VANDERBILT UNIVERSITY

MEDICAL CENTER

DIVISION OF ACUTE CARE SURGERY

Whole Blood Transfusion Protocol

Background: Early resuscitation with blood products has been extensively shown to improve clinical outcomes of traumatically injured patients with hemorrhagic shock and/or large volume bleeding. Balanced component transfusion in a 1:1:1 ratio approximating whole blood transfusion has been demonstrated to be superior. Whole blood (WB) transfusion has become more available recently and emerging evidence has shown improved clinical outcome with WB transfusion over component therapy. This document provides guidelines for utilization of the Whole Blood transfusion at VUMC.

1. Patient selection
    a. Traumatically injured Patients with Systolic Blood Pressure <85 undergoing resuscitation in the Emergency Department.
    b. Traumatically injured Patients with ≥ 2 points on the ABC score.

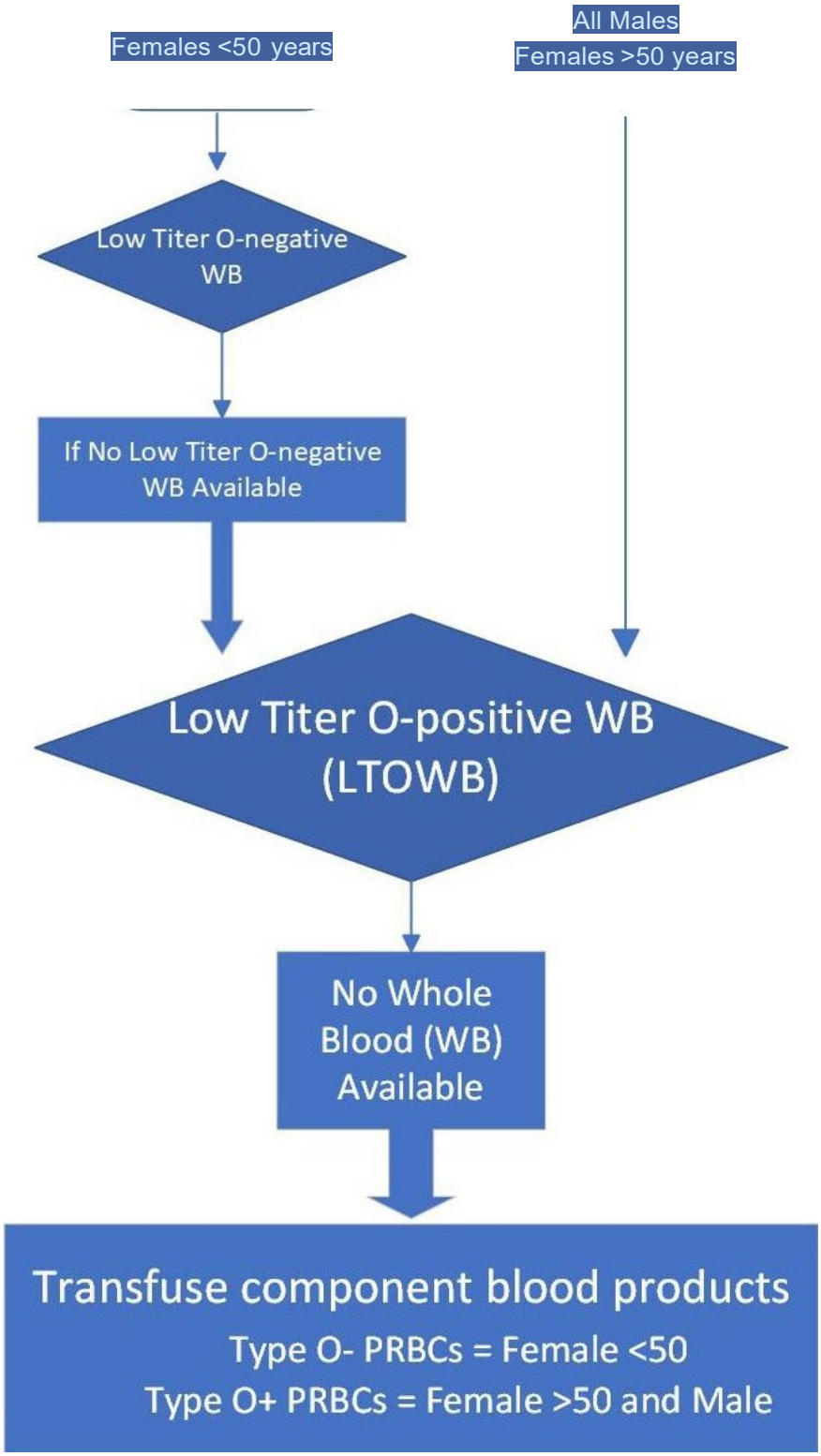
2. WB Administration
    a. Male patients and female patients age >50 will receive low-titer O-positive whole blood (LTOWB).
    b. Female patients who are age <50 or currently pregnant will receive low-titer O-negative whole blood, if it is available (which is limited). If low-titer O-negative whole blood is NOT available, these patients will receive low-titer O-positive whole blood (LTOWB).
    c. If no WB is available, transfusion with Type O positive or Type O negative packed red blood cells should occur per standard protocol.
    d. Transfusion of 1 unit of WB is equivalent to transfusion with 1 unit PRBCS + 1 unit liquid plasma.
    e. Consideration for Massive Transfusion Protocol (MTP) should occur if a patient requires ongoing resuscitation after receiving 2 units of LTOWB in VUMC Emergency Department.
    f. If LTOWB is transfused to a woman of Rh-negative blood type who is <50 years of age, the amount of Rh(D) positive cells left in circulation will be determined within 24h of admission by ordering Rh+ flow cytometry. RhIg (dosing varies) should be administered within 72h of admission if Rh+ cells are determined to be present
        i. Follow up: Type & Screen at 3 months to evaluate for anti-D antibodies
        ii. Outpatient referral maternal-fetal-medicine will be made for women with anti-D alloimmunization (presence of anti-D antibodies)

3. Availability of Whole Blood in ED
    a. 20 units of LTOWB per week will be available in the Emergency Release Blood Refrigerator in ED.
    b. If LTOWB is NOT available, transfusion with 1 unit PRBCS + 1 unit liquid plasma should be substituted.
    c. 8 units of Liquid Type A Plasma per week will be available in the Emergency Release Blood Refrigerator.
    d. 8 units of Type O positive and 6 units of Type O negative packed red blood cells (PRBCS) per week will be available in the Emergency Release Blood Refrigerator.
    e. Restocking of Emergency Release Blood Products supply will occur weekly, typically on Thursdays.

4. Documentation
    a. Transfusion Administration Record (TAR) must be completed per VUMC SOP.

5. Endpoints
    a. Patient can receive a maximum of 2 units of WB in the ED, after which transfusions should be transitioned to component therapy.

Trauma Blood Transfusions



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References:

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(Simple scoring system using non-lab variables. Score of 2 or greater was 75% sensisitve and 86% specific for MT)

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