HEARTLAND KIDNEY NETWORK

# EMERGENCY DRILL

## TOOLKIT FOR DIALYSIS FACILITIES

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# EMERGENCY DRILL TOOLKIT FOR DIALYSIS FACILITIES

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## ORGANIZATION

Organization: End-Stage Renal Disease (ESRD) #12 Network Coordinating Council, Inc.
dba: Heartland Kidney Network

The Heartland Kidney Network strives to provide quality educational information and resources as part of our responsibility to provide assistance to ESRD patients and providers.

## PURPOSE

In 2008, the ESRD Conditions for Coverage and their accompanying interpretive guidelines brought additional expectations for emergency preparedness and contain many detailed and specific references to emergency. The safety of the patients, staff, and visitors depends on effective plans and the ability of individuals to spring into action when necessary.

This Emergency Drill toolkit was developed to assist facilities in planning, conducting and evaluating Emergency Drills at the facility. Emergency drills provide opportunities to practice emergency response and enhance the staff's ability to implement the facility Emergency Plan when it becomes necessary. The more familiar people are with something the better able they are to perform a task under pressure and in difficult circumstances. Emergency drills are important and beneficial in several ways including:

- Providing an opportunity for patients and staff members to rehearse the actions they would take in a real emergency.
- Identifying weaknesses and deficits in emergency plan processes.
- Identifying strengths in emergency plan processes.
- Meeting Conditions for Coverage requirements.
- Improving staff and patient readiness/preparedness levels.
- Familiarizing staff and patients with the facility emergency plans.

The Unit Administrator is encouraged to share the information contained in this document with the members of the interdisciplinary team, Medical Director, and the Quality Assessment and Performance Improvement (QAPI) team of the dialysis center.

# Part I: ERSD Conditions for Coverage

Some of the ESRD Conditions for Coverage are provided for convenience. Facilities are encouraged to review the Conditions of Coverage in its entirety for additional references to emergency planning.

## V408 - EMERGENCY PREPAREDNESS

The dialysis facility must implement processes and procedures to manage medical and non medical emergencies that are likely to threaten the health or safety of the patients, the staff, or the public. These emergencies include, but are not limited to, fire, equipment or power failures, care-related emergencies, water supply interruption, and natural disasters likely to occur in the facility's geographic area.

### Interpretive Guideline

Medical emergencies which may be anticipated in the dialysis setting include, but are not limited to, cardiac arrest, air embolism, adverse drug reactions, suspected pyrogenic reactions, profound hypotension or hypertension and significant blood loss. Direct care staff should be aware of how to recognize and respond to emergent patient medical conditions.

Regularly-scheduled treatments are essential for dialysis patients. In the event of a natural or man-made disaster, immediate action must be taken to ensure prompt restoration of these treatments or to plan for the safe transfer of patients to alternate location(s) for their treatments.

Each dialysis facility must have a facility-specific disaster/emergency plan and be able to respond accordingly. Disaster/emergency plans should address failure of basic systems such as power, source water, air conditioning or heating systems as well as treatment specific failures such as the facility water treatment system or supply delivery.

Dialysis facilities must consider the potential of and develop a plan for natural disasters in their geographic locations (e.g., hurricanes in FL and on the Gulf Coast, earthquakes in CA, ice storms in the northern states, floods near rivers) and man-made disasters (e.g., fires, power or water supply disruptions). Responsible staff and patients should be knowledgeable regarding the emergency plan should the facility be non-operational after a disaster.

Non-expired emergency/evacuation supplies, including site dressings, saline, IV tubing, should be available to accommodate evacuated hemodialysis patients.

## V 409 - EMERGENCY PREPAREDNESS OF STAFF

The dialysis facility must provide appropriate training and orientation in emergency preparedness to the staff. Staff training must be provided and evaluated at least annually and include the following:

(i) Ensuring that staff can demonstrate knowledge of emergency procedures, including informing patients of-

- **What** to do;
- **Where** to go, including instructions for occasions when the geographic area of the dialysis facility must be evacuated;

- **Whom** to contact if an emergency occurs while the patient is not in the dialysis facility. This contact information must include an alternate emergency phone number for the facility for instances when the dialysis facility is unable to receive phone calls due to an emergency situation (unless the facility has the ability to forward calls to a working phone number under such emergency conditions); and
- **How** to disconnect themselves from the dialysis machine if an emergency occurs.

### Interpretive Guideline

Orientation for all staff must include emergency preparedness training, and annual training thereafter. "Evaluated" would require some feedback to ensure that the training was effective: either a passing score on a written test or demonstrated competency in the expected actions in an emergency situation.

Staff must have sufficient knowledge of emergency procedures to educate patients/designees about how to handle emergencies, both in and outside of the facility. At a minimum, all of the listed components must be included in the staff and patient education programs.

If problems are identified regarding training patients in emergency preparedness, refer also to V412.

### V 410 EMERGENCY PREPAREDNESS OF STAFF

(ii) Staff training must be provided and evaluated at least annually and include the following: Ensuring that, at a minimum, patient care staff maintain current CPR certification; and

### Interpretive Guideline

All direct patient care staff (i.e., nurses and patient care technicians) must have current basic CPR certification.

### V 411 EMERGENCY PREPAREDNESS OF STAFF

(iii) Staff training must be provided and evaluated at least annually and include the following: Ensuring that nursing staff are properly trained in the use of emergency equipment and emergency drugs.

### Interpretive Guideline

The minimum emergency equipment required is defined in V413. The emergency drugs to be kept onsite may be determined by the medical director and defined by facility policy.

If the facility has chosen to use a defibrillator (rather than an Automated External Defibrillator [AED]), recognize that use of a defibrillator requires recognition of arrhythmias and knowledge of protocols to properly use the defibrillator. An AED can be used by any person with appropriate instruction. If a traditional defibrillator is present, written protocols approved by the medical director and a staff member trained and competent to use that equipment should be present whenever patients are dialyzing in the facility.

## V 412 - EMERGENCY PREPAREDNESS PATIENT TRAINING

The facility must provide appropriate orientation and training to patients.

### Interpretive Guideline

Patients must have sufficient knowledge of emergency procedures to know how to handle emergencies, both in and out of the facility. Refer to V409 for the required areas of patient emergency education.

Patients/designees should be instructed about the facility disaster/emergency plan. Patients/designees should know how to contact their facility during an emergency. Facilities should provide patients/designees with an alternate emergency phone number in case the facility phone is not answered and/or the facility is not functioning during a disaster. The patients/designees should be able to describe what they would do if they were not able to get to their regular dialysis treatment, including dietary precautions. Patients/designees should understand they must seek treatment promptly in the event that a natural or man-made disaster results in the closure of their facility.

For emergencies occurring in the dialysis facility, patients should be able to verbalize how they would disconnect themselves from the machine and evacuate the facility, or if unable, how they will be evacuated. The facility should have a system in place to identify patients who will need assistance in disconnection and evacuation during an emergency.

Medical records should include evidence of education in emergency evacuation and emergency preparedness, to include some measure of patient understanding, such as return teaching or demonstration.

## V 413 - EMERGENCY EQUIPMENT

Emergency equipment, including, but not limited to, oxygen, airways, suction, defibrillator or automated external defibrillator, artificial resuscitator, and emergency drugs, must be on the premises at all times and immediately available.

