Blood Tests for Dialysis

While you are on dialysis, you will have your blood tested often. Knowing these test results will help you keep your health at the best possible level. The tests listed in the document are common tests. There may be others your doctor may recommend. Test abbreviations and test results with goal values are provided so that you can compare your test results.

- **Hematocrit (Hct)**
  - Healthy Dialysis average: 30 % – 36%
  
  Your hematocrit shows the percentage of blood that is made up of red blood cells. If you have signs of a low count, you may be given blood products or a medicine called an erythropoiesis stimulating agent (ESA) to help produce more red blood cells.

- **Hemoglobin (Hgb)**
  - Healthy Dialysis average: 10 – 12 g/dL
  
  Hemoglobin is a protein in red blood cells that carries oxygen to tissues and carbon dioxide from tissue. Low hemoglobin may mean anemia. This is similar to a low hematocrit. If this result is too low, you may look pale, lack energy, feel dizzy, have trouble thinking and be short of breath. You may be given blood products or a medicine called an erythropoiesis stimulating agent (ESA) to help produce more red blood cells.

More on next page ➔
Iron as measured by Transferrin Saturation

- Healthy Dialysis average: 20% – 50% saturation

Iron is needed to form red blood cells and hemoglobin. Hemoglobin helps to carry oxygen throughout the body. If your result is too low, you may need to start taking iron. Your doctor may order oral or intravenous (IV) iron supplements. Your doctor may also recommend taking iron with Vitamin C. This helps your body to absorb the iron.

Albumin

- Healthy Dialysis average: at least 4 g/dL

Albumin is a protein produced in your liver and related to your nutrition. It keeps the fluid in your body tissues at normal levels. When the levels are too high or low, it can lead to swelling in the arms and legs. You may need to stay in the hospital to correct these levels. A high protein diet is recommended because protein is needed for the body to make enough albumin and because albumin is lost during the process of dialysis. Your doctor may also recommend taking protein supplements.

Phosphorous (P)

- Healthy Dialysis average: 3.5 – 5.5 mg/dL

Phosphorous is a mineral found in dairy and meat products. When the kidneys are not working correctly, they cannot get rid of extra phosphorous in the body. High phosphorous can take calcium out of bones to make them weak. It also slows down the rate of new bone growth. Most people on dialysis must limit eating high phosphorous foods and take medicines called phosphate binders. Phosphate binders attach to the phosphate in food and allow the body to get rid of it through the stool. Therefore, phosphate binders need to be taken with meals.

Calcium (Ca)

- Healthy Dialysis average: 8.6 – 10 mg/dL

Calcium is a mineral that is found in many foods. Bones are made of mostly calcium. Calcium is also needed for the electrical conduction within nerves and muscles. Your calcium and
phosphorous levels need to be in balance. If phosphorous is high, your calcium level drops and your parathyroid hormone (PTH) level rises. This causes your body to get more calcium by taking it from your bones which results in weakening of the bones. A medicine may help to control the level of PTH and increase the absorption of calcium from your blood to keep your levels normal.

**Blood Urea Nitrogen (BUN)**
- Healthy Dialysis average after dialysis: 10 – 20 mg/dl
- Before dialysis levels: 20 – 80 mg/dl

Urea nitrogen is a waste product from the breakdown of protein. The value will vary with the amount of protein you eat and the length and efficiency of your dialysis treatment. After a dialysis treatment, your BUN level is ideally decreased by more than 60%. Your BUN will slowly increase between treatments.

**Creatinine (CR)**
- Healthy Dialysis average after dialysis: 1 – 2 mg/dL
- Before dialysis levels: 2 – 14 mg/dL

Creatinine is a waste product that occurs from using your muscles. In renal failure, a high level means that waste products cannot be excreted. Keeping your dialysis schedule will keep the level of these waste products from getting higher.

**Potassium (K)**
- Healthy Dialysis average: 3.5 – 5.1 meq/L

Potassium is an electrolyte that is commonly found in the body. Excess potassium is usually excreted by the kidneys. This does not happen when a person has kidney failure. High levels come from eating foods high in potassium. It is very important to limit these foods and keep the level down. If levels are too high or too low, irregular heart beats and serious heart rhythm problems can occur. Too much potassium can be an emergency, and must be treated immediately. Your dietitian will help you learn to avoid foods high in potassium.
Parathyroid Hormone (PTH)

- Healthy Dialysis average: 150 – 300 pg/mL

Parathyroid hormone is important for controlling the amount of calcium in the body. It is part of a cycle that also helps to regulate Vitamin D, phosphorus and magnesium. When calcium is low in the blood, PTH hormone is released to take calcium from your bones. Vitamin D increases in the kidney to increase the absorption of calcium, and PTH speeds up the amount of phosphorous leaving the body. This helps you to have the right balance of phosphorous and calcium. Once calcium levels increase in the blood, PTH decreases. When on dialysis, taking too much calcium from the bones can lead to bone weakness. It is important to work with your dietitian to help you get enough calcium in your diet.

Bicarbonate (Bicarb or Total C0₂)

- Healthy Dialysis average: 20 – 30 mmol/L

Bicarbonate tests the amount of total carbon dioxide in the blood. Bicarbonate enters and exits your kidneys to keep your body’s electrolytes, such as salt, chlorine and potassium, in balance. If your levels are too high, you may have swelling in your arms and legs.

Talk to your doctor or others on your health care team if you have questions. You may request more written information from the Library for Health Information at (614) 293-3707 or email: health-info@osu.edu.