

ICU - Documentation – Continuous Renal Replacement Therapy



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Quick Reference Guide

This Quick Reference Guide will explain how to:

Document Continuous Renal Replacement Therapy (CRRT) Hemosol or Citrate within the EMR as per the ICU CRRT guidelines as per the CRRT Patient Care Order placed by the ICU Medical Officer.

It will show Nursing roles in:

- Viewing Order Sets for different types of CRRT
- Viewing an order within Orders and Referrals
- Initiating CRRT in iView
- Discontinuing CRRT

ICU Nursing Staff: Viewing Order Sets for different types of CRRT

1. Once the CRRT Order Set has been placed by the ICU Medical Officer, it will drop as a task within Activities and Interventions. Double clicking the task opens iView to commence documentation.

Priority	Task Status	Scheduled Date and Time	Type	Task Description
High	Pending	09/03/2023 14:20	Nursing Tasks	CRRT Hemosol (No Anticoag) Flow Settings
	Pending	09/03/2023 18:00	Nursing Tasks	Peripheral IV Care
	Pending	10/03/2023 02:00	Nursing Tasks	Peripheral IV Care

2. To review the CRRT order in more detail do this via



3. Find the Order under Medical on the left side of the Orders page

Component	Status	Dose	Details
ICU Continuous Renal Replacement Therapy (CRRT) - Citrate (Default Model)	Ordered	08/06/2023 18:29:00, Citrate Dose: 2.2 mmol/L Blood Flow, Target Blood Pump Speed: 150 mL/min, PBP Flow Rate: *calculated by Prisma/PrismaFlo*, Replacement Flow Rate: 200 mL/hr, Dialysate Flow Rate: *must equal...	
ICU Continuous Renal Replacement Therapy (CRRT) - Hemosol (No Anticoag) Flow Settings	Ordered	08/06/2023 18:29:00, Treatment Fluid: PrismaClear B22, 5,000 mL, CONTINUOUS	
CRRT Pre-Pump Fluid	Ordered	08/06/2023 18:29:00, Treatment Fluid: PrismaClear B22, 5,000 mL, with KCL 10 mmol (additive) CONTINUOUS	
CRRT Pre-Pump Fluid	Ordered	08/06/2023 18:29:00, Treatment Fluid: PrismaClear B22, 5,000 mL, with KCL 10 mmol (additive) CONTINUOUS	
CRRT Pre-Pump Fluid	Ordered	08/06/2023 18:29:00, Treatment Fluid: PrismaClear B22, 5,000 mL, with KCL 20 mmol (additive) CONTINUOUS	
CRRT Pre-Pump Fluid	Ordered	08/06/2023 18:29:00, Treatment Fluid: PrismaClear B22, 5,000 mL, with KCL 10 mmol (additive) CONTINUOUS	
CRRT Replacement Fluid	Ordered	08/06/2023 18:29:00, Treatment Fluid: Hemosol, 5,000 mL, CONTINUOUS	
CRRT Priming Fluid	Ordered	08/06/2023 18:29:00, 0.9% sodium chloride, 1000 mL, PRN Saline for Circuit Priming.	
calcium chloride (additive) 5 g + Heet Diluent infusion 50 mL	Ordered	50 mL, IV Infusion, Rate: TITRATE, First dose 08/06/2023 18:29:00, Indication: **FOR CRRT CITRATE ONLY***, De-	
heparin	Ordered	3000 units/5 mL, Intraluminal, Ampoules, See Instructions, PRN for other: see indication, Indication: heparin lock, Post-CRRT, administer heparin dose (volume) as labelled on heparin lumen. Do not use if HHTS suspected or...	