### Interpretive Guideline

The emergency equipment, as listed, must be clean, accessible, and ready to use at all times.
“On the premises” and “immediately available” may include the use of an emergency response team if the facility is located inside a building which includes such a response team (e.g., a hospital-based facility). The response time of personnel and equipment should be demonstrated as being less than 4 minutes. Refer to V403 for problems with maintenance of emergency equipment.

## V 414 - EMERGENCY PLANS

The facility must have a plan to obtain emergency medical system assistance when needed;

### Interpretive Guideline

All members of the facility staff must be able to demonstrate knowledge of how to obtain emergency medical assistance, e.g., 911 system or equivalent for the locality.

## V 415 – EVALUATION OF THE FACILITY PLAN

The facility must evaluate at least annually the effectiveness of the emergency and disaster plans and update them as necessary.

### Interpretive Guideline

This annual evaluation process should include review of any medical or non-medical emergencies that have occurred during the year to determine opportunities for improvement, as well as re-evaluation of the plans/procedures for current appropriateness and feasibility.

The facility must **conduct drills** or **mock emergencies at least annually** in order to determine the staff's skill level/educational needs and effectiveness of their plan.

## V 416 – CONTACT YOUR LOCAL EMERGENCY MANAGEMENT AGENCY

The facility must contact their local disaster management agency **at least annually** to ensure that such agency is aware of dialysis facility needs in the event of an emergency.

### Interpretive Guideline

The facility must contact and develop a communicative relationship with the local disaster management agency. This relationship will help expedite restoration of interrupted services due to an emergency or disaster. There should be some documented evidence of this contact. In order to ensure life saving dialysis services will be available in the event of an emergency or disaster, facilities should collaborate with their ESRD Network, suppliers, utility service providers, and their State agencies for survey and for emergency preparedness as well as with other dialysis facilities. Resources available from the Kidney Community Emergency Response (KCER) Coalition can assist facilities in meeting this requirement.

## V 417 through V 420 – FIRE SAFETY

Except as provided in paragraph (e)(2) of this section, by February 9, 2009. The dialysis facility must comply with applicable provisions of the 2000 edition of the Life Safety Code of the National Fire Protection Association (which is incorporated by reference at § 403.744 (a)(1)(i) of this chapter).

## Part II: Preparedness versus Readiness

Did you know that a dialysis facility can be prepared but not ready for an emergency or disaster? It is possible to have a level of preparedness and still not be ready. For example, someone who has a first-aid kit may be prepared, but if they lack the self-confidence to clean and bandage a wound, they are not ready to respond.

**Preparedness:** Involves two parts: Physical & Mental Preparedness

1. Physical preparedness. "Physical" in this sense is not the physical body but rather tangible or real, encompassing activities such as:
   - Increasing security
   - Facility fortification
   - Stockpiling of supplies and equipment
2. Mental preparedness is created through:
   - Planning activities
   - Training
   - Drills/exercises
   - Evaluation to identify deficiencies

**Goal**: Building self-confidence, efficiency, and effectiveness in performing tasks. Physical and mental preparedness practiced regularly lead to READINESS.

**Readiness:** Being ready to spring in to action should an emergency situation occur involves several things:

1. Self-confidence and knowing that you can do the required tasks correctly.
2. Confidence in others, including coworkers, team members, and patients. Being able to trust them to perform or react correctly.
3. Confidence in the dialysis facility, LDO or owners, community, back-up dialysis facility etc. and being confident that they are ready and able to act.

**Goal**: Individual readiness and group readiness

To achieve the goals, the following are needed:

- Knowledge that we have prepared.
- Belief that we are ready, exemplified by a "can do" attitude and positive state of mind.

**R-E-A-D-Y**

Use the acronym "**R-E-A-D-Y**" to coordinate your drills.

**R – Rehearse**

It is through **rehearsal** and practice that actions become second nature.

**E –Exercise**

Hold frequent drills and **exercise** activities to fine-tune the emergency and disaster skills of the patients and staff members.

**A –Assess**

**Assess** how well your emergency plans address the situation. Are there things you forgot to plan for? Does the plan need to be updated, edited, or enhanced in some way? Assessment is part of the continuous quality improvement (CQI) and Quality Assurance Performance Improvement (QAPI) processes.

**D – Develop**

**Develop** your plans realistically and facility-specifically. Conduct a variety of drill scenarios often (the Network recommends quarterly) to allow individuals to mentally rehearse what their actions would be in case of a real situation. Add and perhaps delete actions, supplies, and practices as appropriate to meet the needs. Document your education efforts and also involve the Medical Director in the training. Be sure to educate patients and staff members -including the physicians and non-medical staff members.

**Y– Yearly**

**Yearly** (at least) the facility plans should be re-assessed. More frequent assessments are always encouraged.

# PART III: Putting It All Together

## Adult Learning Principles

When developing or conducting staff education programs is important to consider that adults have special needs and requirements as learners. Malcom Knowles identified the following characteristics of learners:

- Adults are *autonomous* and *self-directed.* They need to be free to direct themselves. Their teachers must actively involve adult participants in the learning process and serve as facilitators for them. Specifically, they must get participants' perspectives about what topics to cover and let them work on projects that reflect their interests. They should allow the participants to assume responsibility for presentations and group leadership. They have to be sure to act as facilitators, guiding participants to their own knowledge rather than supplying them with facts. Finally, they must show participants how the class will help them reach their goals (e.g., via a personal goals sheet).
- Adults have accumulated a foundation of *life experiences* and *knowledge* that may include work-related activities, family responsibilities, and previous education. They need to connect learning to this knowledge/experience base. To help them do so, they should draw out participants' experience and knowledge which is relevant to the topic. They must relate theories and concepts to the participants and recognize the value of experience in learning.
- Adults are *goal-oriented*. Upon enrolling in a course, they usually know what goal they want to attain. They, therefore, appreciate an educational program that is organized and has clearly defined elements. Instructors must show participants how this class will help them attain their goals. This classification of goals and course objectives must be done early in the course.
- Adults are *relevancy-oriented*. They must see a reason for learning something. Learning has to be applicable to their work or other responsibilities to be of value to them. Therefore, instructors must identify objectives for adult participants before the course begins. This means, also, that theories and concepts must be related to a setting familiar to participants. This need can be fulfilled by letting participants choose projects that reflect their own interests.
- Adults are *practical*, focusing on the aspects of a lesson most useful to them in their work. They may not be interested in knowledge for its own sake. Instructors must tell participants explicitly how the lesson will be useful to them on the job."
- As do all learners, adults need to be shown *respect*. Instructors must acknowledge the wealth of experiences that adult participants bring to the classroom. These adults should be treated as equals in experience and knowledge and allowed to voice their opinions freely in class. [1]

[1] Lieb, S.(1991) Principles of Adult Learning. *VISION*, Fall 1991. Retrieved November 3, 2010 from http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/adults-2.htm

## Staff and Patient Training

All facility personnel and patients should be trained in emergency response. V409 of the Conditions for Coverage details the requirements for staff training.

