

Characterizing the Effect of Heparin Dose and Monitoring Activated Clotting Time on Postoperative Lower Extremity Bypass Outcomes

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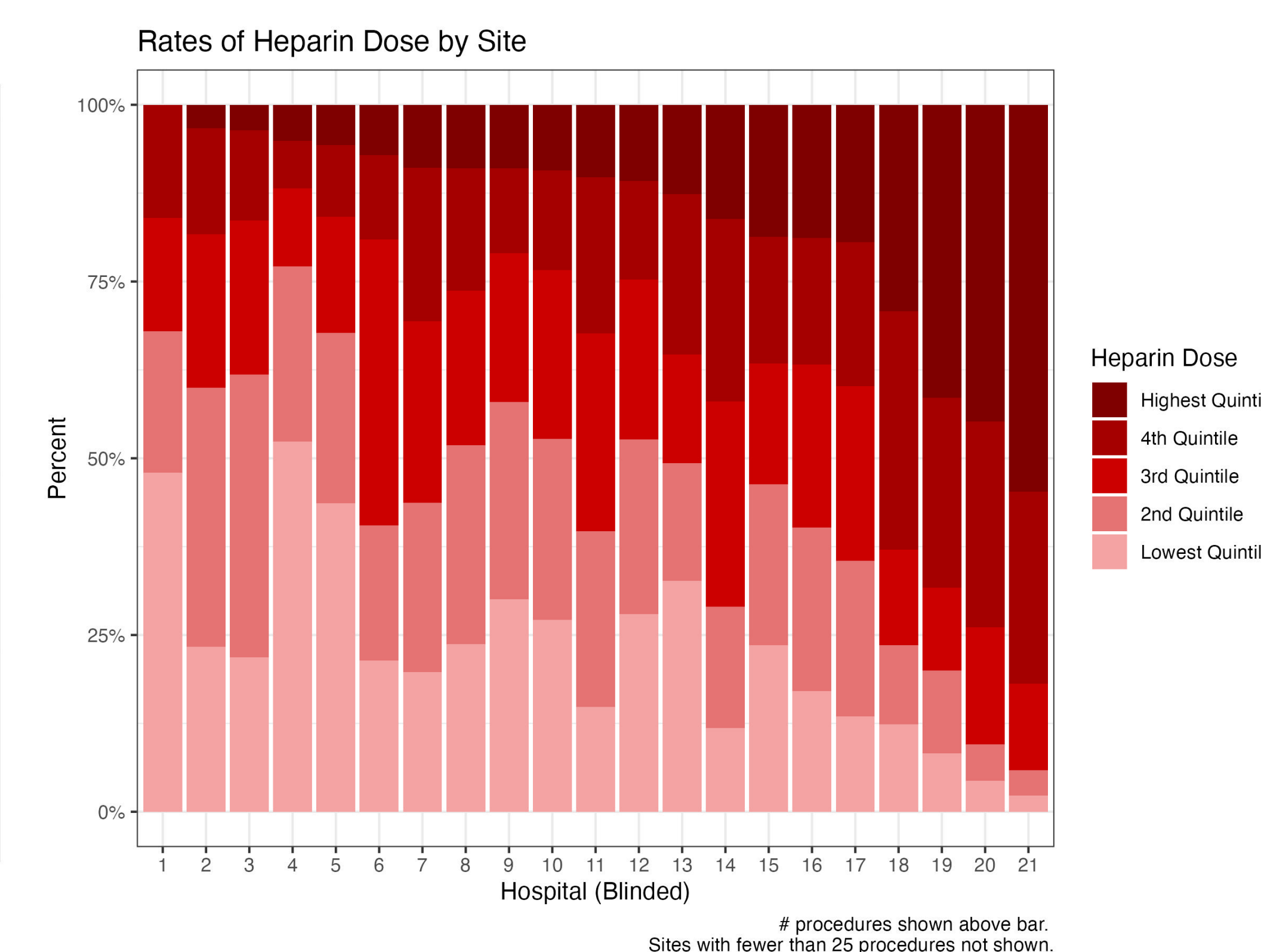
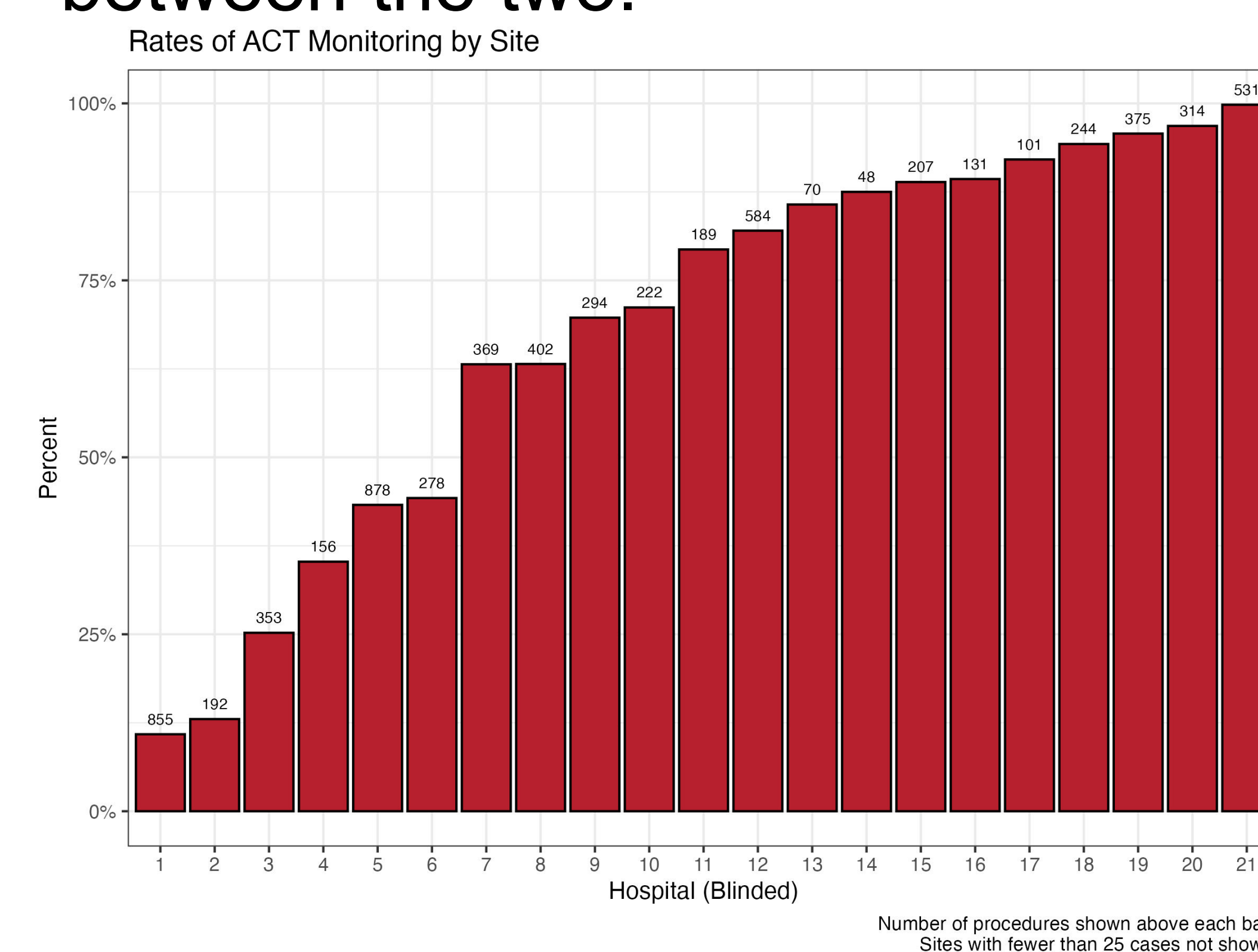
Introduction

