



PEDIATRIC BLOOD AND MARROW TRANSPLANT PROGRAM

DOCUMENT NUMBER: PBMT-GEN-048

DOCUMENT TITLE:

Administration of Thiotepa

DOCUMENT NOTES:

Document Information

Revision: 07

Vault: PBMT-General-rel

Status: Release

Document Type: PBMT

Date Information

Creation Date: 08 Dec 2022

Release Date: 28 Dec 2022

Effective Date: 28 Dec 2022

Expiration Date:

Control Information

Author: MOORE171

Owner: MOORE171

Previous Number: PBMT-GEN-048 Rev 06

Change Number: PBMT-CCR-353

PBMT-GEN-048

ADMINISTRATION OF THIOTEPA

1 PURPOSE

- 1.1 Outline the procedure required for administration of thiotepa.
- 1.2 Describe the responsibilities of the nursing staff for administering and monitoring reactions to thiotepa.

2 INTRODUCTION

- 2.1 Thiotepa is a cell cycle non-specific polyfunctional alkylating agent.
- 2.2 Thiotepa exerts its chemotherapeutic effects by alkylating DNA (deoxyribonucleic acid), causing interstrand crosslinking, inhibiting protein synthesis, and causing cell death.
 - 2.2.1 Adverse effects include thrombocytopenia, leukopenia, neutropenia, anemia, and sometimes pancytopenia, nausea, vomiting, skin rash or peeling of the skin (sunburn appearance), dizziness, headache, hives, darkening of the skin.
 - 2.2.2 Thiotepa can cause severe skin toxicity including complete sloughing of the dermis. Extreme care must be taken to protect patients from this toxicity, including but not limited to frequent bathing for a minimum of 24 hours after each dose.
 - 2.2.3 Nursing staff administering thiotepa and caregivers must be protected from exposure to the drug, which is partially excreted through the skin.

3 SCOPE AND RESPONSIBILITIES

- 3.1 Interdisciplinary: Attending physicians, advanced practice providers (APPs), pharmacists and registered nurses (RNs) are all responsible for the contents of this procedure.
 - 3.1.1 The nurse is responsible for administration of chemotherapy, management of side effects and assessment of response.
 - 3.1.2 The attending physician is responsible for placing chemotherapy order in the medical records.
 - 3.1.3 The physician and advanced practice providers are responsible for assessment and direction of management of patient.
 - 3.1.4 The pharmacist is responsible for review of the chemotherapy order and all downstream pharmacy processes in compliance with chemotherapeutic policies and procedures.
- 3.2 Registered nurses (RNs) may administer thiotepa after successful completion of the medication administration test, the chemotherapy certification test and demonstration of clinical competency with their preceptors.

4 DEFINITIONS/ACRONYMS

- 4.1 APP Advanced Practice Provider
- 4.2 DNA Deoxyribonucleic acid
- 4.3 PPE Personal Protective Equipment
- 4.4 RN Registered Nurse

5 MATERIALS

- 5.1 See the health-system related policy: *Chemotherapy Administration Policy*.
- 5.2 0.22 micron filter

6 EQUIPMENT

- 6.1 See the health-system related policy: *Chemotherapy Administration Policy*.

7 SAFETY

- 7.1 Use appropriate Personal Protective Equipment (PPE) when handling chemotherapy. See the health-system related policy: *Chemotherapy Administration Policy*.

8 PROCEDURE

- 8.1 See over-arching procedural steps, including steps for patient assessment and chemotherapy administration steps, in the health-system related policy: *Chemotherapy Administration Policy*.
- 8.2 Patient assessment will be performed as outlined in the health-system related policy: *Chemotherapy Administration Policy*.
- 8.3 Additionally:
 - 8.3.1 Educate caregivers about excretion of thiotepa through the skin and the importance of bathing.
 - 8.3.2 A chemo gown MUST be worn anytime the healthcare team and/or caregiver holds the patient, starting at the end of the first infusion of thiotepa and continuing until 24 hours after the last infusion of thiotepa. Each time the child is held, a new gown should be worn.
 - 8.3.3 Gloves MUST be worn anytime someone comes in physical contact with the patient starting at the end of the first infusion of thiotepa and continuing until 24 hours after the last infusion of thiotepa. New gloves MUST be worn with each new contact.
 - 8.3.4 Patients will receive sponge showers and/or standing showers every 6 hours starting at the end of the first infusion and continuing until 24 hours after the last infusion of thiotepa.
 - 8.3.5 Patients may use Kindest Kare soap provided by the hospital but should not use ANY type of lotions or creams on the skin for at least 24 hours after the last dose of thiotepa.

- 8.3.6 After each sponge shower and/or standing shower, the patient's entire bedding should be placed in a dirty linens container and new linens are to be placed on patient's bed.
- 8.3.7 Patient must change into a clean set of clothes with each sponge shower and/or standing shower, it is acceptable to wear a hospital gown and place a new gown on with each bath/shower
- 8.3.8 NO occlusive dressing should be placed on the patient. The central venous line dressing should be changed every 4 to 6 hours with each bath and the site should be covered with 2x2 sterile gauze, then 4x4 sterile gauze and the Xspan tubular dressing retainer. With each dressing change, new gauze and new Xspan tubular dressing retainer should be placed on the patient.
- 8.3.9 Patients may wear a pulse-oximeter but the site should be changed every 2 to 4 hours.
- 8.3.10 Patients may be placed on the cardiac monitor with leads and the lead sites must be changed every 4 to 6 hours with each bath or shower.
- 8.4 Administration
 - 8.4.1 Chemotherapy administration will be performed as outlined in *Chemotherapy Administration Policy*.

9 RELATED DOCUMENTS/FORMS

- 9.1.1 Duke University Health System policy: *Chemotherapy Administration Policy*

10 REFERENCES

- 10.1 Duke Online Clinical Pharmacology

11 REVISION HISTORY

Revision No.	Author	Description of Change(s)
07	S. McCollum	- Section 3.1.1 removed reference to melphalan (error)

Signature Manifest**Document Number:** PBMT-GEN-048**Revision:** 07**Title:** Administration of Thiotepa**Effective Date:** 28 Dec 2022

All dates and times are in Eastern Time.

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Document Release

Name/Signature	Title	Date	Meaning/Reason
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