The facility's emergency plan should include roles and responsibilities for all staff members. All staff should have knowledge of:

- The physical layout of the facility;
- The location of the nearest stair exit, alternate stair exit and the direct route to each;
- The location and how to use fire extinguishers;
- The patient evacuation priorities of the facility;
- The clamp and cut or clamp and cap procedures;
- How to evacuate patients;
- Emergency telephone numbers and procedures;
- How to assume control, maintain calm and prevent panic;
- How to instruct co-workers in their emergency roles;
- The emergency evacuation area location; and
- The utility and water shut-offs.

**All patients should be trained in emergency response.** Patients want and need to be involved in emergency planning activities. V412 of the Conditions for Coverage discusses patient education related to emergency planning and response.

All patients should have knowledge of:

- Facility exit locations
- The location of the nearest stair exit, alternate stair exit and the direct route to each
- The clamp and cut or clamp and cap procedures
- Emergency telephone numbers and procedures
- The emergency evacuation area location

Communication must be provided assuring everyone that this is "only a drill", however. If the drill is handled in an educational, calm, and informative manner patients will not be overly concerned or frightened by it. There are patient notification tools contained in the resource section of this tool kit.

## Medical Directors and Physician Involvement

Doctors are leaders in the dialysis center. Make sure to include your dialysis facility Medical Director and physicians in emergency preparation and drills.

Physicians recently shared with the Network that they are not routinely involved in dialysis facility disaster drills and want to be included. Physicians play a vital part if/when a real emergency occurs and they need opportunities to practice tasks to be confident in their actions and roles just like anyone else at the facility.

Here are some ideas for physician participation:

1. Schedule: Let all of the physicians know in advance when a scheduled emergency drill is being held (in person if possible). Try to hold the drill around their schedules if possible to increase participation.

2. Meet: Hold a management meeting with the physicians to discuss:
    - Ordering the evacuation of the facility (circumstances, authority, communication, etc.)
    - Emergency communications (paging MDs, call trees, special codes)
    - Standing orders for emergencies
    - Procedures that are not performed routinely

3. Review: SBAR Communication for emergencies. Consider using this strategy as a fast and effective means of getting information shared that your team.
   **S = Situation**: What is going on? Concisely state what the issue is.
   **B = Background**: Give quick background information pertinent to situation.
   **A = Assessment**: What do you think the emergency is?
   **R = Recommendation**: What action/recommendation is needed to correct problem?

4. Practice: The following hands-on tasks should be reviewed with the physicians routinely. They should be allowed to practice privately away from the dialysis staff members and patients.
    - How to hand crank the dialysis machine. Have a strung dialysis machine available for practice.
    - Use of the O2 tank and tubing.
    - Blood return procedure.
    - A review of the emergency drugs the unit has on hand.
    - A review of the emergency equipment included in the dialysis unit crash cart.
    - A detailed review and walk through the water treatment equipment.

5. Policies: The management team should review emergency policies routinely to identify process issues that need to be updated.

## Basic Steps for Drills

An annual review of the dialysis facility emergency plan is required in the Conditions for Coverage under the V-tag 415. Regular disaster drills are encouraged. Be sure every shift has the opportunity to participate. Not all drills should be announced -- a surprise drill will help reinforce learning. Regular practice can help to instill an awareness, calmness and preparedness in the minds of all. Emergency drills require planning and organization to ensure the most benefit.

**The three essential requirements for conducting a successful drill include**:

1. Pre-drill education for all staff and patients. This should be an on-going effort.
2. A step-by-step plan for executing the drill.
3. Post-drill evaluation and recommendations.

The purpose of a drill is to practice skills necessary to ensure the safety of all. Both patients and staff should be included in the drill exercise. The drill in the dialysis setting should focus on specific tasks that are not routinely performed but are critical to the safe termination of dialysis and evacuation of patients and staff. When designing a drill, pick a disaster that is applicable for your area. Vary the drill by using the "worst-case" and "ideal" scenarios.

- **Worst-case scenario** results in the termination of dialysis due to traumatic separation of patient from blood line/access needles. This will require staff to respond quickly, protect themselves from blood exposure, assist and/or verbally instruct patients, and evacuate themselves and patients. ******<u>It is not necessary or desirable to actually discontinue dialysis treatments during a drill</u>. ****** Patients and staff need to be able to confidently describe the steps they would take to safely and quickly end the dialysis session.

- **Ideal scenario** allows staff to have time to ensure patients are safely terminated from dialysis. Removal of needles would occur once patients have been safely evacuated from the building.

## Evaluation

- The nurse-in-charge completes a verbal and written evaluation (drill report) following each drill. Group discussions with employees will also be held.
- Items to review include, but are not limited to: not hearing the alarm, fire equipment blocked or unusable, exits and/or hallways blocked, operations hindered, duties not understood or carried out.
- Record staff attendance/participation with a sign in sheet.
- File drill report and attendance record in quality assurance/improvement report log and staff training log. Record patient education and participation in the drill in their medical record.
- A deadline for drill make up and/or evaluation of skill performance for absentee staff should be provided.
- The facility should conduct continuous quality improvement (CQI) on drills, including root cause analysis for problem areas.

## Practical Tips & Ideas for Drill Activities

In the Midwest, the following events are relatively common and should be included in dialysis facility drill activities.

- Fire
- Sudden power outage
- Extended power outage
- Sudden water loss
- Contaminated water supply/chloramines break through
- Tornado
- Winter Weather events
- Sudden flooding
- Earthquake
- Violent patient, family or staff member
- Clamp & Cut (or Clamp & Disconnect)
- Community Emergency Preparedness Activities

Sometimes facilities are willing to do emergency drills but are not confident in actually carrying out such exercises. The following ideas can be used at any dialysis center regardless of its size or staffing patterns to address any possible emergency/disaster scenario. Some ideas are specific to individual units while others are more community focused.

1. Inform the patients ahead of time that the unit will be conducting an emergency drill. Remind them of the training they have received as part of your regular patient education on Emergency Preparation. Giving them notice will help them remain calm and feel ready to practice.

2. If there are several dialysis centers nearby, host a Disaster Planning Summit during the evening and train everyone together.

3. LDO facilities can join together to review their common policies and procedures for emergencies.

4. Rotate the duty of planning the drills (gets more people involved and keeps it from becoming the same-old- thing).

5. Involve your Medical Director and physicians in emergency drills and training sessions.

6. Mark quarterly drills on the calendar than have the drill(s). Conduct drills on all patient shifts identify issues that may be time specific.

7. Hold a simulation of an event walking through (on paper) the process of sending patient to the back-up dialysis facility and working on the communication flow between the two of them (the “who, what, when, where and how” for patients and staff).

8. Simulate how the unit would go about placing a PSA on their local TV or radio.

9. Determine who the dialysis unit would contact to provide transportation for a large number of patients.

10. Pick a date and time and see if the facility emergency supplies would accommodate the current census of patients.

11. Ask members of the local fire department/rescue to come to the dialysis center to "walk through" what would need to happen in order to evacuate the patients.

12. On a Sunday or evening have staff and volunteers pretend to be dialysis patients and actually simulate a dialysis center evacuation and/or triage of multiple wounded ESRD individuals.

13. Plan with the local hospital ER ahead of time to simulate the arrival of multiple ESRD patients using dialysis staff and volunteers to play ESRD patients.

14. Brainstorm with your team about how a community wide disaster might play out and the steps necessary to ensure that your patients had access to dialysis beyond your local area. What supplies would you need? Where would staff and patients go? How would you notify people? What about transportation, etc.

