#### Isolated Ultrafiltration Standing Order template for Aquadex *FlexFlow*

***Allergies & Sensitivities* [ ] No Known Allergies**

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug** | **Reaction** | **Drug** | **Reaction** |
| 1. |  | 4. |  |
| 2. |  | 5. |  |
| 3. |  | 6. |  |
| **WEIGHT: [ ] lbs [ ] kg**  | **HEIGHT:** |

Orders without a check box are standard orders to be implemented unless crossed out; orders with a check box must be checked to be implemented.

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Time** | **Other brand of drug identical in form and content may be dispensed unless checked[ ]** | **Nurse** **Check** |
|  |  | [ ]  Admit to Inpatient [ ]  Place in Observation [ ]  Transfer to [ ]  5th Floor Renal Unit [ ]  ICU |  |
|  |  | **PRETREATMENT:** |  |
|  |  | Consult Pikes Peak Nephrology 719-632-7641 to initiate UF protocol |  |
|  |  | **[ ]** Consult PICC Team for Placement of Coiled Dual Lumen Extended Length Catheter (CDELC) [ ]  Today [ ]  in AM**[ ]** Consult IR for placement of temporary HD catheter catheter, ***must be jugular or subclavian***  [ ]  Today [ ]  in AM  |  |
|  |  | Initiate anticoagulant administration 30-45 minutes prior to initiation of treatment (refer to anticoagulant administration) (see page 2 of 2 for heparin recommendations). Consider further delay if line insertion was difficult and significant oozing is noted. |  |
|  |  | Weigh patient NOW |  |
|  |  | Telemetry  |  |
|  |  | Confirm the patient has not received contrast for any procedure in the past 72 hours. If the patient has received Contrast within the last 72 hours, consider if Ultrafiltration is appropriate at this time. |  |
|  |  | **Discontinue the following:*** **ALL diuretics during treatment**
* **Potassium supplements**
* **ACE inhibitors (ACEi)**
* **Angiotensin receptor blockers (ARB)**
* **Consider discontinuation of aldosterone antagonists during treatment**
 |  |
|  |  | CBC/Plt, CMP, INR, PTT, BTNP on admission |  |
|  |  | **INITIATION:** |  |
|  |  | Prime blood circuit with 1000 mL 0.9% Sodium Chloride and ensure prime is successfully completed |  |
|  |  | [ ]  Heparin should be administered through the access port on the withdraw line (BLUE line) of the circuit. Start Heparin 25,000 units /250 mL 0.45% Sodium Chloride drip based on attached protocol 30 minutes prior to the start of therapy.  . ***DO NOT GIVE BOLUS IF PATIENT:***1. ***Already on a heparin drip and PTT is therapeutic, follow Isolated Ultrafiltration maintenance protocol for subsequent dosing***
2. ***Receiving Warfarin (Coumadin®) and has therapeutic INR; follow Isolated Ultrafiltration weight based protocol for initial infusion rate; discontinue Warfarin (Coumadin®) if clinically indicated***
3. ***Consult the credentialed physician if the patient is receiving Warfarin (Coumadin®) and has INR greater than 3.5 to consider discontinuation of Warfarin. After line insertion wait until any oozing stops prior to starting heparin. No Bolus, and achieve ptt of 60-70 seconds.***
4. ***Receiving Enoxaparin (Lovenox®) and PTT is therapeutic; follow Isolated Ultrafiltration weight based protocol for initial infusion rate; discontinue Enoxaparin (Lovenox®)***
 |  |
|  |  | If Heparin is contraindicated consult the appropriate credentialed physician for an alternative intravenous anticoagulant order. |  |
| **STANDING ORDERS APPROVED BY MEC** |
| **Physician Signature**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Printed Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date/Time:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ISOLATED ULTRAFILTRATION ORDER SET** **Pg 2 of 3** | Addressograph patient Label |

