PROCEDURE
Corewell Health East - Weighing Blood Products - Blood Bank - Dearborn, Royal Oak, Troy

This Procedure is Applicable to the following Corewell Health sites:
Corewell Health Beaumont Troy Hospital, Corewell Health Dearborn Hospital, Corewell Health William Beaumont University Hospital (Royal Oak)

Applicability Limited to: N/A

Reference #: 33836

Version #: 2

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Functional Area: Clinical Operations, Laboratory

Lab Department Area: Lab - Blood Bank

1. Principle
A. This document will provide Blood Bank staff with the procedure to determine, with precision and accuracy, the weight of blood products.
B. The digital scale is used whenever the estimated volume for a Red Blood Cell (RBC) unit is not precise enough as determined by nursing or when indicated by specific blood bank procedure.
C. For the purposes of this document 1 gram (g) is equivalent to 1 milliliter (mL) of blood product.
D. Each RBC (with the exception of apheresis) unit is given a default weight when brought in to the computer system. All other blood components (Fresh Frozen Plasma [FFP], cryoprecipitate, platelets) have their individual weights listed on the face label and are captured in the computer system when being processed.
E. Occasionally the nurse will request the weight of an RBC unit to be given. The digital scale is used for this purpose.
F. The standard unit of RBCs including autologous RBCs is collected in 600 ml bags.
G. Below are the pre-determined empty bag weights for each size of transfer bags available for use in the Blood Bank.
   1. 150 ml transfer bag = 15 g
   2. 300 ml transfer bag= 25 g
   3. 600 ml transfer bag= 30 g
   4. 1000 ml transfer bag = 40 g

2. Responsibility
Personnel who have completed the competency requirements will perform these tasks.

3. Definitions
A. FFP: Thawed Fresh Frozen Plasma
B. ISBT: International Society of Blood Transfusion
C. BBIS: Blood Bank Information System

4. Reagent/Equipment Needed
A. Digital Scale:

1. Dearborn:
   a. Ohaus Digital Scale, located in the triage area near the segment sealing device
2. Troy:
   a. Ohaus Digital Scale, located in the cabinet near the segment sealing device
3. Royal Oak:
   a. Scale #1 – Doran, located in the blood processing room
   b. Scale #2 – AccuLab, located in the triage area near the sterile connecting device
   c. Scale #3 & #4– Sunbeam, located in the stand-up triage area

B. Standard 200 g or 300 g and 2000 g weights.
C. AC Adapter or 3 AA batteries.
D. Sterile Neonatal/Pediatric Syringe Set containing 150ul filter and 30cc or 60cc BD™ syringe.
E. Fenwal™ Transfer Pack Container 300mL or 600mL- with coupler and a sterile fluid path.

5. Quality Control

A. Daily or day of use –
   1. Weigh the standard 200 g or 300 g weight on the scale and record the weight on the applicable site-specific form.
      a. Dearborn – refer to Transfusion Medicine Policy Corewell Health East - Blood Bank Quality Activities - Dearborn
      b. Royal Oak – refer to Transfusion Medicine Policy Corewell Health East - Daily Temperature and Quality Control Record - Blood Bank - Royal Oak
      c. Troy – Attachment *33836-1 Digital Scale QC and Cal*
   2. Document the form with a "✓" to indicate that scale is operating as expected if the recorded weight is within ± 5 g of the standard weight.

B. If quality control is unacceptable, do not use the scale. Complete a calibration following the steps below. If calibrating the scale does not resolve the quality control failure, put the scale out of use and write a variance. Refer to Transfusion Medicine policy Corewell Health East - Variance Reporting - Blood Bank - All Beaumont Hospitals

6. Calibration

A. Calibration is done annually, after repair, or if the Quality Control (QC) on day of use is not acceptable. For calibration, use a 2000 g weight.
B. If any scale does not have a calibration function, it will be put out of service if QC fails.
C. If the calibration fails, the scale will be put out of service.
D. Dearborn & Troy:
   1. Press and hold the Unit Cal button to start the calibration process, the display will show CAL.
   2. Press the On/Off Zero button to capture 0. The display shows -C- while the scale stores the zero-load signal.
   3. The display will show C 2000 where 2000 is the calibration weight in grams.
   4. Place the appropriate calibration weight on the platform.
   5. Press the On/Off Zero button.
   6. The display shows -C- while the scale stores the calibration point signal.
   7. After the calibration, the display returns to the normal weighing mode.
   8. The message CAL E will appear if the calibration steps are not followed or the wrong weight is used.
   9. Record the calibration on the applicable form, *Digital Scale QC and Calibration* or *Digital Scale Calibration*.
E. Royal Oak:
   1. Turn scale on and allow unit to warm up and stabilize for thirty minutes. Unit will default to kilogram (kg) mode and calibration will be performed in metric mode.
   2. Press and hold the "CAL" key until calibration weight value appears and flashes on the display.

