



London Health Sciences Centre

Critical Care Trauma Centre
**CONTINUOUS RENAL REPLACEMENT THERAPY
PREPRINTED ORDER**
Page 1 of 2

KEY: R - REQUISITIONED P - PROCESSED (KARDEX)

NON-MEDICATION ORDERS	R	P	MEDICATION ORDERS	P
<p>Reason for Exam / Clinical History and Contact # required for all Radiology / Nuclear Medicine orders.</p> <p>FILTER SET-UP:</p> <p><input type="checkbox"/> ST 150 (Note: ST 150 requires 2 litres priming solution.)</p> <p><input type="checkbox"/> Other: _____</p> <p><input type="checkbox"/> Set-up Prismaflex in CVVHDF mode.</p> <p><input type="checkbox"/> Start blood flow rate at 150 mL/min. May increase to 250 mL/min p.r.n. if needed to manage access and return pressures.</p> <p>LABORATORY / INVESTIGATIONS:</p> <p><input type="checkbox"/> Post-filter PTT q 6h and titrate heparin per protocol (see reverse).</p> <p><input type="checkbox"/> Sample all other bloodwork from an arterial line, central venous line or venipuncture.</p> <p><input type="checkbox"/> Electrolytes, glucose, phosphate, magnesium q 6h and p.r.n. by lab or POC testing.</p> <p><input type="checkbox"/> Serum urea, creatinine, ultrafiltrate urea q 12h. Change filter if urea ultrafiltrate:serum ratio < 0.80.</p> <p>FLUID REMOVAL GOALS:</p> <p>Set fluid removal to 0 mL/hr when initiating CRRT.</p> <p><input type="checkbox"/> Set fluid removal rate at 0 mL/hr.</p> <p><input type="checkbox"/> Aim to a NET fluid removal* (see below) rate of _____ mL/hr, titrate as tolerated.</p> <p><input type="checkbox"/> Goal: CVP _____ mm Hg or PWP _____ mm Hg or MAP > _____ mm Hg.</p> <p>* The NET fluid removal rate = hourly I.V. intake + hourly enteral intake + desired fluid removal. Enter this value as fluid removal rate.</p>			<p>Initiate treatment within 10 minutes of priming.</p> <p><input type="checkbox"/> Prime system with 5,000 units heparin sodium/L 0.9% NaCl.</p> <p><input type="checkbox"/> Prime system with 5,000 units heparin sodium/L 0.9%NaCl, then prime a second time with 0.9% NaCl without the heparin.</p> <p><input type="checkbox"/> Prime system with 0.9% NaCl. (Heparin contraindicated/HIT syndrome.)</p> <p>DIALYSATE SOLUTION:</p> <p><input type="checkbox"/> PrismaSol 4 <input type="checkbox"/> Other: _____</p> <p>Rate: _____ mL/hr. (Recommended rate: 1000 mL/h) Add KCl to dialysate solution according to protocol on reverse.</p> <p>REPLACEMENT FLUID:</p> <p>Pre dilution replacement solution Administer via Pre Blood Pump (PBP).</p> <p><input type="checkbox"/> PrismaSol 4 <input type="checkbox"/> Other: _____</p> <p>Rate: _____ mL/hr. (Recommended rate: 1000 mL/h)</p> <p>Post dilution replacement (Must be Ordered) Administer via Replacement Pump.</p> <p><input type="checkbox"/> PrismaSol 4 <input type="checkbox"/> Other: _____</p> <p>Rate: _____ mL/hr. (Minimum rate: 200 mL/h)</p> <p>AUTO SUBSTITUTION May substitute Hemosol BO with added KCl for PrismaSol 4.</p>	

ORDER CONTINUED ON PAGE 2

PRESCRIBER'S PRINTED NAME / SIGNATURE / CONTACT #:		DATE (YYYY/MM/DD):	TIME:
PROCESSOR INITIALS:	DATE (YYYY/MM/DD):	NURSE INITIALS:	DATE (YYYY/MM/DD):
TIME:	TIME:	TIME:	TIME:

1. HEPARIN TITRATION

Adjust heparin infusion to maintain PTT 60 - 80 seconds according to protocol below:

IF POST-FILTER PTT	PREFILTER HEPARIN BOLUS	INFUSION CHANGE
> 150	-	<ul style="list-style-type: none"> • Stop heparin for 1 hour • ↓ infusion by 200 u/h • repeat PTT in 6 hours • if repeat > 150, notify Nephrology
> 100	-	<ul style="list-style-type: none"> • Stop heparin for 1 hour • ↓ infusion by 200 u/h • repeat PTT in 6 hours
80 - 100	-	<ul style="list-style-type: none"> • ↓ infusion by 200 u/h
60 - 79	-	<ul style="list-style-type: none"> • NO CHANGE
50 - 59	-	<ul style="list-style-type: none"> • ↑ by 200 u/h
40 - 49*	1,000 u	<ul style="list-style-type: none"> • ↑ by 200 u/h
30 - 39*	2,000 u	<ul style="list-style-type: none"> • ↑ by 400 u/h
< 30*	5,000 u	<ul style="list-style-type: none"> • ↑ by 400 u/h • If repeat PTT < 30, notify Nephrology

* If PTT < 50, adjust drip as per protocol and recheck 2 hours post increase in the heparin infusion **to ensure a rise in PTT** has occurred. If PTT 2 hours post adjustment remains subtherapeutic, treat as per above protocol. Do not decrease heparin infusion for PTT > 80 if sample was obtained sooner than 6 hours post adjustment (unless heparin is being stopped for bleeding complications).

2. POTASSIUM TITRATION

Add KCl to dialysate according to the following protocol. Note the amount of baseline KCl in the dialysis solution being used.

SERUM K ⁺ LEVEL (mmol/L)	FINAL KCl CONCENTRATION IN DIALYSATE
If < 3.0	<ul style="list-style-type: none"> • KCl bolus I.V. as per Electrolyte Replacement Preprinted Order. • Recheck serum Mg⁺⁺ and treat as per Electrolyte Replacement Preprinted Order. • KCl to equal 6 mmol/L. • Notify Nephrologist if repeat potassium level is < 3.0 mmol/L.
If 3.0 - 3.4	KCl to equal 5 mmol/L
If 3.5 - 4.5	KCl to equal 4 mmol/L
If 4.6 - 5.0*	KCl to equal 3 mmol/L
If 5.1 - 6.0*	KCl to equal 2 mmol/L
If > 6.0*	Notify Nephrologist

* If serum potassium is 4.6 - 5.6 mmol/L at the start of dialysis, the treatment may be started using PrismaSol 4. Repeat the serum potassium 1 hour after treatment is started. If potassium remains > 4.6 mmol/L while using PrismaSol 4, notify nephrology and consider switching to BO.



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			<p>ANTICOAGULATION:</p> <p><input type="checkbox"/> No anticoagulant.</p> <p>OR</p> <p><input type="checkbox"/> Systemic anticoagulation (titrate as per systemic anticoagulation nomogram/protocol).</p> <p>OR</p> <p><input type="checkbox"/> Heparin via PRISMA</p> <ul style="list-style-type: none"> Heparin sodium bolus _____ units prefilter; administer bolus into the access limb immediately prior to initiation of treatment (recommended bolus dose is 80 units/kg or 5,000 units). Heparin infusion: 20,000 units in 20 mL 0.9% NaCl prefilter. Rate: _____ units/hr. (Recommended rate: 1000 units/h) May change solution concentration to 500 units/mL p.r.n. to facilitate low dose titration. Adjust heparin to maintain post-filter PTT 60 - 80 sec. Adjust according to protocol (see reverse). <p>OR</p> <p><input type="checkbox"/> Other anticoagulant _____</p> <p><input type="checkbox"/> Ongoing Management:</p> <ul style="list-style-type: none"> If dialysate is not being used, add KCl per protocol to all replacement solutions. Correct serum phosphate as per preprinted orders for electrolyte replacement. If serum magnesium < 0.90 mmol/L, give 2 gm MgSO₄ I.V. in 100 mL NaCl over 1 hour. <p>CATHETER LOCKING SOLUTIONS:</p> <p><input type="checkbox"/> Instill 4% sodium citrate solution into each catheter limb (total volume = limb volume + 0.1 mL).</p>	

Draft August 25, 2009

ORDERS INITIATED ON PAGE 1

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