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| --- | --- | --- | --- |
| **Date** | **Time** | **Other brand of drug identical in form and content may be dispensed unless checked[ ]** | **Nurse** **Check** |
|  |  | HEPARIN INFUSION: This chart SPECIFIC for Aquapheresis  |  |
|  |  | *Heparin Loading Dose and Infusion Rate:*

|  |  |  |  |
| --- | --- | --- | --- |
| Patient Weight(kg) | IV Push Initial Loading Dose (units) | Initial Infusion Rate (units/hr) | Initial Infusion Rate (mL/hr) |
| 38-50 | 2,500 units | 500 units/hr | 5 mL/hr |
| 51-63 | 3,500 units | 600 units/hr | 6 mL/hr |
| 64-70 | 4,000 units | 800 units/hr | 8 mL/hr |
| 71-77 | 4,500 units | 1000 units/hr | 10 mL/hr |
| 78-83 | 5,000 units | 1000 units/hr | 10 mL/hr |
| 84-90 | 5,000 units | 1100 units/hr | 11 mL/hr |
| 91-97 | 5,000 units | 1200 units/hr | 12 mL/hr |
| 98 or greater | 6,000 units | 1500 units/hr | 15 mL/hr |

 |  |
|  |  |  |  |
|  |  | *Maintenance Infusion Rates Titrated to Achieve Targeted PTT*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PTT (seconds) | Incremental Bolus Dose | Stop Infusion (minutes) | Rate Change (units/hr) | Rate Change (mL/hr) | Repeat PTT (hours after rate change) |
| *Less than 40 –* Notify Physician AND: | 30 units/kg | No | Increase by 300 units/hr | Increase by 3 mL/hr | 2 hours |
| 40-49 | 30 units/kg | No | Increase by 200 units/hr | Increase by 2 mL/hr | 4 hours |
| 50-69 | None | No | Increase by 100 units/hr | Increase by 1 mL/hr | 4 hours |
| 70-100(Anti Xa 0.4-0.7units/ml) | None | No | None | None | 6 hours |
| 101-150 | None | No | Decrease by 200 units/hr | Decrease by 2 mL/hr | 4 hours |
| 151-200 | None | No | Decrease by 300 units/hr | Decrease by 3 mL/hr | 4hours |
| *Greater than 200* Notify Physician for specific orders. *DO NOT* turn off without order from physician, prime filter if turning off. | None | No | Decrease by 400 units/hr | Decrease by 4mL/hr | 4 hours |

 |  |
| **STANDING ORDERS APPROVED BY MEC** |  | 10. OOB as tolerated |
| **Physician Signature**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Printed Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  | 11. ***Call prescribing physician with any significant changes in patient status*** |
| **ISOLATED ULTRAFILTRATION ORDER SET** **Pg 3 of 3** | Addressograph patient Label |

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| --- | --- | --- | --- |
| **Date** | **Time** | **Other brand of drug identical in form and content may be dispensed unless checked[ ]** | **Nurse** **Check** |
|  |  | TREATMENT: |  |
|  |  | 1. Set Ultrafiltration rate \_\_\_\_\_\_\_\_\_\_\_\_ ml/hr (Consider UF Rate Recommendations from UFComplete Prescription Card) |  |
|  |  | 2. Fluid restriction of 1200mL/24 hours |  |
|  |  | 3. Strict intake and output: if urine output is less than 240mL in an 8 hour period refer to UFComplete Prescription Card for instruction. |  |
|  |  | 4. Empty ultrafiltration bag every 8 hours or when the bag is full and document as output. |  |
|  |  | 5. Obtain VS every 15 minutes times 1 hour then every 2 hours for duration of treatment *\*\*\*If systolic blood pressure less than 90mmHg every 15 minute vital signs\*\*\** |  |
|  |  | 6. In the event that Systolic blood pressure less than\_\_\_\_\_\_\_\_\_\_\_\_\_mmHg and heart rate greater than \_\_\_\_\_\_\_\_\_\_\_beats/min decrease the ultrafiltration rate by 50%  |  |
|  |  | 7. If the systolic blood pressure is less than \_\_\_\_\_\_\_\_\_\_\_\_\_\_mmHg and heart rate greater than\_\_\_\_\_\_\_\_\_beats/min, then turn ultrafiltration rate to 0 ml/hr and consult the appropriate credentialed physician for instruction. |  |
|  |  | 8. LABS:  a. Initial PTT 4 hours after the initiation of the heparin drip b. Platelet count with first PTT c. Serum Creatinine and H&H every 12 hours; Refer to UFComplete Prescription Card if Serum Creatinine rises. d. CBC with platelets, BMP, BTNP and PTT daily while on treatment |  |
|  |  | 8. ***If filter clots: STOP treatment and call prescribing physician to determine if therapy is to be restarted or discontinued*** |  |
|  |  | 9. Daily weights in AM |  |
|  |  | **Discharge Care** |  |
|  |  | 1. Identify contact person and phone numbers for UF complete home monitoring program. |  |
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| **STANDING ORDERS APPROVED BY MEC** |
| **Physician Signature**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Printed Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |