

Adult Peritoneal Dialysis Patients

Standing Orders

1. Dry Weight

Dry Weight Evaluations to be performed before patient completes peritoneal home dialysis training and four times yearly with Peritoneal Adequacy Testing and as needed.

2. Peritoneal Access

a. NEW PERITONEAL ACCESS CARE

Begin 3 to 10 days post PD access placement or externalization.

i. PERITONEAL ACCESS FLUSH

1. Select correct flush template for documentation (see Peritoneal Dialysis Access Flushes procedure).
2. Access flush and dressing change predialysis at the nurse's discretion. Outcome to be faxed to MD.
3. Flush access with 1.5% dextrose or normal saline; leave 300 ml in peritoneal cavity. (Refer to Peritoneal Access Flushes procedure.)
4. If effluent is bloody, flush access with 1.5% dextrose, 1000 ml up to 3 times until clear. Notify MD if fluid does not clear after 3 flushes.
5. Fill access with 6 ml heparin (1:1000 u/ml) if fibrin present or effluent is bloody.

b. ESTABLISHED PD EXIT SITE CARE

Nurse to inspect exit site at each monthly clinic visit and perform Daily Peritoneal Catheter Exit Site Care procedure if indicated.

c. PERITONEAL ACCESS OUTFLOW PROBLEMS

In the absence of signs and symptoms of peritonitis; i.e., abdominal pain, fever, cloudy outflow, absent bowel sounds:

- i. Irrigate access to check patency and function.
- ii. Administer Lactulose 15-30 ml orally as needed for constipation.
- iii. For slow drains or fibrin present, add heparin 500 u/L to overnight CAPD bag or to each APD bag – until drain problem resolves or fibrin no longer present. (Always use 1:1000 u/ml heparin.)
- iv. As indicated, request an order from the attending physician's office for an upright PA and lateral abdominal X-ray to evaluate for constipation and catheter position.
- v. Initiate the protocol Using Tissue Plasminogen Activator (tPA) for Peritoneal Access Obstruction as indicated in established PD patients who have started PD treatments. (ICD10 = D68.9)

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3. Peritoneal Dialysis Orders

- a. Low calcium dialysate (2.5 mEq/L) is used unless otherwise specified by the nephrologist.
- b. Icodextrin use requires specific MD order.
- c. PD is performed daily.
- d. Adjust PD prescription to maintain DW and PD adequacy:
 - Fill volume – 1.5 to 3L
 - Exchanges – 3 to 7 per 24 hours
 - % Dextrose – 1.5 to 4.25
- e. Add heparin 500 u/L to the dialysate prn fibrin. (Always use 1:1000 u/ml heparin.)
- f. All Patients will first be trained to CAPD prior to starting APD unless otherwise ordered.
- g. CAPD may be used as backup for APD at the nurse's discretion.

4. Infection

Follow peritonitis & PD access exit site infection protocols.

5. Routine Diet (daily allowance)

- a. 1500 - 2000 mg sodium.
- b. 3-4 gm potassium.
- c. 0.8 – 1.2 gm phosphorus.
- d. 1.2 – 1.5 gm/kg protein.

6. Laboratory Tests

a. New Patient Lab Draws:

- i. NKC Special Profile (DChemg) (ICD10 = N18.6)
 - Repeat Ca prn if result = > 10.2
- ii. CBC with platelets (ICD10 = N18.6)
- iii. PTH Intact (ICD10 = P92.9)
- iv. Ferritin, Iron, TIBC, % Saturation (ICD10 = E83.0)
- v. Aluminum (ICD10 = Z01.89)
 - 1. Patients with aluminum levels greater than 30 (ICD10 = T56.891A initial draw; T56.891D subsequent draws)
 - 2. Or those on aluminum containing phosphate binders (ICD10 = T47.1XA initial draw; T47.1X1D subsequent draws)
- vi. Hemoglobin A1c (ICD10 = E11.9) values will be obtained on patients who have a diagnosis of diabetes mellitus.
- vii. Initial adequacy of dialysis testing is done within the first 30 days following initiation of treatment (ICD10 = N18.6)
- viii. Anti-HBc (ICD10 = N18.6) on admission if not previously obtained.
- ix. Hepatitis C Antibody (ICD10 = N18.6) on admit to NKC if not previously obtained.
- x. Initial PET (ICD10 = N18.6) is done within first 4 to 6 weeks following completion of training.

