# Hemodialysis Charting





Electronic Medical Records for Nephrology

### **Charting Efficacy, Completeness & Quality Assurance**

cyberREN<sup>®</sup> offers a complete suite of hemodialysis functionality to automate and improve the hemodialysis clinical management program within a care facility.

Call for a complimentary product demonstration today

Cybernius Medical Ltd. 1.800.276.8128 or 780.458.4989 web www.cyberren.com email info@cyberren.com

Hemodialysis Treatment Documentation Sample Displays

cyberREN® offers a complete suite of hemodialysis functionality to automate and improve the clinical management of the hemodialysis program within a care facility.

#### **Charting Efficacy**

✓ Documenting a complete hemodialysis treatment takes approximately **5** - **6** minutes of charting time with cyberREN.

✓ Automatic electronic import of hemodialysis machine data to a session log measurably reduces charting effort and eliminates transcription errors. Supported machines include: Fresenius 2008H/K/T (direct link) / Gambro Phoenix / Braun Dialogue / Baxter Meridian / Althin System 1000 - Tina /Cobe CentryNet / Bellco Formula.

✓ Hemodialysis session data automatically entered into the chart is **standardized** for all patients and dialysis machine types.

✓ Dialysis parameters are charted form **coded systems**, speeding up charting (point and click) and allowing later statistical analysis.

✓ Auto calculation of actual KT/V, PRU, UFR, weight change, and excess weight.

✓ Automatic compensation for **wheelchair** and **prostheses** weights.

✓ Dynamic **hemodialysis facility** and **patient scheduling** and caregiver assignment.

 $\checkmark$  Automated printing of a **Hemodialysis Worksheet**, a paper record that is used at the bedside to guide the caregiver through all required treatment activities.

#### **Charting Completeness**

✓ Complete session record including **pre dialysis**, **intra dialysis** (session log) and **post dialysis charting**, order changes, incidents and session alerts, medications administered, heparinization, equipment preparation, nursing notes and access assessment.

 $\checkmark$  All charting required for complete reimbursement or regulatory compliance is mandatory. A **completeness check** is made at the end of treatment to ensure that everything, including the administration of all required medications, was charted properly.

 $\checkmark$  All changes to the hemodialysis order must be verified by the physician. All automatically imported data must be acknowledged by a responsible caregiver.

✓ All data related to hemodialysis orders, sessions, and hemodialysis access is **stored long term** for treatment monitoring, historical analysis, graphical trending, and data archiving.

✓ Support for charting of machine failure and replacement, dialyzer reuse.

Hemodialysis Treatment Documentation Sample Displays

#### **Quality Assurance**

 $\checkmark$  Automatically alerts the caregiver to **order parameters** that have been **modified** since the last hemodialysis session.

✓ A system of **alerts** ensures that all prescribed activities for the session are carried out.

 $\checkmark$  Only specific personnel can close a session record, & discharge the patient from treatment, ensuring a final review of the chart and **quality control** at the end of every treatment.

 $\checkmark$  All hemodialysis treatment data may be **exported to spreadsheets** in a detailed or summary format, providing physicians a further opportunity to monitor the effectiveness of treatment. User defined, high quality graphics and tables may be generated and displayed on-screen or printed.

#### **Reimbursement / Financial**

 $\checkmark$  All charges incurred during treatment are captured and forwarded to a third party billing system, eliminating all transcription activity as well as missed billings and justification errors. Treatment documentation QA is shifted from the billing/financial staff to the clinical staff, where it belongs.

✓ An individual session record cannot be closed in cyberREN until all **ordered medications** are given, or a reason is entered for not giving the medication.

 $\checkmark$  cyberREN is a hemodialysis machine **vendor neutral** solution, allowing the facility purchase flexibility in the future, and maintaining a level of competition for the clinic's business. cyberREN can communicate with several different brands of dialysis machines simultaneously, wireless dialysis machine communications is supported.

✓ Complete hemodialysis machine **preventative maintenance** functionality.



