Hemodialysis
Patient Education Manual
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Welcome

Welcome to Sanford Dialysis! We want you to feel at ease with this change in your life.

Sanford Health’s mission is “dedicated to the work of health and healing.”

Our goal is to provide you with quality care.

Your dialysis contact phone number is: ________________________________

This book will help you and your family learn about treatment for end-stage renal disease (ESRD). No two people respond the same way to dialysis. You are the most important member of the team. You are not in this alone. We will partner with you on this journey.

Over the next few weeks, you will learn a lot of new things. It can feel like too much at times. The dialysis team will help you and your family learn what you need to know. This will make it easier for you to be involved in your care. We suggest you keep this handbook.

• Use it as a guide.

• Share it with your family or support persons.

• Bring it with you for learning sessions with your dialysis team.

• Write down your questions.
  ◦ Do not be afraid to ask.
  ◦ All questions are important.

We welcome any comments, ideas, concerns, or complaints about your care. You may talk with the dialysis manager or director by calling Sanford Dialysis.

This handbook does not replace talking with your dialysis doctor or nurse about your care. They are the experts in dialysis care. We understand that you are not feeling very well right now. We will help you learn what you need to know as you start to feel better.

• Medicare requires that we talk about certain things the first day you are here.
**Hemodialysis**

Dialysis cleans your blood. **Hemodialysis** uses a machine and an artificial kidney (called a dialyzer) to take the extra fluids and wastes out of your blood. Your blood goes through the tubing to the dialysis machine and back to you. It is usually done 2 to 4 times a week for 3 to 4 hours each time.

During your treatment, you can watch TV, read, sleep, or whatever quiet activity will help you pass the time.

Most patients feel cold during their treatment. This is because some of the blood is outside the body. You may bring a blanket to keep you warm.

Sometimes people do not feel good during hemodialysis. The staff can do some things to help you feel better. It is important that you tell the staff right away if you feel or have:

- Access site bleeding
- Access site redness, tenderness, or drainage
- Chest pain
- Cramps
- Dizzy
- Edema (Swelling)
- High or low blood pressure
- Muscle weakness
- Short of breath
- Sick to your stomach (Nausea)

There is more information on hemodialysis in this book.
Dialysis Access

Dialysis access is needed to move your blood to and from the dialysis machine. There are 3 different types of access:

- Catheter
- Fistula
- Graft

The dialysis nurse will teach you how to take care of your access.

Medicare requires that the dialysis staff see your face and access at all times when you are connected to the dialysis machine. That means a blanket or clothing cannot cover your access site.

At all times Dialysis staff must be able to see your:

- Face
- Access
- Blood lines

Dialysis staff will uncover your access if they cannot see it.

This is for your safety.

© Krames
Infection Prevention

Stopping the spread of infection is very important. Cleaning your hands is the easiest and most important thing you can do. Use hand sanitizer or soap and water to clean your hands. You will see our staff prevent infection by:

- Washing your access arm before dialysis
- Washing the dialysis station between patients
- Wearing gloves, gowns, face shields, and masks
- Keeping your catheter dressing dry

See the Infection Prevention section to learn more.

Concerns

If you have a complaint or concern about your care at dialysis, you can talk to a:

- Social worker
- Clinical manager or department director
- Sanford Health Patient Representative

Outside agencies you can contact for concerns about your care are:

- Renal Network
- State Department of Health
- State Office of Ombudsman

Learn more and find out how to contact someone for help in the following pages.

Admission

A patient at Sanford Dialysis must:

- Have a diagnosis of acute or chronic kidney disease
- Need dialysis treatments
- Be treated by a nephrologist
- Be age 16 or older
  - Patients under age 16 are considered on a case by case basis

The dialysis department must be able to meet your needs. You will sign consents for treatment and other forms as needed before dialysis begins.
Discharge
You may be discharged from dialysis if you:
• Ask to move to some other facility
• Receive a kidney transplant
• Do not follow the policies and procedures of Sanford Dialysis

A doctor may stop dialysis if:
• You regain kidney function
• Dialysis can no longer be done for medical reasons
• You and your family choose to stop dialysis

You and/or family must meet with the doctor to talk about your choice.

