



## ADULT AND PEDIATRIC BLOOD AND MARROW TRANSPLANT PROGRAM

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## **APBMT-COLL-002 APHERESIS NURSING TRAINING**

### **1 PURPOSE**

- 1.1 To describe the orientation procedure and competency validation for orienting the Adult and Pediatric Blood and Marrow Transplant (APBMT) nurse to provide collection of Peripheral Blood Progenitor Cells (PBPC) via apheresis and Extracorporeal Photopheresis (ECP) care to patients.

### **2 INTRODUCTION**

- 2.1 A core group of nurses working in the Adult Blood and Marrow Transplant (ABMT) Clinic will be trained in apheresis and ECP. The nurses will be rotated on a regular basis through both areas to maintain competency. A select group of apheresis nurses will be trained in pediatric apheresis collection. Pediatric apheresis procedure is performed in the Children Health Clinic (CHC). Competency will be maintained to comply with the American Association of Blood Banks (AABB), Foundation for Accreditation of Cellular Therapies (FACT), and Food and Drug Administration (FDA) guidelines. Documentation of apheresis competency for adult and pediatric procedures will be filed in the Apheresis Nursing Training Record Notebook. The current year's training notebook will be located in the ABMT apheresis area. Training documents, records of apheresis in-service, updated procedure reviews, and apheresis communications will be filed in the Apheresis Nurse Training Record notebook.

### **3 SCOPE AND RESPONSIBILITIES**

- 3.1 The Apheresis Nursing Coordinator, with guidance from the Nurse Manager, is responsible for training coordination of nurses who are orienting in the apheresis and ECP areas. The Apheresis Nurse Coordinator and Nurse Manager will maintain documentation of competencies and revalidations in apheresis and ECP for the nurses.

### **4 DEFINITIONS/ACRONYMS**

- 4.1 AABB American Association of Blood Banks
- 4.2 ABMT Adult Blood and Marrow Transplant
- 4.3 APBMT Adult and Pediatric Blood and Marrow Transplant
- 4.4 BMT Blood and Marrow Transplant
- 4.5 CAR-T Chimeric antigen receptor (CAR) T-cell
- 4.6 CBO Competency Based Orientation
- 4.7 CHC Children's Health Center

- 4.8 ECP Extracorporeal Photopheresis
- 4.9 ECV Extracorporeal Volume
- 4.10 FACT Foundation for Accreditation of Cellular Therapies
- 4.11 FDA Food and Drug Administration
- 4.12 MD Medical Doctor
- 4.13 MC Master Control
- 4.14 NMDP National Marrow Donor Program
- 4.15 PBMT Pediatric Blood and Marrow Transplant
- 4.16 PBPCs Peripheral Blood Progenitor Cells
- 4.17 QC Quality Control
- 4.18 RCV Red Cell Volume
- 4.19 SOP Standard Operating Procedure

## **5 MATERIALS**

- 5.1 NA

## **6 EQUIPMENT**

- 6.1 NA

## **7 SAFETY**

- 7.1 NA

## **8 PROCEDURE**

### **8.1 Initial Training**

- 8.1.1 All orienting apheresis nurses performing apheresis and ECP in the ABMT Clinic will be trained by a preceptor who has successfully completed the Apheresis Training Program. During the orientation period, the apheresis nurse being trained will perform a minimum of eight cellular collection procedures and six ECP treatments. At the completion of apheresis and/or ECP training, the apheresis nurse must successfully meet all of the training objectives as outlined in the competency based orientation (CBO) checklist.
- 8.1.2 All orienting apheresis nurses performing pediatric apheresis in the CHC will be trained by Apheresis Nurse Coordinator and/or the

Pediatric Apheresis Medical Doctor (MD). During the training period, the apheresis nurse training will perform a minimum of four cellular collection procedures. At the completion of apheresis training, the apheresis nurse must successfully meet all of the training objectives as outlined in the CBO checklist.

- 8.1.3 During the initial training, the apheresis nurse will be observed by the preceptor/designee and the CBO checklist will be completed. In the ABMT program, the apheresis nurse training will be observed performing ECP treatments, if applicable and collecting PBPC in the ABMT clinic. In the PBMT program, the orienting apheresis nurse will be observed collecting PBPC in the CHC.
- 8.1.4 A suggested reading list of articles may also be given to the apheresis nurse for review.
- 8.1.5 During the initial training, the apheresis nurse will obtain access to the appropriate network drive, Share-point, and Master Control (MC). The apheresis nurse will have two weeks to complete the training in MC once initial training is completed.

