Hemodialysis: Terminating Hemodialysis for Emergency Evacuation

Site Applicability

PHC Hemodialysis Units

Practice Level

1. Nurses (RN and LPN) who have completed the required education and provide nursing care in a Providence Health Care hemodialysis unit.
2. Renal Technicians who have received training and have successfully performed a return demonstration.
3. Patients who have received training and have successfully performed a return demonstration.

Need to Know

1. **Code Green** is the color code activated when an organized withdrawal or relocation of persons from an area at risk to a safe location is required.
2. At SPH in-center hemodialysis (6D) unit
   - This is activated by calling the emergency line **7111** and state: "Code Green [building and location]"
   - A Code Green 6D Hemodialysis Plan can be located at Emergency Response and Code Manual Located in the Clinical Nurse Leader's office.
3. At the community dialysis units (CDUs), **Precautionary Evacuation Authorization:** The Leader On-Call/Designate activates the Code
   - Activate the fire alarm (even if the threat is not fire/smoke), dial **911** and advise of the evacuation and reason.
   - The decision to perform a "precautionary evacuation" is made by the operation leader/leader on-call/designate.
   - Follow instructions from the charge nurse.
   - Each CDU has an Emergency Response and Code Manual containing the Code Green CDU plan.
   - Collect patient's medication profile and treatment prescriber's order found in CERNER, as well as the emergency preparedness cart/kit. (see Appendix B)
4. Disaster initiation is initiated by renal operation leader (OL), clinical nurse leader (CNL) and charge nurse (see Appendix C).

5. Evacuate the building as directed. This procedure is only for emergency situations that require **immediate** evacuation.
   - Horizontally – moving to a safe location on the same level
   - Vertically – moving towards the ground floor or the next floor down
   - Externally – moving out of the building/facility
6. All staff should listen to the overhead announcements and further directions for designated runners to implement emergency evacuation responses (see Appendix B).
7. **Cutting** of HD blood lines on the area between the clamped access lines and blood lines in the process of disconnection **should not be done** to prevent accidental exsanguination, possible blood spills or infection.
8. Dialysis needles will be left in place until the patient can get to a safe place and can be assisted with the removal of the needles.
9. All machines in use must have an emergency package attached.

Equipment and Supplies

Emergency take-off package consisting of:

1. Gloves
2. 10 mL or 20 mL prefilled NS syringes (2)
3. Tape
4. 4 x 4 gauze (2)
5. Red dead end port cap (2)
6. Blue Plastic clamps (4)
7. Patient instructions – see Appendix A

Procedure

Steps

PROCEDURE	RATIONALE
1. When an emergency exists and crisis or precautionary evacuation is necessary the in-charge staff member, or leader will initiate a Code Green activation.	To ensure that there is an emergency situation (e.g. fire, earthquake, bomb threat) that requires immediate evacuation from the building.
2. Obtain the emergency take-off package attached in each hemodialysis machine.	This package contains the necessary equipment for the emergency take-off procedure.
3. Stop the blood pump. Close the clamps on the following sites:	This prevents exsanguination and/or blood spill.

• arterial and venous bloodlines • arterial and venous access lines (Angio catheters use blue plastic clamps)	
IF URGENT EVACUATION IS REQUIRED:	
4. Do not rinse back the patient's blood.	Rinsing the blood back will waste precious time. Patients will only lose approximately 300 mL of blood.
5. Unscrew bloodlines from dialysis access lines. Proceed to step 8.	
IF SEMI-URGENT IS EVACUATION REQUIRED:	
6. If time permits and no urgent evacuation is required, attempt to rinse patient's blood back at maximum 250 mL/min.	Returning of the patient's blood provides better outcomes when evacuation is deemed necessary avoiding complications such as postural hypotension.
7. Flush each CVC lumen and access needles with normal saline. Leave syringes in place. Close the clamps on the arterial and venous lumens/needles. Proceed to step 8.	Flushing maintains patency that prevents clotting of the CVC/needles.
8. For Steel needles and Angio catheters screw a red dead end port cap	Prevents exsanguination if the blue plastic scissor clamps/Steel clamps are accidentally unclamped during evacuation
9. Secure needle to patient's limb.	Taping prevents dislodgment of needles.
10. Leave clamped blood lines on the machine.	
11. Instruct patient to bring the emergency take off kit if possible then evacuate the building as directed.	The emergency take-off package contains the necessary equipment/supplies needed to maintain the patency of CVC access or to remove the fistula needles when it is safe to do so.