## Electronic Medical Records for Nephrology

Hemodialysis Treatment Documentation Sample Displays

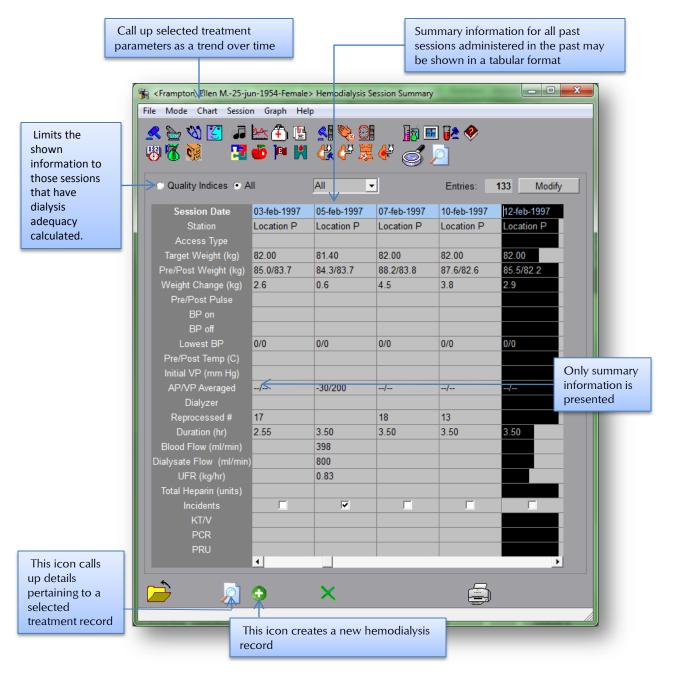
### Hemodialysis Session Summary

Purpose: To access an overview of past hemodialysis treatments.

**Workflow Integration:** Replaces the conventional paper-based hemodialysis record, serves as an index to view details pertaining to a past treatment.

Usage: Invoked through an icon on the Patient List, scroll back in time to find an individual treatment record

#### Hemodialysis Session Summary Display



Hemodialysis Data & Sample Displays

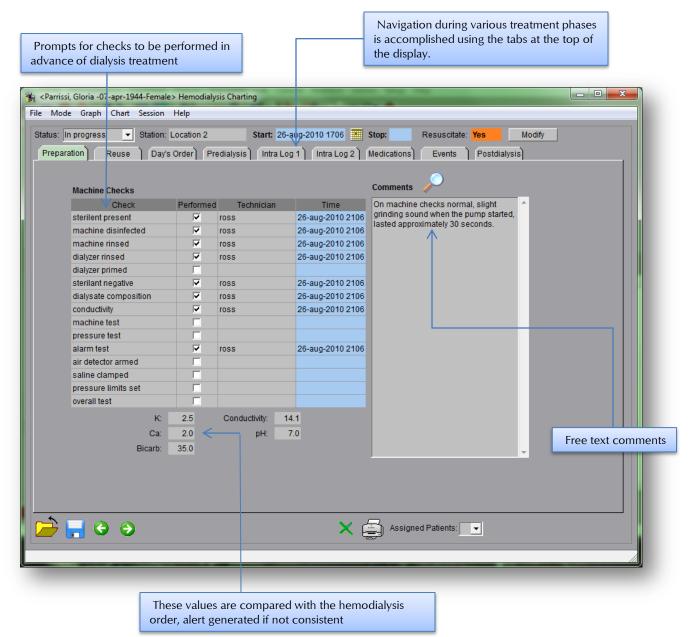
#### **Hemodialysis Session Preparation**

Purpose: To document and the preparation of the hemodialysis treatment equipment/dialysate baths.

Workflow Integration: completed by technicians in advance of the patient's arrival.

**Usage:** click on those machine checks that were performed, author and time stamp are automatically set to the current user.

#### Hemodialysis Charting Display



Hemodialysis Data & Sample Displays

### **Hemodialysis Alerts**

**Purpose**: To inform the caregiver about all activities that must be completed during the hemodialysis session. To inform the caregivers about other related items that are not classified as orders.

**Workflow Integration:** This display is called up each time that the hemodialysis session record is called up, until the display is acknowledged. This replaces handwritten notes and a tag system which may have been used with a classic paper record.

**Usage:** This display always comes up automatically at the start of treatment and shows the user all items to be completed during the treatment, in addition to the treatment itself.

