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## INTRODUCTION

The classic premise has been to treat perioperative anemia with allogenic blood transfusions. However, allogenic blood transfusions carry significant risks, cost, postoperative complications, including surgical site and prosthetic joint/valve infections, etc, and in many cases expose patient to harm without any concomitant benefit. An alternative to allogenic blood transfusions, acute normovolemic hemodilution (ANH), entails obtaining and replacing a portion of the patient's blood intraoperatively with crystalloid or colloid fluids, lessening the impact of blood loss during surgery. Many recent studies have demonstrated ANH as a safe and effective avenue to reduce the need for allogenic transfusions across multiple surgical settings and specialties<sup>abcd</sup>. Our hope is to bring such opportunity to OSUMC.

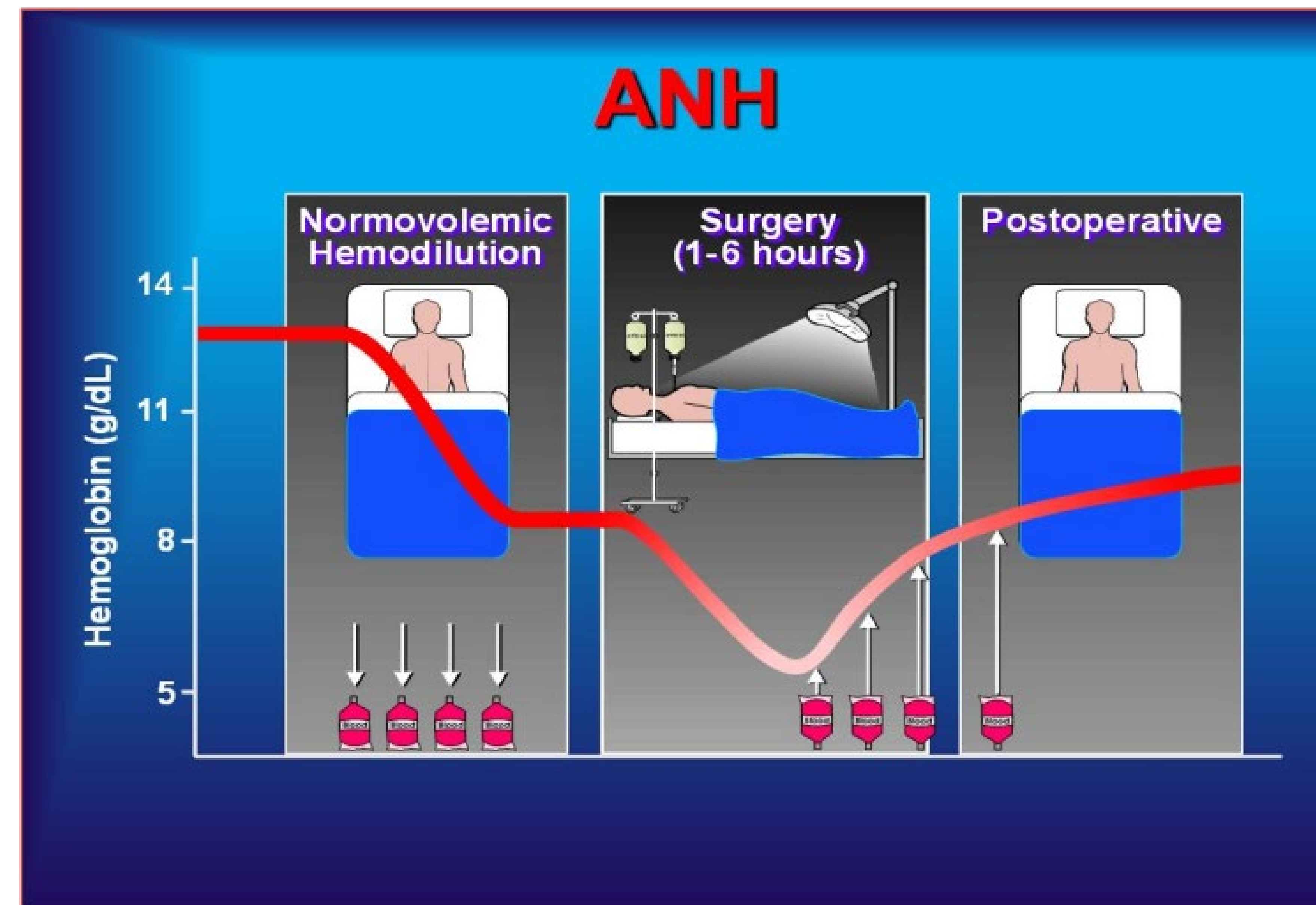
## OBJECTIVES

- Implement an interdepartmental protocol between anesthesia and surgical specialties (specifically Cardiothoracic and Orthopaedic services) allowing for ease of selection of patients that meet indications for ANH (those that have preop Hgb >8, GFR >50, and estimated blood loss > 800mL, Jehovah Witness/Religious, etc.).
- Ease implementation in hopes of reducing the number of allogenic transfusions and the risk of transfusion reactions, lowering average length hospital stay and overall cost, reducing rates of infection and decreasing overall morbidity and mortality.

## METHODS

- Create qualifying criteria prompts and order sets in EPIC to streamline preoperative patient screening and selection.
- Prepare an anesthesia preoperative checklist.
- Establish clear lanes of communication to ensure pre and perioperative staff and equipment availability ANH.
- Educate staff to allow for shared understanding of the ANH process.

## DISCUSSION



### Indications:

EBL >750-1500 mL  
Potential alternative for patients refusing blood products

### Contraindications:

Patient refusal  
Severe pulmonary disease  
Hgb < 10<sub>e</sub>  
Renal failure CrCl < 60  
Clotting disorder  
Hemoglobinopathy (sickle cell disease, etc)  
Active ischemia, clinically evident CHF

## CONCLUSION

Acute normovolemic hemodilution is a safe and effective avenue to reduce the need for allogenic transfusions across multiple surgical settings and specialties. While many of the studies referenced as we researched our project were conducted at large institutions, we believe that our efforts described in this QI effort will go a long way to facilitate initiation of ANH at OSUMC. As we look toward the future of our programs, we are optimistic that ANH will prove effective in decreasing morbidity and reducing the need for allogenic transfusions across multiple surgical settings and specialties.

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