

OP CAGT CYCLOPHOSPHAMIDE / FLUDARABINE/NIVOLUMAB LYMPHODEPLETION – HESTIA

Types: ONCOLOGY TREATMENT

Synonyms: CAGT, CYCLOPHOSHAMIDE, CYTOXAN, MESNA, FLUDARABINE, FLUDARA, MESNEX, FLU, NIVOLUMAB

Cycle 1	Repeat 1 time	Cycle length: 55 days																											
Day -4, Cycle 1		Perform every 1 day x1																											
Appointment Requests																													
INFUSION APPOINTMENT REQUEST																													
Interval: -- Occurrences: --																													
Line Flush																													
sodium chloride 0.9 % flush 20 mL																													
Dose: 20 mL Route: intravenous PRN																													
Start: S																													
Nursing Orders																													
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Dose: 250 mL Route: intravenous once @ 30 mL/hr for 1 dose																													
Start: S																													
Instructions: To keep vein open.																													
Hydration																													
sodium chloride 0.9 % infusion																													
Dose: 150 mL/hr Route: intravenous once over 6 Hours for 1 dose																													
Instructions: Start 1 hour prior to chemotherapy.																													
Pre-Medications																													
ondansetron (ZOFRAN) tablet 16 mg																													
Dose: 16 mg Route: oral once for 1 dose																													
Offset: 30 Minutes																													
Instructions: Administer 30 minutes before chemotherapy.																													
Pre-Medications																													
LORAZepam (ATIVAN) tablet 0.5 mg																													
Dose: 0.5 mg Route: oral once for 1 dose																													
Offset: 30 Minutes																													
Instructions: Administer 30 minutes before chemotherapy.																													
Chemotherapy																													
mesna (MESNEX) 250 mg/m2 in sodium chloride 0.9 % 100 mL IVPB																													
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Offset: 1 Hours																													
Instructions: Administer before Mesna/Cyclophosphamide infusion.																													
Ingredients:	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Name</th> <th style="text-align: left;">Type</th> <th style="text-align: left;">Dose</th> <th style="text-align: left;">Selected</th> <th style="text-align: left;">Adds Vol.</th> </tr> </thead> <tbody> <tr> <td>MESNA 100 MG/ML</td> <td>Medications</td> <td>250</td> <td>Main</td> <td>Yes</td> </tr> <tr> <td>INTRAVENOUS SOLUTION</td> <td></td> <td>mg/m2</td> <td>Ingredient</td> <td></td> </tr> <tr> <td>SODIUM CHLORIDE 0.9 %</td> <td>QS Base</td> <td>100 mL</td> <td>Yes</td> <td>Yes</td> </tr> <tr> <td>INTRAVENOUS</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Name	Type	Dose	Selected	Adds Vol.	MESNA 100 MG/ML	Medications	250	Main	Yes	INTRAVENOUS SOLUTION		mg/m2	Ingredient		SODIUM CHLORIDE 0.9 %	QS Base	100 mL	Yes	Yes	INTRAVENOUS							
Name	Type	Dose	Selected	Adds Vol.																									
MESNA 100 MG/ML	Medications	250	Main	Yes																									
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SOLUTION
 DEXTROSE 5 % IN QS Base No Yes
 WATER (D5W)
 INTRAVENOUS
 SOLUTION

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

Dose: 500 mg/m2 Route: intravenous once over 2 Hours for 1 dose
 Offset: 1.5 Hours

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	CYCLOPHOSPHAMIDE 1 GRAM INTRAVENOUS SOLUTION	Medications	500 mg/m2	Main Ingredient	Yes
	MESNA 100 MG/ML INTRAVENOUS SOLUTION	Medications	500 mg/m2	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base	500 mL	Yes	Yes

**fludarabine (FLUDARA) 30 mg/m2 in sodium
 chloride 0.9 % 100 mL chemo IVPB**

Dose: 30 mg/m2 Route: intravenous once over 30 Minutes for 1 dose
 Offset: 3.5 Hours

Instructions:
 Use within 8 hours of preparation.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	FLUDARABINE 50 MG INTRAVENOUS SOLUTION	Medications	30 mg/m2	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	100 mL	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	100 mL	No	Yes

**mesna (MESNEX) oral solution 500 mg/m2
 (Treatment Plan)**

Dose: 500 mg/m2 Route: oral once for 1 dose
 Offset: 5.5 Hours

Instructions:
 Administer TWO hours AFTER
 Mesna/Cyclophosphamide infusion completed.

**mesna (MESNEX) oral solution 500 mg/m2
 (Treatment Plan)**

Dose: 500 mg/m2 Route: oral once for 1 dose
 Offset: 9.5 Hours

Instructions:
 Administer SIX hours AFTER
 Mesna/Cyclophosphamide infusion completed.

