PUGET SOUND kidney centers

2026 In-Center Hemodialysis Standing Orders

1. Laboratory Tests:

Drawn on Admission	• Comprehensive metabolic panel w/ Adjusted Calcium #90283 • Phosphorus #718 • CBC (Hh, Hct, RBC indices, WBC, PLT) #1759 • HBsAg #498, HBsAb #8475, HBcAb Total #501, HCVAb #8472 • Kt/V Single Pool + nPNA (Daugirdas II) (3) three treatments #10746 • Standard Kt/V if routinely ordered two (2) or four (4) treatments per week #10755 • Iron & TIBC (%Sat) #7573, Ferritin #457 • Intact PTH #35202
Monthly	• Comprehensive metabolic panel w/ Adjusted Calcium #90283 • Phosphorus #718 • CBC (H/H, RBC, Indices, WBC, PLT) *#1759* • HBsAg *#498 if HBsAb titer less than 10* • Kt/V Single Pool (Daugirdas II) in all patients ordered to dialyze three times per week *#10746* • Standard Kt/V if two (2) or four (4) treatments regularly ordered q week *#10755*
Quarterly	• Iron &TIBC (%Sat) #7573, Ferritin #457
Quadrimester	• Intact PTH *#35202*
Bi-weekly	• Hgb #510
Annual	• HBsAb #8475, HCVAb #8472, HBsAg #498

PRN	• Blood Cultures *#389* & Wound Cultures *#4550* of access site:
	  ○ Patient with a central venous catheter (CVC) and a fever of >100.4^{o}F or >38.0^{o}C, draw two (2) sets of blood cultures from the access/bloodlines per Blood Culture Policy. Notify MD.
	  ○ Patient with a fistula or graft only (no CVC) and a fever of >100.4^{o}F or >38.0^{o}C, call MD for orders.
	  ○ If access infection suspected, Culture and Sensitivity (with Gram Stain) on any drainage noted from a dialysis access site
	  ▪ Contact MD prior to initiation of dialysis
	• HBsAb *#8475* titer recheck 30 days after completion of Hepatitis B vaccination series
	• Phosphorus *#718* per dietitian/Care Coordinator discretion if not meeting goal.
	• Intact PTH *#35202* as indicated per Mineral and Bone Disorder Management P&P.
	• Recheck labs and notify MD per Critical Lab Notification to Nephrologist P&P
	• Vitamin D-25 *#17306*
	• Aluminum *#6021*
	• Magnesium *#622*

	• Reticulocyte count *#793*

Labs Continued:

Note: Patients with AKI: Refer to Patients with Acute Kidney Injury P&P.

2. Nutrition Standards of Care:

A. Follow Nutrition Standards of Care P&P

3. Dialysis Adequacy:

A. Set dialysate flow rate machine setting for 1.5 times blood flow rate or closest equivalent setting of 600 or 800 for BBraun machines (readings in EMR flow sheet may be *+/- 5%* ml/min from machine setting due to machine programming).
B. If Kt/V (Daugirdas II) < 1.2 or Std Kt/V < 2.0 follow Guidelines for Inadequate Kt/V P&P and recheck prior to end of current month (ICD10 Z49.31)
C. Ultrafiltration rate may not exceed 13 ml/kg/hr without MD order. This DOES NOT apply while the patient is in Pure or Sequential Ultrafiltration (PUF/SUF).
D. Schedule an extra 2-3 hour ultrafiltration treatment to remove 3-4 liters of fluid PRN fluid overload (ICD10 E87.70) and notify the MD.
E. If signs/symptoms of volume overload, challenge Dry Weight (up to 2 kg total but no more than 1.0 kg per week and 0.5 kg per treatment PRN) per nurse discretion and communicate to the MD.