Involuntary Discharge
When a patient is discharged against their will, it is called an involuntary discharge.
This may happen if the patient:
• Affects the ability of the department to function
• Is disruptive or abusive toward other patients or staff

A good faith effort will be made to work with each patient.

The facility will record in the medical record:
• Assessments
• Ongoing problems
• Efforts to resolve the problems

In most cases, the dialysis department will give the patient a written, 30-day advance notice of discharge. If there is an urgent threat to the health or safety of others, little or no notice may be given. The patient will be given choices for treatment by other doctors and dialysis departments.

Transfer
You may change to a different facility for any reason.
• Sanford will give the medical records to the accepting facility.
• You will be discharged from Sanford.

Temporary Transfer
A Temporary transfer is when a patient goes to another facility for a short period of time. The patient plans to come back to the “home” facility.

A patient may go to another facility for treatment when on vacation or traveling out of town. The patient will be discharged from the dialysis department if gone for more than 30 days. The treatment time slot will not be held. The patient will be re-admitted in an open time slot when they come back.
Midwest Kidney Network (Renal Network 11)

The Midwest Kidney Network is a non-profit organization supporting people with kidney disease. This group serves the following states:

- Michigan
- Minnesota
- North Dakota
- South Dakota
- Wisconsin

Renal Network 11 Bill of Rights

Patients have a right to:

• Respect, dignity, and recognition of their individuality and personal needs, and sensitivity to his or her psychological needs and ability to cope with ESRD.

• Receive all information in a way that they can understand.

• Privacy and confidentiality in all aspects of treatment and in personal medical records, including the right to view and receive a copy of their medical record (a nominal charge may be assessed).

• Be informed about and participate, if desired, in all aspects of their care, and be informed of the right to refuse treatment, to discontinue treatment, and to refuse to participate in experimental research.

• Be informed about their right to execute advance directives, and the facility’s policy regarding advance directives.

• Be informed about all treatment modalities and settings, including, but not limited to transplantation, home dialysis modalities (both peritoneal and hemodialysis), and in-facility hemodialysis.

• The patient has the right to receive resource information for dialysis modalities not offered by the facility, including information about alternative scheduling options for working patients.

• Be informed of facility policies regarding patient care, including, but not limited to, isolation of patients.

• Be informed of facility policies regarding the reuse of dialysis supplies, including hemodialyzers.
• Be informed by the physician, nurse practitioner, or physician’s assistant treating the patient for ESRD of their own medical status as documented in the medical record, unless the medical record contains a documented contraindication.

• Be informed of services available in the facility and charges for services not covered by Medicare.

• Receive the necessary services outlined in the Patient Plan of Care.

• Be informed of the rules and expectations of the facility regarding patient conduct and responsibilities.

• Be informed of the facility’s internal grievance process.

• Be informed of external grievance mechanisms and processes, including how to contact the ESRD Network and the State Survey Agency.

• Be informed of their right to file internal grievances or external grievances or both without reprisal or denial of services; and be informed that they may file internal or external grievances, personally, anonymously, or through a representative of the patient’s own choosing.

• Be informed of the facility’s policies for transfer, routine or involuntary discharge, and discontinuation of services to patients.

• The right to equal consideration of treatment without regard to age, sex, race, religion, or ethnic origin.

• Receive written 30-day notice in advance of an involuntary discharge after the facility follows the specific involuntary discharge procedure in the Conditions for Coverage, except in the case of immediate threats to the health and safety of others, when an abbreviated discharge procedure may be followed.
Patient Responsibilities

In order to make your treatment effective and improve the quality of your life, you and your family should take some specific responsibilities in the day-to-day management of your care. To improve your care:

- Learn all you can about your disease, its treatment, treatment options, and your rights and responsibilities as a renal patient.
- Recognize what an emergency is and what actions must be taken in emergency situations.
- Provide a complete and accurate medical history to the professional team supervising your care.
- Let a member of your professional team know if you do not understand information about your care and treatment.
- Tell a member of your professional care team if there is a sudden change in your condition.
- Obtain and take the medications prescribed for you or discuss with the professional care team why you are unable to do so.
- Follow your diet or request further instructions if you do not understand or are unable to follow your diet.
- Make every effort to arrive for your scheduled dialysis treatments on time and inform the dialysis unit if you are unable to come.
- Stay on dialysis for the prescribed length of your treatment run.
- Consider the needs of other patients whom you encounter and understand that the professional team has a responsibility for all of the patients under their care.
- Tell a member of your professional care team if you are diagnosed with a communicable disease.
- Inform a member of your professional care team if you need to miss regularly scheduled dialysis treatment(s) for vacation or any other reason.