Supportive Care

promethazine (PHENERGAN) injection 25 mg

Dose: 25 mg Route: intravenous every 4 hours PRN
 Start: S

Discharge Nursing Orders

ONC NURSING COMMUNICATION 76Interval: -- Occurrences: --
Comments: Discontinue IV.

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 -3, Cycle 1**

Perform every 1 day x1

Appointment Requests

INFUSION APPOINTMENT REQUEST

Interval: -- Occurrences: --

Line Flush

sodium chloride 0.9 % flush 20 mL

Dose: 20 mL Route: intravenous PRN

Start: S

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.

Hydration

sodium chloride 0.9 % infusion

Dose: 150 mL/hr Route: intravenous once over 6 Hours for 1 dose

Instructions:

Start 1 hour prior to chemotherapy.

Pre-Medications

ondansetron (ZOFTRAN) tablet 16 mgDose: 16 mg Route: oral once for 1 dose
Offset: 30 Minutes

Instructions:

Administer 30 minutes before chemotherapy.

Pre-Medications

LORAZepam (ATIVAN) tablet 0.5 mgDose: 0.5 mg Route: oral once for 1 dose
Offset: 30 Minutes

Instructions:

Administer 30 minutes before chemotherapy.

Chemotherapy

**mesna (MESNEX) 250 mg/m2 in sodium
chloride 0.9 % 100 mL IVPB**Dose: 250 mg/m2 Route: intravenous once over 30 Minutes for 1 dose
Offset: 1 Hours

Instructions:

Administer before Mesna/Cyclophosphamide
infusion.**Ingredients: Name Type Dose Selected Adds Vol.**

MESNA 100 MG/ML INTRAVENOUS SOLUTION	Medications	250 mg/m2	Main Ingredient	Yes
SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	100 mL	Yes	Yes
DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base		No	Yes

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

Dose: 500 mg/m2 Route: intravenous once over 2 Hours for 1 dose
Offset: 1.5 Hours

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	CYCLOPHOSPHAMIDE 1 GRAM INTRAVENOUS SOLUTION	Medications	500 mg/m2	Main Ingredient	Yes
	MESNA 100 MG/ML INTRAVENOUS SOLUTION	Medications	500 mg/m2	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base	500 mL	Yes	Yes

**fludarabine (FLUDARA) 30 mg/m2 in sodium
chloride 0.9 % 100 mL chemo IVPB**

Dose: 30 mg/m2 Route: intravenous once over 30 Minutes for 1 dose
Offset: 3.5 Hours

Instructions:

Use within 8 hours of preparation.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	FLUDARABINE 50 MG INTRAVENOUS SOLUTION	Medications	30 mg/m2	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	100 mL	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	100 mL	No	Yes

**mesna (MESNEX) oral solution 500 mg/m2
(Treatment Plan)**

Dose: 500 mg/m2 Route: oral once for 1 dose
Offset: 5.5 Hours

Instructions:

Administer TWO hours AFTER
Mesna/Cyclophosphamide infusion completed.

**mesna (MESNEX) oral solution 500 mg/m2
(Treatment Plan)**

Dose: 500 mg/m2 Route: oral once for 1 dose
Offset: 9.5 Hours

Instructions:

Administer SIX hours AFTER
Mesna/Cyclophosphamide infusion completed.

Supportive Care

promethazine (PHENERGAN) injection 25 mg

Dose: 25 mg Route: intravenous every 4 hours PRN
Start: S

Discharge Nursing Orders

ONC NURSING COMMUNICATION 76

Interval: -- Occurrences: --
Comments: Discontinue IV.

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, Cycle 1

Perform every 1 day x1

Appointment Requests

INFUSION APPOINTMENT REQUEST

Interval: -- Occurrences: --

Line Flush

sodium chloride 0.9 % flush 20 mL

Dose: 20 mL Route: intravenous PRN
Start: S

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.

Hydration

sodium chloride 0.9 % infusion

Dose: 150 mL/hr Route: intravenous once over 6 Hours for 1 dose

Instructions:
Start 1 hour prior to chemotherapy.

Pre-Medications

ondansetron (ZOFTRAN) tablet 16 mg

Dose: 16 mg Route: oral once for 1 dose
Offset: 30 Minutes

Instructions:
Administer 30 minutes before chemotherapy.

Pre-Medications

LORAZepam (ATIVAN) tablet 0.5 mg

Dose: 0.5 mg Route: oral once for 1 dose
Offset: 30 Minutes

Instructions:
Administer 30 minutes before chemotherapy.

