

Kidney Disease

Using the Functional Medicine Approach to Treat Kidney Disease



How important are our kidneys? Every day, our two kidneys filter about over 120 quarts of blood to make about 1 to 2 quarts of urine. Healthy kidneys help regulate blood pressure, remove waste and water, signal your body to make red blood cells.

How do we measure kidney function? Glomerular Filtration Rate (GFR) is used to determine GFR. In addition to serum creatinine, factors such as age, race, and gender are included in the equation. Additional factors that may be included are weight, blood urea nitrogen (BUN), and serum albumin.

5 Stages of Kidney Disease		
	Kidney Function/GFR	Description
Stage 1	> 90%	Normal or High Function
Stage 2	60-89%	Mildly Decreased Function
Stage 3	30-59%	Mild to Moderately Decreased Function
Stage 4	15-29%	Severely Decreased Function
Stage 5	< 15%	Kidney Failure

GFR and Kidney Disease Stages

The five stages of kidney disease, or CKD, and the GFR for each stage, is shown below:

- Stage 1 with normal or high GFR (GFR > 90 mL/min)
- Stage 2 Mild CKD (GFR = 60-89 mL/min)
- Stage 3A Moderate CKD (GFR = 45-59 mL/min)
- Stage 3B Moderate CKD (GFR = 30-44 mL/min)
- Stage 4 Severe CKD (GFR = 15-29 mL/min)
- Stage 5 End Stage CKD (GFR <15 mL/min)

As you can see below, my patient had a very low GFR of 37 and high creatinine. GFR of 37 is consistent with Stage 3B Moderate CKD (GFR = 30-44 mL/min)! As kidneys regulate electrolyte balance, with kidney disease we see dysregulation of electrolytes (Sodium 134 and potassium 3.6 – barely normal, and lab low chloride 95). The visit to the nephrologist was quite disappointing – the patient was told to limit animal protein, be careful with salt, potassium, and hope that her kidney function is not going to deteriorate too fast. If it does get worse, then the treatment with dialysis would be the

only option to support life and not get overly toxic with the waste products she could not eliminate.

See her initial results below:

Ordered Items

CMP14+LP+TP+TSH+5AC+CBC/D/P...; NMR LipoProfile+Lipids+IR+Gph; Cardiovascular Report; Litholink CKD Program; Venipuncture; Request Problem

TESTS	RESULT	FLAG	UNITS	REFERENCE INTERVAL	LAB
CMP14+LP+TP+TSH+5AC+CBC/D/P...					
Chemistries					01
Glucose	110	High	mg/dL	65-99	01
Hemoglobin A1c	5.5		%	4.8-5.6	01
Please Note:					01
	Prediabetes: 5.7 - 6.4				
	Diabetes: >6.4				
	Glycemic control for adults with diabetes: <7.0				
Uric Acid	6.5		mg/dL	2.5-7.1	01
Please Note:					01
	Therapeutic target for gout patients: <6.0				
BUN	22		mg/dL	8-27	01
Creatinine	1.35	High	mg/dL	0.57-1.00	01
eGFR If NonAfricn Am	37	Low	mL/min/1.73	>59	
eGFR If Africn Am	43	Low	mL/min/1.73	>59	
BUN/Creatinine Ratio	16			12-28	
Sodium	134		mmol/L	134-144	01
Potassium	3.6		mmol/L	3.5-5.2	01
Chloride	95	Low	mmol/L	96-106	01
Carbon Dioxide, Total	22		mmol/L	20-29	01

Kidney Function BEFORE (Creatinine and eGFR) – October 2020.

When the organs start failing, the labs get worse. So, the goal is to stop the exacerbation of the situation at minimum and to improve the organ function which would lead to the improvement in the symptoms.

With some investigation work into the possible causes of kidney dysfunction and addressing them with several neutraceuticals, as well as treating the underlying bladder infection and other abnormalities on the lab results not mentioned here, the labs magically improved and currently the person moved up from the label of “Stage 3b kidney disease” into “Stage 3a kidney disease” with GFR of 54 instead of 37 in just

4-5 months of treatments. It may not seem like a lot, but creatinine (another marker of kidney function) decreased from abnormal 1.35 to normal 1.00 level. Electrolytes (sodium = salt, in particular) decreased 1 point, possibly, due to a very strict salt restriction in the diet.

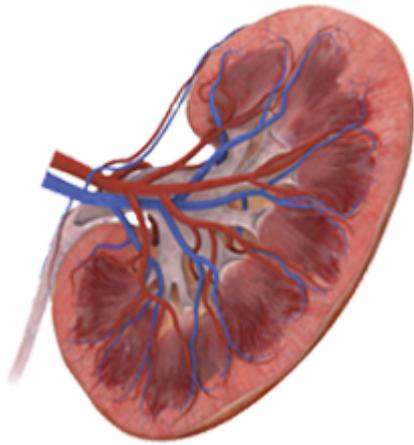
BUN	13		mg/dL	8-27	01
Creatinine	1.00		mg/dL	0.57-1.00	01
eGFR If NonAfricn Am	54	Low	mL/min/1.73	>59	
eGFR If Africn Am	62		mL/min/1.73	>59	
BUN/Creatinine Ratio	13			12-28	
Sodium	133	Low	mmol/L	134-144	01
Potassium	3.9		mmol/L	3.5-5.2	01
Chloride	94	Low	mmol/L	96-106	01
Carbon Dioxide, Total	24		mmol/L	20-29	01

Kidney Function AFTER (Creatinine and eGFR) – February 2021

A Little Bit More on the Importance of Optimal Kidney Function

The kidneys are a very important organ in the body. The kidneys are responsible for getting rid of waste products, drugs, and toxins through our urine.

Kidney Functions:



- Regulate electrolytes (salt, potassium, chloride) concentrations
- Help maintain acid-base balance (the pH in your body)
- Help regulate blood pressure.
- Make hormones that affect blood and bones (responsible for erythropoiesis – the making of red blood cells).
- Manage and regulate the amount of fluid within the body.

Chronic Kidney Disease

Kidney damage and decreased function that lasts longer than 3 months is called chronic kidney disease (CKD). Chronic kidney disease is particularly dangerous because you may not have any symptoms until considerable, often irreparable, kidney damage has occurred. Diabetes (types 1 and 2) and high blood pressure are the most common causes of CKD.

Other causes are:

1. Urinary tract infections within the kidneys themselves, called pyelonephritis, can lead to scarring as the infection heals. Multiple episodes can lead to kidney

damage.

2. Inflammation in the tiny filters (glomeruli) within the kidneys; can happen after a strep infection and other conditions of unknown cause. (Glomerular Disease)
3. Polycystic kidney disease, in which fluid-filled cysts form in the kidneys over time. This is the most common form of inherited kidney disease.
4. Immune system conditions such as lupus and chronic viral illnesses such as HIV/AIDS, hepatitis B, and hepatitis C
5. Drugs and toxins, including long-term exposure to some medications and chemicals, such as NSAIDs (nonsteroidal anti-inflammatory drugs), like ibuprofen and naproxen