4. To review the CRRT guidelines alongside the Order Set, click on the paper icon to open WH policies and procedures

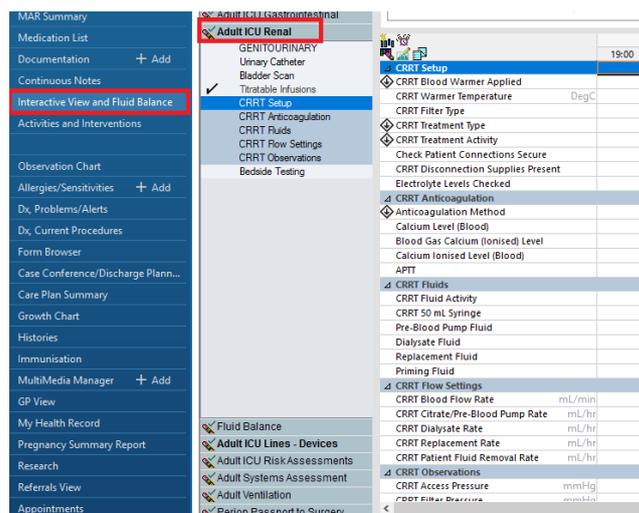
ICU Continuous Renal Replacement Therapy (CRRT) - Hemosol (Initiated)			
Last updated on: 08/06/2023 18:30 by: CentreText, Medical Officer - ICU P2 2			
Refer to WH guideline 'Continuous Renal Replacement Therapy (CRRT) - Intensive Care Unit'			
<input checked="" type="checkbox"/>		CRRT Mode	Ordered 08/06/2023 18:29:00, Mode: CVVHDF, (Default Mode)
<input checked="" type="checkbox"/>		CRRT Hemosol (Heparin) Flow Settings	Ordered 08/06/2023 18:29:00, Heparin Dose: 300 units/hr, Target Blood Pump Speed: 200 mL/m Replacement Flow Rate: 1000 mL/hr, Dialysate Flow Rate: 1000 mL/hr
<input checked="" type="checkbox"/>		CRRT Pre-Pump Fluid	Ordered 08/06/2023 18:29:00, Treatment Fluid: 0.9% sodium chloride, 1,000 mL, CONTINUOUS Not required for PrinsMax™. If using PBP consider changing bag to Hemosol 3L
<input checked="" type="checkbox"/>		CRRT Pre-Pump Fluid	Ordered 08/06/2023 18:29:00, Treatment Fluid: Hemosol, 5,000 mL, CONTINUOUS
<input checked="" type="checkbox"/>		CRRT Dialysate Fluid	Ordered 08/06/2023 18:29:00, Treatment Fluid: Hemosol, 5,000 mL, CONTINUOUS
<input checked="" type="checkbox"/>		CRRT Dialysate Fluid	Ordered 08/06/2023 18:29:00, Treatment Fluid: Hemosol, 5,000 mL, with KCL 10 mmol (additive); Replace K+ as per WH guidelines.
<input checked="" type="checkbox"/>		CRRT Dialysate Fluid	Ordered 08/06/2023 18:29:00, Treatment Fluid: Hemosol, 5,000 mL, with KCL 20 mmol (additive); Replace K+ as per WH guidelines.
<input checked="" type="checkbox"/>		CRRT Replacement Fluid	Ordered 08/06/2023 18:29:00, Treatment Fluid: Hemosol, 5,000 mL, CONTINUOUS
<input checked="" type="checkbox"/>		CRRT Replacement Fluid	Ordered 08/06/2023 18:29:00, Treatment Fluid: Hemosol, 5,000 mL, with KCL 10 mmol (additive); Replace K+ as per WH guidelines.
<input checked="" type="checkbox"/>		CRRT Replacement Fluid	Ordered 08/06/2023 18:29:00, Treatment Fluid: Hemosol, 5,000 mL, with KCL 20 mmol (additive); Replace K+ as per WH guidelines.
<input checked="" type="checkbox"/>		CRRT Circuit Anticoagulation	Ordered 08/06/2023 18:29:00, Heparin 7,500 units in 0.9% Sodium Chloride 50 mL (150 units/mL Titrate as required as per APTT, according to WH guideline. Standard commencement
<input checked="" type="checkbox"/>		CRRT Priming Anticoagulant	Ordered 08/06/2023 18:29:00, Heparin 5,000 units (additive) in 0.9% sodium chloride 1,000 mL, f Heparin for Circuit Priming (unless contraindicated e.g. HITTS)
<input checked="" type="checkbox"/>		heparin	Ordered 5000 units/5 mL, Intraluminal, Ampoule, See Instructions, PRN for other: see indicator

