Title: Analysis of Blood Resuscitation on Post-Operative Outcomes in Patients Undergoing Adult Spinal Deformity Surgery

Introduction: Patients undergoing adult spinal surgery (ASD) frequently require a blood transfusion intra- and/or post-operatively. The substantial amount of blood loss is mostly due to the extensive soft-tissue dissection and osteotomies required in ASD surgery. Effective blood management is key to perioperative care of patients with ASD. We present a retrospective EHR chart review of patients who have undergone adult spinal surgery. By looking at different variables we were able to further elucidate information regarding blood resuscitation and outcomes in patients who underwent ASD surgery.

Methodology: This case report was conducted through a retrospective EHR chart review.

Results: We separated patients into two groups. Those with a post-operative hemoglobin less than 8 and those with a post-operative hemoglobin greater than or equal to 8. We used this as a proxy to measure blood resuscitation; greater hemoglobin meant greater resuscitation and lower hemoglobin meant less resuscitation. It was found that those with a greater hemoglobin, greater resuscitation, ambulated earlier and had a shorter length of stay compared to those who had a lower hemoglobin, less resuscitation.

Conclusion: We conclude that a higher hemoglobin post-operatively lead to greater patient outcomes. In future studies we would like to look at the aggressiveness of resuscitation on patient outcomes and match the groups based on number of levels, estimated blood loss, and number of osteotomies. The decision to separate the two groups based on hemoglobin was determined due to the preliminary nature of the data collected.

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