Module 8 – Dialysis Medications

Medications, together with dialysis, diet and fluid control, can help keep you healthy when you have kidney failure. Medications are prescribed according to your needs. Your pharmacist and nurse will teach you how to take your medications so that you receive the most benefit.

It is very important to take your medications as prescribed and to alert your team promptly if you experience any unexpected side effects. If you have been prescribed a medication by someone outside of your kidney healthcare team, it is important to consult with your home dialysis team before taking this medication. Also, consult your team before taking any over-the-counter medications, herbal remedies, alternative medicines or dietary supplements.

Things to remember about your medications

- Tell your pharmacist and healthcare team if you have any known drug allergies.
- Make a list of your medications and carry it with you at all times
- If you visit more than one doctor, make sure you give each of them a list of your current medications every time you see them.
- Check that you receive the medication that your doctor has prescribed. Talk with your pharmacist for additional information about your medications and how to take them properly.
- Check expiry dates. **Do not use expired medication.**
- We recommend that you bring your medications for every clinic visit.
- Do not change pill bottles.

Some medications that many people with kidney failure require include:

Vitamins and minerals

Your body needs vitamins to work well, but sometimes the body does not produce vitamins on its own. Ideally, you should get all the vitamins you need from the food you eat. However, people with kidney disease may have slightly different vitamin needs as some of their vitamins are being washed away during dialysis, while other vitamins can build up.

The vitamin tablets that are ordered by your nephrologist, or dietitian, are designed for people on dialysis. They have just enough of the right vitamins to keep you healthy.

Consult with your health care team before taking any additional vitamins, minerals or herbal remedies.

Kidney multivitamins

Two common multivitamins for kidney patients are replavite and renavite. These multivitamins contain the right combination of vitamins for your needs. Always take your multivitamins after hemodialysis. Water soluble vitamins are washed out by the hemodialysis treatment.

Vitamin D (analogues)

Your health care team may decide that you need a special form of vitamin D called calcitriol or alpha calcidol (One-Alpha®).

Vitamin D helps regulate the parathyroid hormone (PTH) which is

a hormone that regulates calcium and phosphorous levels in your blood and bones. Sometimes, the parathyroid hormone (PTH) gets "carried away" in people with kidney disease and starts to produce too much PTH, resulting in weakening of the bones, and may cause hardening of the arteries. Vitamin D will help keep your PTH levels down.

Things to know about vitamins

- Take your prescribed vitamin supplements after dialysis.
- If you are on extended dialysis you may need more vitamins. Consult your dietitian for more information.
- Do not take over-the-counter vitamin D without first consulting your doctor.

Iron

The human body needs iron to make healthy red blood cells. Most dialysis patients will need to take additional iron. Your nephrologist will prescribe a dosage and type that will meet your needs.

- **Oral Iron:** It is usually recommended that you take iron between meals, but if it upsets your stomach try taking it with a small meal or snack just before bedtime. **It is VERY IMPORTANT that you don't take iron at the same time as you take calcium. Also, avoid taking any oral iron with tea or coffee.**
- **Iron Sucrose (Venofer®) or sodium ferric gluconate complex (Ferrlecit®):** Many dialysis patients need iron quickly. Your home team may decide you need to take IV (intravenous) iron. The iron is put directly into your blood stream, and your body can absorb it much faster than iron taken orally. If you require IV iron, your training nurse will show you how this should be done during dialysis.

Erythropoietin-EPO (EPREX® and ARANESP®)

Healthy kidneys produce a hormone that tells your bone marrow to make new red blood cells. This hormone is erythropoietin, or EPO. Weak or failing kidneys often don't make enough EPO to keep your blood count normal, resulting in not enough red blood cells. This is called ***anemia***. Many kidney patients need to take a medication that replaces the normal erythropoietin production. With this medication, your red blood cell production increases and you will have more energy.

EPO is important because it:

- Increases red blood cell production
- Increases hemoglobin
- Improves energy

EPO must be taken by injection – there is no pill. You may be taught to inject EPO subcutaneously (SQ) or intravenously (IV) while on dialysis.

Adjusting your EPO dose

Your blood will need to be checked regularly to be sure that your hemoglobin is within a safe range. At the same time your iron levels will also be watched – these two medications work together to make red blood cells. Once your doctor is satisfied with your hemoglobin and iron numbers, they will tell you how much Eprex®/ Aranesp® and iron you need. These numbers tend to go up and down, so this will be talked about during every clinic visit.

Things to remember about EPREX® and ARANESP®

- Always keep EPREX® and ARANESP® in the refrigerator.
- EPREX® and Aranesp® come in pre-filled syringes.
- When traveling, bring a cold pack for the trip and put your EPREX®, or ARANESP®, in a refrigerator as soon as possible
- Keep these medications away from direct light.
- Do not shake.
- Do not use the medication if it is expired, cloudy, discoloured, or if it has been previously frozen or left out of the fridge.