Adapted from the Conditions for Coverage for End Stage Renal Disease Facilities, Centers for Medicare and Medicaid Services

Final Rule published April 15, 2008, Effective date October 14, 2008 Approved, Network 11 Consumer Committee 01/15/2009 Approved, Network 11 Executive Committee
If you have a concern or complaint

You have the right to voice concerns or complaints. We take these very seriously.

What you should do:

• Write out your concern.
  o Be very specific about dates, events, and persons involved.
  o Include all facts about the concern.
  o Include what has been done to resolve the issue.
  o Make copies of all written information.

• Ask to talk with the Social Worker, Dialysis Clinical Manager, or the Dialysis Director.
  o The staff member will meet with you to talk about the issue.
  o You may have a family member or another person come with you.
  o Bring copies of the written report.
  o The goal is to make a plan of action and reach a solution.

• You can talk to the Patient Representative.

• If you want to bypass this process or you cannot solve the issue, you may call other agencies to help you:
  Renal Network of the Upper Midwest 1360
  Energy Park Drive, Suite 200
  St. Paul, MN 55108
  (651) 644-9877 or (800) 973-3773

If you live in Minnesota:

1. Minnesota Department of Health
   (651) 215-8702

2. Office of Ombudsman for Older Minnesotans
   (800) 657-3591

3. If you are on Medicare:
   Stratus Health
   2901 Metro Drive Suite 400
   Bloomington, MN 52425
   (952) 854-3306
If you live in North Dakota:

1. North Dakota Department of Health
   600 East Boulevard Avenue
   Bismarck, ND 58505-0200
   (701) 328-2352

2. Office of Ombudsman for Older North Dakotans
   (800) 451-8693

3. If you are on Medicare:
   ND Health Care Review
   800 31st Avenue SW
   Minot, ND 58701
   (701) 852-4231

If you live in South Dakota:

1. South Dakota Department of Health
   600 East Capital Avenue
   Pierre, SD 57501-2536
   (605) 773-3361 or (800) 738-3361

2. Office of Ombudsman for Older South Dakotans
   (605) 773-3656

3. If you are on Medicare:
   South Dakota Foundation for Medicare
   2600 West 49th Street, Suite 300
   Sioux Falls, SD 57105
   (605) 336-3505 or (800) 658-2285

Heartland Kidney Network (Renal Network 12)

Heartland Kidney Network is a non-profit corporation under contract with the Centers for Medicare and Medicaid Services (CMS) to oversee the End Stage Renal Disease Program in Kansas, Missouri, Nebraska, and Iowa. A poster will be present in these locations. There are 17 other Networks with the same purpose across the United States.

Who do I call if I have questions?

There are many resources to call if you have questions about your care. The place to start is your home dialysis department.

What if I have questions about my bill?
Call (800) 437-4010 and ask for the Patient Accounts Office.

They will be able to answer questions about billing. If this is about a dialysis bill, ask to talk with the person who does dialysis billing.
Who and What You Will See at Dialysis

Our goal is to give the best care possible to meet your needs. Many staff members will be involved with your care.

Social Worker
Social Workers have a broad area of knowledge. They may:

• Help you with your living situation or financial needs
• Refer you to community agencies that help with home care, meals and other areas as needed
• Make referrals to financial resources
• Help you fill out Medicare forms
• Answer Medicare questions
• Help with transportation problems
• Provide you with adjustment or quality-of-life counseling
• Help with travel plans, such as, if you need to have dialysis elsewhere for a period of time

Dietitian
Renal dietitians are trained in kidney disease and nutrition. They will:

• Review your nutritional needs
• Work closely with your doctor and dialysis team
• Follow your monthly lab results
• Teach you how to get the best nutrition to keep you healthy

Nephrologist
This is a doctor who is trained in kidney disease and dialysis. This doctor:

• Is responsible for your overall care
• Monitors your physical health and general well-being
• Writes orders based on your needs

Nurse Practitioners (NP) and Physician Assistants (PA)
These professionals have advanced education and clinical training. They:

• Follow your labs
• Monitor your care
• Work closely with the doctor
Nursing Staff
The nursing staff gives your dialysis treatment.
• Nurses look at many parts of your care and treatment plan.
  • The nursing staff is made up of:
    o Registered Nurses (RN)
    o Licensed Practical Nurses (LPN)
    o Dialysis Technicians (CCHT)

Each dialysis service has a leadership team. Please let the nursing staff know if you want to speak to someone in charge.