## 8.2 Skill Revalidation

- 8.2.1 Apheresis and ECP skills will be revalidated twice a year with the completion of a CBO review. A needs assessment will be done by the Apheresis Coordinator or designee and annual training content will reflect the needs of the staff. Skill revalidation may not be completed twice a year if the apheresis nurse has not been in the area for less than (<) twelve months. The Apheresis Coordinator or designee, with approval of the Nurse Manager, may defer skill revalidation until following review date.
  - 8.2.1.1 The apheresis and ECP CBO(s) will be kept in the Apheresis Nurse Training Book. The dates of training and revalidation of skills will be recorded.
  - 8.2.1.2 New apheresis information and updates will be communicated by a secured e-mail or in-service education session throughout the year.
- 8.2.2 The Apheresis and ECP Test must be completed annually and passed with a score of 100%. A separate test for apheresis nurses trained in pediatric apheresis may be given and a score of 100% must be achieved. If the apheresis nurse scores less than 100%, remediation will be completed by the preceptor and/or Apheresis Nurse Coordinator. The apheresis nurse will be then allowed to retest.
- 8.2.3 An "open book" pass/fail machine and kit identification test will be completed annually.

## 8.3 Objectives: At the completion of training, the nurse will be able to:

- 8.3.1 Describe the location and function of PBPCs.

- 8.3.2 Discuss the rationale for collecting PBPCs and donor lymphocytes.
- 8.3.3 Discuss PBPC priming with cytokines including side effects for apheresis collection in the adult population.
- 8.3.4 Discuss rationale for ECP and mechanism of action of Uvadex.
- 8.3.5 Independently complete apheresis and ECP (Set-Up, Prime, Run, and Rinseback) as described in the Procedure Manual for each device used.
- 8.3.6 Perform blood prime per Standard Operating Procedure (SOP) for pediatric collections, if applicable.
- 8.3.7 Effectively verbalize troubleshoot methods for the most common alarm conditions.
- 8.3.8 Independently perform blood cell separator and Blood Warmer (if applicable) Quality Control (QC) record.
- 8.3.9 Describe the blood flow through each machine.
- 8.3.10 List one treatment for all side-effects of apheresis listed in the apheresis procedure manual.
- 8.3.11 Correctly complete all documentation associated with apheresis and ECP.
- 8.3.12 List the rationale for each required blood test drawn.
- 8.3.13 Demonstrate Universal Precautions during apheresis and ECP.
- 8.3.14 Describe the procedure for making an equipment service call.
- 8.3.15 Describe the procedure for performing venipuncture and list the necessary equipment.
- 8.3.16 Demonstrate the procedure for collecting plasma during apheresis using the apheresis procedure manual as a reference, if needed.
- 8.3.17 Discuss and calculate whole blood extracorporeal volumes (ECV).
- 8.4 Training Outline
  - 8.4.1 Observe and practice set-up, prime, run, and reinfusion of blood cell separators and blood warmers, if applicable.
  - 8.4.2 Observe and practice to Blood Prime procedure, in pediatric collections.
  - 8.4.3 Draw necessary blood tests in the adult population and complete all documentation in both apheresis and ECP areas.
  - 8.4.4 Calculate fluid balance at end of Run.
  - 8.4.5 Discuss side effects and troubleshooting in apheresis and ECP with preceptor/designee.
  - 8.4.6 Discuss QC and supply ordering with preceptor/designee.
  - 8.4.7 Discuss venipuncture procedure with preceptor/designee.

- 8.4.8 Discuss stem cell mobilization methods, schedules, and side effects with preceptor/designee.
- 8.4.9 Read and discuss guidelines for calcium administration, product labeling guidelines, and plasma collection during run.
- 8.4.10 Pass apheresis and ECP test with a score of 100% or above.
- 8.4.11 Complete apheresis and ECP CBO.

## 9 RELATED DOCUMENTS/FORMS

- 9.1 APBMT-COLL-002 FRM1 Optia Competency Based Orientation
- 9.2 ABMT-COLL-002 FRM3 Apheresis Test
- 9.3 ABMT-COLL-002 FRM4 Photopheresis Test
- 9.4 ABMT-COLL-002 FRM5 Cellex Competency Based Orientation

## 10 REFERENCES

- 10.1 Terumo Optia Operator's Manuals
- 10.2 Therakos Photopheresis Operator's Manuals
- 10.3 Apheresis Procedure Manual

## 11 REVISION HISTORY

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