REGIONAL MEDICAL LABORATORY

MEMORANDUM

To: St. John Medical Center Staff

From: Brent Hartsell, MD, Medical Director, Regional Medical Laboratory/St. John Medical Center
Kendra Thompson, MT (ASCP), Manager, Regional Medical Laboratory/St. John Medical Center

Date: August 29, 2018

Subject: **Massive Transfusion Protocol Trauma Packs**

Effective September 4, 2018, the massive transfusion protocol (MTP) will be modified to reduce the ratio of red cells to plasma to 3:2 as approved by the Trauma Operational Process and Performance Improvement committee. A full apheresis platelet, equivalent to 6-8 whole blood derived platelet units will continue to be dispensed with each MTP pack. This means that each MTP pack will now include 6 RBCs, 4 units of plasma, and 1 apheresis platelet. Furthermore, a pool of 10 cryoprecipitate units will also automatically be dispensed beginning with the third MTP pack and every third MTP pack afterwards as part of the routine protocol.

The massive transfusion protocol has been designed for use in the setting of massive bleeding due to uncontrolled hemorrhage and in which the time to surgical control of bleeding is unpredictable. Previously, a 1:1:1 ratio was provided (6 units red cells, 6 units plasma, one full apheresis platelet) although in practice red cell transfusion has been given priority by surgical teams during trauma resuscitation. This has led to a lower ratio of red cells to plasma in practice, currently approximately 3:2 in our hospital.

A recent randomized trial investigated the optimal ratio in trauma resuscitation and compared a 1:1:1 versus a 2:1:1 ratio (the PROPPR randomized clinical trial, JAMA 2015 Feb 3;313(5):471-0482) and concluded the lower ratio did not result in significant differences in mortality at 24 hours or at 30 days with no difference in safety although more patients in the 1:1:1 group achieved hemostasis and fewer experienced death due to exsanguination at 24 hours. Some major trauma centers have adopted a lower ratio with MTP packs during the ratio driven portion of the resuscitation followed by laboratory guided assistance using a device such as ROTEM to determine appropriate component therapy once surgical hemostasis and hemorrhagic control has been achieved. ROTEM testing is available at RML.

Ordering and administration of the massive transfusion protocol will remain unchanged. If you have any question regarding this change, please contact Dr. Brent Hartsell at 918-744-3131 x15529 or email bhartsell@ascension.org; Kendra Thompson, MT (ASCP), at 918-744-3131 x16254 or email Kendra.thompson@ascension.org; Travis Thompson, MT (ASCP), SBB, at 918-744-3131 x 42068 or email Travis.thompson@ascension.org.