Important – CRRT Flow Settings

- Both Hemosol and Citrate CRRT Orders will have Flow/ Exchange rate settings within the Order Set
- Modifications to Flow/ Exchange rate settings must be made within the Order Set by the ICU Medical officer
- Fluid Removal Instructions will be as per the ICU Medical Officer's Progress Note

ICU Nursing Staff: Documenting CRRT in iView

1. From within iView, select the Adult ICU Renal band and begin to document within the CRRT sections.



2. **CRRT Anticoagulation** will change what is displayed to document against based on what is selected as the Anticoagulation Method Ordered

CRRT Anticoagulation	Anticoagulation Method
Anticoagulation Method	None
Calcium Compensation %	Citrate/Calcium
Citrate Dose mmol/L	Heparin/Protamine
Is Calcium bolus required?	Heparin Only
Patient Calcium Ratio Checked	Systemic
Patient Total Calcium Ratio	Other
CRRT AntiCoag Comments	
Calcium Level (Blood)	
Blood Gas Calcium (Ionised) Level	
Calcium Ionised Level (Blood)	
APTT	

Handy Hint – CRRT Anticoagulation Monitoring

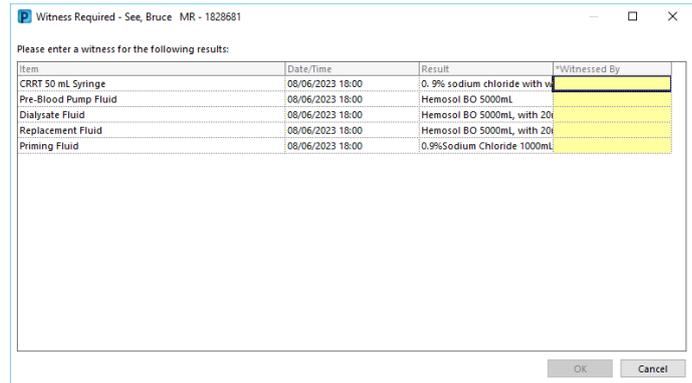
Calcium Level (Blood). Blood Gas Calcium (Ionised) Level, Calcium Ionised Level (Blood) and APTT results will be automatically pulled from the patient's pathology and viewable within **CRRT Anticoagulation**



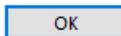
3. CRRT Fluids display the available fluids for both Hemosol and Citrate CRRT. Selections are made according to the filtration type, fluids listed within the CRRT Order Set and as per the CRRT Guidelines.

CRRT Fluids	
CRRT Fluid Activity	Witnessed-New/change bag
CRRT 50 mL Syringe	0.9% sodium chloride with with heparin 7500 units 50 mL
Pre-Blood Pump Fluid	Pre-Blood Pump Fluid X
Dialysate Fluid	0.9% Sodium Chloride 1000mL
Replacement Fluid	Prismocitrate 18/0 5000mL
Priming Fluid	Prismocitrate 18/0 5000mL, with 10mmol KCL
	Prismocitrate 18/0 5000mL, with 20mmol KCL
CRRT Flow Settings	
CRRT Blood Flow Rate mL/min	Hemosol BO 5000mL
CRRT Citrate/Pre-Blood Pump Rate mL/hr	Other
CRRT Dialysate Rate mL/hr	*Witness Required
CRRT Replacement Rate mL/hr	1,000
CRRT Patient Fluid Removal Rate mL/hr	0
CRRT Observations	

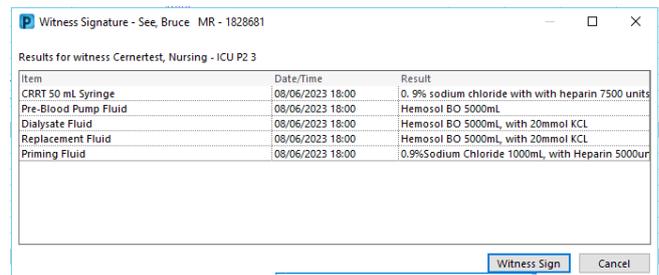
4. If fluid/s have been selected, clicking the green tick to save results in iView will prompt a Witness Required window. Search for the Second RN within the 1st search box, select the correct name and click ok. This will auto-populate for all Witness By fields



