



**DOCUMENT NUMBER:**

**DOCUMENT TITLE:**

**DOCUMENT NOTES:**

**Document Information**

**Revision:**

**Vault:**

**Status:**

**Document Type:**

**Date Information**

**Creation Date:**

**Release Date:**

**Effective Date:**

**Expiration Date:**

**Control Information**

**Author:**

**Owner:**

**Previous Number:**

**Change Number:**

# **ABMT-GEN-010**

## **INFECTION PREVENTION AND CONTROL**

### **1 PURPOSE**

- 1.1 To outline nursing care for neutropenic patients.
- 1.2 **Level:** Interdependent (\* requires an order from physician or physician designee).

### **2 INTRODUCTION**

- 2.1 **Supportive Data:** The patient undergoing blood or marrow transplantation develops immunosuppression/bone marrow suppression due to ablative therapies such as high dose chemotherapy, radiation therapy, and administration of immunosuppressant agents. Myelosuppression increases the patient's susceptibility to infection and bleeding. Patients with ANC < 500 should be considered neutropenic.

- 2.2 To calculate ANC:

$$\frac{(\% \text{ Segs} + \% \text{ Bands})}{100} \times \text{total WBC}$$

### **3 SCOPE AND RESPONSIBILITIES**

- 3.1 Nursing staff and other members of the multidisciplinary team are responsible to implement, carry out and educate patients and their families regarding this procedure.

### **4 DEFINITIONS/ACRONYMS**

- 4.1 NA

### **5 MATERIALS**

- 5.1 NA

### **6 EQUIPMENT**

- 6.1 NA

### **7 SAFETY**

- 7.1 NA

### **8 PROCEDURE**

- 8.1 Assessment
  - 8.1.1 Monitor VS including temperature q 4 hours and prn.
  - 8.1.2 Perform laboratory assessments as ordered and monitor for indications of infection.

- 8.1.3 Monitor CBC daily.
  - 8.1.3.1 Obtain manual differential as ordered when WBC is greater than or equal to 1000.
- 8.1.4 Obtain blood cultures q 24 has ordered for temperature >38.0 C.
  - 8.1.4.1 Follow Blood Culture Procedure-Adults from the DUH Process Standards via intranet
  - 8.1.4.2 Notify MD promptly of positive culture results.
- 8.1.5 Assess patient q shift and prn for signs of infection.
- 8.2 Prophylactic Measures:
  - 8.2.1 Good hand washing X 15 seconds upon entering clinical service unit, upon entering or exiting patient room, and between dirty to clean tasks.
  - 8.2.2 Keep doors to unit and to patient's room closed to maintain hepafiltration.
  - 8.2.3 Patients should avoid contact with individuals with signs/symptoms of a suspected transmissible illness or disease.
    - 8.2.3.1 Patients should avoid construction sites and crowds of people where transmission of respiratory pathogens is likely.
    - 8.2.3.2 Contact with persons who have recently received live vaccines (i.e. Sabin oral polio, MMR – measles, mumps, rubella – or chicken pox vaccine) should be avoided.
- 8.3 Maintain hospital central line policy and procedure for blood draws from a central line.
- 8.4 Assess catheter exit, entrance, suture, and tunnel sites for signs of infection q shift: skin breakdown, erythema, pain, tenderness, discharge, swelling, or warmth.
- 8.5 Use strict aseptic technique when performing all invasive procedures and when manipulating any invasive tubing.
- 8.6 Avoid IM injections.
- 8.7 Nothing per rectum, i.e. rectal temperatures, enemas, suppositories, or digital exams. Keep the perineal area clean and dry. Use skin barrier creams and stool softeners as needed to reduce the risk of perianal injury or infections.
- 8.8 Prevent vaginal trauma by avoiding tampons. Instruct patient to avoid sexual activity while patient is neutropenic or thrombocytopenic.
- 8.9 Foley care every shift, if applicable.
- 8.10 HHV6 and CMV screening is to be performed according to MD order.
  - 8.10.1 Notify MD for seropositive conversion of CMV.
- 8.11 Patient should shower or bathe and linens should be changed daily.
- 8.12 Active transplant patients are not to leave unit except for diagnostic or interventional procedures.

- 8.13 Avoid open-toed shoes. Nails should be kept clean and trimmed. Exercise caution when trimming fingernails or toenails.
- 8.14 Avoid shaving, except with electric razor.
- 8.15 Follow safe food handling and safety guidelines.
- 8.16 No fresh flowers or plants on the unit.
- 8.17 Educate family/patient on neutropenic precautions.
- 8.18 Empiric Measures:
- 8.19 Obtain order for blood cultures, urinalysis and CXR for first fever spike.
  - 8.19.1 Obtain blood cultures within 30 minutes of temperature spike. Patients on steroids may require blood culture for temperatures less than 38.0 C., as steroids mask fevers
  - 8.19.2 Obtain order for blood culture to be drawn from central line for subsequent fever spikes every 24 hours.
- 8.20 Initiate antibiotics per MD order within 1 hour of neutropenic fever spike.
- 8.21 Administer antibiotics, antivirals, and antifungals per orders.
- 8.22 Administer blood products per MD order following Duke Hospital Blood Product Administration Procedure.
- 8.23 Regulate blood pressure with fluid administration and/or pressor agents and monitor patient's hemodynamic status closely.
- 8.24 Institute fever reduction measures: tepid baths, cool cloths, ice packs, cooling blanket, and antipyretics.
- 8.25 Follow Duke Hospital Oral Care – Mucostis Focus for Adult Oncology Process Standard.
- 8.26 Implement applicable Standardized Plan of Care.
- 8.27 Reportable Conditions:
  - 8.27.1 Temperature of 38.0 C or greater.
  - 8.27.2 Temperature less than 35.0 C.
  - 8.27.3 Hypotension (MAP < 60mmHg).
  - 8.27.4 Rigors.

## **9 RELATED DOCUMENTS/FORMS**

- 9.1 NA

## **10 REFERENCES**

- 10.1 Buchsel, PC and PM Kapustay, Eds. Stem Cell Transplantation: A Clinical Textbook. Oncology Nursing Press, Pittsburgh PA. 2000
- 10.2 Dykewicz, C. Hospital Infection Control. Hematopoietic Stem Cell Transplant Recipients Emerging Infectious Diseases. March-April 2001

- 10.3 .Ernst, Dennis MT. The Right Way to Do Blood Cultures. RN Vol64(3) March 2001 pp 28-32
- 10.4 Guidelines for Preventing Opportunistic Infections in Stem Cell Transplant Recipients. Recommendations of CDC, the Infectious Disease Society of America and American Society of Blood and Marrow Transplantation October 2000
- 10.5 Hollenberg, Steven M., et al. Practice parameters for hemodynamic support of sepsis in adult patients in sepsis. Critical Care Medicine. Vol. 27(3), March 1999, pp. 639-660.
- 10.6 Netina, SM, Ed. The Lippincott Manual of Nursing Practice. 11<sup>th</sup> Ed. Lippincott. Philadelphia, 2019.
- 10.7 Penwarden, Linda M. Montgomery Paul G. Developing a Protocol for Obtaining Blood Cultures From Central Venous Catheters and Peripheral Sites Clinical Jorنال of Oncology Nursing Sept/Oct 2002 Volume 6 No. 5 pp268-270
- 10.8 Tomblyn M, Chiller T, Einsele H, et al. Guidelines for preventing infectious complications among hematopoietic cell transplantation recipients: a global perspective. Biol Blood Marrow Transplant 2009; 15:1143.

## 11 REVISION HISTORY

Revision No.	Author	Description of Change(s)
05	J. Frith	<p>8.2.1 added wash hands between dirty to clean tasks</p> <p>Removed 8.13 Neutropenic patients must wear a surgical mask whenever leaving unit.</p> <p>Updated references:</p> <p>10.6 changed to 11<sup>th</sup> edition</p> <p>10.8 deleted reference and added</p> <p>Tomblyn M, Chiller T, Einsele H, et al. Guidelines for preventing infectious complications among hematopoietic cell transplantation recipients: a global perspective. Biol Blood Marrow Transplant 2009; 15:1143.</p>

## Signature Manifest

**Document Number:** ABMT-GEN-010

**Revision:** 05

**Title:** Infection Prevention and Control

**Effective Date:** 23 Jun 2020

All dates and times are in Eastern Time.

### ABMT-GEN-010 Infection Prevention and Control

#### Author

Name/Signature	Title	Date	Meaning/Reason
Jennifer Frith (JLF29)		06 Jun 2020, 08:05:25 AM	Approved

#### Management

Name/Signature	Title	Date	Meaning/Reason
Jennifer Frith (JLF29)		09 Jun 2020, 09:04:03 AM	Approved

#### Medical Director

Name/Signature	Title	Date	Meaning/Reason
Nelson Chao (CHAO0002)		09 Jun 2020, 09:16:01 AM	Approved

#### Quality

Name/Signature	Title	Date	Meaning/Reason
Bing Shen (BS76)		09 Jun 2020, 11:49:29 AM	Approved

#### Document Release

Name/Signature	Title	Date	Meaning/Reason
Betsy Jordan (BJ42)		10 Jun 2020, 08:18:42 AM	Approved