

# Hemodialysis: Cardiac Arrest (Code Blue) - Staff Responsibilities in Community Dialysis Units

## Site Applicability

Providence Health Care Renal Community Dialysis Units

## Practice Level

*Specialized:*

- *Renal Team members (RN, LPN, Renal Technician, Clerks, Allied Health) employed at a Providence Health Care Renal Program Community Dialysis Unit*

## Requirements

1. Basic Life Support (BLS) certification (ie. cardiopulmonary resuscitation or CPR) is required for all staff upon hiring.
2. As Per Occupational Health and Safety: All clinical staff should have an up to date fit test for an N95 mask
3. Staff members caring for a patient must be aware of the patient's code status. And the patient's own directives such as an advanced Care Plan, Advanced Directive, or Provincial "No CPR" form. Staff members should discuss with the most responsible provider if there is any lack of clarity concerning the patient's code status (e.g. Options for care order, or Medical Scope of Treatment also known as MOST).

## Need to Know

- Staff are expected to maintain competency in performing BLS skills by attending education sessions of their choice at least once per year.
- Identify patient's COVID -19 status appropriately to allow staff to conduct accurate risk assessment during a code blue event, including the appropriate PPE use before starting CPR.
- A designated staff, usually the Nurse in Charge, should be coordinating the code- providing direction and to whom staff should report back to.
- If there are only two responders, the first responder should be returning the blood to rule out hypotension; while the second responder will be responsible for performing the duties of the subsequent responders as deemed appropriate.
- To transfer the patient out of a dialysis chair for CPR:
  - Place the chair in Trendelenburg or lower the head of the chair to its lowest position.
  - First and second responder: gently lower the patient to the floor using the sheet under the patient while ensuring safety of the dialysis lines and access. This is best accomplished by sliding the patient out of the top of the chair while the third responder pulls the chair out from under the patient in the direction of the patient's feet. Do not disconnect the bloodlines from the patient's access.

- Third responder: continue to return the patient's blood (if not already done) then clear the area of unnecessary equipment to ensure adequate space to perform CPR.
- Automatic external defibrillators (AED) are only available in the metro community dialysis units (CDU). (The metro CDUs include the Vancouver, East Vancouver, Richmond and North Shore CDUs).
- For code blue events in the metro CDUs call 911. For code blue events in the coastal units, Sechelt; Powell River; and Squamish CDUs, activate the hospital code blue system.
- The physician or team leader will notify the patient's family of the code blue event.

## Equipment and Supplies

PPE supplies

Emergency cart and medications

Oxygen, mask, and tubing

Zoll Plus AED

Zoll padz

NS bag and IV tubing

Foot stool

## Protocol

### Interventions

Team Member	Actions	Rationale
<b>First Responder</b>	<ul style="list-style-type: none"> <li>Shout for help from other staff members and/or press the nurse call button (do NOT leave the patient).</li> </ul>	Mobilize additional help for the patient.
	<ul style="list-style-type: none"> <li>Begin returning the patient's blood and place the patient in the supine position.</li> </ul>	Will help determine if the cause is hypotension.
	<ul style="list-style-type: none"> <li>Assess the patient's condition (i.e. level of consciousness, circulation, airway, breathing)</li> </ul>	
	<ul style="list-style-type: none"> <li>If you have determined that the patient is having a life-threatening event requiring immediate intervention by the paramedics/code blue team AND the patient is a full code, have a delegate call 911 or activate the hospital code blue system and initiate <a href="#">Cardiac Arrest (Code Blue) Procedure</a> in Community Dialysis Units</li> <li>When calling 911, provide delegate with the medical emergency details.</li> </ul>	The 911 dispatch will ask questions to triage the emergency. Staff require clear instructions to provide