15. Mix the ESRD scenarios in with city or local emergency management drills that are already being done in your area. The more the community learns about the needs of the dialysis population, the more various agencies can assist during a real emergency.

16. Participate in national drills sponsored by the Kidney Community Emergency Response (KCER).

## Medical Emergencies

It is not the purpose of this booklet to explore medical emergencies at length, however, a brief discussion of common emergencies is provided. Please refer to the individual dialysis facility policy and procedure manual for detailed information on how to deal with the various events.

Medical emergencies which may be anticipated in the dialysis setting include, but are not limited to, cardiac arrest, air embolism, adverse drug reactions, suspected pyrogenic reactions, profound hypotension or hypertension, hemolysis, and significant blood loss. Direct care staff should be aware of how to recognize and respond to emergent patient medical conditions. The Conditions for Coverage tag V408 expounds on this.

**Dialysis facilities are urged to contact the Network as well as the State Agency if a serious adverse event occurs. Both agencies can be a resource to the facility and provide suggestions and guidance.**

In addition to emergency/disaster planning for natural or man-made situations, dialysis facilities must also be prepared to address medical emergencies. The governing board of the dialysis center should design and approve such policies.

***Cardiac Arrest***

Karnick et al in their article reported, "Hemodialysis patients are at an increased risk for cardiac arrest and sudden death relative to the general population. Numerous factors have been proposed to increase the risk of cardiovascular disease (including sudden death) in end-stage renal disease (ESRD), including atherosclerotic disease, autonomic dysfunction, hypercoagulability, hypertension, left ventricular hypertrophy (LVH) and dysfunction, volume overload, hemodynamic instability, anemia, dyslipidemia, hyperhomocysteinemia, in situ cardiac and coronary artery calcification, inflammation, and a variety of common metabolic disturbances (including hyperkalemia, hypocalcemia and hypercalcemia, hyperphosphatemia, and hyperparathyroidism). Given the prevalence and severity of traditional cardiovascular risk factors in ESRD, along with unique dialysis-specific stressors, it is not surprising that half of all hemodialysis-related deaths are due to cardiovascular disease, with a cause-specific mortality rate that exceeds the general population's by more than an order of magnitude. Cardiac arrest is reported to account for approximately one third of all cardiac deaths in hemodialysis patients."[2]

***Air Embolism***

The presence of air in the blood lines can cause the sudden onset of symptoms such as air hunger, cough, dizziness, cyanosis, pain in the head, back or chest, vomiting, and a thread pulse. Rapid actions need to occur to treat the patient including, stopping the blood pump, clamping the lines, administering oxygen, and positioning the patient in the Trendelenburg position with the feet higher than the head, on their left side.

***Convulsions/Seizures***

Convulsions during hemodialysis may be related to to electrolyte shift, removal of an anticonvulsant drug by dialysis, hypoxemia, hypotension, intracranial hemorrhage, air embolism, and disequilibrium

[2] Karnik, J.A., Young, B.S., Lew, N.L., Herget, M., Dubinsky, C., Lazarus, J.M., et al. (2001). Cardiac arrest and sudden death in dialysis units. *Kidney International,* 60, 350-357.

syndrome. Emergency care of a patient with seizures includes promoting patient safety, protection of airway, dealing with the precipitating cause and suppression of seizures.

***Adverse Drug Reactions***

Sometimes dialysis patients can have adverse reactions to medications. Depending on the severity of the reaction the physician will direct appropriate care measures.

***Suspected Pyrogenic Reactions***

If the patient has a sudden onset of fever and chills soon after initiating dialysis, it is possible that inadequately treated water or dialysate is to blame. Endotoxins or bacterial flecks can remain in the water system and can cause this type of symptomology. Check the Limulus Amebocyte Lysate LAL readings of the most recent water test. Obtain blood cultures from the patient as well as water and dialysate cultures.

***Profound Hypotension/Hypertension***

High or low blood pressure situation can occur during dialysis and may happen gradually or suddenly. Frequent monitoring of the patient vital signs is necessary to provide safe dialysis. Dehydration is a common cause of hypotension. Signs of low blood pressure can include dizziness, nausea, vomiting, vision changes, fatigue, and/or headache. High blood pressure may occur due to an emotional response, fluid overload, reaction to medication or other causes.

***Hemolysis***

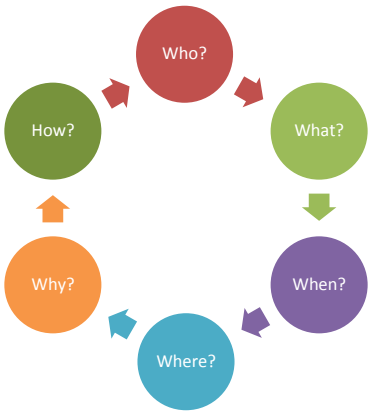
Hemolysis is literally the bursting apart of red blood cells. The cells are no longer able to carry oxygen to the body. Some symptoms that a patient could exhibit would include chest pain, arrhythmias, clear watery blood in the lines – looking like cherry Kool-Aid. This is a life threatening condition and other patients in the unit may be at risk of hemolysis as well. The patient needs emergency care (stop the blood pump, give oxygen) and probably admission to the hospital. A thorough investigation of the root cause of the hemolysis must be done. Common causes of hemolysis include improper water treatment and/or dialysate concentrations, or disinfectant remaining in the lines or dialyzer.

***Significant Blood Loss***

Line separation or needle dislodgement can cause significant blood loss during dialysis. This is potentially a life threatening condition. It is recommended that the access remain uncovered so that the care team can visually monitor the needles and tubing. Most dialysis centers tape connections to assure stability.

Make sure to prepare the patients when you plan to conduct a Medical Emergency Training drill. Share with them what expectations you would have from them (i.e. remaining calm and respecting the "affected" patient's privacy). Including patients in the drill activity will keep them from becoming fearful when/if Medical Emergency occurs and make them feel more confident in the staff's capabilities to handle all emergencies effectively.

**Who-What-When-Where-Why-How**




Using this model helps to clarify the actions, roles, and responsibilities of individuals during a disaster drill. It provides a framework to organize a comprehensive drill experience for the participants. Let's look at each element individually.

***Who?***

Who are the people involved? Is it staff members, patients, both? Are others also involved behind the scenes? What about the Medical Director? Who is ultimately responsible? Who leads and directs the actions of others? Who else may be available to help and lend a hand? Assign staff accordingly.

***What?***

What needs to happen to keep everyone (patients, staff, and visitors) safe and out of harm's way? What can be done to limit damage to the dialysis facility property? What role does each staff member assume? What can patients do to help themselves? What specific action steps need to be taken in each scenario?

***When?***

Describe the timeline for action steps that have been identified. This element can be expanded to also include back-up dialysis centers and when to involve them.

***Where?***

Where is the evacuation meeting point for patients and staff members? Where are the patients to go for back-up dialysis treatments? Where are staff to report?

***Why?***

Knowing why particular actions are taken helps patients and staff to better understand the whole emergency planning process. What is the background information? If possible, share the reasoning behind facility actions, plans, policies, etc.