#### The diabetic status is shown from patient risk factors Advanced directive shown 🖌 <Alves, Dominica -28-sep-1944-Male> Alerts File Mode Chart Session Help Notes can be left 18 🖭 😥 🧇 for the next care giver to read in this free text field. Can't subsequently be Diabetic diabetes status: resuscitate: Yes Modify modified for next shift 04-dec-2004 2016 acknowledged at by cyberREN Administrator note from last session: Had a knife in his pocket the last session, be careful! Once the Alerts have been reviewed, they Allergies Start Date Orders Completed should be ÷. 15-jul-2010 Assist the patient acquiring insurance coverage. A list of acknowledged orders to to indicate that 03-aug-2004 Pateint HEp B Education Session E be the caregivers completed 01-aug-2004 Offer Engerix Vaccine if Hep B antibody negative are aware of its Г during the and antigen negative content treatment 14-mar-2004 Carry out physical examination, Everything Possible п Order Snapshot Patient allergies are shown here Appointments and Reminders Speaks Portuguese only.draw k + q tx x1 week starting 3/31/97 then weekly x2. pull wt. by b/p, wt.tbe. Pt. hct 26, given stool cards x3. Will bring in 1/28. Appointments and reminders are displayed for reference

#### Hemodialysis Alerts Display

HDSamples3.ppt

Email: info@cyberren.com

Hemodialysis Data & Sample Displays

#### **Days Hemodialysis Order**

**Purpose**: This is a copy of the long term hemodialysis order, to be used for the current treatment. Changes made here for the day are not carried forward to the next treatment.

**Workflow Integration:** The Day's Hemo Order is a copy of the active standing order that is generated with each new dialysis session. It allows the user to modify the hemo order for one session with out causing long term changes.

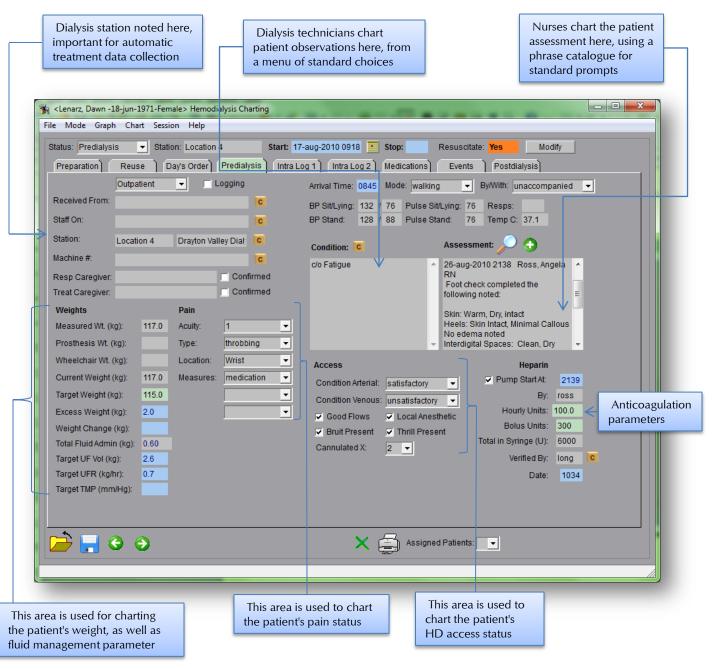
	Diagnosis for the required for rein	he current treatr mbursement	ment,		Prescription parameters that were changed for the current
					treatment are highlighted in
🏂 <lenarz, -18-jun-1971-female="" dawn=""> Hemo</lenarz,>	odialysis Charting		_		green
File Mode Graph Chart Session Help					
Status: Predialysis 💌 Station: Location	on 4 Start: 1	17-aug-2010 0918 🚺	Stop: R	esuscitate: <mark>Yes</mark>	Modify
Preparation Reuse Day's Order	Predialysis Intra I	Log 1 🚺 Intra Log 2	Medications	Events Po	stdialysis
Approved by Physician	Related Problem	m: 585.5: CRF Stage 8	5 (585.5) 🖸 Pros	sthesis (kg):	Wheelchair (kg):
Target Weight (kg): 115.0	)uration (h):	4.00	Dialysis Process:	Hemodialysis	T
Dialysate Temp (C): 37.4 F	requency (x/wk):	4.0 C	Procedure:	Hemodialysis,	single treatment in a regular series
K+ (mmol/L): 2 C C	Ca+ (mmol/L):	2 2	Dialvzer	Optiflux 160	C
	lg+ (mmol/L):	1	Dialyzer 2:		C
	'P Blood Flow (ml/min): )ialysate Type:	2K Bath	Tubing:		C
Saine III.(III).	nalysate type.		Max. No. Reuses:	24 🔲	Freezing 🦳 Isolation
Fractional Urea Distribution Space: 0.	62 Prescribed KT/V:	Prescribed	PCR: P	rescribed PRU:	
Access Site: Left forearm			Needle Gauge: Qu		mj 🖸
Backup Access:	Backup Access Type:				
Profiles Initial Values	Ramping		Comments		
Dialysate Flow (ml/min): 700 🔽	500 ml/min:		C	/~	
Blood Flow (ml/min): 400 C			C		
Bicarb (mmol/L): 25 🔽	standard: 35		C		
Na+ (mmol/L): 140	Na fixed:		C		
Ultra Filtration Rate Profile:	Fixed:		C		
BTM Function:			C		
Anticoagulation:		Тур	ie:		<b>C</b>
Bolus (Units): 300 Hourly (U/hr)	: 100.0 Cutoff Time	(min): Profi	le: CHI: Continuou	us Heparin Infus	ion 🖸
📄 🔂 🔂 📄		×	Assigned F	Patients: 📃 💌	
			~		
This area contains prescription					
parameters that may be varied over the course of the treatment		An	ticoagulation	information	
according to an algorithm					
according to an algorithm					