Dialysis Pharmacist
The pharmacist works with the medical providers. They:
• Monitor your medications
• Monitor your labs
• May adjust the dose of medications used to treat and prevent complications of kidney disease

Your Plan of Care and Care Conferences
Your health care team meets each month to review your care.
• They talk about any concerns that you or they may have.
  • The dialysis team looks at your:
    o Labs
    o Diet
    o Social needs
    o Physical changes

You and your family are always welcome at care conferences. This is a good time for you to take an active role in your care.
• Dates and times of these meetings are posted on each unit.
• Be sure to let us know if you would like to come.
Visitor Guidelines
Visitors are welcome during your hemodialysis treatment. We ask that visitors follow these rules:

• Wait in the lobby until patients are settled and on dialysis.
• Limit visitors to 1 or 2 at a time.
• Keep voices low to not disturb others.
• Shirts and shoes must be worn in the dialysis unit.
• Small children are discouraged from visiting during dialysis treatments.
  ○ If a child does visit, an adult, other than the patient, must be with the child at all times.
  ○ Children should not play, crawl or lay on the floor.
• Visitors cannot eat or drink in the patient care area.

Eating and Drinking in the Hemodialysis Unit
You may need to eat during dialysis to meet your nutritional needs. Infection prevention concerns and adverse effects such as nausea, vomiting, and low blood pressure can be affected by what you eat and drink.

Guidelines for eating and drinking during hemodialysis treatments

• **Limit** how much you drink to one cup during hemodialysis treatments.
• Patients cannot eat or drink during hemodialysis “on” and “off” times.
• Only small portions or finger foods are allowed.
• Food cannot be refrigerated or heated on the unit.
• Microwave popcorn is not allowed.
• Food cannot be delivered by a restaurant.
• The staff cannot get food from outside of the dialysis department for you.
• If you often have low blood pressure, you will need to limit your intake of liquids and calories during your treatment.
• If you are diabetic and take insulin, bring a small snack.
• Eat a snack within 1 hour before you come for dialysis if you are not able to eat during your treatment.
• Low blood sugars will be treated with 15 grams of carbohydrate, such as:
  ○ Glucose gel
  ○ Glucose tab
  ○ Nutritional supplement
• Nutritional supplements may be given during treatment. This is determined by dietitian.
• Any foods brought in for patients are to be given after the treatment in the waiting room area.
• Dietitians are available to talk to you about your nutrition questions and your needs.
Using the bathroom during dialysis
Urinals and bedpans are available for use during dialysis. If needed, you may be able to use a bedside commode or bathroom for a bowel movement. Remember:

- Do not use laxatives before coming to dialysis.
- Eating a large meal before dialysis or eating during dialysis may cause your bowels to move.
- Low blood pressure may start the urge for your bowels to move.

If you need to have a bowel movement during your dialysis treatment:

- It is important to maintain your personal dignity and safety.
- Staff must make sure your vital signs are stable before you get up.
- Blood will be returned to you before you can use the bedside commode or be assisted to the bathroom. This takes time.
- If treatment time is interrupted:
  - Clotting in the dialyzer may be increased.
  - It will delay your off time.

Comfort Measures
We want you to be comfortable during your dialysis treatment.

- Each patient will sit in a recliner during treatment.
- The staff can help you get comfortable.
- It is common to feel chilled or cold during dialysis.
  - Your body temperature often cools down when blood is outside the body and exposed to the dialysis solution.
  - Bring a blanket and pillow with you to use during your treatment.
- Each dialysis station has a television with headphones.
- The dialysis unit does not supply magazines or books.
- You are welcome to bring reading material from home.