***How?***

How are patients to get to the back-up dialysis center? Is transportation going to be provided? How will the patients and staff members know if the dialysis center is providing services or if they need to go elsewhere? How will communication be taking place – call trees, public service announcements, etc. How can protection be provided?

**SAMPLE SCENERIOS**

The following tables use the WHO-WHAT-WHEN-WHERE-WHY-HOW model along with the best case/worst case designation to describe possible emergency drill scenarios and actions. Follow your facility's emergency plan, policies, and procedures. The following are suggestions for drills.

| | | | | | | |
|---|---|---|---|---|---|---|
| **FIRE**<br>Fires can be small or large; contained or widespread. Smoke inhalation is a major concern as well as potential burns to individuals. Property damage can occur. | Who: Prior to a fire all staff should be taught how to use the fire extinguisher and know the evacuation routes.<br><br>Assign someone to simulate the call to 911 and be sure it was done. | What: Call 911<br>Use fire extinguisher<br>Possible evacuation | When: Upon discovery of the fire. | Where: A fire could take place anywhere in or around the facility. | Why: Dialysis centers use a lot of electrical equipment that could catch fire; some patients, visitors, and staff members smoke; nearby homes or businesses may catch fire and spread to the dialysis center.<br><br>Swift and decisive actions are needed. | How: Hold fire extinguisher class (the fire department will do this for you sometimes)<br><br>Have fire safety week at the dialysis unit. Pass out educational materials. |
| Best Case | Able to put fire out without fire department intervention, no or limited damage, no or minor injuries, evacuation not necessary. | | | | | |
| Worst Case | Evacuation, fire department, injuries, death, property damage or loss. | | | | | |
| Drill Idea | • Place a sign (8.5 x11 sheet of paper with a clip art design of a fire or draw it with markers) on an object such as a dialysis machine, waste basket, etc.<br>• When someone discovers the fake "fire" walk through the appropriate actions that should be taken and by whom.<br>• Document the participants and scenario on a Dialysis Disaster Drill sheet. (The Network has a template if needed.)<br>• Assess your response to the "fire" and see what went well and what could have been done better, faster, etc. What lessons were learned?<br>• Review the drill in the CQI meeting and document it in the minutes. | | | | | |

| **Sudden Power Outage**<br>Outages are usually related to storms but can also be due to power grid overload or other reasons. | Who: Everyone at the dialysis center is pulled into action to hand crank machines. | What: Staff and/or patients may need to hand crank blood pumps during a power failure. Return blood per unit policy after 10 minutes. | When: When the order to hand crank is given. All of the machines will alarm when the power goes out. | Where: Where is the hand crank located on the dialysis machine? | Why: This will prevent the blood from clotting. | How: Train new staff and current staff members on how to hand crank.<br><br>Review hand cranking with the patients routinely.<br><br>Review hand cranking with all staff members and physicians routinely. |
|---|---|---|---|---|---|---|
| Best Case | Hand crank the dialysis machines for only short time, the power comes back on in < 15 minutes; continue dialysis as normal. | | | | | |
| Worst Case | Power does not come back on in < 15 minutes Return blood & discontinue dialysis; reschedule patients (see Extended Power Outage); activate the back-up dialysis unit reciprocal care agreement (see below). | | | | | |
| Drill Idea | • Have clinical staff members rotate and practice the manual "hand cranking" of a dialysis machine.<br>• Involve non-clinical staff, physicians, patients or routine visitors if possible.<br>• Beforehand have the machine technician set up an extra dialysis machine with saline in the tubing.<br>• Document the participants and scenario on a Dialysis Disaster Drill sheet. (The Network has a template if needed.)<br>• Assess your response to the "power outage" and see what went well and what could have been done better, faster, etc. What lessons were learned?<br>Review the drill in the CQI meeting and document it in the minutes. | | | | | |

| **Extended Power Outage**<br>Outages are usually related to storms but can also be due to power grid overloads or other reasons. | Who: All direct care staff members will be needed to terminate the dialysis treatment and return the patients' blood. | What: Return blood & discontinue dialysis; use generator per manufacturer's instructions; reschedule patients - activate the back-up dialysis unit reciprocal care agreement | When: These can happen any time of year. | Where: Activate the back-up dialysis unit reciprocal care agreement Communicate with the patients as to where to go for their treatments. | Why: Dialysis cannot be performed without electricity. | How: Activate or maintain back-up dialysis center agreements. Consider local units as well as those that are further away geographically.<br><br>Consider having periodic drills or brainstorming sessions between the facilities to simulate an influx of patients and staff. |
|---|---|---|---|---|---|---|
| Best Case | Patients can be rescheduled for the next day if the power is expected to come back that soon. | | | | | |
| Worst Case | The power is expected to be out for several days, weeks, etc. activate the back-up dialysis unit reciprocal care agreement (see below). | | | | | |
| Drill Idea | • Hold a staff meeting to review how to activate the back-up dialysis unit reciprocal care agreement and walk through sharing staff, sharing supplies, notifying patients, etc.<br>• Invite your back up dialysis units manager and staff to attend your staff meeting (or via conference call) | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sudden Water Loss**<br><br>Dialysis is impossible without water. | Who: All direct care staff members will be needed to monitor the alarms and possibly terminate the dialysis treatment and return the patients' blood. | What: Possibly return blood & discontinue dialysis; reschedule patients - activate the back-up dialysis unit reciprocal care agreement | When: Water and or water pressure loss can happen at any time. | Where: It could be a malfunction of water treatment equipment at the dialysis center or perhaps a municipal water issue. | Why: Dialysis is impossible without water.<br><br>Sometimes the city will turn off water due to a water main bursting and not notify the dialysis center.<br><br>Dialysis center water treatment equipment may malfunction. | How: Train new staff members and current staff on how to respond to sudden water loss.<br><br>Activation of the back-up dialysis unit agreement may be needed with arrangements made to transfer the patients. |
| Best Case | The loss of water or water pressure will be of short duration. (Just a few minutes) | | | | | |
| Worst Case | The loss of water or water pressure will be of long duration. The cause is unknown or is related to dialysis water treatment equipment that needs to be fixed, ordered, etc. Patients will need to dialyze elsewhere for a time. | | | | | |
| Drill Idea | Consider an after-hours simulation of water loss for staff members to experience. All of the machines will alarm at once. | | | | | |

| **Winter Weather Events** | Who: Patients and staff | What: Difficulty getting to or inability to come to the unit | When: Usually November through March | Where: IA, MO, KS, NE<br><br>Rural or urban | Why: Snow, ice, and extreme cold are common in our Network region. | How: Train patients, new staff members and current staff on how to respond to and plan for winter weather events. |
|---|---|---|---|---|---|---|
| Best Case | Most patients and staff members are able to get to the dialysis center. Perhaps the unit will start a little later. | | | | | |
| Worst Case | Patients and staff members are unable to get to the dialysis center because of ice, heavy snow, etc. | | | | | |
| Drill Idea | • On a weekend or evening, plan with your staff members to "try out" your emergency call tree. Check to see that everyone was called. Document your test. If the call tree did not work, revise it now.<br>• Discuss with the care team how you would notify patients that could not make it in for dialysis; review the 3 day emergency diet<br>• Discuss how you would activate the back-up dialysis unit reciprocal care agreement | | | | | |

