

## IP CAGT R-IE

*Types:* ONCOLOGY TREATMENT

*Synonyms:* RITUXAN, RITUXIMAB, IFEX, IFOSFAMIDE, MESNA, MESNEX, ETOPOSIDE, TOPOSAR, PRE, MOBILZATION, R IE

<b>Cycle 1</b>	Repeat 1 time	Cycle length: 21 days
<b>Day 1</b>	Perform every 1 day x1	
Provider Communication		
<b>ONC PROVIDER COMMUNICATION 5</b>		
Interval: Once      Occurrences: --		
Comments:            Use baseline weight to calculate dose. Adjust dose for weight gains/losses of greater than or equal to 10%.		
Nursing Orders		
<b>TREATMENT CONDITIONS 7</b>		
Interval: Once      Occurrences: --		
Comments:            HOLD and notify provider if ANC LESS than 1000; Platelets LESS than 100,000.		
Line Flush		
<b>sodium chloride 0.9 % flush 20 mL</b>		
Dose: 20 mL	Route: intravenous	PRN
Start: S		
Nursing Orders		
<b>sodium chloride 0.9 % infusion 250 mL</b>		
Dose: 250 mL	Route: intravenous	once @ 30 mL/hr for 1 dose
Start: S		
Instructions:	To keep vein open.	
Hydration		
<b>sodium chloride 0.9 % infusion</b>		
Dose: 100 mL/hr	Route: intravenous	continuous
Start: S		
Pre-Medications		
<b>ondansetron (ZOFTRAN) 16 mg, dexamethasone</b>		
<input checked="" type="checkbox"/> <b>(DECADRON) 12 mg in sodium chloride 0.9% 50 mL IVPB</b>		
Dose: 16 mg	Route: intravenous	once over 15 Minutes for 1 dose
Start: S		
<b>Ingredients:</b>	<b>Name</b>	<b>Type      Dose      Selected      Adds Vol.</b>
	ONDANSETRON HCL 2 MG/ML INTRAVENOUS SOLUTION	Medications      16 mg      Main Ingredient      No
	DEXAMETHASONE 10 MG/ML INJECTION SOLUTION	Medications      12 mg      Yes      No
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base      50 mL      Yes      Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS	Base      50 mL      No      Yes

SOLUTION

**fosaprepitant (EMEND) 150 mg in sodium chloride 0.9% 150 mL IVPB**

Dose: 150 mg      Route: intravenous      once over 30 Minutes for 1 dose  
Start: S

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	FOSAPREPITANT 150 MG	Medications	150 mg	Main Ingredient	Yes
	INTRAVENOUS SOLUTION				
	SODIUM CHLORIDE 0.9 %	QS Base	145 mL	Yes	Yes
	INTRAVENOUS SOLUTION				

Chemotherapy

**etoposide (TOPOSAR) 100 mg/m2 in sodium chloride (NON-PVC) 0.9 % 500 mL chemo IVPB**

Dose: 100 mg/m2      Route: intravenous      once over 2 Hours for 1 dose  
Offset: 30 Minutes

Instructions:  
Administer through a 0.22 micron filter and non-PVC tubing set.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	ETOPOSIDE 20 MG/ML	Medications	100 mg/m2	Main Ingredient	Yes
	INTRAVENOUS SOLUTION				
	SODIUM CHLORIDE 0.9 % IV SOLP (EXCEL;NON-PVC)	QS Base	500 mL	Yes	Yes

Chemotherapy

**ifosfamide (IFEX) 5,000 mg/m2, mesna (MESNEX) 5,000 mg/m2 in dextrose 5% 500 mL chemo IVPB**

Dose: --      Route: intravenous      once over 24 Hours for 1 dose  
Offset: 2.5 Hours

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	IFOSFAMIDE 1 GRAM	Medications	5,000 mg/m2	Yes	Yes
	INTRAVENOUS SOLUTION				
	MESNA 100 MG/ML	Medications	5,000 mg/m2	Yes	Yes
	INTRAVENOUS SOLUTION				
	SODIUM CHLORIDE 0.9 %	QS Base	500 mL	No	Yes
	INTRAVENOUS SOLUTION				
	DEXTROSE 5 % IN WATER (D5W)	QS Base	500 mL	Yes	Yes
	INTRAVENOUS SOLUTION				

Hematology & Oncology Hypersensitivity Reaction Standing Order

**ONC NURSING COMMUNICATION 82**

Interval: Until discontinued

Occurrences: --

Comments:

Grade 1 - MILD Symptoms (cutaneous and subcutaneous symptoms only – itching, flushing, periorbital edema, rash, or runny nose)  
1. Stop the infusion.