Use of cell phones and other electronic equipment
Cell phones and other electronic equipment may be used during your dialysis treatment. **It is not allowed during your “on” or “off” times.**

- You should be at least 3 feet away from the dialysis machine.
- Laptop computers, iPods, personal DVD players may be used while you are in the dialysis unit.
- Electronic devices may be used with limits:
  - Devices must be battery-operated or have a “wall wart” with low voltage. A “wall wart” lowers the voltage of these devices. Newer models often have this feature.
  - Direct 120 AC plug-ins are not allowed.
  - Older devices must run on battery power.

If you have questions, ask the dialysis center staff.
Hemodialysis Schedules

We do our best to schedule dialysis treatment times. This is a challenge.

• Dialysis patients may have treatment times that vary from 2 to 5 hours.

• Treatment time can be affected by a change in the doctor’s orders or lab values.

• Treatments may be delayed if a patient had a problem earlier in the day.

The first concern is your safety. We must have enough space and staff to care for you and all of our patients. We will work with you to find a time that meets your needs. Patients may be on a waiting list for a different dialysis time. Most patients are able to change times in the future.

Factors to consider when planning a hemodialysis schedule:

• Available time slots

• Patient’s job

• Medical problems

• Rides to and from dialysis

Your treatment may be delayed due to:

• Weather

• Patient emergencies

• Equipment breakdown

• Water or power failure

Vacation Policy

We know there are times when you will take a vacation or be out of town on scheduled treatment days. You still need to have your dialysis.

• We will help you set up hemodialysis treatments in another facility while you are gone.

• Be sure to tell the nursing staff as soon as you know you may be gone. This is important even if your plans are not final.

If you are gone for more than one month, the same time slot may not be available when you return. You must call the dialysis unit before you come back. This helps us plan for available treatment times.
Travel Information
As soon as you start planning a trip, discuss your travel plans with the dialysis staff. This may be the social worker or charge nurse.

There is no guarantee that you can have your dialysis treatment when or where you want while you are gone. The accepting dialysis unit will decide if and when you can be treated there.

Some units require a 6 to 8 week notice before a visiting patient comes. There is much work to do to plan a dialysis treatment someplace else. You may need:

- Lab work within the last 30 days.
- Copies of your medical records.
- Approval in advance from your insurance company.
- Payment at the time of treatment.

When traveling, be sure to have:
- Refills of all your medications
- Copy of your insurance information
- Contact information for your home dialysis center

What you need to know:
You will be discharged from your local Sanford Dialysis if you are gone for more than 30 days.

- Your treatment time slot will not be saved for you.
- You will be admitted again in an open time slot when you come back to the home dialysis center.
Your Role in Patient Safety

Safety starts with each one of us. You can:

• Learn about kidney disease.
• Tell the staff about any changes such as:
  o New medications
  o Recent injuries
  o Falls
  o Hospitalizations
  o New phone number or address
• Keep copies of your medical information available and up to date.
• Come to your dialysis treatments on time and stay for the whole time.
• Wear a medical alert bracelet or necklace.
• Know your diet and fluid limits.
• Know your medications.
• Wash your hands often.
• Wash your access site before dialysis.
• Keep your access visible at all times during dialysis.
• Be aware of possible bad weather and take precautions.
• Know what to do if you miss a dialysis treatment.
• Read the emergency information in this book.
• Have a stock of emergency food and supplies.
• Know your emergency diet.
• Use common sense.
• Attend care plan meetings with the dialysis team.
• Ask questions.

Patient Registration

Federal regulations require Sanford to re-register patients for dialysis services.

• Medicare requires we ask many questions to determine the primary payer for your services. We ask about:
  o Your work status
  o What date you started outpatient dialysis
• A Sanford staff member will call you about a week before the re-registration dates.
• Your personal information will be updated:
  o Address
  o Phone numbers
  o Insurance
Public Notice

This notice is required by The Joint Commission

The Joint Commission may conduct an unannounced accreditation survey of this organization, Sanford Health, at any time. The purpose of the survey will be to evaluate Sanford’s continuous compliance with nationally established Joint Commission standards. The survey results will be used to determine whether, and the conditions under which, accreditation should be awarded to Sanford Health and its organizational entities.