Complete by clicking



5. The Second RN can now Witness/ co-sign the fluids by clicking Witness Sign and enter their Username and Password into the Authorizing Singnature window



Important – CRRT Fluids

- CRRT fluids are only selected at priming/commencement and then again at each bag change/new bag- not hourly
- ***Witness Required** sits at the bottom of all CRRT fluid selections and must be co-signed by a second RN
- Nurses' are responsible to initiate the correct fluids as per the Order Set located in the **Orders and Referrals** tab
- Infusions running directly via the patient will be in the **MAR** (Eg. Systemic heparin and calcium chloride infusion for citrate)
- **The 50ml syringe** option will remain **blank** in iView for Citrate CRRT as the calcium is managed via the

CRRT Fluids	<input checked="" type="checkbox"/>
CRRT Fluid Activity	Witnessed-New/change bag
CRRT 50 mL Syringe	
Pre-Blood Pump Fluid	Prismocitrate 18/0 5000mL, with 10mmol KCL
Dialysate Fluid	Prismocal B22 5000mL

6. Continue to enter hourly observations including manual entry of fluid removal in mLs and manual calculation of length of time filter has been running, then finalise by clicking the green tick

	19:00	18:00
CRRT Setup		
CRRT Blood Warmer Applied		Done
CRRT Warmer Temperature	DegC	40
CRRT Filter Type		Prismax
CRRT Treatment Type		CVVHDF
CRRT Treatment Activity		CRRT Started
Check Patient Connections Secure		Done
CRRT Disconnection Supplies Present		Yes
Electrolyte Levels Checked		Yes
CRRT Anticoagulation		
Anticoagulation Method	Heparin Only	Heparin Only
Heparin Infusion Rate	units/hr	300
CRRT AntiCoag Comments		
Calcium Level (Blood)		
Blood Gas Calcium (Ionised) Level		
Calcium Ionised Level (Blood)		
APTT		
CRRT Fluids		
CRRT Fluid Activity		Witnessed-New/cha...
CRRT 50 mL Syringe		0.9% sodium chlorid...
Pre-Blood Pump Fluid		Hemosol BO 5000mL...
Dialysate Fluid		Hemosol BO 5000mL...
Replacement Fluid		Hemosol BO 5000mL...
Priming Fluid		0.9% Sodium Chlorid...
CRRT Flow Settings		
CRRT Blood Flow Rate	mL/min	200
CRRT Citrate/Pre-Blood Pump Rate	mL/hr	0
CRRT Dialysate Rate	mL/hr	1,000
CRRT Replacement Rate	mL/hr	1,000
CRRT Patient Fluid Removal Rate	mL/hr	150
CRRT Observations		
CRRT Access Pressure	mmHg	54
CRRT Filter Pressure	mmHg	120
CRRT Return Pressure	mmHg	-70
CRRT Transmembrane Pressure	mmHg	93
CRRT Hourly Fluid Removed	mL	109
CRRT Treatment Hour		1
De-aeration Chamber checked?		Done

7. Review the **Fluid Balance** in **iView**.

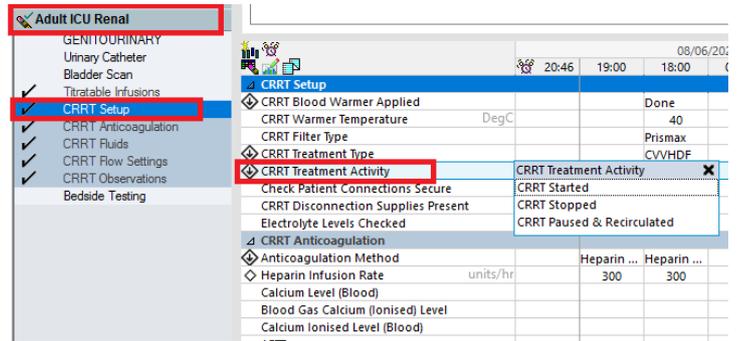
Actual Patient Fluid Removed from the CRRT Observations will automatically appear in the FBC.

