BEaRSS Study

Patient Number:

Study A or B:

NAMBOUR INTENSIVE CARE UNIT

PATIENT STICKER

BEaRSS CRRT (Haemofilter) ORDER FORM

Step 1: Order & program <u>CVVH with Predilution only</u>

Step 2: Guide to Predilution fluid POTASSIUM concentration:

NB: Baxter Citrate research solution is supplied with <u>1mm/L K⁺</u> (5 mmol / 5L). Add KCL as needed

Serum Potassium	<u>Total KCL</u> in Bag	Final concentration of K ⁺
>5.5	5 mmol / 5L Bag	1mmol / L (DO NOT add KCL)
>4.5 and <5.5	15 mmol / 5L Bag	3mmol / L
>3.5 and <4.5	20 mmol / 5L Bag	4mmol / L
>2.5 and <3.5	25 mmol / 5L Bag	5mmol / L

Step 3: Order *BEaRSS* CVVH prescription – ensure citrate is not contraindicated by:

Fulminant liver failure with lactate \geq 4mmol/L Child's C liver disease

Date														
Time of order														
Medical Officer Signature														
MODE	CVVH		CVVH			CVVH			CVVH			CVVH		
Total K ⁺ /Bag (see step 2)														
Predilution Rate (ml/hr) BEaRSS	2000		2000			2000			2000		2000			
Target Blood Flow Rate (ml/min)	200		200			200			200			200		
Fluid loss rate (mls/hr)														
Nursing Staff Check Initials (AM/PM/N)														

Step 4: Adjust Calcium / Magnesium infusion rate in mls/hr – given via patient's CVC / PICC <u>only</u> Calcium Chloride 4.9% + Magnesium Chloride 3.4% in 500 mls (hypertonic)

(500mls contains 24.5 gm calcium chloride / 166mmol Ca⁺⁺ (0.333mmol/ml))

- 1. Start Calcium / Magnesium infusion at 15ml/hr, 10 minutes before starting filter
- 2. Check ionised calcium on ABG from patient **arterial line** at 30 minutes and 60 minutes after CVVH commencement (only adjust infusion rate at 30 minutes if within red zone).
- 3. After 60 minute check, adjust Calcium / Magnesium infusion as per table below:

Target ionised Calcium	< 0.90 mmol/L	0.90 -1.00 mmol/L	1.01 -1.20 mmol/L	1.21 -1.40 mmol/L	> 1.40 mmol/L
on ABG					
Alteration needed to	Urgent	Increase infusion	No change	Decrease infusion	Stop infusion
Calcium / Magnesium	Notify medical	by 1.5mls/hr	C C	by 1.5mls/hr	Notify medical
infusion rate in mls/hr	officer	•		•	officer
	immediately				
ABG timing	Recheck within 1	Recheck within 1	Recheck at 6 hours	Recheck within 1	Recheck within 1
-	hour	hour		hour	hour

- If ionised calcium is <0.9 mmol/L or patient is symptomatic medical officer must review consider order for bolus IV calcium chloride 10mls
- 5. Check coagulation profile, magnesium level and total calcium level at 0500 & 1700 daily

NB: Never infuse calcium/magnesium solution into the filter circuit.

NB: Patient must be monitored for signs & symptoms of citrate toxicity – see page 2

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NB: Potential complications / signs of citrate accumulation

All suspected toxicity must be reported to ICU Consultant

Patients with significant liver impairment are at risk.

Increasing calcium requirements Increasing magnesium requirements

Arrhythmias Coagulopathy

Ionised calcium on ABG below 0.9mmol/L Increasing total to ionised calcium ratio of >2.1:1

Fitting Weakness

Anion Gap increasing by 5mmol/l since last ABG Worsening metabolic acidosis or metabolic alkalosis