Chemotherapy

**mesna (MESNEX) 250 mg/m2 in sodium
chloride 0.9 % 100 mL IVPB**

Dose: 250 mg/m² Route: intravenous once over 30 Minutes for 1 dose
Offset: 1 Hours

Instructions:
Administer before Mesna/Cyclophosphamide infusion.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	MESNA 100 MG/ML INTRAVENOUS SOLUTION	Medications	250 mg/m ²	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	100 mL	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base		No	Yes

cyclophosphamide (CYTOXAN) 500 mg/m², mesna (MESNEX) 500 mg/m² in dextrose 5% 500 mL chemo IVPB

Dose: 500 mg/m² Route: intravenous once over 2 Hours for 1 dose
Offset: 1.5 Hours

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	CYCLOPHOSPHAMIDE 1 GRAM INTRAVENOUS SOLUTION	Medications	500 mg/m ²	Main Ingredient	Yes
	MESNA 100 MG/ML INTRAVENOUS SOLUTION	Medications	500 mg/m ²	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base	500 mL	Yes	Yes

fludarabine (FLUDARA) 30 mg/m² in sodium chloride 0.9 % 100 mL chemo IVPB

Dose: 30 mg/m² Route: intravenous once over 30 Minutes for 1 dose
Offset: 3.5 Hours

Instructions:
Use within 8 hours of preparation.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	FLUDARABINE 50 MG INTRAVENOUS SOLUTION	Medications	30 mg/m ²	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	100 mL	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	100 mL	No	Yes

mesna (MESNEX) oral solution 500 mg/m² (Treatment Plan)

Dose: 500 mg/m² Route: oral once for 1 dose
Offset: 5.5 Hours

Instructions:
Administer TWO hours AFTER Mesna/Cyclophosphamide infusion completed.

mesna (MESNEX) oral solution 500 mg/m² (Treatment Plan)

Dose: 500 mg/m² Route: oral once for 1 dose
Offset: 9.5 Hours

Instructions:
Administer SIX hours AFTER
Mesna/Cyclophosphamide infusion completed.

Supportive Care

promethazine (PHENERGAN) injection 25 mg

Dose: 25 mg Route: intravenous every 4 hours PRN
Start: S

Discharge Nursing Orders

ONC NURSING COMMUNICATION 76

Interval: -- Occurrences: --
Comments: Discontinue IV.

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 -1, Cycle 1

Perform every 1 day x1

Nursing Orders

TREATMENT CONDITIONS 11

Interval: -- Occurrences: --
Comments: HOLD and notify provider if ANC LESS than 1000; Platelets LESS than
100,000; AST or ALT > 3 and up to 5x Upper Normal Limit or Total
Bilirubin > 1.5 and up to 3x Upper Normal Limit; Creatinine > 1.5 and up
to 6x Upper Normal Limit or > 1.5x from baseline.

Line Flush

sodium chloride 0.9 % flush 20 mL

Dose: 20 mL Route: intravenous PRN
Start: S

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.

Chemotherapy

**nivolumab (OPDIVO) 240 mg in sodium
chloride 0.9% 100 mL IVPB**

Dose: 240 mg Route: intravenous once over 30 Minutes for 1 dose
Start: S
Instructions:

Administer with low protein binding 0.22 micron
in-line filter. Do not shake. Do not mix with
other medications. Flush IV line with NS at the
end of infusion.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	NIVOLUMAB 240	Medications	240 mg	Main	Yes

			Ingredient		
MG/24 ML					
INTRAVENOUS SOLUTION					
SODIUM CHLORIDE 0.9 %	QS Base	76 mL	Yes	Yes	
INTRAVENOUS SOLUTION					
DEXTROSE 5 % IN WATER (D5W)	QS Base	100 mL	No	Yes	
INTRAVENOUS SOLUTION					

Hematology & Oncology Hypersensitivity Reaction Standing Order

ONC NURSING COMMUNICATION 82

Interval: -- 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 4

Interval: -- 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 O2 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 83

Interval: -- Occurrences: --
 Comments: Grade 3 – SEVERE Symptoms (hypoxia, hypotension, or neurologic compromise – cyanosis or O2 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 O2 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

ONC NURSING COMMUNICATION 76

Interval: -- Occurrences: --
Comments: Discontinue IV.

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.

Nursing Orders

TREATMENT CONDITIONS 11

Interval: -- Occurrences: --
Comments: HOLD and notify provider if ANC LESS than 1000; Platelets LESS than 100,000; AST or ALT > 3 and up to 5x Upper Normal Limit or Total Bilirubin > 1.5 and up to 3x Upper Normal Limit; Creatinine > 1.5 and up to 6x Upper Normal Limit or > 1.5x from baseline.

