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Background

- Hemorrhage is the most common cause of death within the first hour of arrival to a trauma center.
- More than 80 percent of deaths in the operating room and 50 percent of deaths in the first 24 hours after injury are due to exsanguination and coagulopathy.
- Demands of a massive hemorrhage protocol (MHP) with the continual infusion of large volumes of blood and blood products may lead to the shifts in electrolytes, acid-base balance and other hematologic parameters
- Hackensack University Medical Center (HUMC) blood management committee identified that the safest delivery of care during a massive hemorrhage event should not only be guided by an MHP clinical practice guideline but should also involve a blood steward

What is the role of a blood steward?

- Ensuring appropriate labs such as TEG, ABG and repeat CBC are sent according to the MHP protocol
- Instituting appropriate active warming measures to prevent hypothermia
- Suggesting the use of clinically appropriate reversal agents, monitoring UOP
- Advising the team of clinically significant changes in patient vital signs or physical exam
- Registered Nurses who are members of the rapid response team (RRT) are the best current resource at HUMC to fill this role.

Methods

- We implemented a Quality Improvement project which utilized a blood steward
- An MHP flowchart was designed and attached to all MHP coolers
- The flowchart was based on the Hackensack University Medical Center policies: **Rapid Transfusion of Blood and Blood Products, Guidelines for Anticoagulation Reversal in Life-Threatening Hemorrhage or Emergent Surgery.**
- An MHP blood steward process and responsibilities document was designed to include responsibilities of the blood steward
- Education was provided to all RRT RNs prior to implementation of the pilot.
- A post-MHP evaluation form was designed to evaluate the perception of care of the staff and the blood steward after an MHP activation.
- The trauma PI team will meet with the supervisory/administrative staff of the RRT to assess staffing, identify potential issues, identify mechanisms for real time feedback and evaluation of each MHP activation.

Staff Feedback

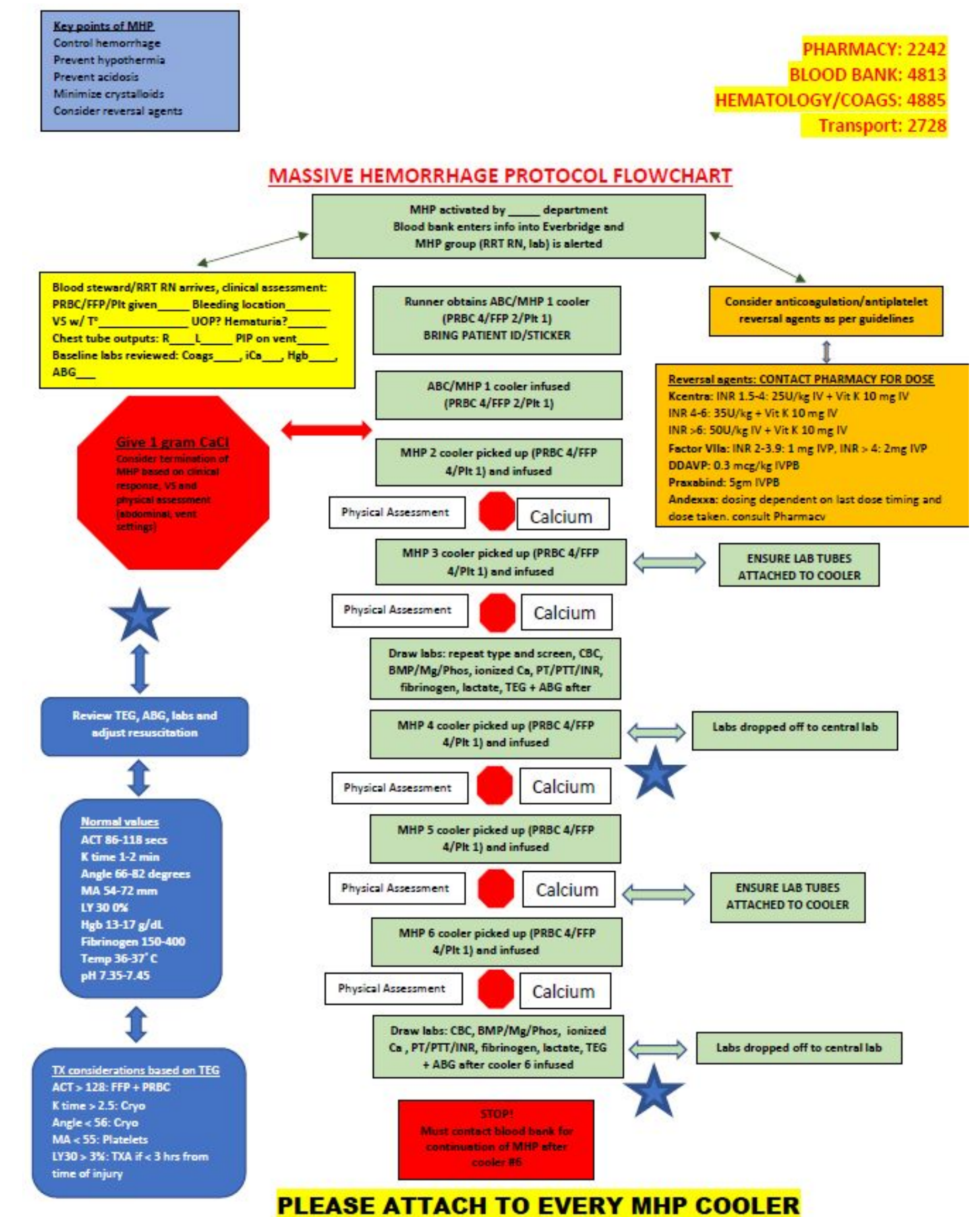
Issues Identified

- No team leader clearly identified
- No initial labs were sent
- Lack of MHP leader
- Trauma RNs assumed that the blood stewards take over full care of the patient even though our roles were identified

Suggestions to Improve

- Need at least 2 RRT RNs
- Education for MICU and other areas about MHP
- Education to OR staff for defined roles in process

MHP Flowsheet



Next Steps

- We plan to continue to track blood utilization, outcomes, and length of MHPs to identify a correlation between the blood steward and improvement in management of MHPs.
- Continue education of the blood steward role and MHP policy via grand rounds
- Others interested in implementing similar interventions should evaluate their resources to assign a blood steward role
- Simplifying the MHP Flowsheet