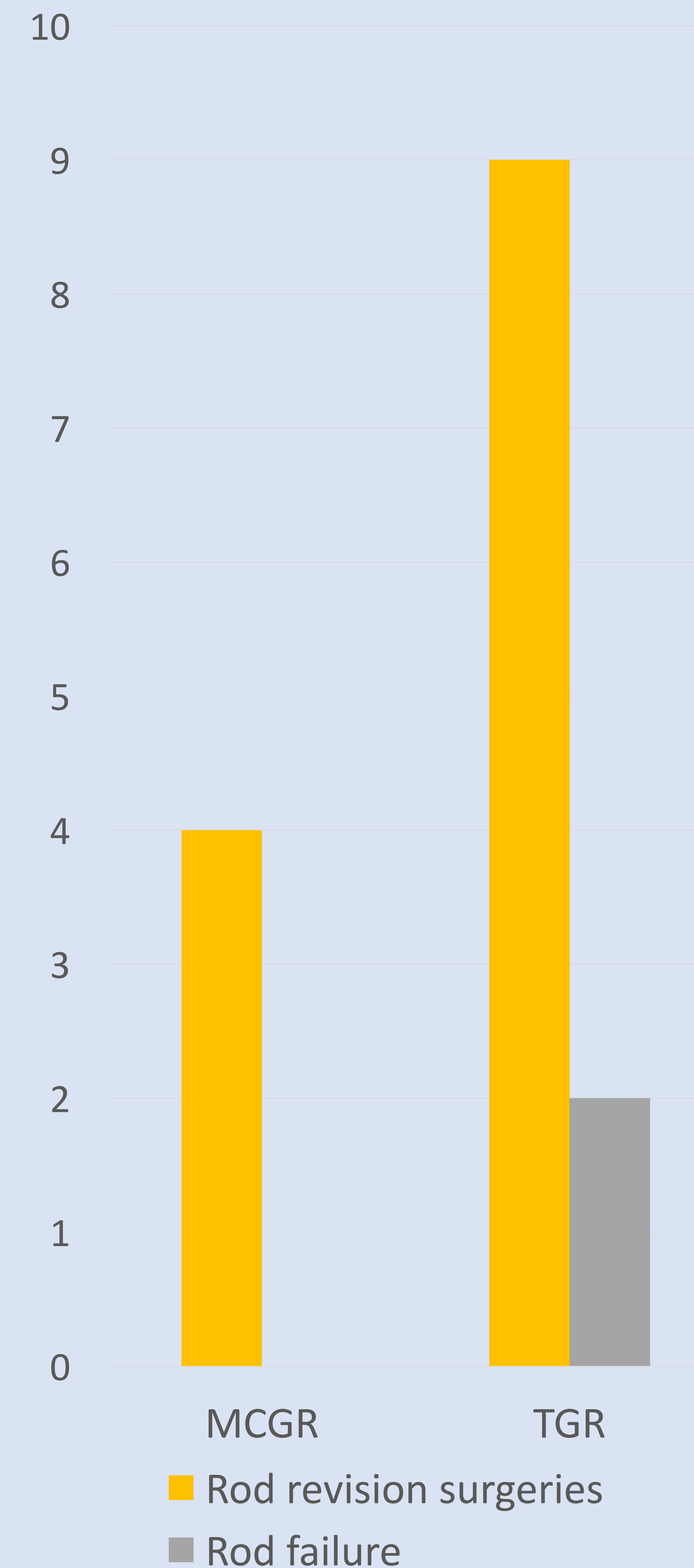
Complications with MCGR



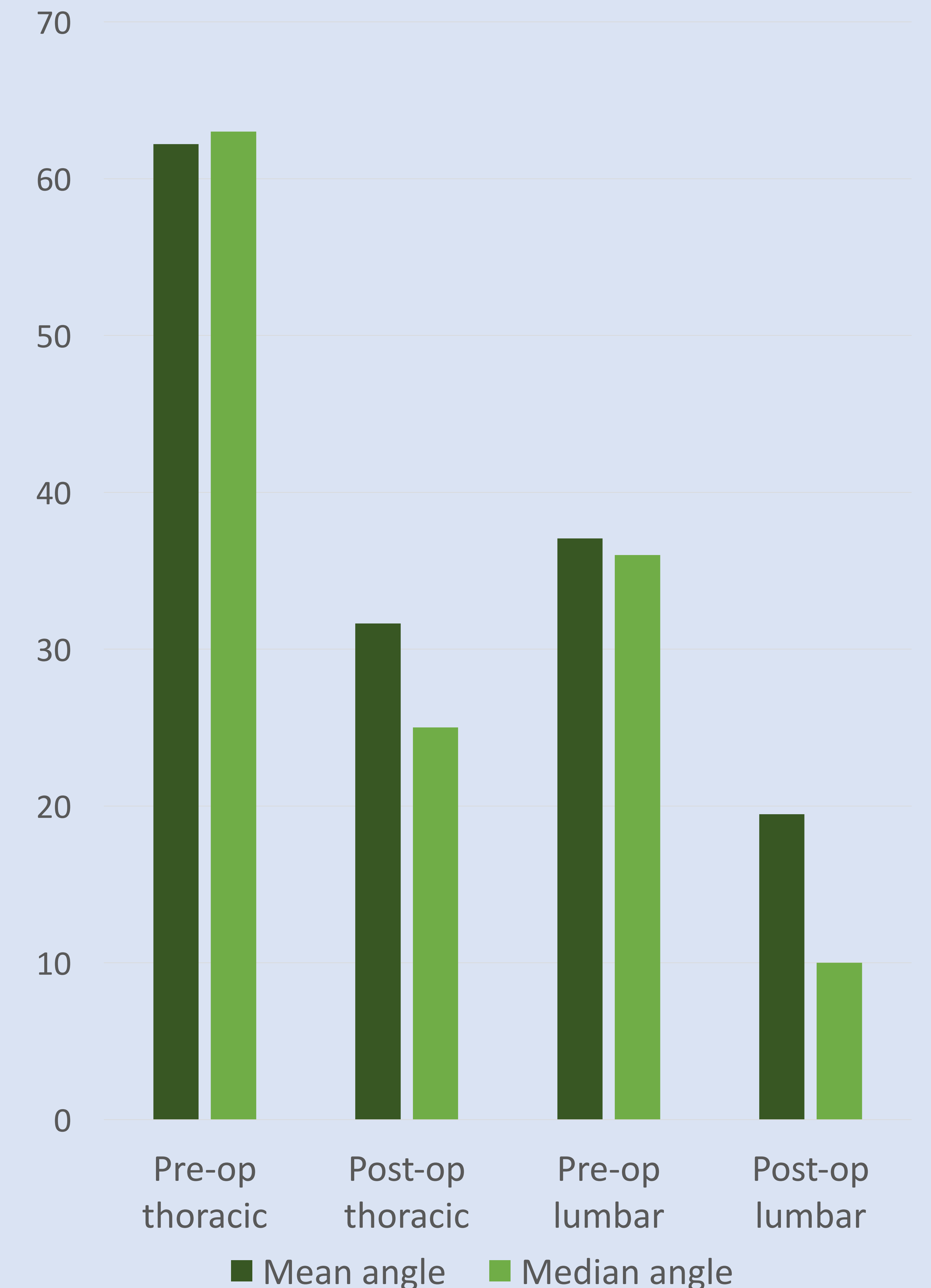
Complications with TGR



Rod revision and failure



Preliminary Cobb angle analysis for MCGR



*19 MCGR patients reviewed

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Disclosure declaration

None of the above authors have had any potential conflict of interest during the period in which the research was carried out. There were no associated grant or research support, royalties or financial assistance to this project.