• Intraoperative anticoagulation is essential for safe vascular occlusive control. Intravenous heparin is most commonly administered at a dose targeted to a measured intraoperative activated clotting time (ACT) of >250 seconds. The effects of heparin dosing or monitoring ACT on postoperative outcomes remains poorly characterized.

Purpose: To characterize the effect of intraoperative heparin dosing and monitoring of ACT on outcomes following lower extremity bypass.

Methods

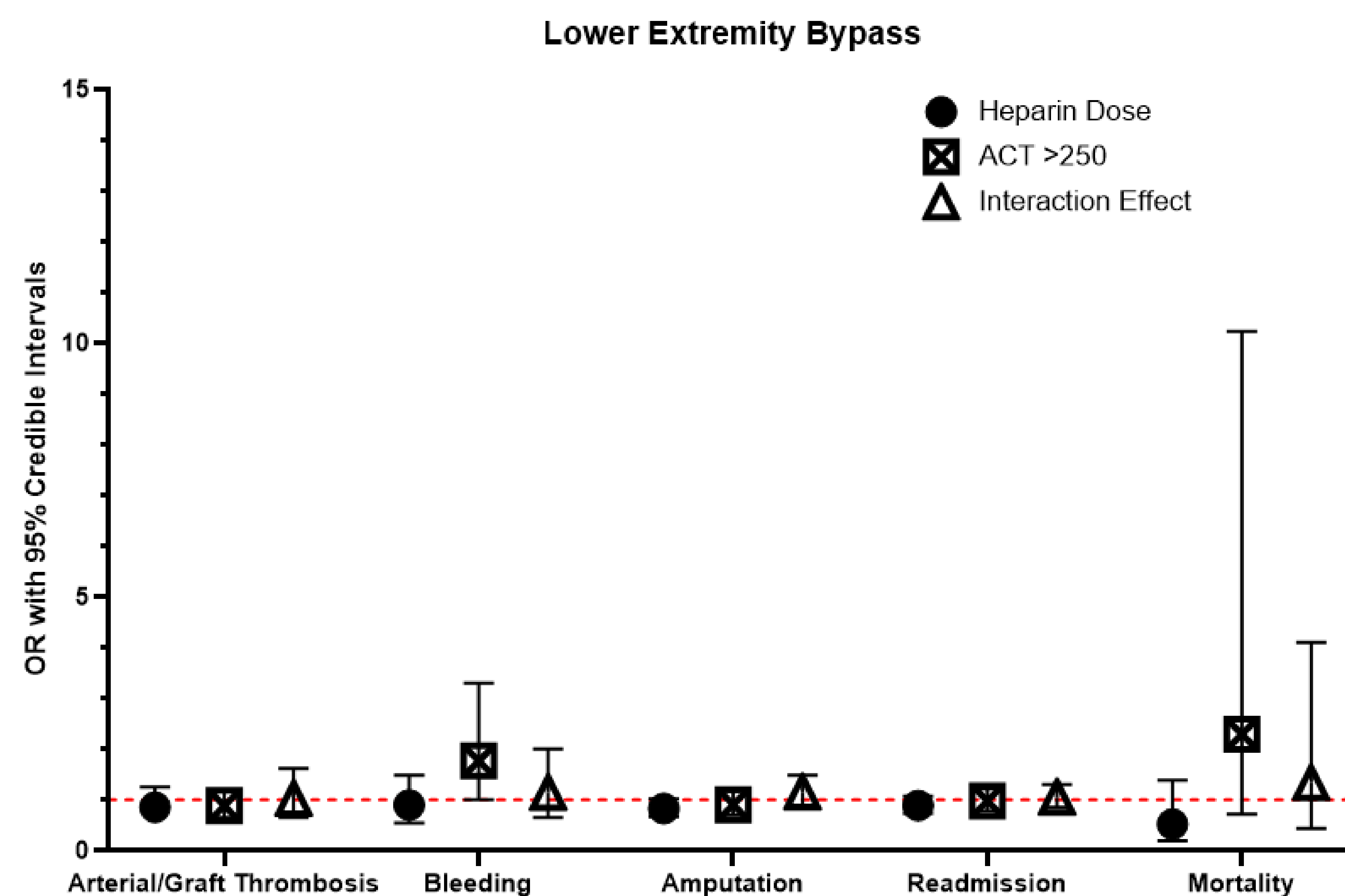
• Using data from a statewide quality improvement collaborative, we investigated rates of postoperative bleeding, arterial/graft thrombosis, major amputation, readmission and death among patients within 30 days after lower extremity bypass (LEB). We adjusted for patient clinical and sociodemographic factors, as well as procedural factors. We used a Bayesian random effects logistic regression model with non-informative prior to investigate the effect of heparin dosing, ACT monitoring, as well as an interaction effect between the two.



Acknowledgements

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Results



Conclusions

• There exists substantial variation in intraoperative heparin dose and monitoring of ACT across hospitals. ACT monitoring was not associated with postoperative outcomes, but having a peak ACT>250 was associated with an increased risk of postoperative bleeding. Future randomized studies targeting standardized intraoperative heparin dosing and ACT monitoring protocols may result in simplified care pathways without negatively affecting outcomes.

Key Takeaway: There is no association between intraoperative heparin dosing on lower extremity bypass outcomes but ACT > 250 was associated with an increased risk of postoperative bleeding.