	<ul style="list-style-type: none"> <li>ensure delegate reports back. (Airway/Breathing/Circulation status.)</li> </ul>	Airway/Breathing/Circulation status.
Team Member	Actions	Rationale
	<ul style="list-style-type: none"> <li>Transfer patient out of the dialysis chair with assistance, if necessary.</li> <li>If unable to transfer out of the chair, roll patient onto the arrest board. Protect the vascular access site.</li> </ul>	Hard surface allows for more effective chest compressions.
	<ul style="list-style-type: none"> <li>Initiate chest compressions.</li> </ul>	
	<ul style="list-style-type: none"> <li><u>When paramedics/code blue team arrive:</u> Provide report to paramedics/code blue team including; <u>S</u>igns and symptoms <u>A</u>llergies <u>M</u>edications <u>P</u>ast medical history including diagnosis <u>L</u>ab results including blood glucose <u>E</u>vents leading up to the code (e.g. vital signs, procedures, equipment), how long it has been since the patient collapsed, and how many shocks were delivered</li> </ul>	
	<p><u>After code blue event:</u></p> <ul style="list-style-type: none"> <li>If the patient is to be transferred to the emergency department, remove access needles or cap CVC unless contraindicated (e.g. if required for IV access).</li> <li>Ensure documentation is complete.</li> <li>If unsuccessful (i.e. natural death occurs), notify the physician to pronounce death and then contact the coroner to arrange transportation of the body (coroner 24-hour number service: 1-855-207-0637 for all Metro CDUs and Coastal CDUs).</li> </ul> <p>Nurse in charge will co-ordinate the following:</p> <ul style="list-style-type: none"> <li>Ensure all used emergency equipment and other supplies have been returned to its appropriate location and/or restocked. Safely dispose of sharps and used bag-valve-mask.</li> <li>Obtain replacement bag-valve-mask, if required.</li> <li>Contact pharmacy for replacement of emergency medications.</li> </ul>	

Team Member	Actions	Rationale
<b>Second Responder</b>	<ul style="list-style-type: none"> <li>Bring emergency equipment (e.g. cardiac arrest board, emergency cart, emergency meds, AED in the metro CDUs, PPE) to the location.</li> </ul>	
	<ul style="list-style-type: none"> <li>Assist with transferring patient out of the dialysis chair, if necessary.</li> <li>If unable to transfer out of the chair, roll patient onto the arrest board. Protect the vascular access site.</li> </ul>	
	<ul style="list-style-type: none"> <li>Cover patient's face with a simple oxygen mask and turn O<sub>2</sub> on at 10 L/min.</li> <li>Only use bag-valve-mask if you have been trained and everyone has donned the appropriate PPE.</li> </ul>	Using a bag-valve-mask is a specialized skill and requires training to use safely. Positive pressure ventilation is classified as a high risk aerosol generating medical procedure.
	<ul style="list-style-type: none"> <li>Continue to return the patient's blood, if not already done.</li> </ul>	
	<ul style="list-style-type: none"> <li>Apply the automatic external defibrillator (AED) as per <a href="#">Hemodialysis: Zoll Plus Automatic External Defibrillator (AED)</a></li> </ul>	
	<ul style="list-style-type: none"> <li><u>When paramedics/code blue team arrive:</u> Ensure WOW is available to supply medical and nursing notes, if appropriate.</li> <li>If family or other visitors are still present, assist them to another area (e.g. patient waiting area) Nurse in charge will update the family as soon as possible after the event.</li> <li>Notify responsible physician that a code blue is in progress.</li> <li>Assist team in arrest as required (e.g. getting supplies).</li> </ul>	Depending on the number of staff scheduled, the second responder may have duties and responsibilities of subsequent responders.
	<p><u>After code blue event:</u> Nurse in charge will co-ordinate the following:</p> <ul style="list-style-type: none"> <li>Ensure all used emergency equipment and other supplies have been returned to its appropriate location and restocked.</li> <li>Safely dispose of sharps and used bag-valve-mask.</li> <li>Obtain replacement bag-valve-mask, if required.</li> <li>Contact pharmacy for replacement of emergency medications</li> </ul>	Depending on the number of staff scheduled, the second responder may have duties and responsibilities of subsequent responders.

Team Member	Actions	Rationale
<b>Third Responder</b>	<ul style="list-style-type: none"> <li>Assist with transferring patient out of the dialysis chair, if necessary.</li> <li>If unable to transfer out of the chair, roll patient onto the arrest board. Protect the vascular access site.</li> </ul>	
	<ul style="list-style-type: none"> <li>Prime a 1 litre bag of 0.9% normal saline.</li> </ul>	To maintain vascular access when the bloodlines have been disconnected from the patient.
	<ul style="list-style-type: none"> <li>Disconnect blood lines. Ensure dialysis access remains intact. Connect primed 0.9% normal saline to access.</li> </ul>	
	<ul style="list-style-type: none"> <li>Clear area of unnecessary equipment.</li> </ul>	
	<ul style="list-style-type: none"> <li>Pull curtains around the patient's station.</li> </ul>	
	<ul style="list-style-type: none"> <li>Assist team in arrest as required (e.g. getting supplies, performing CPR).</li> </ul>	
	<ul style="list-style-type: none"> <li><a href="#">Document</a> event.</li> </ul>	During a cardiac arrest, charting can be performed by someone other than the person providing the care.
<b>Other Responders, when available</b>	<ul style="list-style-type: none"> <li>Clear area of unnecessary equipment.</li> <li>Pull curtains around the other patients' stations.</li> <li>If family or other visitors present, assist them to another area (e.g. patient waiting area).</li> <li>Ensure WOW is available to obtain medical and nursing notes, if appropriate.</li> <li>Notify responsible physician that a code blue is in progress</li> <li>Assist team in arrest as required (e.g. getting supplies).</li> <li>Assume responsibility for the other patients in the room.</li> <li>Provide reassurance.</li> <li>Monitor dialysis.</li> <li>Answer alarms.</li> <li>Answer telephones.</li> </ul>	Depending on the number of staff scheduled, the Nurse in charge will coordinate staff duties and responsibilities.