2. Place the patient on continuous monitoring.
3. Obtain vital signs.
4. Administer Normal Saline at 50 mL per hour using a new bag and new intravenous tubing.
5. If greater than or equal to 30 minutes since the last dose of Diphenhydramine, administer Diphenhydramine 25 mg intravenous once.
6. If less than 30 minutes since the last dose of Diphenhydramine, administer Fexofenadine 180 mg orally and Famotidine 20 mg intravenous once.
7. Notify the treating physician.
8. If no improvement after 15 minutes, advance level of care to Grade 2 (Moderate) or Grade 3 (Severe).
9. Assess vital signs every 15 minutes until resolution of symptoms or otherwise ordered by covering physician.

### **ONC NURSING COMMUNICATION 83**

Interval: Until discontinued

Occurrences: --

Comments:

Grade 2 – MODERATE Symptoms (cardiovascular, respiratory, or gastrointestinal symptoms – shortness of breath, wheezing, nausea, vomiting, dizziness, diaphoresis, throat or chest tightness, abdominal or back pain)

1. Stop the infusion.
2. Notify the CERT team and treating physician immediately.
3. Place the patient on continuous monitoring.
4. Obtain vital signs.
5. Administer Oxygen at 2 L per minute via nasal cannula. Titrate to maintain O<sub>2</sub> saturation of greater than or equal to 92%.
6. Administer Normal Saline at 150 mL per hour using a new bag and new intravenous tubing.
7. Administer Hydrocortisone 100 mg intravenous (if patient has allergy to Hydrocortisone, please administer Dexamethasone 4 mg intravenous), Fexofenadine 180 mg orally and Famotidine 20 mg intravenous once.
8. If no improvement after 15 minutes, advance level of care to Grade 3 (Severe).
9. Assess vital signs every 15 minutes until resolution of symptoms or otherwise ordered by covering physician.

### **ONC NURSING COMMUNICATION 4**

Interval: Until discontinued

Occurrences: --

Comments:

Grade 3 – SEVERE Symptoms (hypoxia, hypotension, or neurologic compromise – cyanosis or O<sub>2</sub> saturation less than 92%, hypotension with systolic blood pressure less than 90 mmHg, confusion, collapse, loss of consciousness, or incontinence)

1. Stop the infusion.
2. Notify the CERT team and treating physician immediately.
3. Place the patient on continuous monitoring.
4. Obtain vital signs.
5. If heart rate is less than 50 or greater than 120, or blood pressure is less than 90/50 mmHg, place patient in reclined or flattened position.
6. Administer Oxygen at 2 L per minute via nasal cannula. Titrate to maintain O<sub>2</sub> saturation of greater than or equal to 92%.
7. Administer Normal Saline at 1000 mL intravenous bolus using a new bag and new intravenous tubing.
8. Administer Hydrocortisone 100 mg intravenous (if patient has allergy to Hydrocortisone, please administer Dexamethasone 4 mg intravenous) and Famotidine 20 mg intravenous once.
9. Administer Epinephrine (1:1000) 0.3 mg subcutaneous.

10. Assess vital signs every 15 minutes until resolution of symptoms or otherwise ordered by covering physician.

**diphenhydrAMINE (BENADRYL) injection 25 mg**

Dose: 25 mg                      Route: intravenous                      PRN  
Start: S

**fexofenadine (ALLEGRA) tablet 180 mg**

Dose: 180 mg                      Route: oral                      PRN  
Start: S

**famotidine (PEPCID) 20 mg/2 mL injection 20 mg**

Dose: 20 mg                      Route: intravenous                      PRN  
Start: S

**hydrocortisone sodium succinate (Solu-CORTEF) injection 100 mg**

Dose: 100 mg                      Route: intravenous                      PRN

**dexamethasone (DECADRON) injection 4 mg**

Dose: 4 mg                      Route: intravenous                      PRN  
Start: S

**epINEPHrine (ADRENALIN) 1 mg/10 mL ADULT injection syringe 0.3 mg**

Dose: 0.3 mg                      Route: subcutaneous                      PRN  
Start: S

Discharge Nursing Orders

**sodium chloride 0.9 % flush 20 mL**

Dose: 20 mL                      Route: intravenous                      PRN

**HEParin, porcine (PF) injection 500 Units**

Dose: 500 Units                      Route: intra-catheter                      once PRN  
Start: S

Instructions:

Concentration: 100 units/mL. Heparin flush for Implanted Vascular Access Device maintenance.