| **Earthquake** | Who: Everyone can be affected by earthquake. | What: Drop, Cover and Hold On. Drop under a sturdy desk or table, hold onto the desk or table with one hand, and protect the back of the head with the other hand. | When: When you feel the ground moving, | Where: Southern MO particularly<br><br>Right where you are. | Why: Items can fall off of shelves or bookcases. Heavy items can fall over or roll.<br><br>Swift and decisive actions are needed. | How: Protect your head. Hold on. |
|---|---|---|---|---|---|---|
| Best Case | Small tremor. Little or no damage. Minor or no injuries. | | | | | |
| Worst Case | Large tremor. Structural damage to the dialysis unit. Injuries or deaths reported. | | | | | |
| Drill Idea | • Look around your unit and identify furniture or objects that could pose safety hazards if they fell on staff, patients, or visitors.<br>• Take steps to better secure items at your unit for the possibility of an earthquake.<br>• Put earthquake information on the unit bulletin boards for staff, patients, and visitors to review.<br>• Distribute a one-page educational information sheet to everyone at your unit.<br>• Ask the management team of your unit to simulate an earthquake (after hours). Use your experience to evaluate and update your policies and procedures. Be sure to document this earthquake drill!<br>• Review earthquake safety plans with your patients using a word search puzzle.<br>• Have a staff meeting to discuss earthquakes and to plan facility strategies. (To make this more fun, serve Pineapple Upside-Down Cake or make “Shakes” to drink during the meeting.) | | | | | |

| **Sudden Flooding** | Who: This situation can affect both patients and staff members. | What: The unit building and/or contents can be damaged by flooding.<br><br>Staff and patients may not be able to arrive at or leave the unit. | When: Flooding usually happens in the spring and summer, but can happen in the fall or winter if there is a sudden snow melting. | Where: Sudden flooding can occur in IA, MO, KS, NE<br><br>Rural or urban | Why: The ground can become saturated quickly with heavy or prolonged rains or snow melting.<br><br>Swift and decisive actions are needed. | How: Train patients, new staff members and current staff on how to respond to and plan for flooding events. |
|---|---|---|---|---|---|---|
| Best Case | The drains behind the machines have become clogged causing a small and contained overflow in the unit. (Be particularly careful and mindful about the potential of shock injuries of staff and patients due to electrical equipment and water.) | | | | | |
| Worst Case | The city or area is flooded including the dialysis center. Equipment is damaged or lost and the facility has suffered structural damage. | | | | | |
| Drill Idea | • Inspect the drains behind the machines to assess water flow<br>• Scenario: The river, creek, or lake located nearest the dialysis center has exceeded its banks due to heavy rainfall. Certain main roads are covered with water and impassable. | | | | | |

| **Water Problems - Chlorine & Chloramine** | Who: This could adversely affect every patient dialyzing causing illness or death.<br><br>Someone must be assigned to and responsible for water testing and confirming that testing was done. | What: Water testing as per the Conditions for Coverage<br><br>Conducted per manufacturer's directions.<br><br>Reagents and supplies must be appropriate for the devices and not be expired. | When: Total Chlorine levels after the worker tank before each patient shift – system must be operating at least 15 minutes before testing | Where: Upper Limit: 0.1 PPM total Chlorine<br><br>If greater than 0.1 PPM Total Chlorine, monitor chorine post secondary carbon hourly until carbon tanks are replaced.<br><br>If greater than 0.1 PPM after secondary tanks, stop dialysis treatments. | Why: Hemolysis and/or patient death can occur from improperly treated/monitored water for dialysis.<br><br>Swift and decisive actions are needed. | How: Follow the Conditions for Coverage; AAMI Guidelines; Facility policies; manufacturer's directions. |
|---|---|---|---|---|---|---|
| Best Case | False positive test. | | | | | |
| Worst Case | Exhausted carbon tanks with chlorine/chloramine breaking through. Multiple patients are showing signs of hemolysis. Potential for illness and death of multiple patients. | | | | | |
| Drill Idea | • Simulate what to do if the alarm goes off<br>• Verify that the water visual alarm is functioning<br>• Walk through the steps to take if the carbon tanks are exhausted.<br>• Review hemolysis symptoms and treatment. | | | | | |

| **Tornado** | Who: Staff, patients, and visitors could be at risk of injury or death. | What: | When: "tornado season" generally is in the spring. Tornadoes are more prevalent from April through July, with May and June being the peak months. But like thunderstorms, tornadoes can form any time of the year. | Where: A tornado can occur in IA, MO, KS, and NE. Rural or urban.<br><br>"Tornado alley" is the region from Texas north to Nebraska – which is basically the entire Heartland Kidney Network region. | Why: Tornado damage can be severe. The entire building or community could be affected. Lives could be lost.<br><br>Swift and decisive actions are needed. | How: Monitor the weather conditions via a weather radio, radio, TV, etc.<br><br>Take shelter if necessary. (i.e. Go to a pre-designated shelter area such as a safe room or the lowest building level. Go to the center of an interior room on the lowest level away from corners, windows, doors, and outside walls. Put as many walls as possible between you and the outside. Get under a sturdy table and use your arms to protect your head and neck. Do not open windows. |
|---|---|---|---|---|---|---|
| Best Case | The weather conditions in the area are such that a tornado is possible. The unit is alert to the weather forecast and is monitoring the situation. | | | | | |
| Worst Case | A tornado is impacting the dialysis center. Patients, staff, and visitors must be moved to safety. The facility has sustained damage and is unable to perform treatments. | | | | | |
| Drill Idea | • Designate a safe area at the dialysis center in which to take shelter.<br>• Review the differences between tornado watches and tornado warnings.<br>• Play tornado BINGO with the patients as an educational exercise.<br>• Use a tornado preparation Power Point presentation for the employees and doctors at a staff meeting. | | | | | |

| **Violence** | Who: Staff, patients, and visitors could be at risk of injury or death. | What: Violence could range from unpleasant verbal exchanges all the way to assault with a deadly weapon. | When: A violent incident could occur at any time. | Where: A violent incident could occur anywhere on the facility property. | Why: Any number of reasons could cause a person to have a violent outburst. Sometimes mental illness and/or substance abuse play a role as well. | How: Be aware of disgruntled employees, visitors, or patients. Make every effort to prevent small problems from becoming big ones. Evaluate the security needs of the dialysis center. (Lighting, locks, restricted entry, etc.) |
|---|---|---|---|---|---|---|
| Best Case | The upset individual leaves the dialysis unit without an incident. | | | | | |
| Worst Case | The patients, staff, and visitors are in harm's way. People could be injured or killed. | | | | | |
| Drill Idea | • Brainstorm with your team about how the unit would react to a violent occurrence in various locations at the facility such as the patient treatment area, office, break area, etc.<br>• Provide general workplace security training and instruction including, but not limited to, the following:<br>1. Ways to defuse hostile or threatening situations. Conflict resolution. Dialysis Patient Provider Conflict (DPC)<br>2. Dealing with angry, hostile or threatening individuals<br>3. Awareness of situational indicators that lead to violent acts<br>4. Evaluate the availability of phones in the unit to call 911.<br>5. Measures to summon others for assistance.<br>6. Worker routes of escape.<br>7. Proper work practices for specific workplace activities, such as special events, working late/weekends<br>8. Self-protection<br>• Conduct and evaluate patient satisfaction monitoring activities.<br>• Track and trend any and all workplace violence incidents.<br>• Hold a staff meeting to explore the security needs of the dialysis center.<br>• Involve your QAPI team in discussing possible violent behavior situations and formulating an action plan.<br>• Review the dialysis units' internal grievance policy. The internal grievance process needs to include a procedure for submission of grievances; timeframes for reviewing the grievance, and a description of how the patient will be informed of the steps taken to resolve the issue. The facility also needs to establish a procedure for informing patients about seeking external help to resolve grievances that cannot be resolved internally, or if patients are not comfortable using the internal process. | | | | | |

