Adequacy of Hemodialysis Protocol

- Ensure that all current orders are being consistently followed, i.e., treatment time, blood flow rate (BFR), dialysate flow rate (DFR), frequency of dialysis, reuse guidelines if used, etc.

- If the current orders are consistently being following (#1), address the following parameters in the order listed to improve adequacy of hemodialysis and maintain the Urea Reduction Ratio (URR) > 65% or KT/V > 1.2. Implement new dialysis treatment prescription order changes with the patient's next dialysis treatment.

    - Increase BFR:
        a. If tolerated by the vascular access, increase the BFR in 50 ml/min increments to achieve target URR and/or Kt/V.
        b. Maximum BFR = 500 ml/min for external vascular accesses and the manufacturer's maximum allowed BFR, if using a catheter.
    - Increase DFR :
        a. If increasing the blood flow rate does not achieve goal, increase the dialysate flow by 100 ml/minute increments as needed to reach adequacy target goals.
        b. Maximum DFR = 800 ml/minute or highest flow allowable by the equipment.
    - If increasing the BFR and DFR does not achieve target, ask the doctor about prescribing a dialyzer with a high(er) urea clearance (KOA).
    - Treatment time – if the URR and/or Kt/V remain below target, increase the dialysis treatment time by 15-minute increments as needed to achieve target.

- Notes on vascular access in relation to adequacy of dialysis:

    - Encourage all patients to have an AV fistula (AVF) or AV graft (AVG) placed (versus a catheter)
    - Notify the physician of <u>each</u> treatment that the vascular access is unable to deliver the prescribed BFR until the access problems are resolved.
    - Obtain an order for vascular access evaluation, if unable to maintain prescribed BFR. Monitor venous pressure for signs of excessive pressure during dialysis. Decrease BFR as needed to maintain venous pressure at less than half of blood flow rate. Notify the physician if the VP is consistently greater than half of the BFR.
    - Obtain an order to draw vascular access recirculation studies if the URR and/or Kt/V continue to be below target after implementing new treatment prescription orders.

- Verify that the prescribed treatment orders are implemented each dialysis treatment. Notify the physician if unable to meet or implement prescribed dialysis treatment orders.

- Draw monthly URR or Kt/V, using pre and post BUN samples.

- Use K/DOQI recommended Slow Flow or Stop Pump technique for drawing post BUN sample.

- Review URR or KT/V lab results within 3 days of the facility receiving the initial report from the lab. Initiate new dialysis prescription order changes with the patient's next dialysis treatment for all patients with URR or KT/V results not meeting goal. Repeat URR or KT/V lab sample when new dialysis treatment orders are implemented or results appear incorrect. Repeat incorrect labs on patient's next treatment day.

- Notify the physician if repeated URR or KT/V results continue to be inadequate.

- Communicate all adequacy issues to the Charge Nurse (CN).

- Re-educate patients requesting to discontinue dialysis treatment early. Document efforts in the medical record. Encourage patients to complete entire dialysis treatment time. If a patient insists on signing off dialysis early, have him/her sign the AMA and notify the nurse in charge.

- Review the facility adequacy results at the monthly CQI/QAPI meetings. Initiate a facility adequacy improvement plan if the facility's overall URR or KT/V results show that <96% of patients are receiving adequate treatment.

- Review the adequacy improvement plan monthly, document evaluation of the adequacy plan and implement new strategies and action steps as needed to replace those that are ineffective.

- Develop a patient-specific action plan/plan of care (POC) to address barriers and issues impacting adequacy results for all patients who do not meet adequacy goals. Review this plan of care with the patient and all of the patient's care givers.

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Physician Signature

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Date

_____
RN Signature

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Date