**Day 2**

Perform every 1 day x1

Nursing Orders

**sodium chloride 0.9 % infusion 250 mL**

Dose: 250 mL                      Route: intravenous                      once @ 30 mL/hr for 1 dose  
Start: S

Instructions:

To keep vein open.

Pre-Medications

**ondansetron (ZOFTRAN) 16 mg, dexamethasone (DECADRON) 12 mg in sodium chloride 0.9% 50 mL IVPB**

Dose: 16 mg                      Route: intravenous                      once over 15 Minutes for 1 dose  
Start: S

**Ingredients:**

Name	Type	Dose	Selected	Adds Vol.
ONDANSETRON HCL 2 MG/ML INTRAVENOUS SOLUTION	Medications	16 mg	Main Ingredient	No
DEXAMETHASONE 10 MG/ML INJECTION	Medications	12 mg	Yes	No

SOLUTION SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base	50 mL	Yes	Yes
DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base	50 mL	No	Yes

Chemotherapy

**etoposide (TOPOSAR) 100 mg/m2 in sodium chloride (NON-PVC) 0.9 % 500 mL chemo IVPB**

Dose: 100 mg/m2      Route: intravenous      once over 2 Hours for 1 dose

Instructions:

Administer through a 0.22 micron filter and non-PVC tubing set.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	ETOPOSIDE 20 MG/ML INTRAVENOUS SOLUTION	Medications	100 mg/m2	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % IV SOLP (EXCEL;NON-PVC)	QS Base	500 mL	Yes	Yes

Chemotherapy

**mesna (MESNEX) 2,000 mg/m2 in dextrose 5% 500 mL chemo IVPB**

Dose: 2,000 mg/m2      Route: intravenous      once over 12 Hours for 1 dose

Instructions:

Administer Mesna 24 hours from the START of Ifosfamide infusion.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	MESNA 100 MG/ML INTRAVENOUS SOLUTION	Medications	2,000 mg/m2	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	500 mL	No	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	500 mL	Yes	Yes

Day 3

Perform every 1 day x1

Nursing Orders

**sodium chloride 0.9 % infusion 250 mL**

Dose: 250 mL      Route: intravenous      once @ 30 mL/hr for 1 dose

Start: S

Instructions:

To keep vein open.

Rituximab Pre-Medications

**acetaminophen (TYLENOL) tablet 650 mg**

Dose: 650 mg      Route: oral      once for 1 dose

Start: S

Instructions:

Give 30 minutes prior to Rituximab

**diphenhydramine (BENADRYL) injection 25**

**mg**

Dose: 25 mg                      Route: intravenous                      once for 1 dose

Start: S

Instructions:

Give 30 minutes prior to Rituximab

Chemotherapy

**RiTUXimab (PF) (RITUXAN) 375 mg/m2 in**

**sodium chloride 0.9% INITIAL INFUSION RATE IVPB**

Dose: 375 mg/m2                      Route: intravenous                      once for 1 dose  
Offset: 30 Minutes

Instructions:

Initiate infusion at rate of 50 mG/hour. In the absence of infusion toxicity (SBP within 20 mmHG of baseline, PULSE between 60 and 120 and TEMP less than 38 degrees C, and no symptoms), then increase infusion rate by 50 mG/hour every 30 minutes, to a maximum rate of 400 mG/hour.

**Ingredients:**

<b>Name</b>	<b>Type</b>	<b>Dose</b>	<b>Selected</b>	<b>Adds Vol.</b>
RITUXIMAB 10 MG/ML CONCENTRATE, INTRAVENOUS	Medications	375 mg/m2	Main Ingredient	Yes
SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base		Yes	Yes
DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base		No	Yes

**RiTUXimab (PF) (RITUXAN) 375 mg/m2 in**

**sodium chloride 0.9% NON-INITIAL INFUSION IVPB**

Dose: 375 mg/m2                      Route: intravenous                      once for 1 dose  
Offset: 30 Minutes

Instructions:

Initiate infusion rate at a 100 mG/hour. In the absence of infusion toxicity (SBP within 20 mmHG of baseline, PULSE between 60 and 120 and TEMP less than 38 degrees C, and no symptoms), increase rate by 100 mG/hour increments at 30 minute intervals, to a maximum rate of 400 mG/hour.