| **Back-Up Dialysis Center Activation** | Who: Every dialysis center needs a back-up dialysis facility for emergencies. | What: | When: | Where: Local and beyond local back-up dialysis centers are good ideas. | Why: The hospitals are not equipped to handle large numbers of chronic dialysis patients.<br><br>Back-up dialysis centers provide treatments via reciprocal care agreements. | How: Make agreements in advance of an emergency.<br><br>Choose your back-up facility wisely. (Location, capabilities, services, etc.) |
|---|---|---|---|---|---|---|
| Best Case | The back-up facility agreement will not have to be exercised for real.<br>The back-up facility agreement was put into action and worked very well. | | | | | |
| Worst Case | The back-up facility agreement has to be put into action for an extended length of time.<br>The capability or performance of the back-up facility was unsatisfactory for some reason. | | | | | |
| Drill Idea | Write up a few brief mock scenarios (type of disaster, number of patients, number of staff you can send, supplies you can bring, etc. and talk with your back-up facility to strategize mock plans. | | | | | |

| **Community Emergency Preparedness Activities** | Who: Every dialysis center is encouraged to be involved with their local emergency planning activities. | What: Be as involved as possible. | When: As often as possible. | Where: Volunteer to host an activity if possible. Go to other community events. | Why: Involvement provides the dialysis center with needed information and the emergency management agency with realistic information about the needs of the dialysis community. | How: Contact your local emergency management agency and ask about opportunities to be involved with community exercises. |
|---|---|---|---|---|---|---|
| Best Case | The local community will understand the needs of the dialysis unit and be ready and able to respond to them should an emergency or disaster occur. | | | | | |
| Worst Case | The community will at least have some understanding of the needs of the dialysis population. | | | | | |
| Drill Idea | • Contact your local emergency management agency and offer to host a community drill.<br>• Invite your fire department to come and talk with your team about evacuation plans for your unit. | | | | | |

| **Clamp & Cut or Clamp & Disconnect** | Who: Every patient who is able to perform a clamp & Cut (or disconnect) needs to be ready to do so. | What: Show staff and patients how to do this.<br><br>Asking for a return demonstration is good. | When: Practicing as often as possible (quarterly) is a great idea.<br><br>The patient will be given the signal to clamp & cut by the staff. | Where:<br>This action will take place at the dialysis center during a treatment. | Why: If there is a need to evacuate quickly, the patients who are able will need to disconnect him or herself from the dialysis machine. | How: Discuss the procedure during discontinuing the dialysis treatment.<br><br>Use the portable visual aid. Directions are in this booklet. |
|---|---|---|---|---|---|---|
| Best Case | All patients that are able to do so are trained and ready to perform the task. | | | | | |
| Worst Case | Patients forgot how to do this. Not enough staff was available to help. Evacuation was delayed. | | | | | |
| Drill Idea | • Use the portable visual aide to show patients the tubing and how it disconnects. Ask them to do it themselves as a return demonstration.<br>• Talk about emergency clamp and cut as staff discontinue routine treatments. | | | | | |

## PART IV: Training & Evaluation Tools

**Emergency Drill Assessment Report** **Date:___ _____ Time: _____ Shift: _____**

**Type of Drill** (check)**:** Fire ___ Tornado ___ Severe Storm ___ Winter Storm ___ Flood ___ Earthquake ___ Other ___

**Scenario:** _____

_____

**Staff Participating:** _____

_____

**What was done well?** _____

_____

**What could have done better?** _____

_____

**Lessons Learned:** _____

**Discussed in CQI and/or QAPI meeting**: Date: _____ Comments: _____

**If an evacuation drill was conducted, complete this section:**
Time evacuation started: _____
Time all patients and staff were at the meeting point: _____

Lessons learned from the evacuation drill: _____

_____

**Emergency/disaster preparation requirements from the ESRD Conditions for Coverage:**

- Are **facility plans in place** covering common disaster/emergencies in dialysis?
  (Circle one) Yes No If no, why not? _____
- Has the **dialysis unit contacted the local Emergency Management Agency** this year? Is it documented?
  (Circle one) Yes No If no, why not? _____
- Are all **staff members trained** on the units Emergency/Disaster plan? Is it documented?
  (Circle one) Yes No If no, why not? _____
- Are all **patients trained** on the units Emergency/Disaster plan? Is it documented?
  (Circle one) Yes No If no, why not? _____
- Have the **Emergency/Disaster Preparation Plans been reviewed** by the management team or edited for this year? Is it documented?
  (Circle one) Yes No If no, why not? _____

**Medical Emergency Training Report** **Date: _____ Time: _____ Shift: _____**

Medical emergencies which may be anticipated in the dialysis setting include, but are not limited to, cardiac arrest, air embolism, adverse drug reactions, suspected pyrogenic reactions, profound hypotension or hypertension and significant blood loss. Direct care staff should be aware of how to recognize and respond to emergent patient medical conditions.

**Type of Drill** (check)**:** Cardiac Arrest ___ Air Embolism ___ Adverse Drug Reaction ___ Pyrogenic Reaction ___ Hypotension/Hypertension ___ Blood loss ___ Hemolysis ___ Other_____ ___

**Scenario:** _____
_____
_____
_____

**Staff Participating:** _____
_____
_____

**What was done well?** _____
_____
_____

**What could have done better?** _____
_____
_____

**Lessons Learned:** _____
_____

**Follow Up Needed:** _____
_____
_____

**Action to be taken:** _____
_____
_____

**Anticipated Completion Date:** _____ Final Date Completed: _____

**Discussed in CQI and/or QAPI meeting**: Date: _____ Comments: _____
_____
_____
_____
_____

## KIDNEY COMMUNITY EMERGENCY RESPONSE COALITION

# PATIENT DISASTER DRILL QUESTIONNAIRE

- This draft document can help you develop a patient questionnaire to test the effectiveness of your patient education program relating to disaster preparedness.
- Feel free to use these questions or develop your own facility-specific questions to address what your patients need to know in an emergency situation.
- This form is designed so it can be filed out anonymously by the patient or with the help of a staff member.
- Areas where the patient answers “no” demonstrate areas where more patient education is needed.