Hemodialysis Data & Sample Displays

### Predialysis Charting Display

**Purpose**: Complete all predialysis charting, patient assessments, weight registration, hemodialysis access condition, etc.

**Usage:** This information is typically filled in before the session starts. Blood pressures, pulse as well as the exact start time of the dialysis is obtained directly from the dialysis machines, automatically.



Hemodialysis Data & Sample Displays

### Intra-dialysis Log

Purpose: To register and acknowledge all dialysis treatment parameters during actual treatment.

**Workflow integration:** nurses or dialysis technicians open this window to see of the treatment is progressing, to acknowledge incoming treatment readings, and to chart brief comments regarding the patient's status.

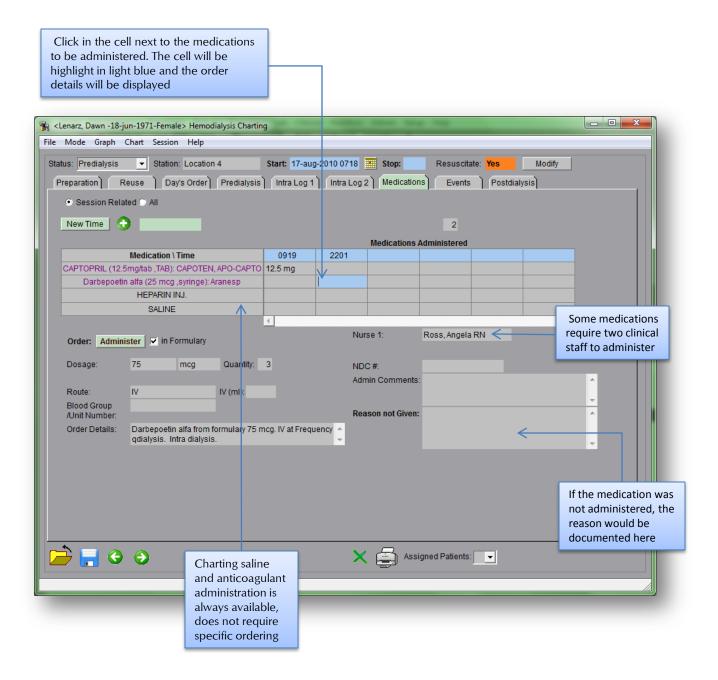
Preparation Reuse Initial VP Data - Time: 072 Initial AP/VP (mmHg): -1		4 Star	rt: 17-:					
Initial VP Data - Time: 072 Initial AP/VP (mmHg): -1		Predialysis Ir		aug-2010 (	)718 🚺 Stop:	Resuscit	ate: <mark>Yes</mark> Mod	ify
Initial AP/VP (mmHg): -1	25		ntra Log	g 1 ) Intr	a Log 2   Medicatio	ns) Events	B Postdialysis	
				🗌 Log	ging QI Indec	es		Recent dialysis
BFR (ml/min): 2	66 134 Trei	nd Flow Trend C	Flow Trend Other Adequacy Date:				adequacy calculation	
	00 S	aline Hepa	irin		KT/V:	jindal	URR: %	are shown here, as a check
	0750	0000		0040	0040			CHECK
Time Medication	0758	0830	CAPT	0919 OPRIL	0946			
Med Dosage/Units			12.5					
BP (mmHg)	136/98	132/76			128/67			
Pulse (rate/min)	72	76		-	78			
Blood Processed (I)	0.2	0.6			17.4		Now incomin	ig readings are shown
Total Fluid Removed (I)	0.08	0.12			1.20			be acknowledged
Venous Pressure (mmHg)	182	178			186		nere, ready to	be acknowledged
Arterial Pressure (mmHg)	-176	-202			-212			
Mean Arterial Pressure					101			
Blood Flow (ml/min)	349	355			361			
Dialysate Flow (ml/min)	700 37.0	700 37.0			700 37.1			
Dialysate Temp. (C) UFR (I/hr)	0.39	0.37			0.41			
TMP (mmHg)	213	233			241			
Cond. (mS/cm) / Sodium		14.20/			14.10/142			
Author/Acknowldgng		cyberren/cyberr	ross		ross/ross			
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Hemodialysis Data & Sample Displays