**Ingredients:**

<b>Name</b>	<b>Type</b>	<b>Dose</b>	<b>Selected</b>	<b>Adds Vol.</b>
RITUXIMAB 10 MG/ML CONCENTRATE, INTRAVENOUS	Medications	375 mg/m2	Main Ingredient	Yes
SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base		Yes	Yes
DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base		No	Yes

**RiTUXimab (PF) (RITUXAN) 375 mg/m2 in**

**sodium chloride 0.9% 250 mL RAPID INFUSION RATE IVPB**

Dose: 375 mg/m<sup>2</sup>      Route: intravenous      once over 90 Minutes for 1 dose  
Offset: 30 Minutes

**Instructions:**

**RAPID INFUSION RATE:** Initiate infusion at a rate of 100mL/hour. After 30 minutes, in the absence of infusion reactions (SBP within 20 mmHg of baseline, PULSE between 60 and 120 and Temp less than 38 degrees C, and no symptoms), increase the infusion rate to 200mL/hour. This infusion should take 90 minutes to administer.

**Reaction grades:**

**Grade 3 Reaction:** Prolonged (e.g., not rapidly responsive to symptomatic medication and/or brief interruption of infusion); recurrence of symptoms following initial improvement; hospitalization indicated for clinical sequelae (e.g., renal impairment, pulmonary infiltrates).

**Grade 4 Reaction:** Life-threatening consequences; urgent intervention indicated (e.g., vasopressors or ventilator support).

**Ingredients:**

<b>Name</b>	<b>Type</b>	<b>Dose</b>	<b>Selected</b>	<b>Adds Vol.</b>
RITUXIMAB 10 MG/ML CONCENTRATE, INTRAVENOUS SOLUTION	Medications	375 mg/m <sup>2</sup>	Main Ingredient	Yes
SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	250 mL	Yes	Yes
DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base		No	Yes

**Rituximab Instructions**

**VITAL SIGNS - T/P/R/BP PER UNIT PROTOCOL**

Interval: Once      Occurrences: --  
Comments:      1) During Rituximab infusion:  
-Vitals every 15 minutes during 1st hour of infusion, THEN  
-Every 30 minutes for 1 hour, THEN  
-Every hour until end of infusion  
-Call MD if SBP less than 90, pulse less than 60 or greater than 120, temperature greater than 38.5 degrees C

**ONC NURSING COMMUNICATION 26**

Interval: Once      Occurrences: --  
Comments:      2) Infuse antibody via pump  
3) If any of the following occurs: FEVER (T greater than 38.5 degrees C), RIGORS, HYPOTENSION (30mm Hg decrease from baseline), and / or MUCOSAL CONGESTION / EDEMA, HOLD infusion until improvement of symptoms (When symptoms improve, resume infusion at HALF the previous rate)

**Rituximab Infusion Reaction Orders**

**meperidine (DEMEROL) injection 25 mg**  
Dose: 25 mg      Route: intravenous      once PRN  
Start: S

**diphenhydrAMINE (BENADRYL) injection 25 mg**Dose: 25 mg                      Route: intravenous                      once PRN  
Start: S**hydrocortisone sodium succinate (Solu-CORTEF) injection 100 mg**

Dose: 100 mg                      Route: intravenous                      once PRN

**famotidine (PEPCID) injection 20 mg**Dose: 20 mg                      Route: intravenous                      once PRN  
Start: S

## Rituximab Additional Orders

**epINEPHrine (ADRENALIN) 1 mg/1 mL injection 0.3 mg**Dose: 0.3 mg                      Route: intramuscular                      once PRN  
Start: S

## Pre-Medications

**ondansetron (ZOFTRAN) 16 mg, dexamethasone (DECADRON) 12 mg in sodium chloride 0.9% 50 mL IVPB**Dose: 16 mg                      Route: intravenous                      once over 15 Minutes for 1 dose  
Start: S

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	ONDANSETRON HCL 2 MG/ML INTRAVENOUS SOLUTION	Medications	16 mg	Main Ingredient	No
	DEXAMETHASONE 10 MG/ML INJECTION SOLUTION	Medications	12 mg	Yes	No
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base	50 mL	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base	50 mL	No	Yes

## Chemotherapy

**etoposide (TOPOSAR) 100 mg/m2 in sodium chloride (NON-PVC) 0.9 % 500 mL chemo IVPB**

Dose: 100 mg/m2                      Route: intravenous                      once over 2 Hours for 1 dose

## Instructions:

Administer through a 0.22 micron filter and non-PVC tubing set.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	ETOPOSIDE 20 MG/ML INTRAVENOUS SOLUTION	Medications	100 mg/m2	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % IV SOLP (EXCEL;NON-PVC)	QS Base	500 mL	Yes	Yes