## KCER: KIDNEY COMMUNITY EMERGENCY RESPONSE COALITION

| PATIENT DISASTER DRILL QUESTIONNAIRE | PATIENT ANSWERS | |
|---|---|---|
| On a scale of 1 to 5 (1= not ready, 5= very ready) do you think you are ready for a disaster? | 1 2 3 4 5 | |
| Has the facility told you what to do in case there is a disaster (such as hurricane, tornado, flood, or earthquake)? | Yes | No |
| Have the nurses talked to you about possible schedule changes in case there is a disaster? | Yes | No |
| Do you have an emergency/disaster kit at home? | Yes | No |
| Can you describe what is in the kit? | Yes | No |
| Do you have a supply of medications to use in emergencies? | Yes | No |
| Do you know about the "disaster diet?" | Yes | No |
| Can you describe what foods and liquids are not allowed on the emergency renal diet? | Yes | No |
| Do you know how to hand crank your machine? | Yes | No |
| Can you describe how to take yourself off the machine? | Yes | No |
| If you had to evacuate, do you know where you would you go? | Yes | No |
| Do you need transportation assistance to evacuate? | Yes | No |
| Are you pre-registered for a special needs shelter and/or transportation in case of an emergency? | Yes | No |
| Do you have pets? *If yes, can you describe the disaster plan for your pet?* | Yes | No |
| Do you have a way to get to treatment if the transportation you regularly use isn't available? | Yes | No |
| Has your clinic given you phone numbers so that you can contact someone to set-up treatment after a disaster? How would you schedule treatment? | Yes | No |
| Do you know how to find a dialysis facility if yours is closed? *How?* | Yes | No |

Date _____

Name of person filling out this form _____

**Clamp & Cut (or Clamp & Disconnect)**

How to Make a Reusable Patient Education Display

Supplies Needed: One 2 liter soda bottle, two fistula needles, dialysis machine tubing, permanent marker, tape, scissors & two plastic tubing clamps.

1. Use an empty 2 liter soda bottle as a dummy "arm." (Wash and remove labels.)
2. Using a marker, sticky labels, or contact paper draw/illustrate a looped or straight vascular access on the bottle.
3. Carefully insert two fistula needles in the bottle as you would in a real vascular access and tape the needles securely as your unit normally does it.
4. Obtain about 12 inches of clean, new dialysis machine tubing for both the arterial and venous needle connections.
5. Attach the dialysis machine tubing to each one of the fistula needle tubing and secure it as you normally would.
6. Place plastic tubing clamps on both the arterial and venous portions the dialysis machine tubing.
7. Clamp both of the fistula needles with the attached clamp.
8. Identify the section of dialysis machine tubing where a cut or disconnection would be made using a marker or tape. Simulate cutting that area with scissors or disconnecting the luer lock connection.
9. Use this as a visual aid when educating patients about the Clamp & Cut procedure.
10. When not in use, store in a bag or box.


Symbol = clamps

Symbol = tubing connections

Symbol = vascular access drawing

**Blue** tubing = venous fistula needle

**Red** tubing = arterial fistula needle

**Green** tubing = dialysis machine tubing

# EMERGENCY!

**Question:**

If everyone at the dialysis unit had to get out fast and you are hooked up to the machine, what should you do?

---

**Answer:**

## Fistulas & Grafts

**You may be able to do this yourself! Practice the "Clamp & Cut" or "Clamp & Disconnect"**

1. Stay **calm** and **confident.**
2. **Stop** the machine.
3. **Clamp** the tubing on both **needles.**
4. **Clamp** both of the machine **blood lines** above the connection to the fistula needles.
5. **Cut or disconnect** the machine tubing.
6. **Leave** the unit and meet at the special evacuation spot.

Ask your care giver to **practice** this with you **often!**

---

## Catheters

Sorry, you cannot disconnect yourself!
You need help to get off of the machine safely.

---

**Ask your care team about this and other emergency plans TODAY!**

Heartland Kidney Network
We're Here For You.

This safety message was brought to you by the **Heartland Kidney Network**
Visit our website! www.heartlandkidney.org

# Emergency Word Search

S T I K R E T S A S I D C B V B O
T T A D D Z F I S W K F A D Y A E
O Y E P O N N J K C Q C R U U L S
P Z D I Z O K Y W Q K J W P I L M
D Y R X D L F O M U N V J M A E S
R M T F P Y C A P R P R I Q E K D
O F E W E S C D R J B T O T O Z I
P T E D Y T I N J T P D I J M O U
R Y I Y I A S L E O X N Y Q T E L
O X E V L C G P T G G E A M S V F
L D L Y U V A A M P R F F Z F A T
L U S U A Y S T L D W E J H Q C I
B I Y F X S D A I C O Q M Y E U M
S Y G U I H C S Z O P Q F E T A I
Q O E U K E P L D N N R J H Q T L
Y R M V S V D M H V J S X Q G E H
F S T O P D R O P H A N G O N G T

Backup dialysis
Disaster Kit
Emergency Diet
Evacuate
Extra Food
Limit Fluids
limit potassium
medications
Meeting place
stop drop hang on
stop drop roll

# Emergency Plan BINGO

| | | | | |
|---|---|---|---|---|
| Evacuation | Meeting Place | Emergency Diet | Supplies at home | List of Medications |
| Clamp and Cut | Medical History | Stop, drop, roll | Back-up Dialysis Unit | Transportation |
| Who to Call | Where to Go | **Free Space** | Fluid Restriction | Call Tree |
| Extra Medications | Limit Potassium | Listen to the Radio/TV | Monitor the weather | Health Department |
| Go to the ER | Ask for Help | Make a Kit | First Aid | Drop, cover, and hold on |

This is a sample BINGO card that can be used to educate patients.

# Patient Disaster Drill Notification

Date: _____

Shift (circle): Mon Wed Fri  Tues Thurs Sat  Time (circle): AM  PM  Evening

Type of Drill (circle): Fire  Tornado  Power Outage  Other:_____

---

Dear Patient,

**Today** we are having a scheduled **emergency drill** in the dialysis unit. **This is only a test of our emergency preparations** and not a real emergency.

By having emergency drills we all become more calm and confident in handling any emergency that could occur.

You will see staff members, patients, and possibly visitors pretending to take actions and hear them discussing how they would handle the situation. Please "play along" if possible and think about what you would do if it were real.

If you have any questions, please talk to the Charge Nurse.

Thank you,

Unit Administrator


Earthquake


Fire


Snow


Flood


Severe Rain


Tornado

## Sources & Web Resources


1. Medicare ESRD Network Organizational Manual. Section 7 (Revised, March 12, 2004)

2. Conditions for Coverage – CMS/ESRD Final Regulations Released October 14, 2008

3. Karnik, J.A., Young, B.S., Lew, N.L., Herget, M., Dubinsky, C., Lazarus, J.M., et al. (2001). Cardiac arrest and sudden death in dialysis units. *Kidney International,* 60, 350-357.

4. Kidney Community Emergency Response Coalition (KCER) www.kcercoalition.com

5. Federal Emergency Management Agency (FEMA) www.fema.gov & www.ready.gov. FEMA Emergency Management Institute offers an Independent Study Course: Introduction to Exercises IS-120A introduces the basics of emergency management exercises. It also builds a foundation for subsequent exercise courses, which provide the specifics of the Homeland Security Exercise and Evaluation Program (HSEEP) and the National Standard Exercise Curriculum (NSEC).

6. CDC Emergency Preparedness and Response. http://emergency.cdc.gov/

7. Emergency Preparedness Tools & Disaster Solutions for Organizations & Families. http://www.disasterprepped.com

8. FCC Public Safety and Homeland Security Bureau. http://www.fcc.gov/pshs/health-care.html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