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- xi. HBsAg (ICD10 = N18.6)
- xii. HBsAb (ICD10 = N18.6)

b. Routine Draws

- i. Chemistries (NKC Special Profile-{DChemg}): monthly (ICD10 = N18.6)
- ii. CBC with platelets: monthly (ICD10 = N18.6)
- iii. HBsAg: (ICD10 = N18.6)
 - 1. Monthly if patient is HBsAg negative and Anti-HBs negative unless patient is receiving the Hepatitis vaccination series. If receiving the vaccination series draw HBsAg one month after series complete.
 - 2. Annually (Jan) if patient is Anti HBs positive or if HBsAg positive.
- iv. Anti HBs: (ICD10 = N18.6)
 - 1. Annually (Jan) if patient is HBsAg negative and Anti-HBs negative
 - 2. Annually (Jan) if Anti-HBs positive
 - 3. These intervals do not include patients who are in process of immunization with hepatitis B vaccine. (see Engerix B Hepatitis B Vaccine Procedure) This vaccination series is given over a 6-month period, and HBsAg and HBsAb are drawn 1-2 months later.
 - 4. Following the vaccination series, if the patient responds with an antibody titer ≥ 1.0 , the patient is considered to be protected and yearly (Jan) HBsAg & HBsAb are checked.
 - 5. If the protected patient's titer falls < 1.0 , a booster dose of Heptavax is given, and yearly (Jan) testing is resumed (HBsAg & HBs Ab).
 - 6. If the titer remains < 1.0 , the patient receives a dose of Heptavax annually until the titer is ≥ 1.0 .
 - 7. HBsAg & HBsAb continue to be drawn annually (Jan).
 - 8. If the patient's titer never goes > 1.0 , they are considered a non-responder. Continue to draw their HBsAG monthly, and their HBsAb annually (Jan).
- v. Modified or Modified Fast PET: annually (ICD10 = N18.6)
- vi. Hepatitis C Antibody: annually (Jan.) (ICD10 = N18.6)
- vii. Ferritin, TSAT, Fe, TIBC: quarterly (ICD10 = E83.10) Jan–Apr–July–Oct.
- viii. iPTH: Quarterly (Jan-Apr-July-Oct) when patient schedules with clinic visit
 - 1. Hyperparathyroidism (ICD10 = E20.8)
- ix. Aluminum: (ICD10 = Z01.89) Quarterly for patients with aluminums > 30 or on aluminum binders (Jan–Apr–July–Oct.)

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- x. Hemoglobin A1c: values will be obtained quarterly on patients who have a diagnosis of diabetes mellitus in cyberREN (ICD10 = E11.9).
 - c. **Adequacy Testing**
Routine adequacy testing is performed quarterly. (ICD10 = N18.6)
May be performed more frequently PRN.
 - d. **PRN Draws**
 - i. Potassium (Hyperkalemia ICD10 = E87.5, or Hypokalemia ICD10 = E87.6).
 - 1. If K⁺ is <3.0 notify MD, notify RD, repeat K⁺ weekly until result is ≥3.0
 - 2. For K⁺ 3.0 to 3.4 notify MD, notify RD, repeat K⁺ q 2 wks until >3.4
 - 3. For K⁺ 3.5 to 3.9 notify MD
 - 4. For K⁺ >6.0, repeat K⁺, notify MD, notify RD
 - ii. Effluent cell count with gram stain, culture + sensitivity and fungal culture as needed (ICD10 = K65.9)
 - iii. Access site culture as needed (ICD10 = T85.71XA)
- 7. Laboratory Tests requests for patients who travel**
Patients who wish to travel to other facilities while on vacation may have their labs drawn prior to travel at the discretion and request of the unit to be visited as long as correct ICD10 codes are provided.
- 8. Medications**
- a. **ROUTINE (Individual prescriptions required from MD)**
 - i. **Colace** or equivalent 100 mg p.o. twice daily as indicated.
 - ii. **Lactulose 15ml (10gm/5ml) po prn constipation** (ICD10 = K59.00)
 - iii. **Gentamicin** 0.1% cream topically to PD access exit site daily.
 - iv. **Water soluble vitamin** one p.o. daily.
 - b. **PRN**
 - i. **Diphenhydramine; Epinephrine are to be used only for Drug Reaction** (ICD10 = T50.995A) Notify MD and pharmacy of any drug reaction.
 - 1. **Diphenhydramine (Benadryl)** 25 mg po or IV PRN drug reaction may repeat x 1. Do not give if hypotensive. Patients should be reminded not to drive after receiving IV diphenhydramine.
 - 2. **Epinephrine** 0.3 mg IM via EPI pen auto-injector PRN anaphylaxis.
 - ii. **Glucose Paste** (ICD10 = E16.2)
 - 1. Obtain chemstrip