Line Flush

sodium chloride 0.9 % flush 20 mL

Dose: 20 mL Route: intravenous PRN
Start: S

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.

Chemotherapy

nivolumab (OPDIVO) 240 mg in sodium chloride 0.9% 100 mL IVPB

Dose: 240 mg Route: intravenous once over 30 Minutes for 1 dose
Start: S
Instructions:

Administer with low protein binding 0.22 micron in-line filter. Do not shake. Do not mix with other medications. Flush IV line with NS at the end of infusion.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	NIVOLUMAB 240 MG/24 ML INTRAVENOUS SOLUTION	Medications	240 mg	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	76 mL	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	100 mL	No	Yes

Hematology & Oncology Hypersensitivity Reaction Standing Order

ONC NURSING COMMUNICATION 82

Interval: -- 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 4

Interval: --

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 O₂ 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 83

Interval: --

Occurrences: --

Comments:

Grade 3 – SEVERE Symptoms (hypoxia, hypotension, or neurologic compromise – cyanosis or O₂ 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 O₂ 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

ONC NURSING COMMUNICATION 76

Interval: -- Occurrences: --
Comments: Discontinue IV.

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 27, Cycle 1

Perform every 1 day x1

Nursing Orders

TREATMENT CONDITIONS 11

Interval: -- Occurrences: --
Comments: HOLD and notify provider if ANC LESS than 1000; Platelets LESS than 100,000; AST or ALT > 3 and up to 5x Upper Normal Limit or Total Bilirubin > 1.5 and up to 3x Upper Normal Limit; Creatinine > 1.5 and up to 6x Upper Normal Limit or > 1.5x from baseline.

Line Flush

sodium chloride 0.9 % flush 20 mL

Dose: 20 mL Route: intravenous PRN
Start: S

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.

Chemotherapy

nivolumab (OPDIVO) 240 mg in sodium chloride 0.9% 100 mL IVPB

Dose: 240 mg Route: intravenous once over 30 Minutes for 1 dose

Start: S

Instructions:

Administer with low protein binding 0.22 micron in-line filter. Do not shake. Do not mix with other medications. Flush IV line with NS at the end of infusion.

Ingredients:	Name	Type	Dose	Selected	Adds	Vol.
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NIVOLUMAB 240 MG/24 ML INTRAVENOUS SOLUTION	Medications	240 mg	Main Ingredient	Yes
SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	76 mL	Yes	Yes
DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	100 mL	No	Yes

Hematology & Oncology Hypersensitivity Reaction Standing Order

ONC NURSING COMMUNICATION 82

Interval: -- 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 4

Interval: -- 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 O2 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 83

Interval: -- Occurrences: --
 Comments: Grade 3 – SEVERE Symptoms (hypoxia, hypotension, or neurologic compromise – cyanosis or O2 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 O2 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

ONC NURSING COMMUNICATION 76

Interval: -- Occurrences: --
Comments: Discontinue IV.

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.

Nursing Orders

TREATMENT CONDITIONS 11

Interval: -- Occurrences: --
Comments: HOLD and notify provider if ANC LESS than 1000; Platelets LESS than 100,000; AST or ALT > 3 and up to 5x Upper Normal Limit or Total Bilirubin > 1.5 and up to 3x Upper Normal Limit; Creatinine > 1.5 and up to 6x Upper Normal Limit or > 1.5x from baseline.

Line Flush

sodium chloride 0.9 % flush 20 mL

Dose: 20 mL Route: intravenous PRN
Start: S

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.

Chemotherapy

nivolumab (OPDIVO) 240 mg in sodium chloride 0.9% 100 mL IVPB

Dose: 240 mg Route: intravenous once over 30 Minutes for 1 dose
Start: S
Instructions:

Administer with low protein binding 0.22 micron in-line filter. Do not shake. Do not mix with other medications. Flush IV line with NS at the end of infusion.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	NIVOLUMAB 240 MG/24 ML INTRAVENOUS SOLUTION	Medications	240 mg	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	76 mL	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	100 mL	No	Yes

Hematology & Oncology Hypersensitivity Reaction Standing Order

ONC NURSING COMMUNICATION 82

Interval: -- 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 4

Interval: --

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 O₂ 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 83

Interval: --

Occurrences: --

Comments:

Grade 3 – SEVERE Symptoms (hypoxia, hypotension, or neurologic compromise – cyanosis or O₂ 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 O₂ 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

ONC NURSING COMMUNICATION 76

Interval: -- Occurrences: --
Comments: Discontinue IV.

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.