# Administration of Rituximab

**Document Information**

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PBMT-GEN-032
ADMINISTRATION OF RITUXIMAB

1 PURPOSE
1.1 To outline the procedure required for indications for and administration of rituximab (anti-CD20) or the biosimilar in use.
1.2 Responsibilities of the nursing staff for administration and monitoring reactions to rituximab, or biosimilar, are described.

2 INTRODUCTION
2.1 The Rituxan® (rituximab) antibody is a genetically engineered chimeric murine/human monoclonal antibody directed against the CD20 antigen found on the surface of normal and malignant B lymphocytes. Rituximab is used to treat patients with autoimmune diseases (ITP, autoimmune hemolytic anemia), Graft Versus host Disease (GVHD) and certain lymphoid malignancies.
2.2 Within this procedure, each time “Rituximab” is stated, it refers to rituximab or the biosimilar in use on formulary.

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 patients receiving chemotherapy agents.

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 RNs may administer rituximab after successful completion of the medication administration test, the chemotherapy test, and demonstration of clinical competency with their preceptors.

4 DEFINITIONS/ACRONYMS
4.1 APP Advanced Practice Provider
4.2 BSA Body Surface Area
4.3 GVHD Graft Versus Host Disease
4.4 PFO  Patent foramen ovale
4.5 PPE  Personal Protective Equipment
4.6 RN  Registered Nurse

5  MATERIALS
5.1 See the health-system related policy: *Chemotherapy Administration Policy*.

6  EQUIPMENT
6.1 Volumetric infusion pump
6.2 Cardiac Monitor
6.3 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 Assess the intravenous access device for leakage, patency, and blood return.
   8.3.2 Assess the central venous access site for redness, swelling, drainage and pain.
   8.3.3 Have emergency medications, as applicable, available at the bedside.
   8.3.4 Assess vital signs every 15 minutes for the first hour, then with every rate increase until the maximum rate is reached, then every hour until infusion is complete.
8.4 Precautions
   8.4.1 Rituximab should not be mixed with other medications.
   **NOTE:** DO NOT ADMINISTER AS AN INTRAVENOUS PUSH OR BOLUS.
   8.4.2 Hypersensitivity reactions may occur. Premedication consisting of acetaminophen and diphenhydramine should be administered if ordered to attenuate infusion-related events.
8.5  Infusion rates are identical for Rituximab and the biosimilar, Rituximab-abb, and are based on BSA (body Surface Area) as outlined below. If an alternate biosimilar is utilized, contact the pharmacist for infusion instructions.

8.5.1  First Infusion

8.5.1.1  Adults and patients with a BSA greater than (>) 1 m2:

- The infusion should be administered intravenously at an initial rate of 50 mg/hr.

- If hypersensitivity or infusion-related events do not occur, escalate the infusion rate in 50 mg/hr increments every 30 minutes, to a maximum of 400 mg/hr.

- If hypersensitivity or an infusion-related event develops, the infusion should be temporarily slowed or stopped (see WARNINGS) and the physician or designee notified. The infusion can continue at one-half the previous rate upon improvement of patient symptoms.

8.5.1.2  Pediatric patients with a BSA = 0.6-1 m2

- The infusion should be administered intravenously at an initial rate of 25 mg/hr.

- If hypersensitivity or infusion-related events do not occur, escalate the infusion rate in 25 mg/hr increments every 30 minutes, to a maximum of 100 mg/hr.

- If hypersensitivity or an infusion-related event develops, the infusion should be temporarily slowed or stopped (see WARNINGS) and the physician or designee notified. The infusion can continue at one-half the previous rate upon improvement of patient symptoms.

8.5.1.3  Pediatric patients with a BSA less than (<) 0.6 m2

- The infusion should be administered intravenously at an initial rate of 12.5 mg/hr.

- If hypersensitivity or infusion-related events do not occur, escalate the infusion rate in 12.5 mg/hr increments every 30 minutes, to a maximum of 100 mg/hr.

- If hypersensitivity or an infusion-related event develops, the infusion should be temporarily slowed or stopped (see WARNINGS) and the physician or designee notified. The infusion can continue at one-half the previous rate upon improvement of patient symptoms.
8.5.2 Subsequent Infusions (ADULT sized patients only)
  8.5.2.1 Subsequent infusions can be administered at an initial rate of 100 mg/hr, and increased by 100 mg/hr increments at 30-minute intervals, to a maximum of 400 mg/hr as tolerated.

8.6 Adverse Reactions – Common
  8.6.1 Arthralgia
  8.6.2 Cytopenia
  8.6.3 Immunodeficiency
  8.6.4 Infection
  8.6.5 Infusion related reactions – chills, fever; hypertensive, hypotension
  8.6.6 Fatigue
  8.6.7 Headache
  8.6.8 Leukopenia
  8.6.9 Lymphopenia
  8.6.10 Myalgia
  8.6.11 Nausea
  8.6.12 Neutropenia
  8.6.13 Night sweats
  8.6.14 Peripheral neuropathy
  8.6.15 Rash
  8.6.16 Thrombocytopenia
  8.6.17 Vomiting

8.7 Adverse Reactions- Infrequent/Incidence Unknown
  8.7.1 Anemia
  8.7.2 Anxiety
  8.7.3 Bronchospasm
  8.7.4 Elevated hepatic enzymes
  8.7.5 GI obstruction/perforation
  8.7.6 Hepatitis
  8.7.7 Flushing
  8.7.8 Hyperglycemia
  8.7.9 Itching
  8.7.10 Leukopenia
  8.7.11 Pancytopenia
8.7.12 Renal failure (unspecified)
8.7.13 Stevens-Johnson syndrome
8.7.14 Tachycardia
8.7.15 Throat irritation

9 RELATED DOCUMENTS
9.1 Duke University Health System policy: *Chemotherapy Administration Policy*

10 REFERENCES
10.1 Clinical Pharmacology – current version.

11 REVISION HISTORY

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<td>11</td>
<td>S. McCollum</td>
<td>Section 1: “or biosimilar” added throughout to reflect hospital formulary product change. Section 2: New statement added: Within this procedure, each time “Rituximab” is stated, it refers to Rituximab or the biosimilar in use on formulary. Section 8.5: updated for infusion instructions for biosimilars.</td>
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## Signature Manifest

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#### Medical Director

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