Blood pressure medications

Blood pressure, or antihypertensive medications, help reduce high blood pressure. Some medications relax the blood vessels, some block the chemicals that cause blood vessels to tighten and others help to get rid of excess fluid from the blood.

Your doctor will prescribe the most appropriate medication for you. You will find that your medications, and doses, may change over time. Many people take more than one medication to help control blood pressure, so be sure to follow the directions given by your doctor and health care team.

Symptoms to be aware of when on blood pressure medications

Dizziness: Check your blood pressure and report to your nurse if you feel dizzy.

Your B/P should be close to: _____

Cough: Some medications may cause a dry cough. If this occurs, tell your nurse or doctor about it.

Low heart rate: Some B/P medications reduce your heart rate. If your heart rate falls under 50 beats per minute, tell your doctor or nurse.

Anticoagulants — heparin

Heparin belongs to a group of drugs known as ***anticoagulant***. Other anticoagulants include warfarin, Coumadin®, Plavix® and enteric-coated aspirin. These drugs prevent blood from clotting, but are used for different medical conditions.

During hemodialysis, your blood passes though many different tubes and filters which creates many opportunities for clots to form. Heparin is used for preventing blood from clotting during dialysis. The goal for heparin is to use just the right amount.

Too much heparin may mean you're more prone to bleeding. Too little heparin may result in your blood clotting during dialysis.

Things to remember about heparin

- If you will be having a medical procedure, surgery, or dental appointment, notify your health care team to determine if you need to adjust your heparin dose before or after your procedure.
- Report to your nurse, or doctor, if you notice that you are bruising easily. If you have any pain, take acetaminophen or Tylenol. Avoid pain killers like ibuprofen and aspirin because they also prevent blood from clotting.

Signs of too much heparin

- Deep bruising right after a dialysis treatment.
- It takes longer than 15 minutes to stop bleeding from your needle sites after treatment.
- Unusual bleeding, such as nosebleeds or bleeding gums.

Signs of too little heparin

- Dialyzer is clotted after dialysis.
- Blood clots are noticed in the venous drip chamber.
- Your dialyzer is rated as a 2 or higher.

Thrombolytic Medications (t-PA or Cathflo®)

Blood clots, or fibrin sheath formation, inside or around the tip of the hemodialysis catheter, are a major cause of catheter problems. Clots slow or prevent blood flow during dialysis. Thrombolytics dissolve blood clots and fibrin. Refer to t-PA protocol for further instructions.

Antibiotics

Antibiotics are medications that help fight infections caused by bacteria. Bacteria can enter your body through your vascular access, or any other sites such as a wound. Chest infections and urinary tract infections (UTIs) are other common sites where infection can occur.

There are many different kinds of antibiotics and each type is designed to kill a different kind of bacteria. To know exactly the type of bacteria growing in your body, a sample from the infected area needs to be taken and sent to the laboratory.

Things you should know about antibiotics:

- You should always take the full treatment. Don't stop when you start feeling better. Stopping antibiotics early may result in the creating super bacteria, which are resistant to antibiotics. In other words, the antibiotics will not work against the super bacteria, causing it to be more difficult to find an antibiotic that will work.

- If you experience any severe side effects like a rash, swelling around the face or shortness of breath, stop taking the antibiotic, call 911 and go to your nearest hospital immediately. Let your kidney health care team know if you are taking antibiotics that have been ordered from another doctor, including your family doctor or a specialist.
- Some oral antibiotics can cause nausea. Talk to your pharmacist for suggestions about the best time to take oral antibiotics.
- Notify your health care team if you develop diarrhea from your antibiotics.

Phosphorus binders

When your kidneys are working well, extra phosphorus is removed from your blood and flushed away in your urine. When kidneys fail, calcium and phosphorus levels become out of balance. As phosphorus levels rise in your blood from the foods you eat, your body will attempt to compensate by producing parathyroid hormone. The parathyroid will try to regulate the balance by pulling calcium from the bones.

Over time this will make your bones become brittle and the "stolen" bone calcium can start to show up in places like your joints, blood vessels and your heart. To prevent this process you may be told to take phosphorus binders. Phosphorus binders (also called phosphate binders or just "binders") work by binding or attaching to phosphorus in your food, so that it can be eliminated through your bowel.

There are many different types of phosphorus binders, including calcium carbonate, calcium acetate, sevelamer and lanthanum carbonate. Your doctor will prescribe the one that is best for you.

Things you should know about phosphorus binders:

- Phosphorus binders work only if you take them at the beginning of your meals.
- Phosphorus binders are tailored to your needs based on your blood results. Talk to your doctor or dietitian regularly about your particular dietary needs.

Pain medication

Different pain medications may be prescribed for various types of pain and each medication will affect people differently. Many types of pain medication are filtered through the kidneys; therefore people with kidney disease will need special consideration. If you are given a prescription for a pain medication from a doctor other than your nephrologist, be sure to consult your kidney health care team before taking it. However, if you require ongoing medical treatment for pain, your nephrologist may ask your family doctor to supervise your pain medications.

Notes- Dialysis Medications