



ADULT AND PEDIATRIC BLOOD AND MARROW TRANSPLANT PROGRAM

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Maintenance of Special Ventilation Areas

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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 designated adult and pediatric inpatient units for transplant and cellular therapy.

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 AHU Air Handling Unit
- 4.2 BAS Building Automation System
- 4.3 CDC Centers for Disease Control
- 4.4 E&O Engineering and Operations
- 4.5 HEPA High Efficiency Particulate Air
- 4.6 HUC Health Unit Coordinator
- 4.7 LED Light emitting diode
- 4.8 OESO Occupational & Environmental Safety Office
- 4.9 ORs Operating Rooms

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 The isolation 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. The isolation exhaust system serves the isolation rooms and combination AII/PE rooms.

8.1.2 Inspection and Maintenance

8.1.2.1 Setra monitoring devices are utilized and show the pressure 24hr/7 days/week.

8.2 Protective Environment Rooms – Adult Inpatient Unit

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.

8.3 Protective Environment Rooms – Pediatric Inpatient Unit

8.3.1 General

8.3.1.1 The unit's patient rooms are served by two air handlers, located in the basement of the building, for supply and return.

8.3.1.1.1 In addition, each room has a fan-powered terminal HEPA filter unit.

8.3.1.1.2 These filter units circulate room air and mix it with supply air.

8.3.1.1.3 The supply and exhaust airflow for each room is monitored and controlled by the BAS system. Return air from the patient rooms goes back to the air handler.

8.3.1.1.4 The patient rooms have 12 air changes from the air handler, and an additional 6 air changes from the recirculation system in the room.

8.3.1.2 The corridor has four fan-powered terminal HEPA units.

- 8.3.2 Inspection and Maintenance
 - 8.3.2.1 HEPA filters, located in each patient room, four per room, are certified biannually.
 - 8.3.2.2 A local LED alarm light indicator is present in each room. The design includes a Setra monitoring device, which monitors continuously and can be trended. User interface is located at the entrance to the rooms.
- 8.4 Operating Rooms (ORs)
 - 8.4.1 General
 - 8.4.1.1 There are Operating Rooms in Duke Hospital North which have one of the following:
 - 8.4.1.1.1 HEPA filters at the room - OR 6, 7, 8, and 9; 19-24 and 31-32.
 - 8.4.1.1.2 HEPA filters located at the Air Handling Unit (AHU) - Peds 1 and 2
 - 8.4.2 Inspection and Maintenance
 - 8.4.2.1 HEPA filters are certified annually.
 - 8.4.2.2 An air balance survey is performed annually for each OR.
- 8.5 Pre-Filter Terminal Changing Procedures for both inpatient units
 - 8.5.1 A record is maintained of all maintenance pre-filters terminal.
 - 8.5.2 Record is kept on the inpatient units.
- 8.6 Patient Discharged
 - 8.6.1 E&O will change the pre-filter and vacuum the interior of the filter housing and the grill.
 - 8.6.2 E&O will log the filter change in the logbook at the Health Unit Coordinator (HUC) station.
 - 8.6.3 Environmental Services will clean the room.
- 8.7 Patient Relocation, when required
 - 8.7.1 Nursing staff will move the patient or leave a document to the charge nurse requesting the patient be moved.
 - 8.7.2 Staff will cover everything possible with sheets.
 - 8.7.3 E&O will change pre-filter and vacuum filter housing and grill.
 - 8.7.4 E&O will remove sheets, notify nursing staff, and log filter change in the logbook.

9 RELATED DOCUMENTS/FORMS

- 9.1 NA

10 REFERENCES

10.1 NA

11 REVISION HISTORY

Revision No.	Author	Description of Change(s)
07	Sally McCollum	<ul style="list-style-type: none">- Section 1.1 updated to reflect relocation of the adult and pediatric inpatient units- Section 8 updated to reflect exhaust, monitoring and inspection aspects of the new inpatient units for both adults and pediatrics.- Section 8 – aspects which are no longer applicable to the new units were removed.

Signature Manifest

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