4. Dialysis Bath:

A. 3Ca 2K Naturalyte Bath:
   1. 3Ca bath can only be initiated when the uncorrected calcium level is < 8.0.
   2. Any patient initiated on 3Ca bath should have Ca rechecked weekly x 2 weeks and then routinely thereafter.
   3. Once their calcium is ≥ 8.5 for 2 consecutive checks, they will be changed to a 2.5Ca bath.
B. 1K Bath: (Reserved for patients with K.6.0, requires MD order)
   1. Any patient initiated on a 1K bath should have K rechecked weekly x 2 weeks and then routinely thereafter.
   2. Once potassium level is < 5.5, patient will be changed to a 2K bath, and the MD notified.
   3. Following switch from 1K to 2K bath, the patient should have K rechecked weekly x 2 weeks and then routinely thereafter. Patient will remain on a 2K bath until a different bath is ordered by the nephrologist.

5. Medications:

A. Epinephrine Auto Injector per Anaphylaxis P&P
B. Benadryl 25 mg IV:
   1. **FOR ALLERGIC REACTIONS ONLY**
   2. **CAUTION: Known sedative that may impair driving performance. If patient treated with Benadryl, they should be instructed not to drive after dialysis.**
C. Ondansetron 4 mg PO PRN nausea or vomiting, may repeat once
D. Acetaminophen 325 mg 1-2 PO every four (4) hours as needed for pain
E. Nitroglycerin 0.4 mg SL PRN chest pain:

1. May repeat every five (5) minutes for up to 3 doses
2. Page MD after the first dose is given
3. **DO NOT GIVE IF BP SYSTOLIC IS < 100**

F. Glucose Tabs for Insulin Reaction (ICD10 E16.1): See Hypoglycemia Management P&P
G. Dextrose 50% for Insulin Reaction (ICD10 E16.1): See Hypoglycemia Management P&P
H. Alteplase (tPA, Cathflo Activase):
   1. Follow Central Venous Catheter Protocols for indications and use
I. Lidocaine 1% intradermal injection (up to 0.2ml) for local anesthesia at each cannulation site PRN
J. EMLA Cream apply up to 30 minutes before treatment for local anesthesia at each cannulation site PRN
K. Oxygen 2 L/min nasal cannula PRN dyspnea, chest pain or hypotension per Administration of Oxygen P&P
L. Triple antibiotic ointment (or alternative agent if allergic) to central venous catheter exit site every hemodialysis treatment (ICD10 N18.6), per Changing the Dressing of a Central Venous Catheter P&P.
M. Heparin 1000 units/1 ml heparin lock for central venous catheters
   1. If patient is HIT positive or has heparin allergy, RN must consult with nephrologist for catheter lock orders.
N. Heparin infusion on dialysis– follow Anticoagulation Protocol P&P
   1. If patient is HIT positive or has heparin allergy, RN must consult with nephrologist for anticoagulation orders.
O. Clonidine 0.1 mg PO tablet for refractory hypertension.
   1. Must first obtain approval from provider.

6. Vaccinations:

A. Hepatitis B Vaccination (ICD10 Z23) per Hepatitis B Prevention Program P&P
B. Seasonal Flu Vaccination (ICD10 Z23) per Administration of the Seasonal Influenza Vaccine P&P
   1. Should be administered to all patients 18 years or older during the flu season (October-April)
   2. Exceptions:
      a. Check package insert for contraindications
      b. MD stated contraindicated
      c. Patient refuses
C. Pneumococcal Vaccination (ICD10 Z23) per Administration of the Pneumococcal Vaccines P&P

7. Bone Disease Management Protocol:

A. For dosing of oral calcium medications and phosphate binders follow Calcium and Phosphorus Management P&P
B. For dosing of IV paricalcitol and calcimimetics follow In-Center Mineral and Bone Disorder Protocol P&P - **DOES NOT APPLY TO AKI PATIENTS**