Team Member	Actions	Rationale
<b>Clerk (metro CDUs only)</b>	<ul style="list-style-type: none"> <li>• Direct paramedics/code blue team to the code area.</li> <li>• Field telephone calls.</li> <li>• Keep visitors in waiting area.</li> <li>• Prepare transfer package to go with patient to emergency department.</li> <li>• If the patient's relatives or friends approach you: <ul style="list-style-type: none"> <li>• Ask the charge nurse (or designate) to talk to them</li> <li>• Do NOT try to explain the situation</li> <li>• Do NOT call the patient's relatives</li> </ul> </li> </ul> <p>*Note: If there is no unit clerk on duty another team member will assume these responsibilities.</p>	
<b>Renal Technicians (metro CDUs only)</b>	<ul style="list-style-type: none"> <li>• Assist with transferring patient out of the dialysis chair, if necessary.</li> <li>• If unable to transfer out of the chair, assist with rolling the patient onto the arrest board. Protect the vascular access site.</li> <li>• Direct paramedics/code blue team to area.</li> <li>• Provide isolation gowns if necessary.</li> <li>• Draw curtains.</li> <li>• Clear area of unnecessary equipment.</li> <li>• Escort visitors/family to waiting area.</li> <li>• Obtain supplies as needed.</li> <li>• Answer alarms and inform the Nurse.</li> <li>• Reassure other patients.</li> <li>• Can perform chest compressions, if necessary.</li> <li>• If the patient's relatives or friends approach you: <ul style="list-style-type: none"> <li>• Ask the charge nurse (or designate) to talk to them</li> <li>• Do NOT try to explain the situation</li> <li>• Do NOT call the patient's relatives</li> </ul> </li> </ul>	

### Documentation

1. Document the event in Cerner including: the time the patient was found unresponsive, the events leading up to the arrest, the time CPR was initiated, the time EMS/911 call was placed, the number of shocks, the time of EMS team arrival, the names of the staff involved, and the actions/procedures performed by the staff.

2. Document the outcome of the incident and the name of the nephrologist who was notified of the event.

### **Patient and Family Education**

Code Blue events are a traumatic event for both patients and their family members.

Update the patient's family as soon as possible after the Code Blue event. Provide emotional support and debriefing of the incident as soon as possible.

Update the patient about the code blue event as soon as they are able to participate in the conversation. Depending on the patient's outcome, it may not be feasible to happen right away.

### **Related Documents**

1. [B-00-07-10008](#) - Documentation
2. [B-00-12-10115](#) - Hemodialysis: Cardiac Arrest (Code Blue): Procedure in Community Dialysis Units
3. [B-00-13-10094](#) - Hemodialysis: Zoll Plus Automatic External Defibrillator (AED) in CDU

### **References**

BC Renal Agency Hemodialysis Guideline (Feb 20, 2021): Nursing management of complications during hemodialysis, cardiac arrest (intradialytic) with resuscitation, p 6. Retrieved on May 18, 2023 from [http://www.bcrenal.ca/resource-gallery/Documents/Provincial-Guideline\\_HD\\_Complications.pdf](http://www.bcrenal.ca/resource-gallery/Documents/Provincial-Guideline_HD_Complications.pdf)

Elmer, J. (2023). Adult basic life support (BLS) for health care providers in UpToDate. Walls, R. Grayzel, J. (Eds), UpToDate, Waltham, MA, 2023. Retrieved May 30, 2023 from [www.UpToDate.com](http://www.UpToDate.com)

**Groups/Persons Consulted:**

Hemodialysis Clinical Practice Guidelines Group

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