The Joint Commission standards deal with organizational quality of care issues and the safety of the environment in which care is provided. If an individual has any concerns about patient care and safety at Sanford Health that have not been addressed, he or she is encouraged to contact the Sanford patient representative:

• Bemidji area: (218) 333-6459
• Bismarck area: (701) 323-1050
• Fargo area: (701) 234-5876
• Sioux Falls area: (605) 333-6546

If concerns cannot be resolved through the patient representative, the individual is encouraged to contact the Joint Commission. Contact information for the Joint Commission is:

Office of Quality Monitoring
The Joint Commission
One Renaissance Boulevard
Oakbrook Terrace, IL 60181
E-mail: complaint@jointcommission.org
Phone: (800) 994-6610
Fax: (630) 792-5005
Emergency Planning

An emergency can happen at any time. Sometimes, there is no warning. This can be a natural disaster such as a:

- Blizzard
- Tornado
- Flood
- Earthquake
- Fire
- Electrical power blackout

Some emergencies affect a community and some affect the dialysis center. Emergencies can occur at any day, time, or place. Emergency plans must be in place. The goal is to be ready.

Preparing for an Emergency

The most important thing is to plan ahead for an emergency.

- Make an emergency supply kit.
  - Keep your kit with you at all times.
  - Make sure the information and supplies are up to date.
  - Put these things in plastic zipper bags inside a plastic container with a lid:
    - A list of your allergies
    - A list of all the medicines that you take
    - 5 to 7 day supply of your medicines (Replace this supply at least once each year.)
    - Name and phone number for your doctor and dialysis center
    - A copy of your insurance card
- If you are diabetic, keep a 5 to 7 day supply of your medicines and supplies.
  - Insulin (Keep it cool but do not freeze it. It is best to keep it refrigerated but it will keep at room temperature for up to 1 month.)
  - Syringes
  - Your glucometer, lancets, alcohol wipes, test strips and spare batteries
  - Treatment for low blood sugar readings
- Make an evacuation plan.
  - Plan to leave your home as told by local authorities
  - If you go to a shelter, tell the person in charge that you are on dialysis
  - Be safe
- Wear a medical alert necklace or bracelet.
  - Include your medical problems
  - Ask your social worker if you need help getting one
• Know what diet to follow if you miss your dialysis treatment. Keep a:
  o Supply of canned foods
  o Can opener

• Other things to think about:
  o Battery-operated radio with new batteries
  o Flashlights with new batteries
  o Extra batteries
  o First aid kit
  o Fire extinguisher

• Give the dialysis center an alternate phone number for you and an emergency contact.

Winter weather
• If bad weather is forecast, make sure you have a supply of food and medication.
• Do not leave home if no travel is advised.
• If you live out of town and bad weather is forecast, come to the town where your dialysis center is located before the weather gets bad. Call the dialysis social worker if you need help with housing.
• Bring your medications and supplies with you. Remember your cell phone, if you have one.
• Keep extra warm clothes and blankets in your car in case you get stranded.
• Know the emergency services in your town. In some areas, emergency vehicles may bring patients to dialysis.

Flood
• Stay out of low-lying areas where it is likely to flood.
• Move to higher ground.
• Do not drive through flooded areas or cross water that may be more than knee deep.
• Remember the water supply may be contaminated.

After an emergency
• Make sure your surroundings are safe.
• Stay home unless you are hurt or authorities tell you to leave. (Remember to take your supplies and medications when you leave home.)
• Listen to your TV or radio for community information.
• Call your dialysis center and let them know what has happened.
• Follow your emergency diet.
• If you are in a shelter, let them know you are a dialysis patient.
An Emergency at the Dialysis Center
The dialysis center has policies and procedures to make sure we are prepared for an emergency.

Fire
- The dialysis center has regular fire drills.
- The fire alarms are tested every month to make sure they are all working.
- The local fire department is notified when the fire alarm goes off. They will arrive within a few minutes.

Tornado
All of the dialysis centers receive emergency weather notices from local authorities.
- If severe weather is close, you will be told what to do.
- We cannot force you to stay at the dialysis center if you choose to leave.
- It is much safer in the building than in your vehicle.

Loss of power or water
- Dialysis centers have a back-up plan in case of power failure or water contamination.
  - In some cases, your dialysis treatment may be delayed or moved to another location.

Medical Emergency
- Dialysis staff have current CPR training.
  - All staff have training every year on the use of emergency medical equipment.
**Emergency Disconnect**

You must know how to remove yourself from the hemodialysis machine. This is called emergency disconnect. You would do this **only** if you are in **immediate** danger or if you need to leave the building. A fire or tornado is an example of this type of emergency. Hopefully, you will never have to do this. But, it is important to be prepared just in case. The staff will review this with you often. Again, our goal is to be prepared but never use our emergency plans.