8. Anemia Management:

A. For dosing of ESA (ICD10 D63.1) and IV Iron (ICD10 D50.9) see Anemia Management with Mircera P&P

9. Dialysis Access:

A. Maintain adequate blood flow rate (BFR):
   1. Minimum BFR of 200ml/min up to maximum ordered BFR but limited by arterial pressures (NEVER to exceed -240 mmHg) and venous pressures (NEVER to exceed +240 mmHg). Adjust BFR as needed to stay within pressure limits.
   2. Notify MD if unable to maintain blood flow rate ≥ 200 ml/min

B. Recirculation Studies (ICD10 N18.6 or as indicated by MD) to be drawn per Drawing Recirculation Studies for a Hemodialysis Access P&P if:
   1. Arterial pressure is ≥ -10 mmHg x1 at a 200 ml/min BFR
   2. Venous pressure is ≥ 140 mmHg x3 consecutive treatments at a 200 ml/min BFR
   3. Notify MD if**:**
      a. AV Fistula – Recirculation > 10%
      b. AV Graft – Recirculation >15%

10. Nursing:

A. Hypovolemia/Hypotension (Systolic Blood Pressure <100 or Diastolic Blood Pressure <60):
   1. Do not initiate dialysis
   2. Contact MD for instructions
   3. If on hemodialysis:
      a. Decrease ultrafiltration rate
      b. Administer 0.9% Normal Saline IV in 100 ml increments up to 500 ml PRN
      c. Contact MD if more than 500 ml is needed

B. Hypertension (Systolic Blood Pressure >200 or Diastolic Blood Pressure >120):
   1. Do not initiate dialysis
   2. Page MD for instructions
   3. May request Clonidine 0.1 mg PO tablet order, if appropriate.

C. Bradycardia (Pulse <50) or Tachycardia (Pulse > 120):
   1. Do not initiate dialysis
   2. Page MD for instructions

D. Cramping
   1. Decrease ultrafiltration rate
   2. Decrease blood flow rate to 200 ml/min
   3. Administer 0.9% Normal Saline IV in 100 ml increments up to 200 ml PRN

E. Unstable Medical Condition:
   1. If, on initial nursing assessment, the patient is felt to be medically unstable, do not initiate treatment. Contact MD immediately to discuss most appropriate course of action.
   2. If during the course of treatment, the patient is felt to be medically unstable and/or it is unsafe to continue, dialysis may be terminated. Contact MD immediately for additional orders prior to any transfer to hospital or discharge home, if appropriate and document in the EMR.
   3. In any emergent situation, call 911.

F. Use Low Dose Heparin per Anticoagulation Protocol P&P and contact MD if:
   1. Evidence of recent fall
   2. Same day surgery
   3. Dental visit
   4. Epistaxis
   5. Suspected pericarditis

G. If a dialysis flow rate (DFR) of 800ml/min (2x) is ordered, the DFR can be adjusted down to 600ml/min (1.5x) prn TMP alarms.

11. Emergency Dialysis Orders:

A. In a declared emergency (earthquake, fire, flood, power-outage, etc.) where routine dialysis treatment cannot be performed the following adjustments to the dialysis prescription may be made:

1. Dialyzer: F160 (if not available, F180 may be substituted)
2. Dialysate: Per patient's prescription. If this is not available, the default dialysate will be K2.0/Ca2.5
3. Time: Maximum feasible up to prescribed time depending on the nature of the emergency.
4. MD will be notified if adjustments are made to the patient's dialysate or time
5. Heparinization
   - Use back up orders if available
   - Hold if patient reports no heparin on run
   - Otherwise: Use table below for bolus dose
   - Normal Saline Flushes PRN for clotting

Time	:00 Minutes	:15 Minutes	:30 Minutes	:45 Minutes
2 Hours	2400 units heparin	2600 units heparin	2800 units heparin	3000 units heparin
3 Hours	3200 units heparin	3400 units heparin	3600 units heparin	3800 units heparin
4 Hours	4000 units heparin	4200 units heparin	4400 units heparin	4600 units heparin

See Electronic Signature in the EMR System