

Hemodialysis Adequacy Quality Assessment & Performance Improvement (QAPI) TIPS Sheet

Contributing Factors to Poor Adequacy Outcomes	Questions to Ask or Things to Assess
Weight Gains	Does the patient gain more than 4.0 Kgs between treatments?
	Does the patient need a new Estimated Dry Weight assessed?
	Are the scales calibrated routinely to ensure accuracy?
	Does the staff actually watch the patients weigh pre and post treatment? (Have you done clinical practice audits to make sure this is happening?)
Treatment Time	How many hours does the patient have ordered for treatment time?
	Does the patient stay the entire treatment time? If no, why not? (Have you done a treatment sheet audit to determine exact hours of treatment?)
Blood Flow Rate	What is the ordered blood flow rate?
	What is the actual achieved blood flow rate?
	Do these rates match? If no, why not? (Have you done clinical practice audits to determine that staff is setting the flow rates as ordered?)
Dialysate Flow Rate	What is the ordered dialysate flow rate?
	What is the actual delivered dialysate flow rate?
	Do these rates match? If no, why not? (Have you done clinical practice audits to determine that staff is setting the flow rates as ordered?)
Dialyzer Surface Area	What type of dialyzer is ordered for the patient?
	What type of dialyzer is the patient actually treated on? (Have you done a treatment sheet audit to determine the exact dialyzer?)
	Is there a dialyzer that has a larger surface area to increase clearances? (Have you checked with various manufacturers to check on product availability?)
	Do you have staff trained to provide “tandem” dialyzers, should the need arise to utilize this additional clearance measure? (This is a dialysis treatment where there are 2 dialyzers used for every dialysis treatment – they are connected together so that the blood enters through one first and then directly into the second dialyzer and then back to the patient.)
Type of Vascular Access	<p><u>Catheter:</u></p> <ul style="list-style-type: none"> ➤ Is arterial pressure more negative than -240? If so, decrease blood pump speed. (HINT – Never allow the arterial pressure to be lower than -240!) ➤ Is the staff reversing the lines? If so, consult vascular surgeon. ➤ Can the catheter provide the ordered blood flow? If not, consult vascular surgeon. ➤ Is this patient a candidate for permanent access placement? Consult with vascular surgeon for vessel mapping to determine. ➤ Are you completing the “Catheter Checklist” for every patient with a catheter access monthly?

Hemodialysis Adequacy Quality Assessment & Performance Improvement (QAPI) TIPS Sheet

Type of Vascular Access Continued	<p><u>Arterio-Venous Graft (AVG):</u></p> <ul style="list-style-type: none"> ➤ Is staff using 2 needles in the access? If no, why not? ➤ Is the staff placing the needles as far apart as possible in the access to avoid recirculation? ➤ Can the access provide the ordered flow rate? If no, consult vascular surgeon or Access Center. ➤ Is the needle gauge appropriate for ordered blood flow rate? See guidelines in Fistula First. ➤ Are the arterial pressures not greater than -240? When the arterial pressure is more negative than -240 the programmed flow rate is not the delivered flow rate. (Have you done actual clinical audits to determine that staff never run anyone with pressures greater than -240?) ➤ Is the Venous pressure higher than 200? If so, have you assessed the AVG for Stenosis? ➤ Have you completed a “Sleeves Up” checklist on this patient for a suitable outflow vein and conversion to an AVF? ➤ Do you routinely check access flow rates?
	<p><u>Arterio-Venous Fistula (AVF):</u></p> <ul style="list-style-type: none"> ➤ Is staff using 2 needles in the access? If no, why not? ➤ Has your staff verified the direction of the flow in the access – the newer AVF’s may have retrograde flows? (Have you done a clinical audit to verify the direction of flow for every AVF?) ➤ Is the staff placing the needles as far apart as possible in the access to avoid recirculation? ➤ Can the access provide the ordered flow rate? If no, consult vascular surgeon or Access Center. ➤ Is the needle gauge appropriate for ordered blood flow rate? See guidelines in Fistula First. ➤ Are the arterial pressures not greater than -240? When the arterial pressure is more negative than -240 the programmed flow rate is not the delivered flow rate. (Have you done actual clinical audits to determine that staff never run anyone with pressures greater than -240?) ➤ Is the Venous pressure higher than 200? If so, have you assessed the AVF for Stenosis? ➤ Do you routinely check access flow rates?
ReUse	<p>Does your facility do Reuse?</p> <hr/> <p>What are the uses being achieved for this patient per the records?</p> <hr/> <p>What is the number of reuses allowed per dialyzer? The patient not meeting adequacy may need to have a reduced number of reuses.</p>

Hemodialysis Adequacy Quality Assessment & Performance Improvement (QAPI) TIPS Sheet

Heparinization	What is the current dose of heparin the patient is receiving?
	Does the patient require more heparin?
	Do you have the staff document the condition of the dialyzer post dialysis on the treatment record in order to monitor heparin requirements? (Do you perform regular audits of the treatment sheet looking for dialyzers that are getting more and more clotted fibers?)
	Does your staff wait the 3 – 5 minutes after administering the heparin before initiating dialysis on every patient, every time? (Have you actually done a clinical audit to verify this is happening?)
	Have you considered adding normal saline flushes routinely if the heparin is not working well enough on its own or if the patient is allergic to heparin.
Machine Maintenance	Are the machines kept up-to-date on all preventative maintenance per manufacturer's recommendations?
	Is the machine accurately calibrated?
	Is the clock on the machine accurately calibrated? Are all the clinical area clocks synchronized in order to prevent anyone from accidentally shortening treatments based on which clock they use?
	Are blood and dialysate pumps routinely calibrated to deliver the programmed flow rates?
Patient Issues	Is the patient feeling well?
	Does the patient have an infection?
	Does the patient refuse larger bore needles or higher blood pump speeds? (Have you done a clinical audit to determine whether the ordered rates match the delivered rates?)
	Have you discussed the adequacy issue with the patient?
Blood Draw Technique	Do you have a policy in your facility on the procedure for drawing adequacy blood specimens on patients? If no, you need to develop them (both pre and post sampling) and train the staff.
	Does everyone that draws adequacy blood samples in your facility do it exactly the same way (per your policy & procedure)? Do you do frequent clinical audits and re-train those not following P & P.
	If personnel routinely forget the procedure, do you have plastic covered cards that hang from the machines so that staff can refer to them on blood draw days – to ensure their full compliance?
	Does your facility always draw the pre and post BUN sample on the same treatment day? You should never draw a pre one day and a post another. Staff education on the importance of having those drawn the same day is vital.
<p><i>Please note that this is not an exhaustive list of contributing factors to Hemodialysis Adequacy issues. This document is meant to be utilized as a guide to begin the investigative process to identify common potential complications/challenges encountered by dialysis facilities.</i></p>	