3. With the calibration weight value still flashing, press the "OFF" key, and the display will read "CAL 0". After pausing for at least two seconds, place the correct calibration weight gently on the center of the weighing pan.
4. The display will momentarily show "CAL F" and then return to active weighing. The calibration is complete when the display correctly shows the calibration weight, and the display has stabilized.
5. Remove calibration weight and press the tare key to reset the zero point.
6. Record the calibration on the form, *Digital Scale Calibration*.

7. Procedure

A. Undivided RBC Components
   1. Each RBC (with the exception of apheresis units) is given a default weight when brought into the BBIS. When the patient's caregiver requests the precise weight of a unit to be dispensed:
      a. Turn on the digital scale and/or verify the zero setting by using the reset button.
      b. Place the RBC component needing to be weighed on a scale, ensuring that the attached segments are not included in the final weight.
      c. Subtract the appropriate weight using the pre-determined bag weights listed above from the reading to allow for the weight of the empty bag (standard RBC units are stored in 600 mL bags = 30 g).
      d. Record the weight of the product on the *Record of Transfusion* form in grams.

B. Weighing Blood Products for Product Division
   1. Refer to Transfusion Medicine policy, Corewell Health East - Aliquot Preparation - Blood Bank - All Beaumont Hospitals for more information
   2. Parent RBC Unit
      a. When an RBC unit with a default weight is divided, the parent unit must be weighed before any modification is completed.
         1) If the unit is already brought into the BBIS, its weight must be modified in the BBIS after obtaining an accurate weight.
         2) If the unit is supplied with the intention of use for an infant, i.e. parent bag with pre-attached quad pack or neonatal standing order delivery, the weight may be taken before the unit is brought into the BBIS and modified at that time.
   3. Parent FFP, Cryoprecipitate, and Platelets
      a. All other parent blood components (FFP, cryoprecipitate, platelets) have their specific weights listed on the face label and are documented in the BBIS upon product receipt.
   4. Aliquot:
      a. To obtain the volume of an aliquot in a transfer bag the tare function on the scale can be used after placing the empty bag on the scale OR:
         1) Weigh the empty transfer bag prior to aliquoting the product into the bag.
         2) Weigh the bag after the product has been aliquoted.
         3) Obtain the volume of the aliquot(s) by subtracting the empty bag weight or pre-determined weight of the transfer bag from the final weight of the product.
      b. To obtain the volume of an aliquot in a syringe: use the graded increments (mL) on the syringe. Include the 5 mL of blood drawn up at the request of nursing for wastage purposes in the final volume.
   5. Perform the product modification in the BBIS, recording the volume for the prepared aliquot and updating the volume of the parent bag. Print new product labels, relabel the divided products and verify the labels. If an automated ISBT label is not available, the parent bag's updated volume should be recorded on the face label. Refer to Transfusion Medicine Policies, SafeTrace (Blood Bank) Application - East and Corewell Health East - Aliquot Preparation - Blood Bank - All Beaumont Hospitals.

8. Revisions

Corewell Health reserves the right to alter, amend, modify or eliminate this document at any time without prior written notice.

9. **Procedures Superseded and Replaced:** This procedure supersedes and replaces the following procedures as of the effective date of this procedure: [33994 Corewell Health East – Weighing Blood Products – Troy]

10. **References**
    A. AABB *Standards for Blood Banks and Transfusion Medicine*, current edition.
    B. AABB *Technical Manual*, current edition.
    C. College of American Pathologist, *Transfusion Medicine Checklist*, current edition.
    D. Ohaus® Corporation, *Compact Series Instruction Manua*l, 2016.

11. **Procedure Development and Approval**

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12. **Keywords**
    Not Set