

## OP FOLFIRI / RAMUCIRUMAB

*Types:* ONCOLOGY TREATMENT

*Synonyms:* FOLFOXIRI, FLUOROURACIL , LEUCOVORIN, OXALIPLATIN , IIRINOTECAN , AGE, CAMPTOSAR, ADRUCIL, ELOXATIN, FLOW, IRENE, RAMU, CYRAM, PSY, GASTR, COLORECTAL, GI

Cycles 1 to 6	Repeat 6 times	Cycle length: 14 days
<b>Day 1</b>		Perform every 1 day x1
<b>Appointment Requests</b>		
<b>INFUSION APPOINTMENT REQUEST</b>		
Interval: -- Occurrences: --		
<b>Labs</b>		
<input checked="" type="checkbox"/> <b>URINALYSIS, AUTOMATED WITH MICROSCOPY</b>		
Interval: -- Occurrences: --		
<input checked="" type="checkbox"/> <b>CBC WITH PLATELET AND DIFFERENTIAL</b>		
Interval: -- Occurrences: --		
<input checked="" type="checkbox"/> <b>COMPREHENSIVE METABOLIC PANEL</b>		
Interval: -- Occurrences: --		
<input checked="" type="checkbox"/> <b>MAGNESIUM LEVEL</b>		
Interval: -- Occurrences: --		
<b>Outpatient Electrolyte Replacement Protocol</b>		
<b>TREATMENT CONDITIONS 39</b>		
Interval: -- Occurrences: --		
Comments: Potassium (Normal range 3.5 to 5.0mEq/L)		
o Protocol applies for SCr less than 1.5. Otherwise, contact MD/NP		
o Protocol applies only to same day lab value.		
o Serum potassium less than 3.0mEq/L, give 40mEq KCL IV or PO and contact MD/NP		
o Serum potassium 3.0 to 3.2mEq/L, give 40mEq KCL IV or PO		
o Serum potassium 3.3 to 3.4mEq/L, give 20mEq KCL IV or PO		
o Serum potassium 3.5 mEq/L or greater, do not give potassium replacement		
o If patient meets criteria, order SmartSet called "Outpatient Electrolyte Replacement"		
o Sign electrolyte replacement order as Per protocol: cosign required		
<b>TREATMENT CONDITIONS 40</b>		
Interval: -- Occurrences: --		
Comments: Magnesium (Normal range 1.6 to 2.6mEq/L)		
o Protocol applies for SCr less than 1.5. Otherwise, contact MD/NP		
o Protocol applies only to same day lab value.		
o Serum Magnesium less than 1.0mEq/L, give 2 gram magnesium sulfate IV and contact MD/NP		
o Serum Magnesium 1.0 to 1.2mEq/L, give 2 gram magnesium sulfate IV		
o Serum Magnesium 1.3 to 1.5mEq/L, give 1 gram magnesium sulfate IV		
o Serum Magnesium 1.6 mEq/L or greater, do not give magnesium replacement		
o If patient meets criteria. order SmartSet called "Outpatient		

Electrolyte Replacement"  
 o Sign electrolyte replacement order as Per protocol: cosign required

Nursing Orders

**TREATMENT CONDITIONS**

Interval: -- Occurrences: --  
 Comments: Do NOT administer within 28 days of surgery/procedure and until the surgical wound is fully healed or within 14 days of port placement.

Nursing Orders

**TREATMENT CONDITIONS 5**

Interval: -- Occurrences: --  
 Comments: HOLD and notify provider if PROTEIN 2+ is detected in UA.

Nursing Orders

**TREATMENT CONDITIONS 4**

Interval: -- Occurrences: --  
 Comments: HOLD and notify provider if ANC LESS than 1000; Platelets LESS than 100,000; Total Bilirubin GREATER than 1.5; ALT/AST GREATER than 3 times upper normal limit; or Serum Creatinine GREATER than 1.2

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.

Pre-Medications

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

Dose: -- Route: intravenous once over 15 Minutes for 1 dose  
 Start: S End: S 11:30 AM

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	ONDANSETRON HCL (PF) 4 MG/2 ML INJECTION SOLUTION	Medications	16 mg	Yes	No
	DEXAMETHASONE 4 MG/ML INJECTION SOLUTION	Medications	12 mg	Yes	No
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base	50 mL	Always	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base		No	Yes

**ondansetron (ZOFTRAN) tablet 16 mg**

Dose: 16 mg Route: oral once for 1 dose  
 Start: S End: S 11:30 AM

**dexamethasone (DECADRON) tablet 12 mg**

Dose: 12 mg                      Route: oral                      once for 1 dose  
Start: S

**aprepitant (CINVANTI) 130 mg in dextrose (NON-PVC) 5% 130 mL IVPB**

Dose: 130 mg                      Route: intravenous                      once over 30 Minutes for 1 dose  
Start: S                      End: S

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	APREPITANT 7.2 MG/ML INTRAVENOUS EMULSION	Medications	130 mg	Main Ingredient	Yes
	DEXTROSE 5 % IN WATER (D5W) IV SOLP (EXCEL; NON-PVC)	Base	130 mL	Yes	Yes
	SODIUM CHLORIDE 0.9 % IV SOLP (EXCEL;NON-PVC)	Base	130 mL	No	Yes

Pre-Medications

**diphenhydrAMINE (BENADRYL) injection 25 mg**

Dose: 25 mg                      Route: intravenous                      once for 1 dose  
Start: S  
Instructions:  
Administer via slow IV push 30 minutes prior to chemotherapy.