CRRT Observations		
CRRT Flow Settings		
CRRT Blood Flow Rate	mL/min	
CRRT Citrate/Pre-Blood Pump Rate	mL/hr	
CRRT Dialysate Rate	mL/hr	
CRRT Replacement Rate	mL/hr	
CRRT Patient Fluid Removal Rate	mL/hr	
CRRT Observations		
CRRT Access Pressure	mmHg	
CRRT Filter Pressure	mmHg	
CRRT Return Pressure	mmHg	
CRRT Transmembrane Pressure	mmHg	
CRRT Hourly Fluid Removed	mL	109
CRRT Treatment Hour		
De-aeration Chamber checked?		

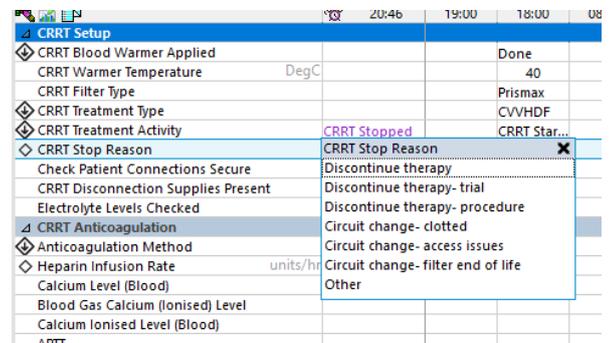
Interactive View and Fluid Balance	
Adult ICU General	
Adult ICU Neurological	
Adult ICU Cardiovascular	
Adult ICU Respiratory	
Adult ICU Gastrointestinal	
Adult ICU Discharge	
Fluid Balance	
Medications	
Reference Information	
IV Therapies (Paper/Retrospective)	
Oral	
Enteral	
Feeding Tube	
Surgical Drains/Tubes	
Blood Products	
Other Intake Sources	
Other Documentation	
ANAES ONLY - Blood Products	
Output	
Urine Output	
Urinary Catheter Output	
Vomitus	
Enteral Output	
Feeding Tube Output	
Stoma	
Surgical Drains/Tubes	
Peritoneal Drain/Tube	
Ascitic Tap	
Pleural Tap	
Chest Tubes	
Dialysis	
Haemodiafiltration	
Per Vagina Loss	
Blood Output	
Umbilicus Drainage	
Other Output Sources	
Blood Product Output - ANAE	
Miscellaneous Output*	
Today's Intake: 0 mL Output: 109 mL Balance: -109 mL	
Intake Total 10:00	
Continuous Infusions	
IV Therapies (Paper/Retrospective)	
Oral Intake	
Oral Intake Description	
Other Intake Sources	
Output Total 109	
Urine Output	
Urine Voided	
Incontinent Aids, Weighed	
Urine Colour	
Urinary Catheter Output	
Urethral 2-way foley 14 French Indwelling tem...	
Urinary Catheter Output	
Vomitus	
Vomit Volume	
Vomit Description	
Vomit Count	
Other Output Sources	
Miscellaneous Output* 109	
CRRT Hourly Fluid Removed 109	
Balance -109 mL	

ICU Nursing Staff: Discontinuing CRRT in iView

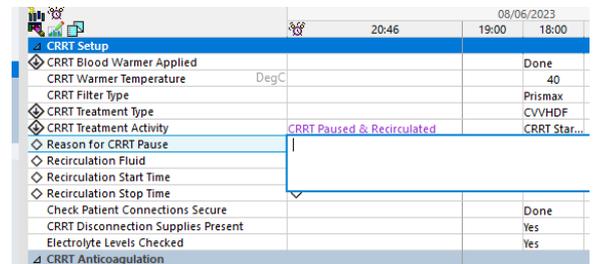
1. From within iView, select the Adult ICU Renal band to document within CRRT Treatment Activity whether the filter was Stopped or Paused and Recirculated



2. CRRT Stopped will prompt for a CRRT Stop Reason to complete. Make the appropriate selection under the time column the event occurred. Finalise by clicking the ✓



3. CRRT Paused and Recirculated will display additional fields to record recirculation fluid and time. Complete this under the time column the event occurred. Finalise by clicking the ✓



4. Click on MAR from the table of contents and review for any CRRT related infusions that need the rates changed to 0 since cessation of CRRT. Eg. Calcium Chloride infusion under Continuous Infusions for Citrate.

Within the PRN section is an order for Intraluminal vascular catheter heparin should a heparin lock be required