Emergency Disconnect Procedure:

- Disconnect only when the nurse tells you.
- There are a total of 4 clamps on the tubing:
  - Close the 2 clamps closest to your access.
  - Close the 2 clamps on the tubing that goes to the dialysis machine.
  - The machine will alarm when the clamps are closed. Ignore the alarm.
- Twist the connections apart between your access and the bloodlines.
- If all lines have been clamped, there should be no bleeding.
- Do **not** take the needles out of your arm.
- Do **not** cut the tubing.
- Dialysis staff will help if you cannot disconnect yourself.
- If you have a catheter, the dialysis staff will disconnect it for you.
- The dialysis staff will tell you when to leave after you have disconnected.
- Remain calm.
- Follow the directions from dialysis staff or other authorities.

**Missing a Hemodialysis Treatment**

An emergency situation may cause you to miss your dialysis treatment. If this happens:

- Call the hemodialysis center to reschedule your treatment as soon as possible. Do not wait until your next appointment for dialysis.
- Patients who miss treatments or do not get their full treatment time have:
  - More hospital admissions
  - More infections
  - More bleeding
  - A poor appetite
  - Feel more tired and weak
  - A higher chance of death
Your diet is very important if you miss a dialysis treatment. You must:

- Cut back on what you drink to half of your normal fluid limit or less than 2 cups.
  - Too much fluid can cause:
    - Breathing problems
    - Swelling
    - Increased blood pressure

- Avoid salt and salty foods as these can make you thirsty.

- Potassium can build up in your blood very fast. Avoid high potassium foods such as:
  - Potatoes
  - Tomatoes
  - Oranges
  - Bananas
  - Dried fruit

Talk with your dietitian if you have questions about certain foods.
Kidney Functions

The kidneys have many important jobs that keep you healthy. They affect your entire body.

• Most people are born with 2 kidneys.

• The kidneys are:
  ◦ Located in your mid-back tucked up under your ribs on each side of your spine
  ◦ Shaped like a kidney bean
  ◦ Slightly larger than your fist

What do the Kidneys do?

Your kidneys are very important to your health. The kidneys have 5 main jobs:

• Make urine
• Filter blood to take out the wastes
• Balance chemicals such as sodium and potassium (electrolytes) in your blood
• Help control blood pressure
• Help to make red blood cells

What causes kidney disease?

There are several things that can lead to kidney disease.

• Most kidney disease is from damage to the tiny blood vessels in the kidney.
  When this happens:
  ◦ The kidney does not get enough blood flow
  ◦ The blood is not cleaned
  ◦ Fluids and wastes can build up in the body

• Sometimes controlling the underlying health problem can slow progression from kidney disease to kidney failure.

• Some patients have more than one health problem that leads to kidney disease.

• When the kidneys stop working, it is called kidney failure.
Some causes of kidney disease

- **Diabetes** is the leading cause of kidney disease.
  - The body may not make enough insulin or may not use insulin the way it should. This causes the blood glucose or blood sugar to be too high.
  - High blood sugar affects the tiny blood vessels in the kidneys. This slows the blood flow to your kidneys. Then the kidneys are not able to remove the fluids or wastes from the blood.

- **High Blood Pressure (Hypertension)** is the second leading cause of kidney disease.
  - It causes the arteries to harden and decreases blood flow. This can destroy the small arteries in the kidneys. The kidneys will not be able to filter or remove fluids and wastes.
  - High blood pressure can lead to a heart attack or stroke.
  - Often, high blood pressure has few symptoms until it is in the advanced stages.

- **Infection** anywhere in the body may cause the body to make poisons.
  - These poisons can build up.
  - They may damage the small blood vessels in the kidneys.
  - Some medications used to treat infections cannot be used with kidney disease.