**diphenhydrAMINE (BENADRYL) 50 mg in sodium chloride 0.9 % 50 mL IVPB**

Dose: 50 mg                      Route: intravenous                      once over 15 Minutes for 1 dose  
Start: S                      End: S 11:45 AM  
Instructions:  
Administer 30 minutes prior to chemotherapy.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	DIPHENHYDRAMIN E 50 MG/ML INJECTION SOLUTION	Medications	50 mg	Main Ingredient	No
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base	50 mL	Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base	50 mL	No	Yes

**diphenhydrAMINE (BENADRYL) tablet 25 mg**

Dose: 25 mg                      Route: oral                      once for 1 dose  
Offset: 0 Hours  
Instructions:  
Administer 30 minutes prior to chemotherapy.

**diphenhydrAMINE (BENADRYL) tablet 50 mg**

Dose: 50 mg                      Route: oral                      once for 1 dose  
Offset: 0 Hours  
Instructions:  
Administer 30 minutes prior to chemotherapy.

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

Dose: 20 mg                      Route: intravenous                      once for 1 dose  
Offset: 0 Hours

Instructions:  
Administer 30 minutes prior to chemotherapy.

**famotidine (PEPCID) tablet 20 mg**

Dose: 20 mg                      Route: oral                      once for 1 dose  
Offset: 0 Hours

Instructions:  
Administer 30 minutes prior to chemotherapy.

**acetaminophen (TYLENOL) tablet 650 mg**

Dose: 650 mg                      Route: oral                      once for 1 dose  
Offset: 0 Hours

Instructions:  
Administer 30 minutes prior to chemotherapy.

Pre-Medications

**atropine injection 0.25 mg**

Dose: 0.25 mg                      Route: intravenous                      once PRN  
Start: S

Supportive Care

**LORAZepam (ATIVAN) injection 1 mg**

Dose: 1 mg                      Route: intravenous                      once PRN  
Start: S

**LORAZepam (ATIVAN) tablet 1 mg**

Dose: 1 mg                      Route: oral                      once PRN  
Start: S

Chemotherapy

**ramucirumab (CYRAMZA) 8 mg/kg in sodium chloride 0.9 % 250 mL IVPB**

Dose: 8 mg/kg                      Route: intravenous                      once over 60 Minutes for 1 dose  
Offset: 30 Minutes

Instructions:  
Use of a 0.22 micron protein sparing filter is recommended.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	RAMUCIRUMAB 10 MG/ML INTRAVENOUS SOLUTION	Medications	8 mg/kg	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	250 mL	Yes	Yes

**leucovorin 400 mg/m2 in sodium chloride 0.9 % 250 mL chemo IVPB**

Dose: 400 mg/m2                      Route: intravenous                      once over 90 Minutes for 1 dose  
Offset: 1.5 Hours

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	LEUCOVORIN CALCIUM 350 MG SOLUTION FOR INJECTION	Medications	400 mg/m2	Main Ingredient	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS	QS Base	250 mL	No	Yes

SOLUTION  
SODIUM  
CHLORIDE 0.9 %  
INTRAVENOUS  
SOLUTION

QS Base	250 mL	Yes	Yes
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**irinotecan (CAMPTOSAR) 180 mg/m2 in dextrose 5% 500 mL chemo IVPB**

Dose: 180 mg/m2      Route: intravenous      once over 90 Minutes for 1 dose  
Offset: 1.5 Hours

Instructions:  
Protect from light

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	IRINOTECAN 100 MG/5 ML INTRAVENOUS SOLUTION	Medications	180 mg/m2	Main Ingredient	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	500 mL	Yes	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	500 mL	No	Yes

**fluorouracil (ADRUCIL) 400 mg/m2 in sodium chloride 0.9 % 50 mL chemo IVPB**

Dose: 400 mg/m2      Route: intravenous      once over 15 Minutes for 1 dose  
Offset: 3 Hours

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	FLUOROURACIL 500 MG/10 ML INTRAVENOUS SOLUTION	Medications	400 mg/m2	Main Ingredient	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base	50 mL	No	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base	50 mL	Yes	Yes

**fluorouracil (ADRUCIL) 2,400 mg/m2 in sodium chloride 0.9 % 100 mL chemo infusion - AMBULATORY PUMP**

Dose: 2,400 mg/m2      Route: intravenous      once over 46 Hours for 1 dose  
Offset: 3.25 Hours

Instructions:  
Nurses to chart as GIVEN on the MAR.  
Administer via CADD pump.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	FLUOROURACIL 5 GRAM/100 ML INTRAVENOUS SOLUTION	Medications	2,400 mg/m2	Main Ingredient	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	100 mL	No	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	100 mL	Yes	Yes

## 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.

**Day 3**

Perform every 1 day x1

Appointment Requests

**ONC PUMP DISCONNECT APPOINTMENT REQUEST**

Interval: --                      Occurrences: --

Discharge Nursing Orders

**DISCONNECT CONTINUOUS INFUSION PUMP**

Interval: --                      Occurrences: --  
 Comments:                      Disconnect patient from continuous infusion pump.

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.

Post-Medications

**pegfilgrastim (NEULASTA) on-body injection  
kit 6 mg**

Dose: 6 mg

Route: subcutaneous

once for 1 dose

Start: S

End: S

Instructions:

Apply to intact, nonirritated skin on the back of  
the arm or abdomen (only use the back of the  
arm if caregiver is available to monitor  
On-body injection status).