PROTOCOL

TITLE: HEMODIALYSIS PROTOCOL

PURPOSE: To outline nursing management of patients receiving hemodialysis treatment.

SUPPORTIVE DATA:

1. A hemodialysis patient must have a vascular access prior to a treatment. Access for dialysis can be one of two ways, temporary or permanent.
   - Temporary access: Double lumen catheters inserted either via subclavian, jugular or femoral vein. Subclavian and Jugular catheters can be inserted by a surgeon and femoral catheters can be inserted by physicians with hemodialysis privileges. Placement of catheters in the subclavian or jugular site must be checked by a STAT chest xray, with a wet reading to r/o pneumothorax and check placement. An order must be written on the chart stating that the catheter is approved for dialysis use.
   - Permanent Access: An arteriovenous graft or fistula is a surgically created internal vascular access, usually found in the patient's arm. An arterio-venous Fistula is a surgically created access by the anastomoses of an artery and vein in a patient, usually the radial artery and a vein in the forearm is used. The forceful flow of blood through the veins causes them to become distended. Thus, allowing the cannulation by large bore needles. An AV graft is a surgically created access, which is created by implanting an artificial vessel graft. No IV's, lab work, or blood pressures should be done using the extremity with an AV graft or fistula.

2. Temporary Dialysis catheters, such as "Quinton" or "Mahurkar" are to be used for dialysis or plasmapheresis only and are not recommended for any other use.

3. Should the catheter need to be accessed for an emergency, 10ml of blood must be aspirated first, then flush the line with 10ml normal saline and then administer emergency medications. After using the catheter, flush with 10ml Normal Saline again and instill enough heparin to fill the lumen. Refer to the print on the outside of each lumen for the amount. (Should the lumens not be marked, use 1.3ml heparin for the arterial side and 1.4ml heparin for the venous side). Always using 1,000units per ml concentration.

INDICATIONS:

1. Acute renal failure
2. Chronic renal failure
3. End stage renal disease

A. PRE- DIALYSIS:

1. Follow the procedure policy for access and contacting contractor for dialysis treatment

2. Check that two consents are on the medical record. One for access device if needed and the other for the dialysis treatment. One only is needed with the initial treatment.

3. Check that an xray was done to confirm placement if new access device.

4. Check that an order was written on the chart to use access device and specific dialysis orders are written and have been faxed to pharmacy.

5. Check that all medications for dialysis are available, lab tubes for blood sampling and blood products if required are available.

6. Assess all dialysis sites q shift. All AV Grafts or Fistulas should be assess for a thrill and bruit and document in the nurse's notes. Should either assessment parameter not be present or faint contact the physician. This is an indication that the access is no longer patent.
   - Bruit: Auscultate access, listen for blood flow. It will sound like a "whooshing" sound, "murmur"
   - Thrill: Palpate access: you should feel a strong blood flow, "buzzing"

7. Avoid constrictive clothing or anything elastic on the extremity with the fistula or graft.

8. No IV medications, IV therapy, lab draws, ABG's or Blood pressures in the extremity with a graft or fistula.

9. Monitor intake and output

10. Weigh patient daily and pre dialysis.

11. Coordinate administration of regularly scheduled medication according to dialysis schedule if medication are be given post dialysis as ordered by physician.

12. Note that most of dialysis's patients will be on dietary restrictions.

13. Discuss with dialysis nurse prior to and after treatment:
    - Vital signs
    - Condition of access site
    - Weight
    - Behavioral changes
    - Blood work that needs to be drawn, or blood products that need to be given.
    - Medication given prior to treatment, and those to be given or given in the dialysis treatment.
    - Patient's toleration to treatment.

B. INTRA- DIALYSIS:

1. No IV medications, IV therapy, lab draws, ABG's or Blood pressures in the extremity with a graft or fistula.

2. Continue to do routine daily assessments and care even if patient is in a dialysis treatment.

3. Notify physician of reportable concerns.

4. See dialysis nurse role in the procedure policy.

C. POST- DIALYSIS:

1. Monitor dressing for drainage every shift. Record findings

2. The dialysis nurse with each treatment changes the dressing.

3. Discuss with dialysis nurse post treatment:
    - Vital signs
    - Condition of access site
    - Weight and fluid removal (Fluid removal during dialysis will be recorded on the hemodialysis treatment record as well as post dialysis weight)
    - Behavioral changes
    - Blood work completed blood products that were given.
    - Medication given during treatment, and those to be given post dialysis.
    - Patient's toleration to treatment.

4. Monitor intake and output, signs of fluid overload

5. Monitor dietary restrictions and maintain fluid restrictions if ordered.

6. Administer antacids and/or stool softeners as ordered.

7. Provide frequent oral care.

8. Since patient is heparinized during dialysis, some oozing may occur when the dressing is removed (usually a small Band-Aid is placed permanent access area after treatment). Apply gently pressure over the site and redress area with a light pressure dressing. Remove in a couple of hours. If heavy bleeding occurs apply direct pressure to the area for 5 minutes-15 minutes. If bleeding does not stop, call physician.

D. REPORTABLE CONDITIONS:

1. Any signs or symptoms of inflammation or infection of the access site, either permanent or temporary access.

2. Decreased blood pressure and/or postural hypotension
3. Signs and symptoms of fluid overload.
4. Abnormal lab results
5. Uncontrollable bleeding from access site.

E. DOCUMENTATION:

1. All assessment findings
2. All communication with physician regarding any complications
3. Document in nurse's notes and/or unit flowsheet and eMAR.
4. Treatment documented on Hemodialysis flowsheet.
5. Review and update Interdisciplinary Plan of Care and Patient Teaching Record
6. Enter charge for procedure in Cerner.

References:

Acute Services, Policy and Procedure Manual #1, DaVita 2010. Policies: 7-06-01,02,04,05,05A,07A, 7-04-01, 7-04-02 A,B and C.

Dialysis Policies, Procedures and Guidelines, Health and Safety Policy and Procedure Manual, DaVita Inc. Training Program.

Lynn McHale Wiegand, D and Carlson K, AACN Procedure Manual for Critical Care, 6th edition. Elsevier Saunders. 2011. Procedure 113, page 1033

Product Information Guide Mahurkar, 2010 www.covidien.com/vasculartherapy