#### **Medications Administered**

**Purpose**: to prompt and support charting of medications to be given during treatment: only dialysis specific medications are shown.

**Usage:** Enter the time that a medication was given, choose the medication and confirm that the medication was given in a manner consistent with the order



Hemodialysis Data & Sample Displays

### **Post Dialysis Charting**

HDSamples3.ppt

**Purpose**: To complete all dialysis session charting that is necessary before the patient can be discharged.

**Workflow Integration:** To chart the final patient weight, patient assessment, access condition etc.. Set the session to "discharged", when the treatment is over and the patient has left the unit. Respond to any prompts to enter missing data for chart completeness.

The stop time is automatica when blood is no longer se by the machine.	ensed The total treatment time is automatically calculated
Kenarz, Dawn -18-jun-1971-Femal File Mode Graph Chart Session	
File Mode Graph Chart Session	
Status: Predialysis 💌 Station	n: Location 4 Start: 17-aug-2010 0718 Stop: 1235 Resuscitate: Yes Modify
Preparation Reuse Day	ys Orde Predialysis Intra Log 1 Intra Log 2 Medications Events Postdialysis
Outpatient       Clotte         Procedure:       Hemodialysis, single         Stop Date/Time:       17-aug-         Staff Off:       C         Resp Caregiver:       Patient Sent To:	rogress Oliscontinued Postdialysis Discharged No show PND Hospitalized Transient ed Infiltrated Extra Treatment Departure Time: 1315 le treatment in a regular series I default Mode: walking I ByWith: unaccompanied I The patient's 2010 1235 Dialyzing Pain Acuity: 2 V Measures: V achel RN Dialysis Time (hrs): 5.3 Type: numb V Confirmed Location: Wrist V ged Hom
Weights         Measured Wt. (kg):         Prosthesis Wt. (kg):         Wheelchair Wt. (kg):         Post Dialysis Wt. (kg):         Post Dialysis Wt. (kg):         114.8         Target Weight (kg):         Piluid Removed (kg):         Fluid Removed (kg):         Heparin         Heparin Left in Syringe:         Total Heparin Infused:         6177         Verified By:         walters         C         Date:         22	Pt. Status       Access       Catheter only         BP Sit/Lying:       112 / 76       Pulse Sit/Lying:       78         BP Stand:       114 / 68       Pulse Stand:       78         BP Stand:       114 / 68       Pulse Stand:       78         Resps:       15       Temp (C):       37.1         Condition:       Condition Assessment:       Condition Assessment:       Condition Assessment:       Condition Assessment:         Discharge home, whee, biosnentated, Drowsy, c/o Fatigue       Assessment:       Condition assessment:
2	Assigned Patients: Post dialysis blood pressures and pulses are again automatically retrieved from the dialysis note documenting the treatment