ADULT AND PEDIATRIC BLOOD AND MARROW TRANSPLANT PROGRAM

DOCUMENT NUMBER: APBMT-COMM-021

DOCUMENT TITLE:
Maintenance of Special Ventilation Areas

DOCUMENT NOTES:

Document Information

Revision: 06  
Vault: APBMT-Common-rel

Status: Release  
Document Type: Common

Date Information

Creation Date: 07 Mar 2019  
Release Date: 27 Mar 2019

Effective Date: 27 Mar 2019  
Expiration Date:

Control Information

Author: MOORE171  
Owner: JLF29

Previous Number: APBMT-COMM-021 Rev 05  
Change Number: APBMT-CCR-142

CONFIDENTIAL - Printed by: ACM93 on 27 Mar 2019 08:06:05 am
APBMT-COMM-021
MAINTENANCE OF SPECIAL VENTILATION AREAS

1 PURPOSE
1.1 To outline the procedure for the maintenance of the special ventilation system on the Pediatric Blood and Marrow Transplant (PBMT) inpatient unit (5200) and Adult Blood and Marrow Transplant (ABMT) inpatient unit (9200).

2 INTRODUCTION
2.1 Infection remains a leading cause of morbidity and mortality in patients undergoing blood and marrow transplantation. The Center for Disease Control (CDC) recommends that these units follow published guidelines for hospital room design and ventilation. All allogeneic recipients should be placed in rooms with greater than (> ) 12 air exchanges/hour.

3 SCOPE AND RESPONSIBILITIES
3.1 Responsibility of Engineering and Operations (E&O) and unit leadership.

4 DEFINITIONS/ACRONYMS
4.1 ABMT Adult Blood and Marrow Transplant
4.2 AHU Air Handling Unit
4.3 BAS Building Automation System
4.4 CDC Centers for Disease Control
4.5 E&O Engineering and Operations
4.6 HEPA High Efficiency Particulate Air
4.7 HUC Health Unit Coordinator
4.8 LED Light emitting diode
4.9 OESO Occupational & Environmental Safety Office
4.10 ORs Operating Rooms
4.11 PBMT Pediatric Blood and Marrow

5 MATERIALS
5.1 NA

6 EQUIPMENT
6.1 NA
7 SAFETY
7.1 NA

8 PROCEDURE
8.1 Airborne Isolation Rooms
  8.1.1 General
    8.1.1.1 These rooms are exhausted by a dedicated roof exhaust system with a back-up fan for each system. The room’s supply and exhaust airflow are monitored and controlled by the Building Automation System (BAS) system.

  8.1.2 Inspection and Maintenance
    8.1.2.1 Smoke tests are conducted by Duke’s Occupational & Environmental Safety Office (OESO) on a monthly basis to verify proper ventilation of the room.

8.2 Protective Environment Rooms
  Duke Hospital – 9200
  8.2.1 General
    8.2.1.1 These positive rooms are exhausted by a dedicated roof exhaust system with a back-up fan for each system. The room’s supply and exhaust airflow are monitored and controlled by the BAS system.

    8.2.2 Inspection and Maintenance
      8.2.2.1 A local LED alarm light indicator is present at each room.
      8.2.2.2 High efficiency particulate air (HEPA) filters are certified annually.

  Duke Hospital – 5200
  8.2.3 General
    8.2.3.1 This unit has a dedicated air handler. In addition, each room has a fan-powered terminal HEPA filter unit. These units circulate room air and mix it with supply air. The supply and exhaust airflow for each room is monitored and controlled by the BAS system. The corridor has four fan-powered terminal HEPA units.

    8.2.3.2 Inspection and Maintenance
      8.2.3.2.1 Pre-filters on the fan-powered HEPA units in the room are changed every 90 days or between patients, whichever comes first.
      8.2.3.2.2 Pre-filters on the fan-powered HEPA units in the corridor are changed every 180 days.
8.3 Operating Rooms (ORs)

8.3.1 General

8.3.1.1 There are Operating Rooms in Duke Hospital North which have one of the following:

8.3.1.1.1 HEPA filters at the room - OR 6, 7, 8, and 9; 19-24 and 31-32.

8.3.1.1.2 HEPA filters located at the Air Handling Unit (AHU) - Peds 1 and 2

8.3.2 Inspection and Maintenance

8.3.2.1 HEPA filters are certified annually.

8.3.2.2 An air balance survey is performed annually for each OR.

8.4 Pre-Filter Terminal Changing Procedure for PBMT and ABMT

8.4.1 A record is maintained of all maintenance pre-filters terminal.

8.4.2 Record is kept on the 5200 and 9200 units.

8.5 Patient Discharged

8.5.1 Environmental Services will clean the room.

8.5.2 E&O will change the pre-filter and vacuum the interior of the filter housing and the grill. (The vacuum cleaner is stored in a cabinet at HUC station.)

8.5.3 E&O will log the filter change in the logbook at the Health Unit Coordinator (HUC) station.

8.6 Patient Relocation

8.6.1 Nursing staff will move the patient or leave a document to the charge nurse requesting the patient be moved.

8.6.2 Staff will cover everything possible with sheets (sheets should be located on the 5200 laundry cart at the HUC desk).

8.6.3 E&O will change pre-filter and vacuum filter housing and grill. (The vacuum cleaner is stored in a cabinet at the HUC station.)

8.6.4 E&O will remove sheets, notify nursing staff, and log filter change in the logbook at the HUC station.
8.7 Central Station 5200 Filter Air Handling Unit Change Procedure

8.7.1 Notify nursing staff that plans are to change filters and switch the supply air from AHU 48 to AHU 31.

8.7.2 Have BAS open the dampers for AHU 31 (DN.AH.48.98 and DN.AH.48.99) and stop AHU 48.

8.7.3 Change the filters and have BAS close the dampers for AHU 31 (DN.AH.48.98 and DN.AH.48.99) and start AHU 48.

8.7.4 Notify nursing staff that the task has been completed.

9 RELATED DOCUMENTS/FORMS

9.1 NA

10 REFERENCES

10.1 NA

11 REVISION HISTORY

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<tr>
<td>06</td>
<td>Sally McCollum</td>
<td>- Acronyms defined throughout</td>
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<tr>
<td></td>
<td></td>
<td>- Section 8.2.3.2 updated to reflect current practice including 90 days</td>
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<tr>
<td></td>
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<td>- References to LED light alarms removed throughout document</td>
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<tr>
<td></td>
<td></td>
<td>- References to “key switch” for room pressure removed throughout document</td>
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### Signature Manifest

**Document Number:** APBMT-COMM-021  
**Revision:** 06  
**Title:** Maintenance of Special Ventilation Areas

All dates and times are in Eastern Time.

### APBMT-COMM-021 Maintenance of Special Ventilation Areas

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#### Management

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