- **Obstruction** is a blockage.
  - In the urinary tract, a blockage:
    - May be caused by a kidney stone, cyst, blood clot, tumor, enlarged prostate or inherited disease
    - Can prevent normal urination
    - Increases pressure in the urinary system and can damage the kidneys
  - In the blood vessels, a blockage:
    - May be caused by a blood clot
    - Can decrease blood flow to the kidneys
    - Does not allow the kidneys to remove fluids or wastes from the blood

- **Drugs and Toxins** can be poisonous to the kidneys.
  - Poisons build up in the body.
  - The kidneys stop working when levels are too high.
  - Those poisons can include:
    - Medications
    - Chemicals
    - Pesticides
    - Street drugs
**Acute and Chronic Kidney Disease**

There are 2 types of kidney disease. They are very different but may have similar treatments.

**Acute Renal Failure (ARF) or Acute Kidney Injury (AKI)**

Both ARF and AKI mean the kidneys suddenly stop working. This condition is watched very closely in the hospital.

Some causes of acute kidney injury can be:
- A severe injury or accident
- Infection
- Surgery
- Blood clot
- Burn
- Medications such as antibiotics, contrast dyes, and cancer drugs

Dialysis may be used to help the kidneys get better. Sometimes it is possible to reverse an acute kidney injury and the kidneys may start working again.

Sometimes acute kidney injury does not improve and it becomes chronic renal failure.

**Chronic Kidney Disease (CKD)**

CKD is usually a slow, gradual kidney shutdown over months or years.
- This is the more common type of kidney failure.
- Diabetes and high blood pressure are the leading causes of chronic kidney disease.
- Kidney disease may be slowed down with medications and lifestyle changes.
- The kidneys will stop working if kidney disease is not treated and controlled.
- Often, people with chronic kidney disease may not have any symptoms early in the disease. As kidney function slows down, the symptoms become more noticeable.
  They may include:
  - Swelling in the hands or feet
  - Feeling tired
  - High blood pressure
  - Trouble breathing

**Chronic kidney disease will never go away**

- Treatment will help the patient feel better.
- Treatment will not cure the disease.
- Dialysis or kidney transplant is needed when the kidneys are no longer working.
Stages of Chronic Kidney Disease

Your kidney doctor (nephrologist) will use blood and urine tests to measure your Glomerular Filtration Rate (GFR). The GFR is the best test to measure how well your kidneys are cleaning your blood. The lower the GFR, the less your kidneys are working. Chronic Kidney Disease is measured in stages. These stages are determined by your GFR.

Normal kidney function: GFR is between 90 and 120
- No kidney damage
- No protein in your urine

Stage 1: GFR is more than 90
- May have kidney damage
- May have protein in urine
- Most patients do not have any symptoms of kidney damage.

Stage 2: GFR is 60 to 90
- Some kidney damage
- Most patients do not have any symptoms of kidney damage.

Stage 3: GFR is 30 to 59
- When most new CKD is diagnosed
- Patients should see a nephrologist.
- Patients have symptoms of CKD:
  • Begin to feel tired
  • Have some swelling in hands or feet
  • Have higher blood pressure readings
  • Have some shortness of breath

Stage 4: GFR is 15 to 29
- Kidneys are working less
- Most patients feel more tired because:
  • Toxins start to build up
  • Not making enough red blood cells
- This is the time to start planning for treatment.
- Patients and family members are encouraged to attend CKD classes and treatment option classes.
- An access may be placed if peritoneal dialysis or hemodialysis is chosen.

Stage 5: GFR is less than 15.
- Kidneys are barely working
- This is the time to start treatment
- The patient:
  • Feels very tired
  • Has a decreased appetite
  • Feels nauseated
  • Has swelling in hands or feet
Treatment of Chronic Kidney Disease

Your nephrologist will work with you to develop a treatment plan. The plan depends on the stage of your kidney disease. The goal is to slow down or limit kidney damage that may prevent kidney failure.

- The treatment may include medications to control high blood pressure or high blood sugar.
- You may talk to a dietitian:
  - Before dialysis starts, limit how much protein you eat. This will reduce the amount of work your kidneys must do.
  - After dialysis starts, you will need to eat more protein.
- Your body may still make urine with chronic kidney disease.
  - As kidney disease gets worse, you will make less urine.
  - Over time, you will stop making urine.

Your body will need dialysis or a transplant when your kidneys are not removing the fluids and wastes.

Note: Not treating kidney disease will cause toxins to build up to dangerous levels. This can lead to death. Everyone has the option to choose not to treat kidney disease. For more information, see the Treatment Options section of this book.