Documentation

1. Ensure that proper documentation is completed:
    a. Patient Safety learning System (PSLS) Report - once the emergency situation has been resolved and it is safe to return to the building.
    b. Nursing Narrative note in CERNER - Dialysis was terminated due to a specified emergency situation. If there is a downtime, follow downtime procedures.
    c. Incident Reports

Patient and Family Education

This procedure is only performed when an emergency situation has been declared requiring immediate evacuation.

1. Never cut the dialysis access line and/or the line between the clamp and the patient's access as this can result in exsanguination.
2. Demonstrate procedure to patient and allow patient to provide a return demonstration using the emergency take-off package. Patient may demonstrate this procedure after their blood has been returned post-dialysis but has not yet been disconnected.
3. Instruct patients to have "Emergency Preparedness Information for Dialysis Patients" pamphlet always available and to follow instructions contained within the booklet. Review annually with the patient.
4. Instruct patients to always have an alternate transportation plan if regular transportation to dialysis is not in service or available.
5. Instruct patients to keep dialysis staff informed of current contact information.

Related Documents

1. Health Emergency Management BC (HEMBC) Code Green – Evacuation (e-learning course): available https://learninghub.phsa.ca/Courses/12047/code-green-evacuation-online
2. B-00-12-10152 - Hemodialysis: Accessing a Central Venous Catheter (CVC) with or without TEGO Connector
3. BC Renal Provincial Health Services Authority. (2022). Are you Ready? Emergency Preparedness Information for Dialysis Patients. http://www.bcrenal.ca/resource-gallery/Documents/Emergency_Preparedness_Information_for_Dialysis_Patients.pdf

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Appendices

Appendix A: Patient Instruction for Dialysis Emergency Take-Off Procedure

Appendix B: Emergency Preparedness Cart/Kit for Community Dialysis Units

Appendix C: Renal Disaster Chain of Command

Appendix A: Patient Instruction for Dialysis Emergency Take-Off Procedure*

*These directions are for emergency evacuation situations only.

Sometimes in an emergency you may need to be taken off of the dialysis machine in order to evacuate the building. Your nurse will teach you how to do this. In the event of a real emergency, stay calm and wait for instructions from your health care team.

What is an emergency package?

The emergency package is always attached to the dialysis machine. The package contains supplies you will need to safely disconnect yourself from the dialysis machine. It includes:

- Gloves
- 10 or 20 mL pre-filled normal saline syringes (2)
- Tape
- 4X4 Gauze (2)
- Red dead end port cap (2)
- Blue Plastic clamps (4)
- Patient instructions

How to clamp and disconnect from the machine:

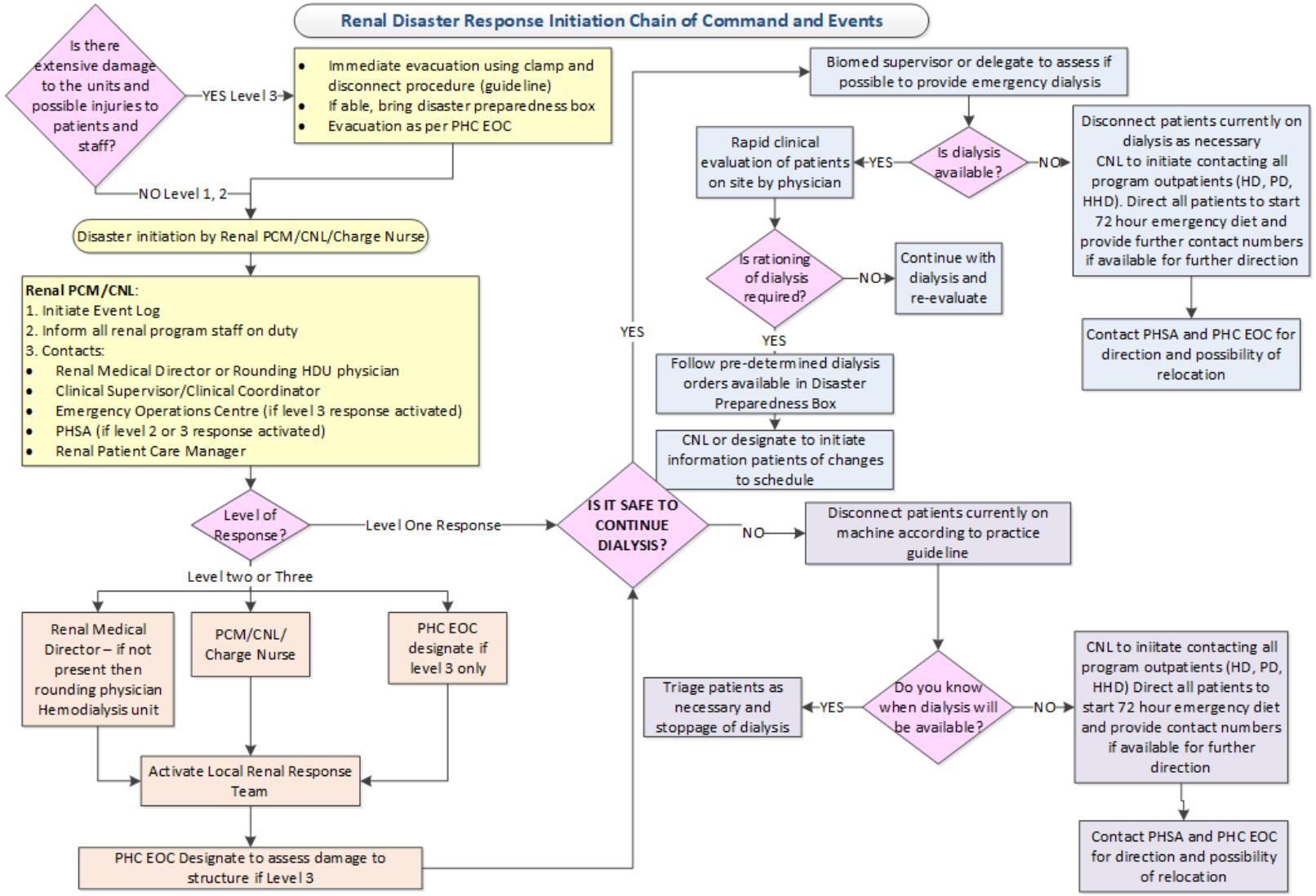
1. If able, stop the blood pump. Ignore alarms.
2. Obtain the emergency take-off package.
3. Clamp both access lines (AVF/AVG needles, CVC lumens)
4. Clamp both arterial and venous blood lines
5. Unscrew the lines between the closed clamps.
6. **For Fistula needles:** If possible, screw a red dead end port cap

Appendix B: Emergency Preparedness Cart/Kit for Community Dialysis Units

TOP COMPARTMENTS CONTENTS	LOWER COMPARTMENT CONTENTS
Flash Light	IV Infusion Lines (4)
Plastic clamps	Normal Saline Bags (one litre x 4)
Scissors	20 or 10 mL Prefilled NS Syringes (2)
Tourniquets	Catheter tray (1)
Chlorhexidine with Alcohol Swabs	Na Citrate 4% Catheter Block (4)
Gauze 4 x 4 (1 box)	
Gauze 2 x 2 (1 box)	
Gloves Size Medium (1 box)	
Band-Aides and Sureseals	
Masks	
Micropore Paper Tape (1 box)	
Tegaderm™ (size for catheter)	
Hand Sanitizer	

Dates Checked	Initial

Appendix C: Renal Disaster Chain of Command



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