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2. For symptomatic hypoglycemia, administer approximately ½ to 1 tube (12 – 24 gm) glucose paste PO, may repeat as needed.
 - iii. **50% Dextrose** (ICD10 = E16.2)
 1. For severe symptoms of hypoglycemia or chemstrip <50, give 50% dextrose 50 ml (25 grams) IV may repeat as needed.
 2. Notify MD.
 - iv. **Heparin**
 1. Use if fibrin or bloody effluent present (ICD10 = D68.9)
 2. Add heparin 500 u/L to overnight CAPD bag or to each APD bag until effluent is clear or fibrin is resolved.
 3. Always use 1:1000 u/ml heparin.
 - v. **Nitroglycerin – Anginal Chest Pain** (ICD10 = R07.9)
 1. Give Nitroglycerin 0.4 mg SL.
 2. May repeat every 5 minutes x 2.
 3. Notify MD.
 4. Do not give if systolic BP is <100 mmHg.
 - vi. **Normal Saline – Hypotension**
 1. Normal Saline IV may be given in 200 ml boluses up to 1000 ml.
 2. Notify MD.
 - vii. **Oxygen – Dyspnea, Chest Pain, Hypotension, Arrhythmia** (ICD10 = R09.02 Hypoxemia)
 1. Oxygen may be administered per nasal cannula at 2 L/min or mask at 5 L/min.
 2. Do not exceed 2 L/min in patient with COPD.
 3. Notify MD.
 - viii. **Seizures**

Initiate Seizure Management protocol.
 - ix. **Tamiflu** per NKC protocol
 - x. **tPA – Clotted PD Access**

Administer per Using Tissue Plasminogen Activator (tPA) for Peritoneal Access Obstruction protocol.
 - xi. **Tylenol – Pain** (ICD10 = R52)

Give acetaminophen (Tylenol) 325 mg 1 to 2 tablets po every 4 hours PRN during dialysis for mild pain or discomfort.
- c. **OTHER:**
- i. **Hepatitis B Vaccine** (ICD10 = Z23) per protocol
 - ii. **Influenza vaccine** (ICD10 = Z23) per protocol

Influenza vaccine should be administered to all patients during the flu season (October - April) except those with egg allergy, those for whom the patient's physician has stated it is contraindicated, and those who refuse.

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- iii. **Pneumococcal vaccine** (ICD10 = Z23) per protocol

9. Miscellaneous

a. Emergency Dialysis Orders

Provision of dialysis services in an emergency depends on the degree of social isolation of both patients and staff, availability of patient transportation for access to care, and the availability of caregivers to provide care.

- b. During emergencies (earthquake, fire, flood, power outage, pandemic, etc.), the following procedure will be implemented:
 - i. In a declared emergency in which the NKC Emergency Operations Center (EOC) is convened, standing orders specific to the emergency at hand will be communicated to facilities, staff and medical staff.
 - ii. They are subject to change depending on changes in conditions.
 - iii. Nursing services may exercise discretion and clinical judgment in their application.
- c. Baseline provision of care should include:
 - i. Kayexalate (ICD10 = E87.5): provide patient with Kayexalate as needed from disaster supplies (30 gm).
 - ii. Implementation of emergency diet plan.

Physician Name (Please Print)

RN Name (Please Print)

Physician signature
(see referral sheet)

RN signature

Date